BOOK 4

TESTIMONY
IN REBUTTAL TO DRA REPORT ON PLANT GENERAL RATE CASE

TEST YEAR 2014
APPLICATION 12-07-0017

APRIL 30, 2013
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17530 - Replace 2,575 feet of 4” standard steel main with 6” PVC C-900

17532 - Replace 4” standard steel main with 2,575 feet of 6” PVC C-900

17535 - Replace 1,550 feet of 4” & 1,025 feet of 6” steel with 6” PVC C-900

18278 - Replace 2,660 feet of 8” standard steel main with 8” PVC C-900

19957 - Replace 1,255 feet of 4” standard steel main with 6” PVC C-900

20096 - Replace 3,150 feet of 6” steel, AC & CL&C main with 8” PVC C-900

20164 - Replace 3,740 feet of 6-inch steel main with 8-inch PVC

20169 - Replace 1,320 feet of 4” standard steel main with 6” PVC C-900

20171 - Replace 1,470 feet of 6” & 8” steel main with 8” PVC

20185 - Replace 560 feet of 4” standard steel main with 6” PVC C-900

20188 - Replace 850 feet of 4” & 6” standard steel main with 6” PVC C-900

20191 - Replace 988 feet of 4” standard steel & 4” AC main with 6” PVC C-

20212 - Replace 2,348 feet of 8” standard steel with 8” PVC C-900

61512 - Replace 680 feet of 6” steel main with 6” PVC C-900 in alley

61675 - Install 1,950 feet of 8” PVC C-900 and abandon existing piping

62238 - Install 1,170 feet of 6” PVC C-900 and abandon existing piping

63015 - Install 1,250 feet of 6” PVC C-900 and abandon existing piping

60494, 60857, 61315, 61434, 62339, 65370, 61595, 62352, 65374, 61316, 61317, 61600, 62353-

Field equipment purchases for the Bakersfield District

Cal Water SCADA projects: 66854, 67109, 67189, 67391, 61213, 66857, 67395, 67909, 67989, 66859, 67397, 67910 and 67990

66854, 66857, 66859 - Install 52 Total Well Level Sensors

67109 - Install 236 HOA Switch Position Detectors at SCADA RTUs

67189, 67989 and 67990 - Install 109 Total Pressure Transducers

67391, 67395 and 67397 - Install 35 Total Power Meters in Bakersfield

67909, 67910 - Install 30 Total Flow Meters

61213 - Cathodic Protection System Monitoring
64970 - Replace vehicle 203002 in 2014
64991 - Replace vehicle 204053 in 2014
65030 - Replace vehicle 207020 in 2014
65031 - Replace vehicle 210006 in 2014
64483 - Replace vehicle 204042 in 2015
64491 - Replace vehicle 207002 in 2015
64498 - Replace vehicle 207005 in 2015
64498 - Replace vehicle 208010 in 2015
63432, 76395 - Increase capacity of the NWBWTP to meet 8 MGD average and 10.4 MGD peak as originally designed
67769 - Bakersfield district customer center work desks, phones, PC’s and furniture upgrades...
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76073 - Install 16-inch Ductile Iron Water Main
76093 - Install 16-inch Ductile Iron Water Main
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58252 - Replacement of Turbidimeter
73853 - Replace pressure tank at Station 174 for surge control/mitigation
76493 - BK Station 116 Booster Pump D Replacement
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70834 - Capital infrastructure evaluation: Offset requirements to mitigate shortfall in supply in the southern part of Bakersfield
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CHAPTER 1 – INTRODUCTION AND SUMMARY

This is the California Water Service Company’s (Cal Water) Rebuttal Testimony to the Division of Ratepayer Advocates (DRA) and Intervenor Testimonies for the 2012 General Rate Case (GRC). Cal Water recognizes the difficult economic conditions in effect during the filing of this GRC and that, while conditions appear to be improving, many customers are still having hardships at this time. The filing of this GRC does not occur in a vacuum and Cal Water notes the input recorded at the Public Participation Hearings from customers in many districts. Cal Water would like to point out that due to the continuing economic difficulties facing its communities, the Company has voluntarily canceled a number of projects that it felt were operational enhancements and not strictly needed for day to day operations. The remaining items in the budget are necessary for long-term compliance, reliability, and safety issues.

The primary items addressed in this section are global rebuttal to general plant issues, utility plant in service, depreciation, taxes, and plant related rate base items.
CHAPTER 2 – PLANT GLOBAL ISSUES

2.1 CAPITALIZED INTEREST

2.1.1 Proposed Exclusion of “IDC” in Project Cost Estimates

DRA alleges that Cal Water is double-recovering capitalized interest because its projected cost estimates included capitalized interest and Cal Water also includes capitalized interest in its rate base calculations. Therefore, DRA proposed to exclude capitalized interest from the project cost estimate. Cal Water does not agree with this contention and in this GRC does not include capitalized interest separately in its rate base calculations.

It is Cal Water’s standard method for calculating rate base to include projects as capital additions in the year the projects are expected to be in service. Therefore, Cal Water does not recover a rate of return for these projects until these projects are in service. In addition, capital additions are weighted, which reduces effective capital investments to reflect in-service dates. Theoretically, to offset the loss of “IDC”, DRA would have to allow 100% plant weighting.

In addition, the Commission had allowed inclusion of “IDC” in lieu of “CWIP” in rate base (D. 00-12-051). Rate of return is applied to rate base to calculate revenue requirement; therefore, it is understood that Cal Water is allowed to earn a fair rate of return on “IDC” included in rate base. Other water utilities include “CWIP” in rate base. If DRA is willing to accept Cal Water’s “CWIP” (currently $136 million) into rate base, this would offset the loss of “IDC”.

Historical Background

In the 2009 GRC, DRA, in its analysis of recorded plant additions, compared the approved capital budget against the actual cost booked to plant and made several accusations that Cal Water was overspending its approved capital additions. Since the final cost booked to plant included capitalized interest and the approved capital budget excluded capitalized interest, DRA’s position was inaccurate because the comparison was made between two values which are not comparable – one with capitalized interest and one without. DRA’s position also created a problem for projects recommended for advice letter treatment. Since advice letter projects are not included in the adopted plant additions, the budgeted dollars for these projects did not include capitalized interest. Historically, recognition of capitalized interest has not been included in advice letter projects which meant the utility was prohibited recovery of its actually

---

1 DRA’s Company-Wide Report on the Results of Operations, page 7-5
incurred capitalized interest costs when booking the project to plant as part of the advice letter filing. As a result of this inequity, Cal Water and DRA agreed to include capitalized interest in setting caps for projects recommended for advice letter treatment\(^2\). To avoid this issue in the 2012 GRC, Cal Water decided to include capitalized interest in its project cost estimates for this GRC and it eliminated the line item for capitalized interest in the rate base calculation. Therefore, there is no duplication of recovery of capitalized interest.

This is also supported by the CPUC Uniform System of Accounts for Water Utilities\(^3\) which states that “interest during construction” includes the net cost of borrowed funds used for construction purposes and a reasonable rate upon the utility’s own funds when so used. Interest during construction may be charged to the individual job upon which the funds are expended”. DRA also agrees that for forecasting purposes, it may be appropriate to include capital interest expense for projects that are expected to accrue costs before the project is estimated to be in rate base, earning a rate of return.\(^4\) The following regulations also support the inclusion of capitalized interest as part of the project cost; therefore, DRA should allow Cal Water to include capitalized interest in its project cost estimates.

- **ASC 830-20 (SFAS 034)** allows the cost incurred in financing expenditures for an asset during a required construction or development as part of the asset’s historical cost.
- **IRC Section 263A(f)** – Interest capitalized with respect to each unit of designated property is a function of two components - the amount of accumulated production expenditures and the amount of outstanding debt on each measurement date
- **IRS Publication 535** – under the uniform capitalization rules, capitalized interest is treated as part of the cost of the property.

\(^2\) Attachment C, D. 10-12-017
\(^3\) Page 42 #17 of Uniform System of Accounts for Water Utilities (Class A, Class B and Class C)
\(^4\) DRA Company-Wide Report, page 7-5
2.1.2 Proposed Adjustments to Recorded Plant Additions

DRA recommends that CWS immediately remove capitalized interest charges in the amount of $110,336 for Project 11451 and $188,166 for Project 15946 because Cal Water is booking capitalized interest to the projects while earning a rate of return for the portion included in rate base. Cal Water strongly disagrees with this recommendation.

Cal Water uses a forecast test year and historically excluded “IDC” in projected capital costs. “IDC” was estimated based on projected total capital budget and not by project. Please see table below.

<table>
<thead>
<tr>
<th>BAKERSFIELD DISTRICT</th>
<th>2009 General Rate Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details For Capitalized Interest Estimate</td>
<td></td>
</tr>
<tr>
<td>Workpaper 8-B-4</td>
<td></td>
</tr>
<tr>
<td>Calendar Year</td>
<td>2009</td>
</tr>
<tr>
<td>Construction Budget</td>
<td>14,729,924</td>
</tr>
<tr>
<td>General Plant</td>
<td>1,001,470</td>
</tr>
<tr>
<td>Excluding General Plant</td>
<td>13,728,453</td>
</tr>
<tr>
<td>Net Effective Capitalized Interest Rate</td>
<td>2.45%</td>
</tr>
<tr>
<td>Estimated Interest Capitalized</td>
<td>336,400</td>
</tr>
</tbody>
</table>

There is no direct accounting between the forecasted and actual “IDC” by project. Projects schedules can move forward and backward, caused by a variety of circumstances, which may cause actual “IDC” charges to be different than projected. It is important to note that revenue requirement is calculated based on adopted rate base not recorded rate base; however, the earnings test used to evaluate attrition increases is based on weighted average recorded rate base. In cases where projects are delayed, Cal Water is penalized for delay or under spending in capital projects either by receiving no increase or only a partial increase for attrition. Therefore there is no double-recovery as DRA asserts.

2.2 DEPRECIATION

2.2.1 TANK PAINTING

Cal Water has filed for tank painting costs to be treated as a capital item (utility plant account 103421) in this proceeding. This has been Cal Water’s practice (for accounting and ratemaking purposes) since 2001 – please see D. 01-09-021.
DRA alternatively recommends\(^5\) that all tank painting projects be removed from plant
addition estimates and be treated as a recoverable regulatory asset to be amortized over fifteen
years and to accrue interest at the 90-day commercial paper rate. DRA also made the following
erroneous allegations:

- DRA claims that Cal Water’s practice is contrary to the plant accounting instructions of
  the Commission’s USOA\(^6\) which only provides for the first tank painting to be included in
  the plant accounts.
- DRA claims that tank painting is not a unit of property; therefore, repainting of a tank
  should be maintenance of a tank and not a plant item.
- DRA claims that Cal Water’s accounting practice is not consistent with other California
  water utilities and that Cal Water is the only water utility that treats tank painting as a
  plant item.

Cal water strongly disagrees with DRA’s recommendations and allegations. DRA has
misinterpreted the USOA instructions and account explanations in an effort to support its
position.

The only place in the USOA that specifically references that only the first painting is to
be included in the plant account is listed under the “Buildings” heading. “Painting, first?" is listed
under Instruction 10, paragraph (D) Items of Cost and Heading (A) Buildings, which lists a
number of items associated with Buildings. This section does not apply to reservoirs. The true
intent of that USOA list is related to Building Structures, and not to Reservoirs and Tanks.

As to the matter of tank painting not being a unit of property, there are numerous
components of property, which are needed to functionally complete a unit of property that may
be classified under USOA as either “units of property” or “minor items of property”\(^8\) but do not
perform their function until attached to the property or as DRA states, “exist” (for example,
wiring, design/organization and various component parts, which do not take on their functions
until attached to the property). Therefore, tank painting must be either a unit of property or a
minor item of property. The USOA defines “Unit of Property” as:

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\(^6\) Ibid
\(^7\) Uniform System of Accounts for Water Utilities (Class A) effective January 1, 1955, page 47
\(^8\) Uniform System of Accounts for Water Utilities (Class A) effective January 1, 1955, page 49
"Units of Property" means those items of utility plant which, when retired, with or without replacement, are accounted for by crediting the book cost thereof to the utility plant account in which included\(^9\).

The USOA defines “Minor items of property” as:

“When a minor item of property which did not previously exist is added to plant, the cost thereof shall be accounted for in the same manner as for the addition of a unit of property, set forth in paragraph B (1), above, if a substantial addition results, otherwise the charge shall be to the appropriate operating expense account.”

Cal Water contends that painting is a substantial addition to a reservoir. Painting is not purely for cosmetic purposes but is a critical component of the structure itself in order to protect it from corrosion and to substantially prolong its life.

Furthermore, paragraph 12 states with regard to accounting for minor items of property:

“A minor item of depreciable property is replaced independent of the unit of which it is a part, the cost of replacement shall be charged to the maintenance account appropriate for the item, except that if the replacement effects a substantial betterment (the primary aim of which is to make the property affected more useful, more efficient or greater durability or greater capacity)\(^10\)

Therefore, a “unit of property” does not have to be an independent and standalone “existing” piece of property or an “operating” piece of property to be classified as a “unit” or “item” of property. Clearly, the Commission never intended to restrain itself and only allow the “first painting” of a tank or reservoir to be capitalized. The Commission recognizes that changes come with time. Storage tanks have major coating systems that can be identified as a unit of property, are a material portion of the tank construction, and are required to be renewed for the property to achieve or extend its useful life. Tank painting has dramatically changed over the years and significantly improved the durability and longevity of tanks.

Cal Water also disagrees with DRA that Cal Water’s accounting practice on tank painting is not consistent with other California water utilities. Cal Water did a search of Commission decisions that reference tank coating or painting using Weslaw query. The query yielded 55 results (see table below). The results show that DRA’s recommendation is not consistent with other Commission decisions. All the Commission’s prior decisions recognize tank painting as an expense or a long-term expenditure, which is either capitalized or the unamortized balance included in working cash. Both of these are added to rate base whereby the Company is

\(^9\) Ibid
\(^10\) Uniform System of Accounts for Water Utilities (Class A), effective January 1, 1955, page 50
allowed to earn its full rate of return. None of the prior Commission decisions attempted to finance a long-term deployment of funds with short-term financing as DRA recommended.

Cal Water has consistently capitalized tank painting costs in general rate cases and the Commission has routinely accepted Cal Water's recommendations for recording, accounting and ratemaking purposes. Cal Water recommends that the Commission continue following its prior decisions and allow Cal Water to include tank painting costs in rate base and earn its authorized rate of return. For a list of tank painting projects in this GRC, please see Attachment 2.2 C – List of Tank Painting Projects
<table>
<thead>
<tr>
<th>Decision Number</th>
<th>Utility</th>
<th>Treatment</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>D. 12-09-004</td>
<td>Apple Valley Rancho</td>
<td>N/A</td>
<td>Sale/Transfer</td>
</tr>
<tr>
<td>R. W-4871</td>
<td>Del Oro</td>
<td>Rate Based</td>
<td>Capital Project</td>
</tr>
<tr>
<td>D. 10-12-017</td>
<td>California Water</td>
<td>Rate Based</td>
<td>Capital Project</td>
</tr>
<tr>
<td>D. 10-11-035</td>
<td>Golden State</td>
<td>N/A</td>
<td>Construction</td>
</tr>
<tr>
<td>D. 10-06-038</td>
<td>California American</td>
<td>Amortized</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash (1)</td>
</tr>
<tr>
<td>D. 10-06-038</td>
<td>California American</td>
<td>Amortized</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash (1)</td>
</tr>
<tr>
<td>D. 90-02-042</td>
<td>Little Bear</td>
<td></td>
<td>N/A Construction</td>
</tr>
<tr>
<td>D. 09-09-004</td>
<td>Industry (OIR)</td>
<td></td>
<td>Adopting GO 103-A</td>
</tr>
<tr>
<td>D. 09-09-004</td>
<td>Industry (OIR)</td>
<td></td>
<td>Repeat(8)</td>
</tr>
<tr>
<td>D. 09-10-013</td>
<td>California American</td>
<td>Amortized</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash (1)</td>
</tr>
<tr>
<td>D. 08-09-026</td>
<td>Apple Valley Rancho</td>
<td>Rate Based</td>
<td>Capitalized</td>
</tr>
<tr>
<td>D. 07-03-037</td>
<td>PacifiCorp</td>
<td></td>
<td>N/A Construction</td>
</tr>
<tr>
<td>D. 06-11-015</td>
<td>San Jose Water</td>
<td>Rate Based</td>
<td>Capital Project</td>
</tr>
<tr>
<td>D. 06-08-017</td>
<td>Suburban Water</td>
<td>Rate Based</td>
<td>Capital Project</td>
</tr>
<tr>
<td>D. 04-08-054</td>
<td>San Jose Water</td>
<td>Rate Based</td>
<td>Capital Project</td>
</tr>
<tr>
<td>D. 04-08-031</td>
<td>PG&amp;E</td>
<td></td>
<td>N/A Construction</td>
</tr>
<tr>
<td>D. 02-09-031</td>
<td>California American</td>
<td>Expended</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash</td>
</tr>
<tr>
<td>D. 04-03-049</td>
<td>Industry</td>
<td></td>
<td>Earning Test</td>
</tr>
<tr>
<td>D. 04-03-041</td>
<td>Industry</td>
<td></td>
<td>Repeat (18)</td>
</tr>
<tr>
<td>D. 03-10-040</td>
<td>Park Water</td>
<td>Expended</td>
<td>5 yr Average</td>
</tr>
<tr>
<td>D. 01-09-021</td>
<td>California Water</td>
<td>Rate Based</td>
<td>Capitalized</td>
</tr>
<tr>
<td>D. 03-08-069</td>
<td>Apple Valley Rancho</td>
<td>Rate Based</td>
<td>Capitalized</td>
</tr>
<tr>
<td>D. 03-05-030</td>
<td>Valencia Water</td>
<td>Rate Based</td>
<td>Amortized Specific Amount</td>
</tr>
<tr>
<td>D. 01-08-039</td>
<td>California Water</td>
<td>Rate Based</td>
<td>60% Capitalized 40% Expensed</td>
</tr>
<tr>
<td>D. 01-04-034</td>
<td>San Jose Water</td>
<td>Rate Based</td>
<td>Capitalize Projects &gt; $100k</td>
</tr>
<tr>
<td>A. 00-09-010</td>
<td>California Water</td>
<td>Rate Based</td>
<td>60% Capitalized 40% Expensed</td>
</tr>
<tr>
<td>D. 99-05-018</td>
<td>California Water</td>
<td>Rate Based</td>
<td>60% Capitalized 40% Expensed</td>
</tr>
<tr>
<td>D. 97-12-018</td>
<td>California American</td>
<td>Amortized</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash</td>
</tr>
<tr>
<td>D. 97-11-061</td>
<td>Park Water</td>
<td>Amortized</td>
<td>Unamortize included in working cash</td>
</tr>
<tr>
<td>D. 97-09-001</td>
<td>Santa Clarita</td>
<td>Expended</td>
<td></td>
</tr>
<tr>
<td>D. 95-12-028</td>
<td>Park Water</td>
<td>Amortized</td>
<td>Unamortized included in working cash</td>
</tr>
<tr>
<td>D. 93-10-038</td>
<td>California American</td>
<td>Rate Base</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash</td>
</tr>
<tr>
<td>D. 93-10-038</td>
<td>California Water</td>
<td>Expended</td>
<td></td>
</tr>
<tr>
<td>D. 93-01-025</td>
<td>California Water</td>
<td>Expended</td>
<td></td>
</tr>
<tr>
<td>D. 91-03-014</td>
<td>California Water</td>
<td>Expended</td>
<td></td>
</tr>
<tr>
<td>D. 90-12-118</td>
<td>Southern Cal Water</td>
<td>Amortized</td>
<td>Expensed over a three year period</td>
</tr>
<tr>
<td>D. 90-07-057</td>
<td>Alisal Water</td>
<td>Expended</td>
<td>Recover through advice letter filing</td>
</tr>
<tr>
<td>D. 90-02-042</td>
<td>California Water</td>
<td>Expended</td>
<td>Normalized over 3 years</td>
</tr>
<tr>
<td>D. 89-02-067</td>
<td>California American</td>
<td>Amortized</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash</td>
</tr>
<tr>
<td>D. 88-12-082</td>
<td>Santa Paula</td>
<td>Expended</td>
<td>Experimental Coat approved</td>
</tr>
<tr>
<td>D. 87-08-049</td>
<td>Cedar Ridge</td>
<td>Disallowed</td>
<td>No bids</td>
</tr>
<tr>
<td>D. 87-08-024</td>
<td>Apple Valley Rancho</td>
<td>Amortized</td>
<td>Over 10 year period not specified unamortized</td>
</tr>
<tr>
<td>D. 87-07-080</td>
<td>Vandenberg</td>
<td></td>
<td>Eminent Domain Proceeding</td>
</tr>
<tr>
<td>D. 87-03-037</td>
<td>California Water</td>
<td>Expended</td>
<td></td>
</tr>
<tr>
<td>D. 87-03-030</td>
<td>California American</td>
<td>Amortized</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash</td>
</tr>
<tr>
<td>D. 87-01-059</td>
<td>Suburban Water</td>
<td></td>
<td>N/A Construction</td>
</tr>
<tr>
<td>D. 86-03-011</td>
<td>California American</td>
<td>Expended</td>
<td>Tank Sudy 5 yr/Coating 10 yr unamortized in working cash</td>
</tr>
<tr>
<td>D. 85-12-090</td>
<td>California Water</td>
<td>Expended</td>
<td>Recovered within three year rate case period</td>
</tr>
<tr>
<td>D. 85-12-088</td>
<td>California Water</td>
<td>Expended</td>
<td>Recovered within three year rate case period</td>
</tr>
<tr>
<td>D. 85-12-087</td>
<td>California Water</td>
<td>Expended</td>
<td>Recovered within three year rate case period</td>
</tr>
<tr>
<td>D. 85-12-086</td>
<td>California Water</td>
<td>Expended</td>
<td>Recovered within three year rate case period</td>
</tr>
<tr>
<td>D. 85-03-054</td>
<td>California Water</td>
<td>Expended</td>
<td>Recovered within three year rate case period</td>
</tr>
<tr>
<td>D. 85-01-035</td>
<td>Yosemite Spring</td>
<td></td>
<td>N/A discussion of need to paint tanks</td>
</tr>
<tr>
<td>D. 83-05-052</td>
<td>Strawberry Water</td>
<td></td>
<td>N/A discussion whether tanks painted</td>
</tr>
<tr>
<td>D. 93845</td>
<td>California Water</td>
<td>Expended</td>
<td>Recovered within three year rate case period</td>
</tr>
</tbody>
</table>
2.2.2 ACCOUNTING ERROR

DRA stated in its report, “For calculation of depreciation expenses, CWS uses two
different depreciable plant numbers, one for its bookkeeping and another for ratemaking. For
ratemaking, CWS uses beginning–of-the-year plant balances. However, for bookkeeping, its
Power Plant Accounting software uses another set of numbers called “Depreciation Base”,
which are sometimes less than the beginning-of-year numbers.”

DRA’s statement is wrong. Cal Water uses one set of books for both accounting and
ratemaking purposes. Cal Water’s policy is to use the beginning balance of the current
year/ending balance of the prior year in calculating depreciation accrual. This is consistent with
the provisions of Standard Practice U-4 and is most widely used by large and small utilities.
The “Ending Plant Balance” column in the report represents ending plant balance in the current
year the report is run. The “Depreciation Base” column represents the ending balance of the
prior year which is the basis of calculating depreciation accrual for the current year. Therefore,
the “Ending Plant Balance” for 2012 report is the ending plant balance for 2012. The
“Depreciation Base” for 2012 represents the ending plant balance for 2011 which is consistent
with the provisions of Standard Practice U-4.11 This was explained in response to data request
SBH-004 question 2.

A reconciliation of depreciation basis used for accounting purposes and the depreciation
basis used for ratemaking in the GRC models was done for all districts. The depreciation basis
for 2012 for accounting purposes matches the depreciation basis used in Table 9B2 used in this
GRC. This information was also provided to DRA in response to data request SBH-008.
Cal Water is also presenting additional testimony provided as attachments to this chapter.

Attachments:

Attachment 2.2 A – Earl M. Robinson Rebuttal Testimony
Attachment 2.2 B – John Tootle Rebuttal Testimony
Attachment 2.2 C – List of Tank Painting Projects

2.3 MAIN REPLACEMENTS

Prudent utility management includes systematic replacement of facilities in order to
provide lowest lifecycle costs and safe and reliable service to customers. In the case of water
utilities, an important component of this effort is the regular replacement of buried pipelines.
Failure to do so can lead to catastrophic failures, safety and service issues, and higher cost to
customers in the long term due to the deferred maintenance.

11 Standard Practice U-4, page 42 #3a
Cal Water strongly supports the need to regularly and systematically replace its buried distribution facilities; however the company is currently behind on renewing its distribution system infrastructure. The average age of Cal Water pipelines is approximately 42 years old with some pipeline ages exceeding 110 years. Additionally, the average rate of Cal Water pipeline replacement over the past 10 years has been approximately 0.3%. This equates to a 330 year replacement cycle for Cal Water pipelines. If this replacement rate were to stay constant, the overall average age of Cal Water’s pipelines would continue to increase and there will be pipelines that reach 300+ years of age before they are replaced.

While parties may honestly argue over what is the ideal replacement rate of pipelines, everyone should be able to agree that 300 years is not a realistic estimate of lifetime as no other water utility asset lasts that long and data presented below show pipes fail at an age far below 300 years. This situation threatens Cal Water’s ability to serve water to the community reliably and safely and needs to be reversed. This threat is echoed in the American Water Works Association (AWWA) nationwide study titled “Buried No Longer”:

“Delaying the investment can result in degrading water service, increasing water service disruptions, and increasing expenditures for emergency repairs…the more we delay the harder the job will be when the day of reckoning comes.”

Furthermore, the American Society of Civil Engineers (ASCE) came to a similar conclusion in their report titled “Failure to Act”:

“…capital spending has not been keeping pace with needs for water infrastructure, and if these trends continue, the resulting gap will only widen…As a result, pipes will leak, new facilities required to meet stringent environmental goals will be delayed, O&M will become more expensive…”

This Commission has also weighed in on this issue in prior Cal Water GRCs. The Commission made the following comment regarding the Company’s main replacement program in D-03-09-021.

“In fact, Cal Water’s rebuttal testimony showed that prudent long-term planning could support an even higher level of main replacement. Cal Water plans to replace its mains over a 300-year period. Commission Standard Practice U-4, Determination of Straight-line Remaining Life Depreciation Accruals, Revised January 3, 1961, states that the longest

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12 “Buried No Longer: Confronting America’s Water Infrastructure Challenge”, American Water Works Association, p. 3
13 “Failure to Act, Executive Summary”, American Society of Civil Engineers, p. 7
projected actual service life for any type of main is 100 years. These facts would suggest that Cal Water should be replacing more small mains, not less.”

**Pipeline Life**

Pipelines do not last 300 years. As pipelines age, the condition of pipelines deteriorate due to corrosion and exposure to the environment. According to the AWWA report “Buried No Longer,” pipeline service lives range from 50 years in severe duty conditions up to 135 years in ideal conditions.  

<table>
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<tr>
<th>Derived Current Service Lives (Years)</th>
<th>CI (LSL)</th>
<th>CIC (SSL)</th>
<th>DI (LSL)</th>
<th>DI (SSL)</th>
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**Figure 5: Average Estimated Service Lives by Pipe Materials**

**LSL** indicates a relatively long service life for the material resulting from some combination of benign ground conditions and evolved laying practices etc.

**SSL** indicates a relatively short service life for the material resulting from some combination of harsh ground conditions and early laying practices, etc.

Furthermore, Cal Water leak data reinforces this. Figure 1 below shows quantities of leaks suffered by pipes material types at various ages at the Company’s Stockton District. Numerous failures occur well before 100 years of age.

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14 Decision 03-09-021 pages 51-52  
15 Buried No Longer: Confronting America’s Water Infrastructure Challenge”, American Water Works Association, p.7
Figure 1 - Failures by Pipe Age, data from Stockton, CA district

Drop-off in failures for particular pipe materials in later years is driven by the smaller quantity of pipelines of those ages installed in the Stockton district

Risk Management

Aging pipelines expose Cal Water customers, communities, and the environment to several risks. Pipelines in poor condition have an increased likelihood of leaking and/or breaking. Undetected leakage from buried pipelines increase unaccounted for water, production costs, source of supply needs, and ultimately increases customer bills. Catastrophic failures can cause significant damage and safety concerns to surrounding homes and businesses, property, sewer lines, roadways, other utilities, and environment. Examples of this damage include street flooding, home flooding, roadway sink holes, and land erosion. Customers are also subject to loss of water service and potential bacterial contamination that may happen when a pipe is depressurized. The repair and clean up costs of these severe incidents can be substantial, up to $500,000 per event. Examples of these incidences can be found attached below.

Current Main Replacement Program

Cal Water’s main replacement program targets a replacement cycle less than 100 years in order to reduce leaks, the damages they cause, and to maintain service to the customers. The current main replacement program is focused on the correct classes of pipes (steel pipes, and pipes less than 6-inches diameter) to reduce leaks and damages. Leak analysis by material type demonstrates that steel pipe in the Cal Water systems is in the worst overall
condition. Steel pipes suffer from nearly 35 leaks / 100 miles / year. Thus, steel pipes are the
“worst” offenders and are the most likely to leak in the future.

Leaks by Pipe Material

Leak analysis by pipe diameter demonstrates that relatively small pipes (pipe that are 6
inches and less in diameter) are in the worst overall condition (see fig. 3). Small diameter pipes
suffer from 35 leaks / 100 miles / year. Thus, small diameter pipes are the “worst” offenders
and are the most likely to leak in the future in terms of size.

Leaks by Pipe Diameter

The data presented in the above tables supports Cal Water’s main replacement program.
Pipelines identified under Cal Water’s main replacement program for replacement should be
approved in this rate case because they are the most likely to leak in the future. Cal Water is
currently requesting 58 miles of pipeline to be replaced in the case. The objectives of these
replacement projects are to replace pipes believed to be in poor condition in order to reduce
leaks, the cost and damages caused by leaks, and to improve service to the customers. The
need to replace pipelines is great considering the past rate of reinvestment has been low (300+
year replacement cycle), cost of undetected leakage is borne by customers, and the damages
caused by leaks can be severe. Disallowing or delaying projects is not an acceptable solution
as the need to renew the infrastructure is great, damages and costs from leaks will impact
customers, and the current Main Replacement Program is appropriate in targeting both steel
pipes and small diameter pipes.

From “Buried No Longer”:

“The United States is reaching a crossroads and faces a difficult choice. We can
incur the haphazard and growing costs of living with aging and failing drinking
water infrastructure. Or, we can carefully prioritize and undertake drinking water
infrastructure renewal investments to ensure that our water utilities can continue
to reliably and cost-effectively support the public…”

Investor owned utilities in general, including Cal Water, have reinvested in infrastructure
at rates higher than public agencies. Nevertheless, Cal Water’s current rate of 300+ year main
replacement is inadequate to replace its facilities before the end of their useful lives. In this GRC
Cal Water proposes to increase its reinvestment in the water infrastructure in order to maintain
high-quality service to customers now and in the future, and as a result requests that the
Commission approve Cal Water’s request to replace 56 miles of pipeline in the case at a cost of
$87.6M\textsuperscript{16} company-wide.

\textit{Inner Parkside. SF, Mar 2013 – Street sinkhole caused by a water main leak; 4 homes “red
tagged” as uninhabitable due to the damage caused by the leak.}

\textsuperscript{16} Specific water main project costs for years 2013 to 2015
Daly City, November, 2012 – Severe street flooding caused by a water main leak
Cal Water Palos Verdes District, November, 2012 – Landslide, damaged power pole, & damage to residential property caused by a water main leak

2.4 RAMCAP

DRA recommends deferring the proposed RAMCAP Vulnerability Assessment Projects and disagrees with these projects. Cal Water contends that the RAMCAP Vulnerability Assessment Projects are critical. These projects address vulnerabilities through an “all hazards” approach and will serve to protect the safety of Cal Water’s customers from many different possible risks associated with the water system. Cal Water strongly requests that
these projects be allowed in this case. Additional support for this position is provided in the
attached Attachment 3.5 - A RAMCAP Vulnerability Assessment Rebuttal.

Attachment:

Attachment 2.4 A – RAMCAP Vulnerability Assessment Rebuttal

2.5 SCADA
Cal Water requests that the Commission approve the Supervisory Control And Data
Acquisition (SCADA) related projects in this case. These projects are part of a comprehensive
system to intelligently monitor and control the pumping, treatment, and distribution operations of
its water systems.

In this case, Cal Water requests approval of two categories of SCADA projects; projects
that replace failing and obsolete components, and projects designed to serve as SCADA
enhancements to better serve the customers, add functionality and reliability, and promote
energy conservation.

DRA takes the unsupported position that since SCADA provides no ratepayer benefit; all
SCADA projects should be disallowed. DRA uses a very wide brush in its condemnation of Cal
Water’s proposed SCADA projects stating, “Therefore, DRA recommends that the Commission
disallow all SCADA related projects in this GRC, as shown below, until CWS can demonstrate
any tangible benefits resulting from the implementation of such programs and reflect the savings
of those programs in its expense forecasts, demonstrating the program cost effective for
ratepayers.” Their basis for this statement is taken from a comparison of the electrical cost
savings in Marysville to a certain capital project’s costs in Cal Water’s Mid-Peninsula district.

This position is wrong. Customers have already realized substantial benefits by having
Cal Water invest in automation any SCADA systems. As an example, Cal Water estimates that
without its SCADA systems, it would conservatively require an additional 88 certified pump
operators to operate its pumping facilities (based on 22 operating districts, 2 extra shifts per
day, with 2 - 12 hour shifts on weekends). Without SCADA systems in place, this would be an
additional annual expense of approximately $11.5 million or the equivalent of approximately $77
million dollars in capital investment. Cal Water’s requested expenditure in this case is far below
this amount. Cal Water simply requests approval for the logical, systematic and necessary
replacements of existing obsolete SCADA system components, and also approval of beneficial
enhancements to its SCADA systems to accomplish additional levels of automation. Cal
Water’s request is reasonable. In the original SCADA master plan, the intent was to perform all
of this replacement and upgrade work in the current GRC cycle. Cal Water realized this would
have a large impact on customer rates, so Cal Water extended its schedule to spread these
necessary costs over two GRC cycles to help alleviate rate impacts, while still replacing
obsolete components that will be unsupported and non-replaceable by 2020.

Customers have seen additional benefits because of the SCADA systems. These
include reduced outages of service, improved compliance with complex water quality monitoring
parameters, and enhanced operation of complex treatment and pumping systems. Continuing
investment in SCADA related projects will allow Cal Water the ability to maintain its current
minimum level of staffing needed to safely and reliably operate its facilities. It is important to
explain the different components of the SCADA system and to outline the request to replace
and optimize different aspects of the SCADA systems. The following sections attempt to
characterize whether the projects are replacements or enhancements and offer clarity on the
reasons for the projects.

SCADA System Hardware and Software Replacement

The Cal Water standard SCADA system is installed in 20 of its districts using 15 servers.
These systems have gone through two computer system upgrades (circa 1999 and 2007) but
have retained the same SCADA software during these upgrades. SCADA systems are simply
computer servers loaded with custom code and configured for the control of equipment and data
collection within a particular water system. As such, the computer hardware needs to be
replaced on about the same schedule as most computer servers, and the computer software
needs to be updated or replaced on a similar schedule to other software applications. Cal
Water has kept the same basic software in use for over 20 years, which is much longer than
most typical computer programs, and it is time for this software to be replaced.

Cal Water’s SCADA software vendor has not performed any changes to the software
code for the existing product in more than 10 years. In addition Cal Water does not anticipate
that the software company that developed Cal Water’s SCADA code will be in business to
support its product much longer. Without the company in business, Cal Water will have no
support for the SCADA product and will be unable to maintain the software licenses for the
product. With the company out of business, Cal Water will be unable to replace and configure
servers, fix bugs, apply security patches, modify the software for new field devices, or repair the
system and get the SCADA software running. This will occur if Cal Water takes a “do nothing”
approach. Without the SCADA systems Cal Water will have to resort to 24 hour manual
operations within impacted districts until a replacement system can be developed, deployed,
and tested. This is simply not a reasonable, practical, or desirable situation for the Company or
its customers.
The SCADA system is an asset within the water system much like any pump, pipeline, tank, or other computer. As such it needs to be maintained and periodically replaced. Unlike assets such as pumps or tanks, sometimes replacement schedule is driven by not just age or condition, but by support from the vendor. In Cal Water’s case both are critical factors in its need to replace the SCADA system. The SCADA hardware product (PA-RISC servers) will reach its end of life support from the vendor in 2020 and will no longer be maintained or supportable. This hardware is very old technology and is no longer even being manufactured. Replacing the servers is not a simple task as non PA-RISC machines cannot run the same SCADA software. Since the vendor has not developed new code for their product in 10 years, it is not possible to purchase new servers that will run the old SCADA software. In this case Cal Water is requesting funding to enable it to replace both the SCADA servers and SCADA software (Project 64294 in General Office).

SCADA System RTU Replacements

In addition to the centralized hardware and software replacements proposed in this case, Cal Water is also proposing the replacement of various Remote Telemetry Units (RTUs) and older telemetry equipment. These RTUs are located in the field, communicate with the central SCADA software, and are the “brains” at the pumping location connecting to the physical equipment. Typically, an RTU converts the electrical analog signals from the plant equipment to digital values such as the open/closed status from a switch or a valve, or measurements such as pressure, flow, voltage or current. By converting and sending these electrical signals out to equipment the RTU can control equipment, such as opening or closing a switch or a valve, setting the speed of a pump, or the level of a tank.

The specific projects identified in this case replace old RTUs and even older telemetry equipment that are obsolete. The primary RTUs were originally installed in the 1990s and the telemetry equipment was installed prior to that. For a time, Cal Water attempted to replace failing control equipments that were no longer manufactured or supported with other used obsolete components. However, even used components are now unavailable. This requires us to perform an upgrade to the RTUs and telemetry equipment, which will require additional modifications to SCADA. Without these RTUs Cal Water’s SCADA system will fail component by component and Cal Water will require more labor to manage and operate these facilities. Cal Water believes this is a logical request to replace these important water system RTU components. Cal Water requests that the Commission approve these identified replacement SCADA RTU projects. The specific project numbers are: 66831, 66832, 66837, 67349, 63155,
66790, 64076, 66809, 66892, and 66830. The specific districts impacted by these projects are

SCADA Data Acquisition Radio Replacements

Cal Water submitted several projects to replace old, obsolete SCADA radio equipment. The existing communications technology is more than 20 years old and Cal Water has experienced several failures with the older communications equipment. In multiple cases Cal Water had to pursue non-specific projects to remedy these failures and replace the existing SCADA communications equipment. Performing these projects in a planned manner makes the total project costs far less than trying to do emergency repairs on a failed system while simultaneously manually operating its water system around-the-clock. DRA recommended in some cases for Cal Water to continue to pursue these projects as non-specific while also arguing for a lower non-specific budget. This puts Cal Water in an untenable position. Cal Water instead proposes to replace its old communications technology with a more reliable and robust communications system that has been tested and proven in several districts. Cal Water plans to do this work over multiple rate cases as it would not be possible for Cal Water to complete all of the work at one time. Cal Water requests the Commission approve the identified SCADA data acquisition radio projects. Projects included are 67051, 67089, 67073, 67049, 67045, 67092, 67047, 67072, and 67046. The specific districts impacted by these projects are Oroville, Stockton, South San Francisco, Los Altos, Dixon, Westlake, Livermore, Salinas, and Hermosa-Redondo.

SCADA Historian Enhancement

DRA’s report recommends deferring all SCADA enhancements until a future rate case. The function of the SCADA system is primarily a control of the operation of the water system but also to collect important operational data for analytical and reporting purposes. Cal Water proposed to change the scope of the previously approved project, project number 21226, to fund the installation of a SCADA historian product to provide an enhancement tool for data users to perform their analytical and reporting functions. The SCADA historian is simply a server/data warehouse used to capture and store the myriad of system data that comes through a SCADA system every day. This information is important because it provides operators, engineers, management, and regulators with the ability to review operational data to see trends, failures, timelines, changes, and other minute-by-minute elements of the operation for planning, analysis, and root cause failure review. The SCADA historian will provide overall benefit to the ratepayer by providing better data and better analytical tools to the end users, improving their efficiency in operation, and improving Cal Water’s ability to remain compliant in its reporting
requirements. The project should be approved as a carryover project with a change in scope for
the amount previously authorized in the 2009 GRC.

SCADA Network Management System Enhancement

The network management system project is a proposed enhancement to improve the
reliability of the SCADA system by providing centralized monitoring of all of the computer and
communication systems that control the water system. This system is like a SCADA system for
the SCADA system. This will prevent unnecessary outages of the SCADA system which in the
past have led to water quality violations, loss of service, and overflow of tanks. Additionally
there are potential fines associated with each of these events that can be avoided by making
the SCADA system more reliable. Because there is a tangible benefit to the ratepayer, Cal
Water requests the network management system projects; projects 67749, 67751, and 67752,
be approved in rates.

Flow Meter Enhancements

Flow meters tied to the SCADA are system enhancements to provide additional
functionality of the SCADA system. Cal Water proposes the installation of flow meters at
specific locations to continue to improve the efficiency of its operation. The current manual
practice of collecting production meter reading information and other flow data, then manually
entering reads into a spreadsheet or database can be automated in a cost effective manner,
which will allow Cal Water to make more efficient use of its workforce, and provide more
accurate and timely information to its regulators and other key stakeholders. The sites included
in this GRC have been chosen because the existing flow meters are in poor condition. Cal
Water is already required to replace these inaccurate flow meters; in this case it simply
proposes to take the reasonable step to tie these devices to the SCADA system. The specific
project numbers are: 67909, 67910, 67042, and 67036. The specific districts involved are
Bakersfield, South San Francisco, and Livermore.

Power Meter Enhancements

In this GRC, Cal Water is proposing another set of projects which are an enhancement
to the SCADA systems. These are the power meter projects, which will provide real-time
information to enable the Company to continue to improve the efficiency of its operation. The
current manual practice of collecting power consumption data necessary for performance
testing and as part of Cal Water’s reporting requirements to regulatory agencies can be
automated cost effectively allowing Cal Water to make the more efficient use of its workforce.
Additionally, Cal Water will obtain better operational information that will in turn be used to
validate electric utility invoices as well as make real-time operational efficiency changes,
efficiency related improvements and better decisions on capital replacement or maintenance
projects. These projects are similar to the Marysville projects that DRA references in its
testimony. Projects included are: 67391, 67395, 67413, 67417, 67449, 67430, 67452,
67455, 67454, 67474, and 67475. Districts included are Bakersfield, Bayshore, Hermosa-
Redondo, Livermore, Salinas, Stockton, Palos Verdes, and Westlake.

**Pressure Transducer Enhancements**

Another SCADA related enhancement is the addition of pressure transducer projects.
These devices measure pressure at points in the water system and convert the pressure
measurement to an electronic signal, which can be relayed to the SCADA system. Increasing
the number of pressure measurement locations obtained will allow Cal Water to better manage
its operations, notify operations employees of pressure issues, obtain data used to enhance the
accuracy of the hydraulic models, and are a part of the company’s strategy to meet its
performance requirements as listed under General Order 103-A to measure and record
representative operating pressures within each zone. Projects included are: 67189, 67989,
67990, 67190, 67420, 67231, 67269, 67310, 67294, and 67330. Districts included are: BK, BG,
LIV, HR, SLN, STK, SSF, and PV

**Well Level Sensor Enhancements**

Cal Water proposes well level sensor installation projects to continue to improve the
efficiency of its operation. This essentially entails installing a pressure transducer in a well to
allow a pressure measurement that can be converted to a depth of water. This information is
then sent to the SCADA system and allows for automated and continuous recording of the well
levels to track long-term trends in the groundwater basin. This also allows real time operational
decision making. Currently the manual practice of measuring water levels is labor intensive and
these projects can automate the process and cost effectively allow Cal Water to make the more
efficient use of its workforce. Projects included are: 66854, 66878, 66874, 66857, 66890, 66859,
66893, 66892, and 66889. Districts included are Bakersfield, Bayshore, Livermore, Hermosa-
Redondo, Salinas, and Stockton

2.6 **TWO-WAY VOICE RADIO SYSTEMS**

Cal Water requests that the Commission approve an updated two-way voice radio
system for use in the Company’s districts. The reason Cal Water is requesting that the
Commission approve an updated two-way radio system at a time of widespread society use of
cellular and texting technologies is simple: during emergency events and other public safety
situations, Cal Water needs a reliable and secure way to communicate within its field forces. This two-way radio system will improve the Company’s emergency operations, enhance employee safety, help reduce customer and company property damage, and will enhance overall service and reliability levels to customers, especially during critical emergency operations, such as during earthquakes, fires, floods, large main breaks, water supply failures, and power failure events. It is during these same events – especially earthquakes, large fires, widespread power failures, or community-wide public safety situations – that cellular networks become overwhelmed with usage and fail, preventing Cal Water employees from communicating with each other, with public safety agencies, firefighters, and state/local officials to restore service. Cal Water provides a life sustaining and public safety service that customers assume and expect will always be available. This radio system is needed to maintain critical communications with field repair crews in order to expedite restoration of water service to customers during and following emergencies.

DRA recommends disallowance of the two-way voice radio system until more testing and a reasonableness review can be performed. Cal Water contends that this system is needed, and that DRA’s attempt to require savings calculations by offsetting cell phone usage misses the whole point of this emergency two-way radio system. This request needs to be based on the merits of the emergency communication needs and the safety and security benefits to Cal Water customers.

Cal Water does have an existing two-way radio system. However the existing low-band radio system is over fifty years old and uses a simplex analog technology that is obsolete. The existing system is plagued with performance and reliability issues such as dead spots, signal skip, limited availability of replacement parts and equipment, and reliance on telephone landline connections to tie the radio system to district offices. In addition, a single frequency is used by Cal Water state-wide providing only a single talk group in each district. In some districts, the frequency is shared with other non-Cal Water users. The districts have found this system to be unreliable and have for the most part, switched to cellular phones as their primary communications tool. But, this over-reliance on cell phones for day to day operations exposes Cal Water and its customers to a potentially catastrophic loss of communications during periods of high cell phone outages. Media regularly reports on cell phone outages immediately after major disasters that have occurred in the past few years. Cal Water has confirmed with Verizon Wireless, that Verizon itself uses both cell phones and voice radios for its day to day communications. Verizon, Cal-Water’s primary cellular carrier, acknowledges that cell phone networks, even its own, will experience outages for undetermined lengths of time following a
disaster. Therefore, Verizon utilizes multiple communications methods in order to maintain communications. It is widely accepted among Emergency Response Managers that cellular networks cannot be depended on as a primary communications during disasters.

The proposed new digital 2-way voice communication system is based on Internet Protocol (IP) interconnected repeaters serving single districts using 25 local frequencies. The new system will eliminate interference with other districts and other emergency users. It will also provide each district with multiple talk groups permitting multiple simultaneous conversations. It increases the range and coverage over the existing system and significantly reduces dead spots. Voice communications between districts and text messaging capabilities will also be possible. Text messaging would allow SCADA alarms and messages to be transmitted via the radio eliminating reliance on cell phone service. One of the principal improvements over the existing radio system is incorporation of hand-held radios in addition to vehicle mounted radios. A hand-held radio allows an employee to remain in communications at all times. A modern repeater-based digital radio system, as proposed, is the industry standard for First Responders such as emergency management, civil defense, police and fire agencies, and other utilities.

It is important to reiterate what has been stated in direct DRA presentations as well as written data request responses. This proposed radio system is not intended to be only an emergency back-up communication system; it is intended to be an adjunct system used alongside cell phones to ensure continuous communications between field units, and between field units and local offices.

In its initial project justification, Cal Water did speak of potential savings from possible reduction in the number of cell phones issued to employees. Upon further evaluation, based on a pilot project in Bakersfield, the Company has determined that any possible savings would be an incidental benefit, would differ widely from district to district, and should not be relied on as a direct project justification. Instead Cal Water recommends focusing on the system as a critical communications component that can be used to provide a more secure and robust method of communications particularly in the event of a large scale or wide spread emergency or disaster, and to positively influence day-to-day operational efficiency and effectiveness as well. The district functional tests are not meant to be used as a "Proof of Concept". They are intended to be a validation test to confirm proper system design and layout for each individual district before permanent equipment installation commences.
2.7 NON-SPECIFIC PROJECTS

DRA’s recommendations regarding non-specific capital budgets for Cal Water districts are unreasonable and should be disregarded by the Commission for the following reasons.

1. DRA’s recommendations ignore the well established CPUC methodology of using a ten-year inflation-adjusted average of the most recent expenditure information to set the budget.

2. DRA’s recommendations do not take into context the balancing effort the Company undertakes using both specific projects and non-specific projects to work within a total capital budget for each district, and instead chooses to examine only one element of a multi-faceted program.

3. DRA’s recommendation ignores the real life activities and cost escalations of the past three years and turns the clock back to include conditions and factors that existed from 1998 to 2001, which were then used to forecast the 2009 GRC request.

4. DRA’s recommendations simplistically assume that projects do not cross over from one year to the next because of scheduled start date, permitting delays, schedule conflicts, design or access problems or other real-life constraints.

5. DRA’s recommendation also ignores the fact that Cal Water’s plant is getting older and therefore requires more capital replacement than earlier in time.

6. DRA’s recommendation does not take into account that Cal Water’s aggregate plant is larger, and that replacement costs are increasing due to numerous external factors not under the control of the company.

7. DRA recommends that all dollars associated with carry-over project list be removed from the requested plant additions, simply because these projects were not closed to plant by the GRC cut-off date, rather than examining the merits of the projects themselves.

In its report, DRA chose to compare Cal Water’s company-wide non-specific capital expenditures across a ten-year window to the total budget for those years, rather than examining the non-specific budget for each district based on its individual merits and
circumstances. Unfortunately, DRA’s analysis results in erroneous conclusions that do not stand up to further scrutiny. Cal Water strongly believes that its proposal for non-specific capital budget amounts is necessary in order to provide adequate funding for emergency projects, projects addressing regulatory change, and unforeseen projects over the next three years.

As an example, DRA’s Table 7-G presented in “Chapter 7: Plant in Service” for nearly every Cal Water district claims that Cal Water has overspent by as much as 116% in one year (2002), and at a ten year average of 60%. DRA then uses this information to claim that “CWS exhibits no desire to control cost” and has a “blatant disregard for the budgeting and the GRC application process.” Nothing could be further from the truth. DRA’s analysis is flawed for two important reasons. Let me explain.

Review Capital Expenditures in Context

First, a timing mismatch exists between the budget and the expenditure values used in DRA’s analysis. While the budget numbers represent the aggregate estimated project costs of all non-specific projects that will be authorized in any individual year, the spending numbers represent the actual expenditure costs that took place during that individual year. Thus, while some projects were completed within one calendar year, other projects overlapped more than one year due to start date, permitting delays, schedule conflicts, design or access problems or other real-life constraints. For example, the $27.5 million spent company-wide for non-specific projects in 2002 was spent against some of the 2002 non-specific projects, and but also included spending on non-specific projects started in 2001 and 2000. This timing mismatch bars the direct correlation of budget and expenditure as employed in DRA’s analysis. Alternatively, the expenditure determination as proposed by Cal Water has been utilized for more than 30 years, employs the CPUC directed methodology using a district-specific, ten-year, inflation-adjusted, average of the most recent available non-specific capital expenditures and inflation factors to arrive at the non-specific budget request, and yields more reasonable data for the long-established forecast methodology.

The second reason that DRA’s analysis is flawed is that the occurrence of, timing of, and cost magnitude of non-specific projects cannot be precisely forecasted or anticipated. That is precisely why they are designated as non-specific. There are two things that we do know however. One is that Cal Water’s plant facilities are aging. And the other is that the numbers and size of Cal Water’s facilities are growing. These two facts mean that a forecast based on an inflation-adjusted ten-year average of historical spending alone will under-estimate future spending requirements. In addition to age and size of plant, there are other factors at work that are also driving up the costs of non-specific projects relative to history. As the company’s
service areas become more urbanized, the cost to replace facilities is increasing because of
traffic control requirements, pavement and sidewalk cutting, and more recently increased
demands from municipalities to have larger sections of roadway repaved when excavation is
needed. Recently many communities have received federal funding to conduct street projects
that have increased the need to relocate facilities within those streets. It is for these reasons
that Cal Water believes a three-year or five-year analysis of non-specific budget spending vs.
approved funding would present a more realistic timeframe than a ten-year average for
determining utility performance. Cal Water is willing to discuss the establishment of alternative
forecasting methodologies that shorten the historical time period and consider other factors that
impact non-specific spending.

Cal Water has recognized the difficulty in controlling the timing of non-specific projects,
so when a larger number of non-specific projects or a large demand for non-specific funding
arise in a particular district, the company has historically undertaken “deferrals of specific
approved projects” (also known as substitutions) in that district to manage overall capital
investments to what was included in customer rates. The substitution process is one in which
we stop work on specific approved projects that are determined to have a lower overall priority
than the newly identified non-specific project, and the funding is shifted to the non-specific
project. The purpose of this practice is to try to live within the total approved district capital
budget, both specific and non-specific projects combined. Cal Water has included information
regarding this practice in its GRC filing and discussed it with DRA.

To demonstrate this effect, Cal Water has assembled total budget (specific + non-
specific) versus expenditure data using the same ten-year period (2002 to 2011) that was used
to forecast the non-specific budget needs. The same calendar year expenditure vs. approved
budget timing mismatch problem as noted earlier still exists, but for the purpose of this rebuttal
we have not tried to correct for this effect. For this rebuttal Cal Water has simply summed the
annual specific and non-specific expenditures and compared them to that year’s total company
approved capital budget, and is shown below as *Figure 7 - Rebuttal.*
This figure provides strong evidence that Cal Water does not over-spend its capital budgets, and has full regard toward the importance of budgeting. The figure illustrates that total spending in 2002, 2003 and 2007 were nearly identical the total capital budgets in those years, and in 2004 and 2005 the spending was about $10 million less than budget in each year, which was made up for in 2006 when we overspent by about $20 million; this may likely have been caused by the timing mismatch issue noted above. Since 2008, we have under-spent by more than $10 million each year and nearly $40 million in 2010. This is in part due to the timing issue associated with the completion of work. It is clear that there is work yet to be completed from these later budget years, since we have request a number of carry-over projects both specific and non-specific. Also, note that in 2010 the impact of the 2009 GRC settlement was not reflected in the company approved budget numbers shown above, but spending was reduced because of projects that were not approved in the rate case by the CPUC.

Non-Specific Capital Budget Items

In its report, DRA identified a number of examples showing why it believed Cal Water willfully exceeded its budget. While Cal Water concedes that there have been some non-specific projects that could have waited until the next GRC application, these are exceptions. Most of the projects cited by DRA as examples of Cal Water’s budget misuse do not warrant this label when examined closer. Here are some of them.
1. In 2009 Cal Water booked over $600,000 toward a non-specific project to update the Bakersfield Water Supply and Facilities Master Plan (WS&FMP). Work on this non-specific project began after Cal Water filed its 2006 GRC application, and after Cal Water learned the CPUC had mandated that such Master Plans would be a required component of GRC filings as of 2009. If a WS&FMP was not provided, the 2009 GRC filing would be found by the CPUC to be deficient. With no project included in the specific budget in the 2006 GRC and no GRC scheduled for Bakersfield before the 2009 deadline, Cal Water had no choice but to prepare that Bakersfield WS&FMP update as a non-specific project.

2. Cal Water purchased a property in 2011 in its East Los Angeles District for over $6.8 million as a non-specific for future use project (WO#00050350). An opportunity presented itself and Cal Water chose to act rather than lose out on that opportunity while it sought approval through the GRC application process to acquire this site. However Cal Water already had several East LA District projects approved in the 2009 GRC, either as direct approvals or as advice letter projects, designated to purchase land and develop additional groundwater wells and associated pipelines. As further described in other Cal Water rebuttal testimony, the company was having difficulties finding smaller lots in acceptable locations for well sites and then this larger lot with an existing office building came to the company’s attention. By using portions of these approved projects in a series of substitutions, Cal Water covered nearly 80% of the $6.8 million purchase price using specific funds. And, the purchased property is large enough that Cal Water will be able to develop several wells.

When you examine the total budget versus total expenditures for the East Los Angeles District for the ten-year period of 2002 to 2011, it is clear that Cal Water has kept spending consistent with the budget. See the Figure below. Also note that the lower spending in 2008 and 2009 as compared to the company approved budget reflects the impact of Cal Water’s response to the settlement on the 2007 GRC for the East Los Angeles District.
Carryover Capital Budget Items

DRA also identified several projects on the “carryover list” that from their perspective, “do not appear to be urgent or unanticipated replacement.” When examined closer this characterization may not be fair.

1. The remodel of the Bakersfield office (WO#00057668) was approved for $166,000 in 2011 to provide greater security following an armed robbery of the customer service center. The company reacted to this violent act by approving a non-specific project. An approved 2009 GRC funding project for calendar year 2012 (FP#00025447) at $204,000 for other office work was cancelled and the funds used for this project. The work on the non-specific project was in service in 2012 and the work order was closed in March of 2013. Thus, this work was not included in plant as of the end of December 2011 the cut-off date for inclusion in the starting plant value for the 2012 GRC, and therefore needed to be included in the carryover list.

2. The 2-way radio project (WO#00042288) approved in 2010 was covered by a substitution of 2009 GRC main replacement project (FP#00020024) approved in the 2009 GRC settlement at $276,813. There has been a concern that the company was 100% reliant on a third-party
cell phone system and that during an emergency communications would be vulnerable to
cell phone network failure and overload. The alternative, the development of a microwave
radio system to replace the existing obsolete analog radio system, would reduce reliance on
cell phones during emergencies and improve the company’s ability to restore service
quickly. Similar to the prior listed project, the 2-way radio system was in service in late
2011, however due to fine tuning of the system the project was not closed until after the
December 31, 2011 cut-off date for inclusion in the starting plant value for the GRC, and
therefore was included in the carryover list.

3. The company approved a non-specific project to paint the interior of the tank at Station 216
(WO#00069829) located at the Northeast Bakersfield Water Treatment plant at an estimated
cost of $468,000. This 3 million gallon treated water tank was initially constructed in 2002.
The interior tank inspection in January 2011 showed significant, premature, systematic
failure of the coating. If unaddressed this degree of failure would result in significant
damage to the underlying metal structure and could lead to premature failure of the tank
itself. Based on the timing of the inspection that resulted in the discovery of the failed tank
coating, the first chance to grant the CPUC “the opportunity to review and determine the
need and reasonableness of” was the current 2012 GRC. Using this scenario, the actual
work would be delayed until very late in 2013 or 2014 causing the metal to go unprotected
for three or four years. Additionally, there was an opportunity in late 2011 when the
Northeast Bakersfield Water Treatment Plant was scheduled to be out of service for
maintenance. This provided a window when this unanticipated tank painting could be
conducted with no further loss of operation of the plant. In reviewing the 2012 Bakersfield
capital budget versus expenditure data, in the manner presented previously, it should be
noted that the 2012 Cal Water approved budget for Bakersfield was $11.36 million. The
capital expenditures in 2012 in Bakersfield were $11.32 million.

Rebuttal Conclusions

In its report, DRA uses a handful of non-specific projects, postulating that they were not
emergencies and thus should have been anticipated, as evidence that Cal Water has
“consistently and continuously exceeded the established budget.” Based on that postulation,
DRA jumped to the conclusion and recommendation that the non-specific budget request for
2013 through 2015 was excessive and should arbitrarily be reduced to the level established in
the 2009 GRC Settlement.
We strongly disagree with DRA for these reasons:

1. DRA’s recommendation ignores the previously CPUC established methodology of using a ten-year inflation-adjusted average of the most recent expenditure information to set the budget.

2. DRA’s recommendations do not take into context the balancing effort the Company undertakes using both specific and non-specific projects to achieve a total capital budget, and instead solely focuses on one element of a multi-faceted process.

3. DRA’s recommendation ignores the real life activities and cost escalations of the past three years and turns the clock back to conditions and factors that existed from 1998 to 2001, which were then used to forecast the 2009 GRC request.

4. DRA’s recommendations simplistically assume that projects do not cross over from one year to the next because of scheduled start date, permitting delays, schedule conflicts, design or access problems or other real-life constraints.

5. DRA’s recommendation also ignores the fact that Cal Water’s plant is getting older and therefore requires more capital replacement than earlier in time.

6. DRA’s recommendation does not take into account that Cal Water’s plant is larger, and that replacement costs are increasing due to numerous external factors not under the control of the company.

7. DRA recommends that all dollars associated with carry-over project list be removed from the requested plant additions, simply because these projects were not closed to plant by the GRC cut-off date, rather than because of inadequacies in the projects themselves.

We urge the Commission to order that Cal Water’s proposed non-specific capital budgets for its districts are reasonable and should be approved. Cal Water strongly believes that its proposal for non-specific capital budget amounts is prudent, reasonable, and necessary in order to provide adequate funding for unforeseen projects over the next three years.
2.8 SUNSET EXTENSIONS

Generally, projects are treated as advice letter projects when either the specific cost or the timeline is uncertain at the time of the GRC. In its report, DRA makes two recommendations that Cal Water strongly disagrees with.

First, DRA proposes that advice letter projects from the 2009 GRC continue to be treated as advice letter projects in this GRC even though most of the advice letter projects from the 2009 GRC are significantly complete and have a definite timeline and projected in-service date before the test year. DRA has had the opportunity in this rate case to review these projects for reasonableness, cost, and timing; therefore, Cal Water should be allowed to include these projects in rates for the test year without needing to undertake the cost, time, and delay of filing a rate base offset advice letter. This ill-founded recommendation by DRA will also increase DRA’s and the Commission’s own workload, by necessitating a review of projects that were already reviewed in the 2012 GRC.

In its second recommendation, DRA proposes that, in general, advice letter projects approved in the 2009 GRC need to be completed and filed before the effective date of the rates in this proceeding which is January 1, 2014. Cal Water disagrees with this arbitrary DRA recommendation and instead requests that the Commission treat these projects as they were intended; as advice letter projects, and to extend the sunset date on these projects that DRA already agreed would be useful and beneficial to ratepayers when completed.

To the extent that Cal Water will not be able to place these last remaining projects in-service before the start of the test year, Cal Water is requesting to be allowed to file a rate base offset advice letter before the effective date of the rates of the next proceeding (2015 GRC), which is scheduled to be January 1, 2017. Cal Water contends that these projects are still valid and that January 1, 2014 is simply an arbitrary date chosen by DRA. Taken to extremes, not adjusting the sunset date could have the unintended effect of making a project completed to plant and placed in service on December 31, 2013 valid, while the same project completed and placed in service on January 1, 2014 invalid. This is clearly unreasonable on its face as the very concept for advice letter status projects are rooted in the uncertainty of timing or cost. Cal Water has accepted advice letter status projects in past GRCs with the assumption of recovery upon completion. Not extending the sunset for advice letters would dissuade Cal Water from
attempting important but uncertain projects in the future. This would not be in the ratepayer’s interest.

2.9 PERSONAL USE OF COMPANY VEHICLES

DRA recommends disallowance of many General Office vehicles because some positions are allowed to use these vehicles for commute and incidental mileage. Cal Water requests that the Commission allow these replacement vehicles. Cal Water contends that allowing commute and incidental personal usage of some company vehicles is a reasonable, logical, cost effective policy, with low liability risk.

Reasonable

Cal Water’s policy is reasonable. Cal Water has 23 districts throughout the state, with its headquarters and support services located in San Jose. Business travel to the majority of districts is by car. Cal Water contends that business usage of 52% of total mileage for these particular vehicles is quite high and demonstrates a clear and reasonable need for assignment of business vehicles to many General Office positions. In addition to the demonstrated business need, many of the positions in the General Office have a required emergency response component and are expected to quickly support districts during emergencies. Having a company vehicle readily available with appropriate safety and communication equipment is very important to quickly facilitate this emergency support role.

Cost Effective

Cal Water’s policy is a cost effective approach to facilitating required business travel needs. There are very few General Office employees that are allowed incidental mileage other than commuting. This is a benefit that is part of these employees’ overall compensation package. Should this change, Cal Water would have to replace this portion of the compensation package with a salary adjustment to remain competitive in the market for these positions. Simply replacing this with a salary component would have the unintended consequence of increasing the pension costs, worker’s compensations costs, and life insurance costs, as these costs are calculated based on the employee salary.

There are other costs to consider if this policy is eliminated. One is that many of these vehicles would still be required to be maintained in the pool of fleet vehicles. Assuming that Cal Water replaces these vehicles with a fleet of pool vehicles, then approximately 36 vehicles would be required to be added to the pool in exchange for assigned vehicles to ensure adequate coverage of business related travel. Those vehicles would be an added strain on

17 Only travel to Dominguez, Palos Verdes, Hermosa-Redondo, East Los Angeles, Westlake, and Antelope Valley Districts is more efficient by airline and rental car due to the distance and proximity of airports.
parking resources because employees would transport themselves to work in personal vehicles, and then intermittently use pool vehicles. Unfortunately, the General Office campus is currently at capacity in regard to parking spaces. Adding 36 vehicles to the pool fleet would require provisions for offsite parking, or the costly construction of a parking structure. Nearby parking can be found for approximately $10 per day.\textsuperscript{18} This would translate to an expense of nearly $130,000 annually for additional parking provisions. Alternatively, if the approximately 500,000 business miles were instead solely driven in employees’ personal vehicles, the cost to Cal Water would be the IRS reimbursement of $0.565 per mile or almost $250,000 per year. A company cannot require an employee to use his or her personal vehicle for work purposes and would have to provide transportation if the employee cannot or is not willing to use his or her own vehicle, further increasing costs to customers.

This policy also may be less costly to the company and society overall due to the convenience of having an assigned vehicle. Consider a regulatory employee who lives in San Carlos. With a company vehicle he can drive to the Commission’s offices. With a pool car requirement he would have to drive his personal car to San Jose, and then drive a pool car from San Jose to San Francisco. Both Cal Water and the employee would be losing productivity due to extra driving time between San Carlos and San Jose.

\textbf{Liability Concerns}

On page 8-36 of the General Report, DRA makes the blanket statement that “Furthermore, the Company’s liability would be reduced if its employees purchased their own insurance for their own vehicles.” This statement was not well thought out. This statement assumes that Cal Water would then be having employees drive their vehicles on company business and Cal Water would reimburse the mileage per IRS requirements. This does not take into account that if an employee were to be involved in an accident in their personal vehicle on company business, there would still be liability on the company’s part for injury and damages. Without oversight of the vehicle maintenance and insurance levels on a personal vehicle, Cal Water contends that it and the ratepayer would be subject to even more risk.

The Commission should allow Cal Water to retain its current vehicle policy because it is a reasonable, cost effective solution that limits the liability to the Company and ratepayers.

\textsuperscript{18} Advertised price for Airport EZPark at 1610 N. 4\textsuperscript{th} street San Jose, CA
2.10 PLANT AUDIT

2.10.1 Proposed Adjustments to Beginning Plant Balance

**PID 15948 – property acquisition for future well or tank site (Visalia District)**

Cal Water disagrees with DRA’s proposed to remove the cost ($274,460) related to plant acquisition for a well from current rate base. This project was approved in the 2007 GRC as PID 16782, a well project which is currently in progress and PID 19730, a 1 MG tank. DRA proposed to exclude PIDs 15948, 16782 and 19730 claiming that the number of customers used in the project justification was not accurate. DRA further claims that there is a significant variance between the number of customers in Cal Water’s work papers and the numbers used in the project justification. These two numbers are really not directly comparable and do not directly impact the merits of the project. The number in the work papers represents active number of customers receiving bills. The number in the project justification represents the total number of services installed and expected to be installed. Another reason why these numbers cannot be compared is because the number of the customers listed in the work papers is an annual average number; therefore, it will always be lower than the actual number of customers. Actual number of services installed as of the end of 2011 is 44,472 (please see Attachment A) which is only 2.7% higher than the 43,299 forecasted in the 2009 GRC.

DRA commented in its report\(^{19}\) that it is questionable why Cal Water still went ahead with the purchase of the property given the decline in average growth rate. Cal Water, as with any other prudent utility, plans its water supply needs based on the best data available at the time. This project was approved in the 2007 GRC for a well which is currently under construction. Given the long term nature of the business, Cal Water cannot just stop projects simply because sales are declining in the near-term. It is not clear at this point whether the sales decline is permanent or if it is temporary related to the current economic conditions. Cal Water needs to plan long-term for service reliability, so when customer growth ramps up again, the Company will be in a position to serve its customers.

As to DRA’s comment that even if the well is placed in service in December 2013, it would mean that for approximately three and a half years, the land was not made used and useful. Ordinarily, the value of facilities is excluded from rate base if not used and useful. However, if the property is owned by a regulated company, there are circumstances under

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\(^{19}\) DRA’s Company-Wide Report on the Results of Operations, page 4-17
which it may be allowed to be included in rate base such as plant held for future use.\textsuperscript{20} California Commission USOA guidelines require that the property must have a specific future use and a specific date on which it is expected to be placed in service; generally five years or two GRC cycles. Cal Water prudently purchased the property in good faith for a well, which is currently under construction. DRA had the opportunity to review these projects in the 2007 GRC and the 2009 GRC and deemed that these projects were necessary; therefore, Cal Water should be allowed to complete the project in 2013, include the costs of these projects in rate base and be allowed to earn a reasonable rate of return on these utility assets.

Attachment 2.10 A – Number of Services Report

**PIDs 18433 and 18434 – property acquisitions for pump station and tank site for Rio Bravo Development (Bakersfield District)**

DRA proposed to exclude the cost of property acquisition (PID 18434) in the amount of $84,211 from rate base. Cal Water purchased this property and intends it to be used as a site for a new pump station (PID 86237). DRA further recommends that, contingent upon completion of this project, the Commission should decide whether to permit Cal Water to recover the cost of the land in rate base.

DRA also claims that neither of these projects were approved by the Commission because these are non-specific projects. It is important to note that PID 82637 is an Advance project (Advances in Aid of Construction). Cal Water does not propose specific projects for Advance and Contribution (Contributions in Aid of Construction) projects. Contributions and Advances are estimated based on the average of historical recorded levels for ratemaking purposes (Tables 10-B1 and 10-B2); therefore, all Contribution and Advance projects are created as non-specific projects. These projects are considered revenue-neutral because the addition in utility plant in service is offset by the increase in Contributions and/or Advances, which are reductions from rate base.

This pump station is expected to be in-service in July 2014 which is Cal Water’s test year in this proceeding. DRA claims that from the time of land acquisition (April 2009) to the time that pump station is placed in-service, there are no functioning assets at the property. As mentioned previously in my testimony, the Commission’s Uniform System of Accounts (USOA) allows utilities to include in rate base properties held for future use provided there is a definite plan for such use. Cal Water purchased this property for a definite and specific use less than

\textsuperscript{20} Uniform System of Accounts for Water Utilities (Class A), page 18
two GRC cycles ago; therefore, Cal Water should be allowed to include the cost of the land in rate base and earn a reasonable rate of return on its investment.

**2.10.2 Proposed audit to identify and remove from recorded plant additions the portion of capitalized interest for the period in which any project was also included in rate base.**

DRA recommends that the Commission require Cal Water to conduct an internal audit to identify and remove from its requested 2009, 2010 and 2011 plant additions the portion of capitalized interest for the period in which any project was also included in rate base. Cal Water strongly disagrees with this recommendation because DRA is incorrect about the underlying regulatory concept and because DRA's audit is impossible to perform. Furthermore, ratepayers are protected from harm related to this issue by the Commission's use of a weather-normalized earnings test for escalation increases.

The Commission employs a forward looking test year with estimates of plant to be included in rates in both that year and the two escalation years. While the methodology used by DRA and generally agreed to by Cal Water uses individual projects in a “built-up” method to estimate future rate base, the Commission must recognize them for what they are, estimates.

DRA conflates these estimates with specific requirements to perform projects for a certain price at a certain time. This misunderstanding leads DRA to conclude that Cal Water is unreasonably recovering a return on completed assets which it also records interest during construction (IDC) to. This is not the case. Except in the case of a specific advice letter offset project, the Commission is authorizing a revenue requirement for a future year. Timing changes, costs change, and even projects change. Cal Water is recording interest during construction properly and in accordance with GAAP.

DRA’s proposal in this instance ignores the fact that test year plant reflects average weighting of plant additions. The weighting factor is applied to estimated total additions and reflects recognition that not all projects can be completed on the first day of the test year. However, no party has proposed a reasonable mechanism for assigning the aggregate weighting to individual projects. Cal Water makes no claims about a certain project being complete in a given month and DRA does not review or recommend such a method. Therefore, there is no way for Cal Water to propose when a particular project is “included in rate base.” There is no basis for an audit or adjustment if this date is undefined.

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21 DRA’s Company-Wide Report on Results of Operations, page 4_4
Furthermore, because DRA shows an example of a long-delayed project, the Commission should keep in mind that it has several controls over the amount of rate recognition for a delayed project or delays in capital spending generally. First, the Commission can recognize in a future rate case that a project has not been completed by properly accounting for the plant in service balance at the end of the last recorded year. Cal Water understands that this method is consistently applied. Second, the Commission constrains escalation increases for the second and third years of a rate case cycle by applying a weather-normalized earnings test.

The earnings test is based primarily on an evaluation of the last thirteen months weighted average plant balances. The Commission should note that this controversy arises from Cal Water’s inclusion of IDC and exclusion of construction work in progress (CWIP) from rate base. Thus the earnings test is based upon recorded plant. If a project or series of projects is delayed and not in service timely and there are no other projects which have been accelerated, Cal Water will “fail” its earnings test and must reduce its escalation increase to accommodate the lower revenue requirement of plant.

The Commission should reject DRA’s unreasonable request for an audit of these matters because there is no basis for them, an audit would be impossible, and the Commission’s existing ratemaking mechanisms cover the potential situations DRA highlights.

2.10.3 Proposed recorded capitalized interest adjustments.

Please see Chapter 4, section 4.1.

2.11 CONTRIBUTIONS IN AID OF CONSTRUCTION (CIAC)

This account includes donations or contributions in cash, services, or property from states, municipalities or other governmental agencies, individuals and others for construction purposes. Since the costs of these properties are included in the utility plant in service accounts, the net cost of contributed capital is deducted from rate base. DRA in its Company-Wide Report on Results of Operations recommends using different sets of historical data (i.e. two-year average vs. five-year average) to calculate forecasted levels of Contributions In Aid of Construction. Cal Water agrees with DRA’s recommendations.

2.12 ADVANCES IN AID OF CONSTRUCTION (AIAC)

This account includes advances for construction in accordance with Cal Water’s Rule 15. DRA and Cal Water agree in the methodology used to estimate Advances in Aid of Construction.
2.13 UNAMORTIZED INCOME TAX CREDIT (ITC)

Investment Tax Credit was initiated by Congress in 1962 as an incentive for utilities to improve infrastructure and was repealed by Tax Reform Act of 1986. ITC that was already claimed in the tax returns are still being amortized for ratemaking purposes. There are two normalization methods to amortize ITC for ratemaking purposes – option one and option two. Option one is where the tax benefits of the ITC are flowed through to customers as reduction from rate base. Option two is where the benefits are flowed through the customers as reduction from regulated income tax expense. Cal Water uses option one to normalize ITC and DRA concurs.

2.14 CONSTRUCTION OVERHEAD

Cal Water estimates construction overhead pool based on historical recorded data and applying fixed escalation factor. DRA disagrees with the way Cal Water estimates the overhead pool using a fixed escalation factor and recommends using the ECOS escalation factors, the same factors used in estimating operating expenses. Cal Water agrees with DRA’s recommendation.

2.15 PLANT WEIGHTING

Plant weighting factor is applied to the net plant addition to arrive at the weighted plant in service for the test years and escalation year. Cal Water used last recorded year (2011) for weighting. DRA recommends using a five-year recorded average except for GO, Palos Verdes and Redwood Valley districts where some years were negative or zero. Cal Water agrees with DRA’s recommendations.

2.16 TANK PVC TEST TUBES

The installation of the PVC tubes, to improve the catholic protection testing process, was identified through the company’s continuous improvement principles. It was identified through benchmarking assessment, the installation of this device improves the ability of copper sulfide reference cell to properly enter the tank and maintain the proper distance from the interior tank vertical wall for testing. The installation of these devices is limited to steel tanks with a rounded “knuckle” style roofs. In addition to improving the ability of the reference cell to enter the tank, the PVC test tubes also improve the safety of the individual performing the task. Historically, a telescoping rod was required to be carried up the tank to guide the reference cell to the proper
location within the tank. Carrying this rod was identified as a climbing hazard because it would get caught in between the ladder rungs. Installation of these test tubes has been completed company wide. There are still outstanding invoices causing the project to remain open. Please see Attachment 2.16 A for the list of test tube projects.

Attachment 2.16.A - CP Test Tube Project List

2.17 PROJECT JUSTIFICATION THRESHOLD

DRA recommends in the Company-Wide Report that Cal Water be required to provide detailed project justifications on all projects greater than $20,000. DRA based its blanket recommendation from the review of Antelope Valley district claiming that of the $2.4 million requested in new specific projects for 2012-2015, Cal Water only provided project justification and cost support for five projects that total less than $0.9 million.

Cal Water disagrees with DRA’s general recommendation. Cal Water provides detailed project justifications for projects in excess of $100,000 to comply with the Master Data Request requirements from the Rate Case Plan adopted in D. 04-06-018. Those requirements specifically mention a $100,000 threshold. Cal Water argues that the “significant plant additions” under the Minimum Data Requirements of the new Rate Case Plan adopted in D. 07-05-062 is an outgrowth of the old Master Data Request. The Rate Case Plan does not have a specific threshold. Cal Water is willing to provide more information and justification on $20,000 projects for small districts, like Antelope Valley, where there is a significant impact on rates, but contends that it should retain the $100,000 level for large districts.

2.4 ATTACHMENTS

The attachments below are located in Book 5, Chapter 2
Attachment 2.4 A – RAMCAP Vulnerability Assessment Rebuttal
Attachment 2.7 A - Total Capital Budget by District
Attachment 2.10 A – Number of Services Report
Attachment 2.16.A - CP Test Tube Project List
CHAPTER 3 ANTELOPE VALLEY PLANT ADDITIONS

3.1 INTRODUCTION

3.1.1 Global Responses

The rebuttal responses for the following capital projects are located in chapter 2 of this book, global plant.

129-NON-SP Non-specific Advanced Capital Budget
61958, 64951- PAINT (Section 2.2.1)
68831 – 2-Way Radio System (Section 2.6)
79955- RAMCAP (Section 2.4)

3.2 ADVANCE CAPITAL BUDGET SPECIFIC PROJECTS

20700, 20707, 63016 & 66789 - Service line replacements (Pg 7-10, Ln 15)

In its application, Cal Water requests $77,400 each for Projects 20700 and 20707 and $85,976 and $42,000 for Projects 63016 and 66789, respectively to replace faulty service lines. Problem services will be identified and replaced as needed throughout the year.

Based on information provided to DRA in response to DR SN-010, DRA accepts actual costs for projects 20700 and 20707 totaling $136,024, but recommends disallowance of the other two projects. Cal Water agrees with the reduced amounts for PIDs 20700 & 20707 ($68,102 per PID) and recommends a reduction for the other requested amounts for PIDs 63016 & 66789 ($42,988 for PID 63016 & $21,000 for PID 66789) for a total of $200,192. This is $82,584 lower than the original requested amount to reflect the lower historical average expenditures noted by DRA in this category, but was increased over DRA’s position to reflect the increasing number or service line failures occurring recently that are attributable to aging polybutylene pipe.

20709, 20711 & 20712 - Replace gate valves (Pg 7-11, Ln 8)

Cal Water proposes $17,600 per project to replace gate valves in its 2012 budget. DRA recommended disallowance of the projects due to a lack of spending in 2012 for these projects. The three projects in question were written to replace two inadequate gate valves in each of the
following Antelope Valley systems: Lancaster, Fremont-Lake Hughes, and Leona Valley. The identified gate valves (two per system) are non-operational or do not provide complete shutdown. Operable valves are essential when a shutdown is needed to complete system maintenance or repair. Time delays, extended service interruptions and higher costs result when valves do not perform their intended purpose. If a gate valve cannot be shut down, it is necessary to shut off a valve further down the pipeline, which expands the area of service interruption to customers.

Although Cal Water agrees that its historical spending to replace valves has been low ($13,000 over 5 years), as noted in the response to SN-010, these projects were created to increase focus on planned valve replacement to prevent the issues noted above. Acknowledging resource limitations, Cal Water cancelled PID 20712 on 05/24/2012, but strongly supports the need for the remaining 4 valves. Cal Water requests $17,600 for Projects 20709 and 20711.

63033, 63034 & 63036 - Replace two fire hydrants (Pg 7-11, Ln 16)

Cal Water requests $43,200 per year for 2013-2015 to replace a total of six fire hydrants assemblies including the gate valves. DRA recommended reduction in the costs of the projects to exclude the costs for the gate valves. Gate valves are an integral component of a fire hydrant assembly and are utilized to isolate the hydrant lateral should it be sheared off by vehicle impact. If the fire hydrant necessitates replacement, the likelihood is that the gate valve will also need replacement as they are both installed at the same time. Hydrant valve operability is critical to prevent damage in the event the hydrant is sheared but more importantly to ensure fire flow availability. Hydrant gate valves for the hydrants that have been identified for replacement as part of this project are non-operational or do not shut off completely. Cal Water maintains their request for $43,200 per project.

AVD0900 - Meter Replacement Program, (Pg 7-13, Ln 1)

Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $1,100, $11,800 and $12,100 for years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements was $1,242. For Antelope Valley, DRA accepts Cal Water’s request for 2013 recommends a reduced budget of $1,100, 2014 and 2015, based on recorded historical costs. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future
budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Antelope Valley GRC capital budget for 2013-2015 for the following reasons:

- PUC General Order 103-A mandates meters be tested or replaced based on age.
- It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s response to DR PR-004).
- Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

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The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Antelope Valley in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

66846- Replace 1500’ of water main & 20 service lines (Pg 7-14, Ln 18)

Cal Water requests $285,600 in its 2013 budget to replace 1,500’ of water main and 20 service lines in its Lake Hughes system. DRA recommends disallowance of the project because the company hasn’t received formal requests from the local fire department for additional fire flow or hydrants. Cal Water maintains its request for the following reasons.
Until recently, all the water main lines in the entire town of Lake Hughes ranged from 1/2” to 3” unlined galvanized pipeline that were at least 50 years old. Since they are unlined, the inside diameter of the pipelines has decreased drastically over the years due to corrosion and tuberculation, greatly diminishing water flow. There are certain areas of the town where three to four homes are serviced by a ½” galvanized pipelines. A good portion of the water lines are located along the rear of the properties making them inaccessible for repair and maintenance often leading to leaks going unnoticed. Cal Water is looking to rectify these issues by continuing forward with a main replacement program in this system. With the replacement of these water lines the flow and quality of the water will increase considerably. In addition, upsizing the water lines will allow the addition of fire hydrants, which for the most part do not currently exist in the system except for in isolated areas greatly enhancing fire fighting capabilities. Increasing fire flow is in line with the Commission’s established policy goals and objectives per their Water Action Plan adopted in 2010.

This project proposes the replacement of 1,500 feet of 2 inch galvanized main along Elizabeth Lake Road. This main is one of the primary distribution segments in the water system; it is one of two pipelines that interconnect the east and west halves of the system. Replacing this main with 6 inch PVC will significantly improve flows in the system.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

64333 - Construct a 53K-gallon tank at Sta. 4(Pg 7-15, Ln 3)

Cal Water requests $220,396 in its 2014 budget to replace an existing 60K gallon tank with a 53K gallon tank. DRA recommends disallowance of this project, citing Cal Water has adequate storage for this particular area.

The existing 60k gallon tank at Station 004 is in critical need of replacement due to its poor condition and to maintain operations in Zone II during maintenance, repair, and inspection events. As part of the replacement, this project will rectify sanitary concerns, upgrade the tank to current seismic standards, and incorporate flexible fittings (flex-tend) to reduce the likelihood of storage loss during seismic events. Cal Water requests that this project be approved at the original estimated cost submitted.
Based upon the age of this tank and the conditions found when the tank was inspected – “severe corrosion conditions and extensive loss of metal” – Cal Water maintains that it is appropriate to replace the tank. This tank is one of two existing at the station, the second (53k gallon) was recently constructed in 2010. Cal Water proposes that the 60k gallon tank (constructed in 1965) be replaced to serve Zone II along with the recently replaced tank. This would allow one tank to be taken out of service every five years for inspection and still have storage available to serve Zone II. This is particularly important if work is needed to be performed on the inside of the tank. Utilizing a temporary tank is not feasible due to the existing terrain/grade of the site.

Additionally, it should be noted that the existing tank does not meet current seismic standards as it has a rock/gravel ring foundation instead of a concrete ring wall with seismic anchor bolts. The tank overflow is connected directly to a storm drain, a potential contamination source, and the existing inlet/outlet pipe is hard-plumed creating the potential for structural damage during an earthquake.

**65546 - Vehicle - 1 Ton C&C with service body (Pg 7-19, Ln 16)**

Cal Water requests $64,260 to replace a vehicle in 2013 which is over the mileage criteria of 120,000. DRA recommends disallowance of this project, noting the company’s workpapers describe this vehicle as replacement for a superintendent vehicle which was already replaced. Cal Water needs this vehicle for service person position, not the superintendent. This vehicle will replace an existing asset (V208036) with over 170k miles.

**63018 - Replace the pump and motor at Lancaster Sta. 1-01 (Pg 7-17, Ln 11)**

Cal Water requests $162,000 in its 2015 budget to replace a pump at Sta. 1-01. DRA recommends giving this project conditional advice letter status at a reduced cost to reflect exclusion of capitalized interest.

Cal Water accepts DRA’s recommendation of advice letter status for this project, but does not accept exclusion of the capitalized interest. For further discussion regarding capitalized interest, please see the company’s global rebuttal in Ch 2.

**75615 - Replace booster pump 1B at Lancaster Sta. 1 (Pg 7-18, Ln 1)**

Cal Water requests $103,800 in its 2015 budget to replace pump 1B at Lancaster Station 1. DRA recommends disallowance of this project on the grounds that the pump efficiency of this pump is 60%, a fair rating, and that they are already recommending approval to
replace pump 1A, which is the primary pump. There are many aspects that contribute to the
efficiency and reliability of a pumping system. In addition to the efficiency of 60% and the
damage to the stuffing box, and the fact that pump 1B is operable, this pump must be available
in a reliable condition. Corrosion of the stuffing box has accelerated and multiple repairs were
attempted, but the repairs do not hold. The excessive water is also causing premature
corrosion of the discharge head and anchor bolts. Ongoing attempts to remedy the problem
have not been successful because the stuffing box has significant damage. These issues also
present unsafe working environment for operators and the potential for water contamination.

Cal Water requests project 75615 be submitted at the estimated cost for approval.

3.3 CARRYOVER PROJECTS

3.3.1 Advice Letter Projects

10391- System Interconnection with Antelope Valley East Kern (Pg 7-6, Ln 23)

DRA recommends project 10391 to maintain its advice letter designation, expiration date
and capped amount as was determined in the 2009 GRC, and to remove the dollars associated
with this project from the company’s plant additions. Cal Water supports DRA’s position to
maintain the advice letter status of this project but requests an extension of the sunset clause
and also requests an increase in the advice letter cap (authorized in the 2009 general rate case)
of $810,000, to the current estimated cost of $1,195,000 (see attachment 1). This project
proposes an interconnection with Antelope Valley East Kern Water Agency (AVEK) to serve as
a surface water supply source to Cal Water’s Lancaster system. Currently all supply to the
Lancaster system is via groundwater wells at Station 001. Due to the adjudication of the
groundwater basin in the Antelope Valley that is currently underway, Cal Water anticipates that
its pumping in the Lancaster area will be restricted to less than 50% of what it currently pumps.
A surface water source is therefore essential to ensure adequate supply to customers after the
adjudication is final. Until then, it adds supply reliability should either of the system’s two wells
drop in production, experience pump failure, or necessitate being taken offline for maintenance
or repair. Cal Water has diligently pursued this project but it has been delayed by sources
outside of its control. One of the most significant delays was the result of a new requirement
imposed by AVEK that Cal Water submit to AVEK the equivalent cumulative capacity fees that
would have been collected from Cal Water customers in the Lancaster system since the
inception of the capacity fee in 1990. Negotiations for such fee resulted in over a year delay in
the project but resulted in a reduction in the fee from their initial request, which was in excess of
$500,000, to the final agreed to cost of $271,705 (see Attachment #2).

Due to the unexpected fee noted above, the cost of the project has increased and Cal
Water requests recognition and approval of the current estimated cost of $1,195,000. Provided
is a side-by-side comparison of the original versus current project cost. The capacity fee is the
core driver of the increase. Cal Water anticipates completing the project in late 2013/early 2014.
The AVEK turnout design plan is completed and AVEK is currently bidding the construction of
the connection. Cal Water has completed 90% of its design for the 6000 foot pipeline
extension. After obtaining environmental clearances on the project, the design plans will be
finalized and construction commenced.

Please see global rebuttal section for more on the advice letter sunset extension.

Attachment - AV -10391 1 (Cost Estimate)
Attachment - AV -10391 2 (Capacity Fee)

20642 – Drill, Develop and Equip New Well, Fremont (Pg 7-6, Ln 21)

20642 is a project that was granted advice letter status in the previous GRC. As with
project 10391, DRA recommends the project maintain its advice letter designation, expiration
date, capped budget amount of $619,000, and that the dollars be removed from the company's
plant additions. Project 20642 has just been completed for total cost of $484,753. Cal Water
will be filing an advice letter to recover the entire amount for this project. However, because the
rates for this GRC are built of a beginning plant balance of December 31, 2011, in order for the
project to continue to be in rates moving forward, the dollars associated with this project must
be included in the company’s plant additions. Cal Water requests the Commission adopt the
entire cost for this project into rates.

20701 - Construct a 150K-gallon at grade bolted steel tank (Pg 7-8, Ln 18)

Project 20701 was approved to construct a 150K gallon tank for $397,984 in the 2009
GRC; however this tank has not been constructed primarily due to unanticipated, complicated
permitting issues. DRA recommends that this project be given advice letter treatment. Cal
Water supports DRA’s position to maintain the advice letter status of this project but requests
clarification as to when the advice letter status will expire. Traditionally, advice letter authority
for applicable projects will expire when the rates for the subsequent GRC becomes effective.
For example, advice letter status for a project adopted in this rate case will theoretically expire
on January 1, 2017 (the estimated day rates will take effect for the outcome of the 2015 GRC).

Based on language included in DRA’s report, it is not clear to Cal Water whether DRA is recommending the advice letter treatment expire when the rates for the current GRC take effect or when the company files its next GRC.

Cal Water anticipates that this project will be complete after January 1, 2014 because of uncertainty in the area of permitting. The project is proposed on an existing site, which is leased land from the US Department of Agriculture (USDA), and as a result, triggered the need to secure a special use permit and the preparation of environmental studies to fulfill the requirements of NEPA (National Environmental Policy Act), the federal equivalent of the CEQA. A special use application has been submitted and an environmental study is in progress. In parallel, Cal Water has completed design plans for the tank and is ready to request bids to qualified tank contractors as soon as permitting clearances are provided.

Cal Water requests that because the project was not given advice letter status in the previous GRC, the sunset methodology on this advice letter project be consistent with previous Cal Water proceedings.

3.3.2 Non-Specific Carryover Projects

The following projects include non-specific projects that were not closed to utility plant at the end of 2012. These projects were not anticipated in the 2009 GRC and Cal Water contends that these projects will be beneficial to customers once they are in service. They are all under $20,000 in cost, and Cal Water believes they are considered controversial by DRA simply because of the timing with the projects. These projects include: 58472, 13187 and 13189.

14131, 14290 – Water Rights Adjudication Litigation (Pg 7-9, Ln 4)

DRA recommends removal of the dollars for this project on the basis that non-specs already have a budget. DRA further notes that Cal Water should have requested a memorandum account to track costs associated with this litigation. Attached, please find a rebuttal response prepared by the company’s Corporate Counsel.

Attachment - AV - 14131, 14290 1 (Rebuttal prepared by CWS CC)
13185 - Add VFD panels (Workpapers)

DRA recommends removal of the dollars for this project on the basis that non-specifics already have a budget. Cal Water notes this project started in 2011 and should therefore be considered a carryover project, not to be funded by non-specific funding from 2012 or later years. Moreover, Cal Water maintains strong support for this project and requests Commission approval of its current estimated cost of $270,000 (see attached for estimate). The primary intent of this project is to replace two hydro-pneumatic pressure tanks that are crucial to the continued operation of Station 001, the single supply and storage facility supplying the Lancaster system. The need to replace the tanks was confirmed in an evaluation conducted in 2011 (see attached). Cal Water proposes to install variable frequency drives and a surge anticipator valve to replace the tanks along with necessary piping modifications to continue to reliably serve the system. This alternative will reduce long-term maintenance costs (by eliminating tanks) and improve stability of pressures delivered to our customers. To-date, Cal Water has completed design, ordered material, has demolished one of the two tanks and has installed the variable frequency drives. Piping modifications will be completed in the fall (during lower demand periods) and the full project scope will be complete by the end of the year. The original estimated cost did not accurately depict the full project scope and excluded engineering fees, escalation, overhead and capitalized interest. Attached is a revised cost with supporting documentation based on the final design plans. To continue reliable operation of Lancaster Station 1, it is critical the above station modifications be approved.

Attachment - AV - 13185 1 (Cost Estimate)
Attachment - AV - 13185 2 (Mistras Report)

13183 - Replace pump building at Lancaster Sta 1 (Workpapers)

This project is in use and useful and should not be disallowed or adjusted. It is complete and in-service as of 03/05/2012 at a cost of $34,114.

17664 - Construct new well at Station 001 (well 001-06) in Leona Valley system (Pg 7-7, Ln 14)

DRA comments that Cal Water funded the project without Commission approval, recommends removal of dollars associated with this project from Antelope Valley’s plant additions, and also recommends that conditional advice letter treatment should be given to the project. Regarding the non-specific classification of this project, as explained in Cal Water's
response to DR PPM-004 (see attached), this project was to be included in the company’s 2007 GRC, however due to a decision regarding the rate case plan, Cal Water was ordered to only file for eight of its twenty-four districts and the Antelope Valley district did not have an authorized 2008 capital budget because of this change. Cal Water disagrees with DRA’s recommendation to exclude this project from rate base. The well (001-06) is constructed, equipped with a pump, and is actively supplying an existing non-potable tank owned by Los Angeles County Fire Department (LACFD) for fire protection. The LACFD non-potable tank is located adjacent to a helipad to supply its helicopter fire fighting fleet. Although the well is not permitted as a potable water source, because of the level of nitrates, it is currently providing a benefit to customers and should be included in rate base.

Moving forward, Cal Water plans to explore options to treat and or blend this supply source and secure approval from Department of Public Health (DPH) as a potable water source. If treatment is not financially beneficial to the customer, Cal Water intends to maintain this well (rather than destroying it) and will seek to secure approval from DPH to maintain it as a standby source, for use only in emergency events given the fragile nature of Leona’s supply.

Currently existing are two active wells providing a total production of 55 GPM combined. Water purchased from the water wholesaler, AVEK, meets the remainder of the system’s maximum day demand of +/- 750gpm. Maintaining this well will add an additional supply source to provide emergency supplies to the Leona Valley system should a major disaster interrupt AVEK supply, increasing local supply reliability. This well source can also be used for short term periods utilizing portable/mobile treatment systems if AVEK supply is taken offline for maintenance and/or repair.

In conclusion, Cal Water requests that the Commission allow this project in rates given the current and future benefits it is providing to Leona Valley Customers.

Attachment - AV - 17764 1 (Justification)

42388- Replace well pump at Leona Valley Sta. 1 (Workpapers)

This project has been completed and is in service as of 8/2010 for a total project cost of $5,958.

61113- Replace 2 booster pumps at Leona Valley Sta. 1 (Workpapers)

Project 61113 was created to replace to booster pumps at Station 1 in Leona Valley. Pump 1A had failed and 1B’s condition was not known. Additional work such as modifications to discharge piping, additions of flow meter and new air release and isolation valves were also
performed. This project has been completed and is in service as of 4/2012 with a total project cost of $138,664.

Attachment- AV 61113 1
Attachment- AV 61113 2
Attachment- AV 61113 3

72994 - Replace the pump and motor at Lancaster Sta. 1-01 (Workpapers)

PID 72994 has been completed and is in service as of 4/2012. Charges from WO 61553, which was subsequently cancelled, were transferred to this non-specific project (WO 72994). Original WO was mistakenly written to Dept. 129, Antelope Valley district, instead of Dept. 130 which represents the Lancaster system.

Attachment - AV 72994 1

3.3.3 Specific Carryover Projects

21285 (72573) – Replace Electrical Equipment Sta, 1 Lancaster (Pg 7-12, Ln 6)

DRA recommends removal of dollars associated with Project 21285 based on the company’s response to DR SN-025 stating the project was cancelled because it was incorrectly written within the PowerPlant system. The DRA AV RO Report has taken the original Cal Water Data Request Response out of context and omitted the statement, “The [PowerPlant] system would not allow us to make the necessary corrections so the project was rewritten as project 72573 with necessary corrections made. Design work is 90% complete with an anticipated completion date of 12/2013 (see attached). The total cost, as stated and approved in GRC 2009, of $168,000 should still remain.

Attachment - AV- 21285 (72573) 1 (Response to DR SN-010)

20491, 20503, 20566 - Install Automatic Generator/Genset Transfer Switch, Various Locations (Pg 7-8, Ln 7)

The above referenced projects were approved in the previous GRC for a total of $129,600. DRA recommends removal of these projects from Cal Water’s carryover budget as a long delay to DRA is a strong indication that the projects are no longer needed. Cal Water disagrees with DRA and requests these projects to be included in its carryover budget.

Project 20491 has been delayed due to the fact that its design depends significantly on the design of the site’s new electrical equipment, which is to be installed under project 72573.
The electrical equipment replacement project for Lancaster Sta. 1 and the transfer switch installation project are to be coordinated, in terms of design and construction. Due to the unforeseen departure of the original project manager for project 72573, the completion of design was delayed. However, it is currently in progress, with an anticipated completion date of December 2013.

For Leona Valley Station 1, the delay in project completion is not an indication of lack of urgency or need for the transfer switch at this site. This station serves as the key water supply to the area, and it is important that an alternate source of power be available in the event of an emergency. With the intent of being efficient in coordinating Antelope Valley projects (including project 20566, 20491, and 72573) design and construction, this project has not yet been completed. However, because a transfer switch is in fact necessary at this site, project 20503 should still remain on the carryover project list.

For Fremont Valley Station 1, the delay in project completion is not an indication of lack of urgency or need for the transfer switch at this site. Project 20566 was delayed due to the construction of a new well onsite. Coordination in terms of design and construction was dependent on the completion of the well replacement at Fremont Valley Sta. 1 and the new electrical requirements for the station. That well was completed in early 2013 so that the transfer switch project can now continue and be completed. The project should remain as it is planned to be completed in 2013.

21110 & 21119 - Main replacement projects (Pg 7-10, Ln 3)

Projects 21110 and 21119 are main replacement projects approved in the prior GRC. DRA proposes advice letter treatment for project 21110. DRA did not make any recommendations regarding project 21119 in their report so it is unclear to the company whether this project is recommended for advice letter status or disallowance. WO 21110 and 21119 are main replacement projects in Lake Hughes and are part of an overall program to upgrade the systems distribution piping to improve water quality and fire flows, both consistent with the 2010 Water Action plan established by the Commission. Cal Water maintains that both are critical projects and should therefore be approved in rates.

Elizabeth Lake Road is a primary thoroughfare that is continuous from I-5 freeway to Route 14. These projects were delayed due to issues in obtaining required permitting given the importance of this road. Permits have now been secured and the main projects are scheduled to be complete as follows: WO 21110 – End of July 2013; WO 21119 – End of September 2013.
These projects are consistent with Cal Water’s overall main replacement program. Please see Global Rebuttal section.

3. 4 ATTACHMENTS

   The attachments listed below will are located in Book 5..

   Attachment - AV -10391 1 (Cost Estimate)
   Attachment - AV -10391 2 (Capacity Fee)
   Attachment - AV -13185 1 (Cost Estimate)
   Attachment - AV - 13185 2 (Mistras Report)
   Attachment - AV - 17764 1 (Justification)
   Attachment - AV 61113 1
   Attachment - AV 61113 1
   Attachment - AV 61113 2
   Attachment - AV 61113 3
   Attachment - AV 72994 1
   Attachment - AV- 21285 (72573) 1 (Response to DR SN-010)
CHAPTER 4 BAKERSFIELD PLANT ADDITIONS

4.1 INTRODUCTION

4.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

Advanced Capital Budget Non-Specifics

27089 - Paint Exterior Complete Sta. 9

68904 - Field 2-way radios

79967 - RAMCAP Vulnerability Assessments

4.2 ADVANCE CAPITAL BUDGET SPECIFIC PROJECTS

BKD0900 - Meter Replacement Program (Pg 7-28, Ln 6)

Cal Water requests that the Commission approve its specific 0900 meter replacement program at the original proposed costs of $328,200, $379,200, $317,200 and $326,700 for years 2012, 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2009 to 2011 scheduled meter replacements was $168,400. For Bakersfield, DRA recommends a reduced budget of $168,400, $170,300, $174,000 and $177,500 for years 2012, 2013, 2014 and 2015, respectively. Although, the 2012 meter replacement expenditures were $374,994 (not included in the BK RO Attachment B), DRA appears to be using the 2009 to 2011 CWS meter replacement booked amount of $168,400 as a recommendation basis for budget year 2012 and escalating this base amount for the subsequent 2013 to 2015 budget years.

Cal Water disagrees with DRA’s recommendation to use 2009 to 2011 historical dollars in determining future budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

PUC General Order 103 mandates meters be tested or replaced based on age criteria. The meters meeting the age criteria to be replaced that are made of traditional bronze were installed prior to current CA legislation requiring meters have a weighted average lead content of less than 0.25%. New replacement meters have a weighted average lead content of less than 0.25%.
The Specific 0900 Meter Replacement Program budget amounts and quantities of meters to be replaced for each district are determined by the number of meters meeting the following meter age criteria over the next five year period:

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The number of meters of each size meeting these criteria is then divided by five in order to provide a level number of yearly meter replacements of each size.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, as a result of variance in housing development / improvements taking place within the water service area. Additionally the number of meters meeting the age criteria to be replaced each year in BK in 2014 and 2015 increases by 382 meters.

In Summary, replacement of meters meeting the age criteria to be replaced in Bakersfield in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting General Order 103-A compliance requirements.

8-inch and Smaller Size Main Replacement Projects 17530, 17532, 17535, 18278, 19957, 20096, 20164, 20169, 20171, 20185, 20188, 20191, 20212, 61512, 61675, 62238 and 63015

Cal Water proposes these 17 main replacement projects that meet Cal Water program to replace unlined steel and small diameter mains. Cal Water does not agree with DRA's recommendation to adjust or lower the cost for these projects. Although, DRA agrees to the need for these projects, its recommendation to adopt "the lower costs of these tasks" for every scenario ignores the key variables that significantly affect the ultimate unit costs for 6 and 8-inch new pipe, and reconnection of fire hydrants and domestic services. Unit cost is affected by many factors such as location, site specific constraints, replacement method, environmental protection and hazardous waste disposal that vary by project. For example, DRA is recommending for 6-inch PVC, a $60 / ft unit cost. This unit cost was derived from a Cal Water Kern River Valley (KRV) GRC 2015 project and in accordance with the Master Contract for the different district. The KRV district is located primarily in a rural area with lightly travelled roads.
and more open adjacent road space for construction activities associated with main replacement projects. On the contrary, the Bakersfield district construction conditions dramatically differ with heavy traveled highways and arterial roadways with limited construction staging areas which further complicate the project scope and raise the cost budget.

In addition, for these projects Cal Water is submitting refined and uniform estimating worksheets in accordance with the related Master Contract agreement filed in this rate case. The total revised costs for all 8-inch and smaller main replacement projects proposed in this GRC is $5,686,700 and is slightly lower than the original requested dollar amount of $5,755,108, see Attachment – BK All Mains 1 (6 and 8-inch Main Replacement Cost Analysis) for analysis.

In summary, Cal Water’s is providing revised cost estimates for these 8-inch and smaller size main replacement projects in accordance with the Master Contract and with incorporating the unique factors identified herein. Cal Water requests the Commission to adopt this position to allow of all these projects at a total revised estimated cost of $5,686,700.

**Attachment – BK All Mains 1 (6 and 8-inch Main Replacement Cost Analysis)**

**17530 - Replace 2,575 feet of 4” standard steel main with 6” PVC C-900**

Cal Water is proposing to replace 2,575 feet of 4” standard steel main with 6-inch PVC C-900 pipe, reconnect 2 fire hydrants and 71 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $147,767. Also, the cost estimate for this project has been adjusted by Cal Water from $373,000 to $482,700 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 17530 at a revised estimated cost of $482,700. Attachment – BK 17530 1 (8-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $482,700 is higher than the original request for this project; however, the total revised costs for all 8-inch and smaller main replacement projects proposed in this GRC is $5,686,700 and lower than the original requested dollar amount of $5,755,108.

**Attachment - BK 17530 1 (8-inch Main Replacement Revised Cost Estimate)**
17532 - Replace 4" standard steel main with 2,575 feet of 6" PVC C-900

Cal Water is proposing to replace 2,575 feet of 4" standard steel main with 6-inch PVC C-900 pipe, reconnect 2 fire hydrants and 110 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $249,700. Also, the cost estimate for this project has been adjusted from $401,000 to $526,000 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 17532 at a revised estimated cost of $526,000. Attachment – BK 17532 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $526,000 is higher than the original request for this project; however, the total revised costs for all 8-inch and smaller main replacement projects proposed in this GRC is $5,686,700 and lower than the original requested dollar amount of $5,755,108.

Attachment - BK 17532 1 (6-inch Main Replacement Revised Cost Estimate)

17535 - Replace 1,550 feet of 4" & 1,025 feet of 6" steel with 6" PVC C-900

Cal Water is proposing to replace 1,550 feet of 4-inch and 1,025 feet of 6-inch steel main with 6-inch PVC C-900 pipe, reconnect 2 fire hydrants and 56 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $226,500. Also, the cost estimate for this project has been adjusted from $533,190 to $483,100 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 17535 at a revised estimated cost of $483,100. Attachment - BK 17535 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $483,100 is lower than the original request for this project. Also, the total revised costs for all 8-inch and smaller main replacement projects proposed in this GRC is $5,686,700 and lower than the original requested dollar amount of $5,755,108.

Attachment - BK 17535 1 (6-inch Main Replacement Revised Cost Estimate)
18278 - Replace 2,660 feet of 8” standard steel main with 8” PVC C-900

Cal Water is proposing to replace 2,660 feet of 8-inch steel main with 8-inch PVC C-900 pipe, reconnect 3 fire hydrants and 20 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $292,800. Also, the cost estimate for this project has been adjusted from $376,222 to $549,700 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 18278 at a revised estimated cost of $549,700. Attachment – BK 18278 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $549,700 is higher than the original request for this project; however, the total revised costs for all 8-inch and smaller main replacement projects proposed in this GRC is $5,686,700 and lower than the original requested dollar amount of $5,755,108.

Attachment - BK 18278 1 (8-inch Main Replacement Revised Cost Estimate)

19957 - Replace 1,255 feet of 4” standard steel main with 6” PVC C-900

Cal Water is proposing to replace 1,225 feet of 4-inch steel main with 6-inch PVC C-900 pipe, reconnect 1 fire hydrant and 29 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $127,667. Also, the cost estimate for this project has been adjusted from $295,378 to $243,600 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 19957 at a revised estimated cost of $243,600. Attachment – BK 19957 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $243,600 is lower than the original request for this project. Also, the total revised costs for all 8-inch and smaller main replacement projects proposed in this GRC is $5,686,700 and lower than the original requested dollar amount of $5,755,108.

Attachment - BK 19957 1 (6-inch Main Replacement Revised Cost Estimate)
**20096 - Replace 3,150 feet of 6” steel, AC & CL&C main with 8” PVC C-900**

Cal Water is proposing to replace 3,150 feet of 6-inch steel, AC, and CL&C main with 8-inch PVC C-900 pipe, reconnect 7 fire hydrants and 68 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $380,900. Also, the cost estimate for this project has been adjusted from $736,887 to $529,800 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 20096 at a revised estimated cost of $529,800. Attachment – BK 20096 1 (8-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $529,800 is lower than the original request for this project. Also, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 20096 1 (8-inch Main Replacement Revised Cost Estimate)

**20164 - Replace 3,740 feet of 6-inch steel main with 8-inch PVC**

Cal Water is proposing to replace 3,740 feet of 6-inch steel, AC, and CL&C main with 8-inch PVC C-900 and CL&C pipe with casing, reconnect 5 fire hydrants and 76 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $555,000. Also, the cost estimate for this project has been adjusted from $656,896 to $846,800 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Attachment – BK 20164 1 (8-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $846,800 is higher than the original request for this project; however, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 20164 1 (8-inch Main Replacement Revised Cost Estimate)

**20169 - Replace 1,320 feet of 4” standard steel main with 6” PVC C-900**

Cal Water is proposing to replace 1,320 feet of 4-inch steel main with 6-inch PVC C-900 pipe, reconnect 2 fire hydrants and 40 domestic services under the scope of the project. Cal
Water does not agree with DRA’s recommendation to adjust or lower the project cost to $129,333. Also, the cost estimate for this project has been adjusted from $307,975 to $264,200 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 20169 at a revised estimated cost of $264,200. Attachment – BK 20169 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $264,200 is lower than the original request for this project. Also, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 20169 1 (6-inch Main Replacement Revised Cost Estimate)

20171 - Replace 1,470 feet of 6” & 8” steel main with 8” PVC

Cal Water is proposing to replace 1,470 feet of 6-inch and 8-steel main with 8-inch PVC C-900 pipe and reconnect 2 fire hydrants under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $170,500. Also, the cost estimate for this project has been adjusted from $332,105 to $208,900 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 20171 at a revised estimated cost of $208,900. Attachment – BK 20171 1 (8-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $208,900 is lower than the original request for this project. Also, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 20171 1 (8-inch Main Replacement Revised Cost Estimate)

20185 - Replace 560 feet of 4” standard steel main with 6” PVC C-900

Cal Water is proposing to replace 560 feet of 4-inch steel main with 6-inch PVC C-900 pipe, reconnect 1 fire hydrant, and 13 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $50,700. Also, the cost estimate for this project has been adjusted from $134,656 to $95,800...
based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 20185 at a revised estimated cost of $95,800. Attachment – BK 20185 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $95,800 is lower than the original request for this project. Also, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 20185 1 (6-inch Main Replacement Revised Cost Estimate)

20188 - Replace 850 feet of 4” & 6” standard steel main with 6” PVC C-900

Cal Water is proposing to replace 850 feet of 4 and 6-inch steel main with 6-inch PVC C-900 pipe, reconnect 1 fire hydrant, and 20 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $78,500. Also, the cost estimate for this project has been adjusted from $206,980 to $155,000 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 20188 at a revised estimated cost of $155,000. Attachment – BK 20188 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $155,000 is lower than the original request for this project. Also, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 20188 1 (6-inch Main Replacement Revised Cost Estimate)

20191 - Replace 988 feet of 4” standard steel & 4” AC main with 6” PVC C-

Cal Water is proposing to replace 988 feet of 4-inch steel and AC main with 6-inch PVC C-900 pipe, reconnect 2 fire hydrants, and 23 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $90,699. Also, the cost estimate for this project has been adjusted from $228,773 to $175,300 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 20191 at a
revised estimated cost of $175,300. Attachment – BK 20191 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $174,300 is lower than the original request for this project. Also, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 20191 1 (6-inch Main Replacement Revised Cost Estimate)

**20212 - Replace 2,348 feet of 8” standard steel with 8” PVC C-900**

Cal Water is proposing to replace 2,348 feet of 8-inch steel with 8-inch PVC C-900 pipe, reconnect 5 fire hydrants and 36 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $288,700. Also, the cost estimate for this project has been adjusted from $531,286 to $447,900 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 20212 at a revised estimated cost of $447,900. Attachment – BK 20212 1 (8-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $447,900 is lower than the original request for this project. Also, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 20212 1 (8-inch Main Replacement Revised Cost Estimate)

**61512 - Replace 680 feet of 6” steel main with 6” PVC C-900 in alley**

Cal Water is proposing to replace 680 feet of 6-inch steel main with 6-inch PVC C-900 pipe, reconnect 1 fire hydrant, 1 fire service, and 19 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $70,400. Also, the cost estimate for this project has been adjusted from $106,808 to $143,900 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 61512 at a revised estimated cost of $143,900. Attachment – BK 61512 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master
The revised estimated cost of $143,900 is higher than the original request for this project; however, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

Attachment - BK 61512 1 (6-inch Main Replacement Revised Cost Estimate)

61675 - Install 1,950 feet of 8” PVC C-900 and abandon existing piping

Cal Water is proposing to replace 4 and 6-inch steel main with 1,950 feet of 8-inch PVC C-900 pipe, install 2 new hydrants, and reconnect 1 fire hydrant, 1 fire service, and 77 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $254,000. Cal Water requests approval of project 61512 at the original justification cost of $380,713.

This 2013 Project 61675 is currently in progress due to immediate leak and access issues, meriting completing the scope of work at this time. Due to the remaining project scope of work, the expected total cost is $380,713, as indicated in the original justification. Attachment – BK 61675 1 (8-inch Main Replacement Actual Costs), contains the actual expenditures in accordance with the Master Contract and factors specific to this project.

Attachment - BK 61675 1 (8-inch Main Replacement Actual Costs)

62238 - Install 1,170 feet of 6” PVC C-900 and abandon existing piping

Cal Water is proposing to replace 2-inch galvanized and 4-inch steel and cast iron main with 1,170 feet of 6-inch PVC C-900 pipe, and reconnect 1 fire hydrant and 34 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $151,000. Also, the cost estimate for this project has been adjusted from $332,801 to $360,500 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 62238 at a revised estimated cost of $360,500. Attachment – BK 62238 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $360,500 is higher than the original request for this project; however, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.
63015 - Install 1,250 feet of 6” PVC C-900 and abandon existing piping

Cal Water is proposing to replace 2-inch galvanized and 4-inch steel and cast iron main with 1,250 feet of 6-inch PVC C-900 pipe, install 1 fire hydrant, and reconnect 17 domestic services under the scope of the project. Cal Water does not agree with DRA’s recommendation to adjust or lower the project cost to $110,600. Also, the cost estimate for this project has been adjusted from $201,061 to $242,500 based on a refined and uniform estimating worksheet in accordance with the related Master Contract agreement filed in this rate case. Cal Water requests approval of project 63015 at a revised estimated cost of $242,500. Attachment – BK 63015 1 (6-inch Main Replacement Revised Cost Estimate), contains the derivation of the project cost based on the Master Contract and factors specific to this project.

The revised estimated cost of $242,500 is higher than the original request for this project; however, the total cost for all 8-inch and smaller main projects proposed in this GRC is slightly lower than the original requested dollar amount.

60494, 60857, 61315, 61434, 62339, 65370, 61595, 62352, 65374, 61316, 61317, 61600, 62353- Field equipment purchases for the Bakersfield District

Cal Water disagrees with DRA’s recommendation to move these equipment purchase projects to non-specific. Non-specific purchases should be reserved for purchases that are unanticipated or emergency in nature. The equipment purchases requested are planned capital purchases. For example, project 60857 under field equipment purchases, is for replacing the existing office copy machine that has a frequent record of malfunctioning, which has lead to increasing expenses from maintenance costs. This equipment replacement is anticipated and not emergency in nature and as a result should be categorized as a specific capital project.

In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases.
Cal Water SCADA projects: 66854, 67109, 67189, 67391, 61213, 66857, 67395, 67909, 67989, 66859, 67397, 67910 and 67990

DRA’s reports include a blanket statement that all SCADA related projects be disallowed without identifying particular issues with any single project. The reports state that Cal Water has not shown the cost benefit to the ratepayer in its filing or that SCADA is ultimately beneficial to the ratepayer. DRA does, however, identify in its reports the benefits that have already been realized from the implementation of the SCADA system. Their reports state that “prior to the implementation of SCADA, utility employees must make frequent trips to all the facilities to check their condition.” DRA’s reports do not identify the level of effort needed by the utility employees in order to operate the water systems without SCADA. DRA’s claim that the optimization of the water system “should translate into some tangible benefits to ratepayers” is true and has already been realized in large part by offsetting the need to have operators traveling from site to site 24 hours a day to operate facilities and to check on their condition.

Additionally, the ratepayers have seen the benefit of reduced outages in service. Continuing investment in SCADA related projects will allow Cal Water the ability to maintain the minimum level of staffing needed for operating its facilities while providing the ability to monitor facilities real-time. Please see the global plant rebuttal for the complete SCADA rebuttal.

66854, 66857, 66859 - Install 52 Total Well Level Sensors

Cal Water proposed these well level sensor projects to automate the current manual process of collecting well level data. Continuous real-time measurement provides better well yield data; better matching of water quality to groundwater levels; and better determination of interference from other sources including agricultural well. This also enhances water quality by eliminating the manual process of inserting a probe into the well and potentially contaminating that well with bacteria from another source. DRA recommended blanket disallowance of all SCADA projects. Please see the global plant rebuttal for the complete SCADA rebuttal.

67109 - Install 236 HOA Switch Position Detectors at SCADA RTUs

Cal Water proposes adding hand/off/auto (“HOA”) switches to all Bakersfield pumping sites in the case. The purpose of the project is to add this enhancement to all monitoring of the current state of the electrical controls for each pump to determine its capability of running automatically. By monitoring the state of each pump’s controls, Cal Water will make more efficient use of its operations staff and have a more predictable control system. The HOA
upgrade is an important component for the SCADA system that has been providing tangible benefits for the rate payers. DRA recommended blanket disallowance of all SCADA projects. Cal Water recommends the Commission approve this project. Please see the global plant rebuttal for the complete SCADA rebuttal.

67189, 67989 and 67990 - Install 109 Total Pressure Transducers
Please refer to global rebuttal on pressure transducer projects.

67391, 67395 and 67397 - Install 35 Total Power Meters in Bakersfield
Please refer to global rebuttal on power meters.

67909, 67910 - Install 30 Total Flow Meters
Please refer to global rebuttal regarding flow meters in the SCADA section.

61213 - Cathodic Protection System Monitoring
Cal Water is proposing to automate the process of collecting tank cathodic protection (“CP”) system data to improve the efficiency of its operation. The current manual practice of collecting cathodic protection system data can be automated cost effectively allowing Cal Water to make more efficient use of its workforce, with a savings that will flow to customers. Additionally, continuous data collection of the tank’s cathodic protection system will extend the life of the tank coating by improving the ability for real time condition assessment for proactive maintenance. Please see the global rebuttal regarding CP in the SCADA section.

64970 - Replace vehicle 203002 in 2014
Cal Water proposes to replace V203002 in 2014. The mileage is 107,615 as of March 2013 and is projected to be 131,529 in 2014. This vehicle will exceed the 120K replacement requirement in year 2014. Cal Water requests the Commission to approve this project. For all vehicle replacement projects, see Attachment – BK Vehicle Replacements (Projected Mileage Analysis).

Attachment – BK Vehicle Replacements (Projected Mileage Analysis).

64991 - Replace vehicle 204053 in 2014
Cal Water proposes to replace V204053 in 2014. The mileage is 108,105 as of March
2013 and is projected to be 135,131 in 2014. The vehicle will exceed the 120K replacement
requirement in year 2014. Cal Water requests the Commission to approve this project.

65030 - Replace vehicle 207020 in 2014
Cal Water originally proposed this project to replace vehicle 207020 in 2014. Cal Water
requests this project moved up to 2013. Cal Water has ordered this vehicle and the new vehicle
will arrive this May and V207020 will be retired. The mileage is 130,007 as of March 2013 and
exceeds the 120K replacement requirement in year 2013. Cal Water requests the Commission
to approve this project.

65031 - Replace vehicle 210006 in 2014
Cal Water proposes to replace V210006 in 2014. The mileage is 117,114 as of March
2013 and is projected to be 140,537 in 2014. The vehicle will exceed the 120K replacement
requirement in year 2014. Cal Water requests the Commission to approve this project.

64483 - Replace vehicle 204042 in 2015
Cal Water proposes to replace V204042 in 2015. The mileage is 104,551 as of March
2013 and is projected to be 143,758 in 2015. The vehicle will exceed the 120K replacement
requirement in year 2015. Cal Water requests the Commission to approve this project.

64491 - Replace vehicle 207002 in 2015
Cal Water proposes to replace V207002 in 2015. The mileage is 89,474 as of Mar 2013
and is projected to be 143,158 in 2015. The vehicle will exceed the 120K replacement
requirement in year 2015. Cal Water requests the Commission to approve this project.

64496 - Replace vehicle 207005 in 2015
Cal Water proposes to replace V207005 in 2015. The mileage is 146,005 as of Mar
2013 and is projected to be 233,608 in 2015. The vehicle will exceed the 120K replacement
requirement in year 2015. Cal Water requests the Commission to approve this project.

64498 - Replace vehicle 208010 in 2015
Cal Water proposes to replace V208010 in 2015. The mileage is 80,374 as of Mar 2013 and is projected to be 140,655 in 2015. The vehicle will exceed the 120K replacement requirement in year 2015. Cal Water requests the Commission to approve this project.

63432, 76395 - Increase capacity of the NWBWTP to meet 8 MGD average and 10.4 MGD peak as originally designed

PID 63432 and 76395 involve implementing modifications to the Northwest Bakersfield Water Treatment Plant to achieve the original design flow rate of 8 million gallons per day (MGD) average and 10.4 MGD peak flow. Currently, under normal raw water operating conditions, the plant is only able to treat approximately 6 MGD. PID 76395 budgeted $3,245,312 for a plate settler installation as a pretreatment process to reduce and stabilize the amount of solids in the source water entering the direct filtration membranes. The concept is to reduce 90% of the total suspended solids up to 50 NTU to minimize solids loading on the existing membranes. With the plate settler pretreatment, Cal Water anticipates that the plant will be able to meet its original design and peak capacity. This design plan was confirmed through a Plate Settler Pilot Test performed by Water Works Engineering (“WWE”). PID 63432 budgeted $311,462 for flash mixing installation at the head of the raw water feed line into the NWBWTP to maximize the effectiveness of the coagulation process.

Cal Water has received the final bid proposals for the modifications to the Northwest Treatment Plant and has selected a final design approach and cost estimate to move forward with the project. The final bids came in significantly higher, showing a 55% increase over the original estimate provided to Cal Water in April 2012. As a result, Cal Water is now requesting that PID 76395 be adjusted to $5,704,224 and authorized as an advice letter project, see Attachment – BK 76395 1 (NWBWTP Costs Analysis). This request in budget increase reflects the final bid price from the W. M. Lyles company and includes an updated estimate of the internal labor and project management costs that will be required for the project, see Attachment – BK 76395 2 (WM Lyles Contractor Bid). This budget change increase is directly related to the increase in bid costs compared to the original budget estimate provided to Cal WWE in April 2012. In addition, advice letter status is recommended due to pending litigation with the membrane supplier. The potential settlement funds may help reduce the total cost of the modification project, but the award amount level is not known at this time. Cal Water proposes to offset the project costs with any net capital proceeds received from the pending lawsuit against the membrane supplier. Trial is scheduled in the lawsuit for October, 2013 (See Cal Water v. Pall Corp., Kern County Superior Court, No. S-1500-CV-272324-SPC). Finally,
Cal Water is requesting that PID 63432 for the flash mixer installation be cancelled and removed from the 2012 GRC. A flash mixer is part of the final design and bid price from W.M. Lyles and will now be incorporated into the requested amount for PID 76395.

Cal Water used the design-build process to help reduce budget, while completing project scope and schedule within a reasonable timeframe, see Attachment – BK 76395 3 (Project Schedule).

Request for pricing along with the original WWE pilot study results was sent to seven firms, with three firms submitting bids. The bid results were as follows:

<table>
<thead>
<tr>
<th>Firm</th>
<th>Budget</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>W. M. Lyles</td>
<td>$3,842,500</td>
<td>Winning Bidder</td>
</tr>
<tr>
<td>Water Works Engineers</td>
<td>$3,521,500</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; place Bidder</td>
</tr>
<tr>
<td>CH2M Hill</td>
<td>$2,940,000</td>
<td>Disqualified</td>
</tr>
</tbody>
</table>

To evaluate the bid proposals, Cal Water formed a capital project delivery experienced selection committee consisting of the Bakersfield District Manager, Manager of the Bakersfield Water Treatment Plant, Director of Water Quality, Electrical Engineering Manager, Design Engineering Manager, Senior Engineer, and Yarn and Associates as an external consultant. In the initial meeting, a ranking system was used, and due to the closeness of the final rankings, it was decided that additional information was needed from W. M. Lyles (WML) and WWE before making a final decision. The team met together a total of five times before making a final decision, and requested two rounds of additional responses from both bidders relating to design, performance, permitting, timing, scope, budget, and contractor qualifications. In the end, the WML proposal was selected as the best value bidder.

It should be noted that in the initial meeting, all seven committee members agreed that the CH2MHill proposal did not provide a suitable design. Their design relied heavily on adjusting the existing chemical type and dosing, and recommended changing several operations processes as the solution. While lower capital improvements were proposed, leading to an apparent lower bid, their design was categorized as high risk with little mitigation of the true problem, which led to disqualification.

For optimizing plant operations and obtaining the most benefit for the rate payers, the project objective is for the final design approach to restore the treatment plant to the original 8 MGD average flow and 10.4 MGD peak flow. Even though the WML proposal had the highest
initial capital cost, the committee selected their proposal because their design meets the project
objective with the least amount of operational and customer risk, see Attachment – BK 76395 4
(WM Lyles Design Description) and Attachment – BK 76395 5 (Plate Settler Drawings).
As described in this attachment, the final design incorporates installing a conventional
floculation basin before the plate settlers. This allows the operators and engineers to control
the chemical dosing and flocculation process on-site, maximizing the efficiency of the solids
removal process.

The WWE design utilized a smaller plate settler, and relied on flocculation to occur in the
existing transmission line. The selection committee’s review concluded that there was a higher
risk element in this process including inefficient flocculation, flocculation build-up and
sedimentation in the bottom of the pipeline, and flocculation sheer. With repetitive starts and
stops in the raw water intake pumps, sedimentation on the pipe floor can be stirred up and
cause a highly varied quality of water entering the plate settlers. If finely sheered particles are
passed through the plate settlers onto the membrane filtration, this can result in membrane
fouling, reduced particle removal and decreased run times of the membrane. Additionally, there
was some concern that the WWE design would require adjustment or replacement of the
existing pumps at the facility, leading to further unexpected capital costs. WWE’s proposal was
not selected based on the reasoning contained herein.

The initial Cal Water budget submitted to DRA for this project was $311,462 for the flash
mixing installation at the head of the raw water feed line (PID 63432) and $3,245,312 for the
plate settlers treatment plant modifications (PID 76395). The project total was $3,556,774.
These estimates shown in the NWBWTP Costs Analysis attachment were taken directly from
the WWE pilot study and engineer’s estimate that was completed and provided to Cal Water in
April 2012. The WWE pilot study involved a small scale plate settler system and controlled
water quality jar testing to determine the feasibility of the proposed plate settler design solution.
The pilot study supported the effectiveness of the plate settler system and Cal Water was
provided an engineer’s estimate for the modifications. Cal Water then added internal labor and
factors to arrive at the final costs which were shared with DRA in the Company’s initial rate case
filing.

The recent bids from both WWE and WML were significantly higher than what was
provided in the original April 2012 estimate and what was submitted to the DRA. After analysis,
it was clear that the main discrepancy came from the original anticipated cost of the plate
settlers compared to the final cost of the plate settlers. WWE’s original pilot study estimate
provided a cost of $2,231,050 for the plate settlers (excluding the rapid mixer), whereas their
final bid showed a price of $3,466,500 for the plate settlers. This represents a 55% increase in
cost from the engineer’s estimate that Cal Water hired WWE to provide.

In subsequent discussions, WWE admitted to the under-estimation of the treatment plant
improvements. WWE cited the following three reasons for the underestimate:

1. Structural Cost of the Plate Settler – need for thicker walls/float issues/access walkways
2. Yard Piping Costs were not originally included
3. Shoring Costs were not originally included

Cal Water could not have anticipated the costs increases in the current bids. Cal
Water's in-house engineers and estimators are not versed in estimating specialized treatment
plant modifications of this magnitude. As a result, Cal Water relied heavily on external pre-
qualified consultant services to provide an accurate scope and cost estimate. Unfortunately, in
this case, the original estimate was inaccurate, and Cal Water now needs to request additional
funding to complete the project.

The new proposed WML design and construction costs, plus Cal Water add on factors is
$5,704,224. Cal Water has elected to exclude the escalation factor of 3% because current costs
for the year of construction have been applied. Due to the complexity of the project, the amount
of documentation necessary, and the travel time required, Cal Water elected to include
additional in-house engineering labor hours. The original estimate included 208 hours of
internal labor at $100 per hour. The new estimate has 560 hours (2 days per week for 70
weeks) of internal labor at rate of $120 per hour. At the time of the estimate Cal Water
anticipated the labor rate based on an Associate Level Engineer. However, due to the
complexity of the project, Cal Water has elected to use a Senior Level Engineer to manage the
project. This change increases the internal labor rate from $100 per hour to $120 per hour. A
project management consultant is also included in the estimate for 420 hours (6 hours per week
for 70 weeks) at a rate of $222 per hour. This will include project management services and
construction inspection (compaction testing, concrete compression testing, etc.).

Regarding Capitalized Interested, please see the Global Rebuttal section.

In summary, the final costs are higher because the original engineer’s estimate provided
to Cal Water was underestimated. The new estimate based on competitive bid results. Value
Engineering will be performed during design to potentially lower costs. Advice Letter status is
recommended for this project due to the pending litigation and the anticipation that potential
settlement funds may also help reduce the cost of this project.

Cal Water is anticipating recovering some costs from its pending lawsuit against the
membrane supplier (Pall Corporation) to offset some costs to ratepayers, although at this time it
is unknown how much this may amount to. In its Advice Letter filing, Cal Water proposes to account for and include any net capital proceeds recovered in the lawsuit. Trial is currently scheduled for October 2013. The lawsuit should be resolved prior to the advice letter filing, although the court’s calendars are subject to delays due to decreases in state funding.

Attachment – BK 76395 1 (NWBWTP Costs Analysis)
Attachment – BK 76395 2 (WM Lyles Contractor Bid)
Attachment – BK 76395 3 (Project Schedule)
Attachment – BK 76395 4 (WM Lyles Design Description)
Attachment – BK 76395 5 (Plate Settler Drawings)
Attachment – BK 76395 6 (Project Management Costs)

67769 - Bakersfield district customer center work desks, phones, PC’s and furniture upgrades

Cal Water does not agree with DRA’s recommendation to disallow this project. The workstations, computer, phone, and furniture purchases will increase available ergonomic workspace and provide break room furniture and facilities needed to accommodate the district increased employee volume. The following further supports the business case for this project’s allowance.

The 13 new work stations are proposed to replace 10 existing and larger cubicles. Replacing the 10 older and larger cubicles with new units will provide an additional 3 work stations to accommodate existing staff and allow room for growth. The existing cubicles are 18 years old, worn, and in some cases severely damaged. The new cubicles will comply with a company-wide standard that is designed to be ergonomic and provide a safe work environment for our employees.

Also, we are requesting an additional refrigerator to supplement the existing non-sufficient single standard size refrigerator meant for 30 employees. The additional refrigerator will accommodate additional food storage area for the 30 employees.

A conference room video monitor is also requested for the purpose of providing work related information to employees during safety meetings and training in business functions. The proposed monitor will be mounted to the wall maximizing usable space for other business functions.

Cal Water has adjusted its original cost estimate to include chairs, phones and PC’s for 3 additional work cubicles areas:
3 Chairs $500.00 each
3 Phones $600.00 each
3 PC’s $1550.00 each
Total Additional Cost - $26,500

The total revised proposed cost of this project is $181,500.

**76073 and 76093 - Install 16-inch Ductile Iron Water Main**

Cal Water does not agree with DRA’s recommendation to disallow these projects. Cal Water proposes these projects to install 16-inch pipelines to address a low pressure issue in the southwest area of the system. Existing pressures and their fluctuations in this part of the distribution system do not meet GO 103-A requirements as documented by a system hydraulic model analysis. Further, the hydraulic model analysis, including demand adjustments and well setting selections, is an appropriate and an accurate depiction of the actual distribution system.

The reference that the model has too much demand is a misinterpretation of an adjustment from the demand values initially inputted into the model based on 2006 data, to the demand levels in August 2011, the period for which the system data was pulled from SCADA (the actual system) to perform model calibration. Optimatics was charged with ensuring that the model represented actual system conditions. The August 2011 time frame was selected as the period for validating the model. As such, the demand levels in the model were adjusted to ensure it accurately emulated system operational conditions before use in evaluating the need for the proposed 16-inch main.

The reference to turned off wells was of a similar nature to having the production units in the model match field conditions and to check / ensure that the model output matches system conditions. Cal Water actually noted a couple of exceptions: wells that were actually operating where Optimatics had misinterpreted flow rate data and as a result turn them off in the model. However, turning them on made no difference in system pressure at peak hour, see Attachment – BK 76073 and 76093 1 (Engineering Consultant Correspondence), in support of this. Please see specific rebuttal to each of these project in the following paragraphs

Attachment – BK 76073 and 76093 1 (Engineering Consultant Correspondence)

**76073 - Install 16-inch Ductile Iron Water Main**

Cal Water requests Commission approval for this specific project to install a 16-inch Ductile Iron Water Main in Akers Road from BK Sta. 146 to De Ette Avenue.
conducted an analysis on collected pressure data from the Low Zone and determined that dips
in pressure during peak hour demand were more pronounced in the southern part of the zone
and most significant in the southwest area west of US 99.

General Order 103-A has a provision stating," Subject to the minimum pressure
requirements of 40 psi, variations in pressures under normal operation shall not exceed 50% of
the average operating pressure". BK Station 202 in proximity to the proposed main project on
Akers Road, see Attachment – BK 76073 1 (System Map with Pressure Measurement
Locations). The pressure data analysis shows normal operation pressure charts at BK Station
202, in 2011 and 2012, with the annual average normal operating pressure per year varying
greater than 50 percent, see Attachment – BK 76073 2 (Pressure Data Analysis).

The total proposed budget for project 76073 is $852,000.00.

Attachment – BK 76073 1 (System Map with Pressure Measurement Locations)
Attachment – BK 76073 2 (Pressure Data Analysis)

76093 - Install 16-inch Ductile Iron Water Main

Cal Water requests Commission approval for this specific project to install a 16-inch
Ductile Iron Water Main in Wible Road from Panama Lane to Berkshire Road. Cal Water
conducted an analysis on collected pressure data from the Low Zone and determined that dips
in pressure during peak hour demand were more pronounced in the southern part of the zone
and most significant in the southwest area west of US Highway 99. General Order 103-A has a
provision stating," Subject to the minimum pressure requirements of 40 psi, variations in
pressures under normal operation shall not exceed 50% of the average operating pressure".
BK Station 202 in proximity to the proposed main project on Akers Road, see Attachment – BK
76093 1 (System Map with Pressure Measurement Locations). The pressure data analysis
shows normal operation pressure charts at BK Station 202, in 2011 and 2012, with the annual
average normal operating pressure per year varying greater than 50 percent, see Attachment –
BK 76093 2 (Pressure Data Analysis).

The total proposed budget for project 76093 is $1,296,000.00.

Attachment – BK 76093 1 (System Map with Pressure Measurement Locations)
Attachment – BK 76093 2 (Pressure Data Analysis)
4.3 CARRYOVER PROJECTS

4.3.1 Advice Letter Projects
Not Applicable

4.3.2 Non-Specific Carryover Projects
52088, 53670, 53728, 54508, 54528, 55350, 57668, 65749, 66689, 67093, 67369,
67594, 68030, 68149, 68633, 68870, 69190, 69350, 69469, 69829, 70150, 70169,
70472, 70509, 70589, 70854, 70855, 71076, 71453, 71494, 72213, 72275, 72733,
72853, 72953, 73553, 73634, 73654, 74333, 74654, 75093, 75333, 76173, 76353,
76555- Various 2012 carryover, non-specific and in-service/completed/Posted to
CPR projects.
Cal Water's position is these projects are in use and useful and should not be disallowed
or adjusted.

Attachment – BK Non-specific-Carry-over-In-service 1 (Costs)

58252 - Replacement of Turbidimeter
Cal Water's position is this project is in use and useful and should not be disallowed or
adjusted from the actual project cost amounting to $5,736.

73853 - Replace pressure tank at Station 174 for surge control/mitigation
Cal Water's position is this project is in use and useful and should not be disallowed or
adjusted from the actual project cost amounting to $89,622

76493 - BK Station 116 Booster Pump D Replacement
Cal Water's position is this project is in use and useful and should not be disallowed or
adjusted from the actual project cost amounting to $18,038.

58272 - Northwest BK WTP Investigation: Evaluate existing treatment performance
This project is currently in process and should not be disallowed. In 2007, Cal Water
constructed an 8 million gallons per day (MGD) direct filtration plant using Pall microfiltration
membranes. However, due to limitations in the treatment capacity, the plant has never been
able to operate at its design capacity of 8 MGD and peak capacity of 10.4 MGD. As a result, Cal Water was involved in a legal dispute with Pall due to Pall’s non-performance of the contract. In order to settle the dispute, Pall proposed to make several improvements at the plant, and conduct another performance test at 8 MGD.

In order to check the validity of Pall’s proposed improvements and testing protocol, Cal Water hired a qualified membrane specialist through the competitive bid process, to review Pall’s proposal and submit feedback to Cal Water. Separation Processes Inc. was contracted to review Pall’s test protocol and monitor its performance for $75,000. This cost was not budgeted.

Water Works Engineers, LLC was also contracted for $30,000 to conduct a background investigation and identify process upgrade alternative(s).

Both analyses have been completed and it was concluded that installation of plate settlers is the most feasible option to resolve the capacity issue. The project charges to date is $90,150 and the project will be closed after the plate settlers are installed (under PID #76395) and in service.

70834 - Capital infrastructure evaluation: Offset requirements to mitigate shortfall in supply in the southern part of Bakersfield.

This project was needed in order to assess pressure problems experienced in the south side of the Bakersfield system (i.e. Pumpkin Center). The evaluation determined that neither constructing a new treatment plant on the south side of town nor expanding the existing Northwest Treatment Plant alone, would improve supply. The solution is to install large pipelines in the low zone to distribute water to the Pumpkin Center.

The system analysis has been completed for $33,991, but the project is still open. Cal Water’s plan is to close this to plant as part of the pipeline projects to resolve this pressure problem. This work was critical to ensure reliability and water supply.

73615 - Pre-design of the plate settlers at the Northwest Bakersfield WTP

This project is currently in process and should not be disallowed. The treatment plant evaluation project 58272 concluded that plate settlers were the most viable solution to restoring the Northwest Treatment plant to the original design capacity. This project was needed in order to conduct a pilot study with a consultant to test the plate settlers. This study was successful and the report is attached. The results of this study led to PID 76395. The charges to date are $89,775 and the project is still open until the plate settlers are permanently installed under PID 76395. Cal Water anticipates that the construction project will be in service in the summer of
4.3.3 Specific Carryover Projects

17873, 19484, 20094, 20115, 20245, 20246, 20306, 20310, 20499, 20975, 21191 & 25287 - Various 2012 carryover, specific and in-service/completed/Posted to CPR projects

Cal Water's position is these projects are in use and useful and should not be disallowed or adjusted.

Attachment – BK Specific-Carry-over-In-service 1 (Costs)

20158 - Replace the SCADA system at the Northeast Treatment Plant

Project 20158 is a carry-over specific project that was approved in the 2009 GRC at the amount of $199,800. Cal Water is under contract with North Point Technologies to complete the upgrades to the treatment plant. The remaining amount to be paid on the contract, along with Cal Water labor required for the functional testing of the system and the overhead, will put the total project costs at around $250,000. Primarily the reason for the increase in costs is the higher costs for the programming contractor than what was anticipated. Cal Water and the Commission did not include any contingency in its original estimate that may have allowed for the additional costs. The anticipated completion date for the project is December 2013. Cal Water requests the Commission to authorize the full amount of the project in rates.

20206, 20209, 20211 - Various 2012 carryover, specific and in-service/completed/Posted to CPR projects

Cal Water’s position is these projects should be allowed in accordance with the 2009 GRC Settlement approved amounts. They are in use and useful and should not be disallowed or reduced in budget.

Attachment – BK 20206, 20209 and 20211 1 (Costs)

20391 - Replace Electrical Panel board at Station 188

This project replaced an electrical panelboard at Station 188. This station was originally constructed by the Fruitdale Mutual Water Company, which Cal Water acquired in the 1980s.
This station was not designed or constructed to Cal Water standards. Assumptions made in the estimating process were never realized. The cost estimate for this project has been adjusted from $95,400 to $235,470 based on actual project expenditures. The previous cost estimate has been revised to include actual contractor costs for work and electrical panel costs, see Attachment 1. Cal Water requests approval of project 20391 at a revised total project cost of $235,470.

Project 20391 is necessary for a replacement of an obsolete panel board constructed of obsolete components, which include the outdated motor starters, circuit breakers, and fused switches. The project was complex in that it required integration of four motors starters, and the utility meter section. Also included in the new panel is space for a future emergency power back up system for station operational reliability. This project is in use and is useful and Cal Water requests the Commission allow the full cost of this

Overhead, capitalized interest and contingency costs were updated to reflect those uniformly applied by Cal Water to all projects proposed in this rate case filing.

Regarding Capitalized Interest – Please see Global Rebuttal section

Attachment – BK 20391 1 (Actual Project Cost)

20786 and 20807 Well Level Sounding Equipment

Cal Water’s position is these projects will be use and useful in 2013 / 2014 and should not be disallowed or adjusted from the approved $42,000 for project 20786 and approved $43,500 for project 20807 amount in the 2009 BK GRC settlement.

Please see global rebuttal for Well Level Sensors in the SCADA section.

20809 and 20811 SCADA Cathodic System Monitoring

Cal Water’s position is project 20809 and 20811 are, respectively, approved for $34,000 and $37,000 and confirming approval by DRA. The 2012 GRC DRA BK report did not include reference to these projects. However, DRA provided Cal Water documentation supporting approved matching dollars from the 2009 Settlement.

4.4 ATTACHMENTS

The attachments listed below will are located in Book 5.
CHAPTER 5 BAYSHORE PLANT ADDITIONS

5.1 INTRODUCTION

5.1.1 Global Response

79999, 80002- RAMCAP (Section 2.4)

21331, 26387, 30168, 31468, 36828, 62013, 62053, 78954- PAINT(Section 2.2.1)

66089, 66090, 66115, 66116- DESAL (Brackish Groundwater)

64943, 64947, 65149, 65150, 65437, 65438, 79573, 79576, 79577, 79578- VEHICLES
(Section 2.9)

68850- VOICE RADIO (Section 2.6)

5.2 ADVANCED CAPITAL BUDGET PROJECTS

15999- Replace Storage Tanks at Station 122 in San Carlos (Pg 7-31 Ln 17)

DRA recommends disallowance of this project because DRA does not agree with the
recommendation in the Water Supply and Facilities Master Plan. DRA maintains that as a result
of the Commission approving another tank project, this project is not required.

Cal Water recommends that the Commission allow this project. Cal Water maintains its
original position included with the project justification. It is important that the replacement of
Station 122 tank be allowed because without the Station 122 tank, operation of Zone 525
cannot be returned to its original configuration. In the 2008 Water Supply and Facilities Master
Plan (Master Plan), Camp, Dresser, and McKee (CDM) performed analysis of Zone 525 and
recommended that Stations 122 and 121 be returned back to their original configuration. Zone
525 currently does not have a storage tank since the existing redwood tanks at Station 122
were removed several years ago due to poor condition and unsafe seismic factors of the tanks.
This project would replace the removed tanks and restore the original operation of the system
and fire flow capabilities to what they were before.

DRA contends that neither Title 22 nor GO 103A contains any specific requirement for
storage capacity and quoted, “New portions of the system shall have supply and storage
facilities that are designed to meet MDD plus the required fire flow at the time of design.”
It is unclear to Cal Water why DRA recognizes the need for storage under the AWWA article,
“Determining Distribution Storage Need” in Project 62953 (Storage Tank at SSF Station 14) and
not in this Project. Regardless, this project is a tank replacement project and not a new tank
construction. Cal Water is simply returning the original operation of this zone to what it was
before the tanks were removed. Because of the reasons above, Cal Water recommends to the Commission that this tank replacement project be allowed.

20284- Generator Station 116 (Pg 7-38 Ln 9)

DRA recommends disallowing a stationary power generator at station 116 and recommends approval of a mobile power generator instead, citing that the mobile generator is a more cost effective. Cal Water believes all emergency power is important and recommends that the Commission approve this project.

Station 116 is a critical station in that it is the only source to the 635 Zone. There are no other emergency sources of supply for the 635 zone. If Station 116 is down for any reason, the customers in that area will experience a significant drop in pressure, which can lead to a boil water notice and lack of water for fire protection. A stationary power generator at this site with an automatic transfer switch would work in conjunction with mobile power generators for other pumping applications.

Cal Water does state in the text of the project justification, that “there wouldn’t be a simultaneous PG&E power failure at more than one station at a time.” This statement was clearly in error. If a PG&E substation goes down, it can affect neighborhoods miles apart. In the case of Station 116, by the time a mobile generator is disconnected from its current location (it could be anywhere in the geographically large district of Bayshore) and brought back to station 116, customers could already be out of water. Because this station is the only supply to a pressure zone (without storage) this project should be approved in rates at the project cost of $105,717.

20294- Station 6 Tank Replacement – Preliminary Design

This project is complete and should not be disallowed or adjusted. The final cost is higher than budgeted primarily due to additional Cal Water engineering labor to address City planning concerns. Additional work was required to prepare drawings and plans to submit to the Town of Hillsborough for Preliminary Planning Review. Additional work was also required to coordinate with the Town and consultant during the review process.

20537-6” PVC Carmelita Mains, 20562-6” PVC Arbor Ln, 20582-6” PVC Briar Ln, 20633-6” PVC Oak St, 20728-8” PVC Sullivan (Pg 7-20 Ln 5)

DRA basis for recommending disallowance of the PVC Carmelita main replacement is based on a lack of leak history. DRA contends that the request to replace this section of pipe is
not justified because there have only been 2 recorded leaks. Actually, this section of pipe has
had 3 leaks from 2000-2012.

DRA also contends in regards to 20537-6” PVC Carmelita Mains, 20562-6” PVC Arbor
Ln, 20582-6” PVC Briar Ln, 20633-6” PVC Oak St, 20728-8” PVC Sullivan, and 49429-6” PVC
Annie St (Pg 7-20 Ln 5), that according to GO 103-A, “the utility shall not be responsible for
modifying or replacing at its expense any existing facilities, which are otherwise adequate, in
order to provide increased fire flow or duration due to changes in standards after the initial
construction”. This statement is from a section titled “Changes in The Fire Code”.

However the reason Cal Water disagrees with DRA has little to do with leaks or fire flow.
Cal Water maintains that its need for these projects is because Cal Water is currently unable to
provide adequate service to customers due to bad tuberculation in the existing Cast Iron mains
which have significantly reduced pipe diameter and could lead to poor flow distribution in the
system and contribute to reduced service pressure to customers and water quality issues.

The proposed Carmelita main line is sized as 6” diameter to accommodate the flow
requirement of the system.

The Arbor Lane project entails replacing approximately 650’ of 4” and 250’ of 2” cast iron
main with 900’ of 6” PVC main. It is necessary to replace this portion of main because the pipe
has been in service for over 50 years and the interior of the pipe has accumulated tuberculation,
which decrease the effective diameter of the pipe.

The Briar Lane project is composed of replacing approximately 675’ of 4” and 225’ of 2”
cast iron main with 900’ of 6” PVC main. It is necessary to replace this portion of main because
the pipe has been in service for over 50 years and the interior of the pipe has accumulated
tuberculation, which decreases the effective diameter of the pipe.

The Oak Street project is composed of replacing old Cast Iron main with 860’ feet of 6
inch PVC main. It is necessary to replace this portion of main because the pipe has been in
service for over 50 years and the interior of the pipe has accumulated tuberculation, which
decrease the effective diameter of the pipe.

The Sullivan project is composed of replacing approximately 500 feet of 8” inch steel
main with 500 feet of 8” PVC main. It is necessary to replace this portion of main because the
pipe has been in service for over 50 years and the interior of the pipe has accumulated
tuberculation, which decrease the effective diameter of the pipe.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please
see Global Rebuttal section. The attachment shows a 4” CI Main that is representative of the
tuberculation currently present in this main.
**20581- Replace 2 horizontal splitcase pumps**

DRA recommends disallowing the pumps for station 23 based on a pump test showing excellent efficiency. Cal Water recommends allowance of this project in this case.

A pump test conducted at MPS 23-A on 2/04/09 revealed an OPE of 46.5%, whereas another pump test conducted on 9/10/2012 revealed an OPE of 51.46%. A pump Test conducted at MPS 23-B on 2/04/2009 revealed an OPE of 52.2%, whereas another pump test conducted on 9/10/2012 revealed an OPE of 77%. Cal Water believes the second test conducted on MPS 23-B to be an error in data collection on the pump tester side. The second test on MPS 23-A seems to be valid, but there needs to be an understanding that these tests are a snapshot of operating conditions at the time of the test. These operating conditions change throughout the day and give rise to a swing in efficiencies, but generally speaking, efficiencies go down as the equipment ages. Cal Water conducted a retest of MPS 23-B on 4/24/2013 and confirmed that the OPE was 49.8%. The 2012 test recorded an erroneous flow due to pilot tube misread. This does not meet the 47.9% or less for a poor rating in the Standard Practice chart; however we can see that the trend is downward and will be below 46% within 3 years. Therefore, Cal Water would like to request allowance of this project on both pumps. See all pump test results attached with this rebuttal.

Attachment A- BAY_20581_Attach1_23A 2009
Attachment B- BAY_20581_Attach1_23A 2012
Attachment C- BAY_20581_Attach1_23B 2009
Attachment D- BAY_20581_Attach1_23B 2012

**30209- Paint Tank Interior & Upgrade C.P. System – Sta. 17 Tank 1**

DRA recommend approval of this project but for a lower cost. Cal Water recommends the Commission approve this project at the original estimated cost. This project has been placed to competitive bid and awarded to the lowest qualified contractor. The cost for this project is $14.71/sq.ft or 30% higher than the original estimate. Given the current contracted costs to complete the project, DRA’s recommended $8.96/sq.ft cost is too far under the anticipated cost to complete the scope of work. Due to the poor integrity of the protective coating, performing the work at the time specified is critical to alleviate any risk of substrate failure.

Attachment A- BAY_30209_Attach1_2013 Coating Projects Bid Results-Pen
**44049 - Paint Tank Interior at Station 12, Tank 1**

DRA recommend disallowance of this project stating that the tank only has minor spot rust based on the inspection report. Cal Water recommends that the Commission approve this project.

The most important thing to observe here is, that in addition to moderate corrosion on the inaccessible areas, the metal condition at the rafter ends connected to the dollar plate is severely degraded with metal flaking out along with the coating (Refer to photos in the justification). Although the coating looks good, dark rust stain is oozing out of the substrate due to severe rust undercutting at the rafter ends. If the rafters are not blasted and re-lined now, it can compromise the structural integrity of the tank and lead to costlier rafter and roof replacement projects in the future. In addition, the underside of the roof and upper shell area is not protected by cathodic protection, which further increases the rate of corrosion. To emphasize, rusting on the underside of the roof is the most serious issue regarding tank corrosion. Given the weakened structural integrity of this area, any seismic activity may further damage and potentially collapse the roof.

**Attachment A- BAY_44049_Attach 1_Examples of similar tank**

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**44249, 44329 - Microwave Radio Link**

DRA recommend blanket disallowance of all non-specific carry-over projects. Cal Water requests that the Commission approve this project because it is important to avoid environmental damage to sensitive creeks in the area.

Project 44249 and 44329 are for installation of a microwave radio link. This was proposed as a non-specific project to resolve an emergency issue that occurred in 2009 and 2010. These projects are two components of a project to install a microwave link between the key radio sites in the Bayshore district. One project is for the tower and radio equipment to be installed at the field office and the other is for the tower and radio equipment to be installed at station 120. There were several communication failures with the SCADA system that caused tank overflows in the San Carlos and San Mateo areas. The overflow from these tank sites flows into environmentally sensitive creeks and as a result Cal Water was assessed a $200,000 fine by the Regional Water Quality Control Board. The fine was not higher because Cal Water presented its plan to correct the communication issues. Part of the plan to resolve the SCADA communications failure was to provide at least one level of redundancy for any critical
component of the SCADA system. This redundancy included the proposed microwave links so
that Cal Water could communicate with each radio system from multiple locations. This project
is essential to provide reliable communications for water system control. It was initiated in
response to control system communications failures that resulted in repeated tank overflows.
Unfortunately, some assumptions made during the estimating process turned out to be incorrect
thus leading to increased costs for the project. Cal Water had planned on using the existing
communications tower at station 120 and the roof of the building at the Cal Water office to
mount its communication equipment. The owner of the tower would not grant permission to Cal
Water for its use of the tower for any additional communication equipment so Cal Water had to
build its own tower at station 120. Further, the roof of the building at the Cal Water office did not
provide the height necessary to communicate with the new tower at station 120. This led to
significant delays in completing the work as well as significant increases in cost. The project is
still necessary in order to achieve the complete redundancy that the Regional Water Quality
Control Board expects in order to reduce the likelihood of tank overflows due to communication
failures. Cal Water requests the revised estimate of $170,000 for PID 44249 and $163,000 for
PID 44329 to be allowed in rates.

Attachment-BAY 44249 1 (SCADA Microwave Radio)
Attachment-BAY 44329 1

45009- Paint exterior of Station 17 Tank 3

DRA recommends disallowance of this project because the inspection report had an
overall rating of “good.” Cal Water requests that the Commission allow this project in this case.
Although the inspection report does evaluate the appearance of the coating as “good”, this
rating refers to the overall aesthetics of the tank and does not relate to the condition or
performance of the coating. Coating integrity is assessed using SSPC VIS-2 guide standards,
which is consistent across all tank inspections performed by Cal Water. The coating on the
exterior of this tank is deteriorating, exposing the metal to corrosion and potential metal loss.
Unlike interior coatings which have a CP system as secondary protection method, exterior
protective coatings don’t have anything. Disallowance of the replacement of the exterior coating
will allow corrosion to persist, possibly causing irreparable harm to the structural integrity of the
tank and ultimately resulting in interruption of service, water quality issues, costly repairs, or
even replacement of the tank. It is plausible to have a coating in excellent condition, while
having a poor appearance. This is due to UV exposure or other damage caused by
environmental elements. However, the integrity of the protective coating system is intact; it just
doesn’t look pristine. Aesthetics of stations are an important operations priority because it is
directly related to customer perception of the product and service of the company. Therefore,
during routine inspections, the appearance is rated to ensure the structures are not affecting the
appearance of the overall station. In the case of a poor appearance, a maintenance ticket
would be created to clean the tank.

**49429-6” PVC Annie St (Pg 7-20 Ln 5)**

Cal Water maintains its need for this project. DRA contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing
facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to
changes in standards after the initial construction”. This statement is from a section titled
“Changes in The Fire Code”. The replacement of this section of pipe is not based on change in
the fire code. The replacement is based on change in the need to increase the size of the pipe
to increase its flow capacity. The Annie project is composed of replacing approximately 500
feet of 4” AC main with 500 feet of 6” PVC main.

**57228- Paint interior complete, Station 119; Tank #1**

DRA recommends disallowance of this project because the inspection report had an
overall rating of “good.” Cal Water requests that the Commission allow this project in this case.
Although the inspection report does evaluate the appearance of the coating as “good”, this
rating refers to the overall aesthetics of the tank and does not relate to the condition or
performance of the coating. Coating integrity is assessed using SSPC VIS-2 guide standards,
which is consistent across all tank inspections performed by Cal Water. The coating on the
exterior of this tank is deteriorating, exposing the metal to corrosion and potential metal loss.
Unlike interior coatings which have a CP system as secondary protection method, exterior
protective coatings don’t have anything. Disallowance of the replacement of the exterior coating
will allow corrosion to persist, possibly causing irreparable harm to the structural integrity of the
tank and ultimately resulting in interruption of service, water quality issues, costly repairs, or
even replacement of the tank.

It is plausible to have a coating in excellent condition, while having a poor appearance. This is
due to UV exposure or other damage caused by environmental elements. However, the
integrity of the protective coating system is intact; it just doesn’t look pristine. Aesthetics of
stations are an important operations priority because it is directly related to customer perception
of the product and service of the company. Therefore, during routine inspections, the
appearance is rated to ensure the structures are not affecting the appearance of the overall station. In the case of a poor appearance, a maintenance ticket would be created to clean the tank.

60673, 60793, 60795, 60797, 60812, 69589, & 69590- Install tank turnover equipment
DRA recommends disallowing these 7 projects to promote tank mixing based on the amount of nitrate in Cal Water’s tanks being below the MCL and that the level of chlorine residuals in tanks were over 0.2 ppm residual. Cal Water requests the Commission to approve these projects in this case, because there is a need to avoid nitrification in these tanks. Cal Water’s approach is a cost effective solution to ensuring water that is safe for the public.

In this district, Cal Water uses Chloramines for disinfection. This is a combination of chlorine and ammonia. Introducing a tank mixing system that keeps water constantly moving is a preventative measure to address nitrification and helps alleviate the need for corrective steps after a nitrification event has already occurred. Proper mixing provides a uniform water quality in a tank and prevents water stagnation and stratification, giving less opportunity for bacterial activity. It allows for more consistent chloramine residual, less dissociation to create ammonia, and better final water quality to Cal Water customers.

Nitrification is a concern. In distribution systems, areas where water is stagnant or stratified (Dead Ends or Tanks with low turnover) Nitrification occurs through microbiological activity. Ammonia Oxidizing Bacteria (AOB) convert Ammonia (used for disinfection), to nitrite. Nitrifying bacteria convert nitrite to nitrate. In this process, disinfectant residual is consumed for microbiological activity. The potential for system bacteriological growth and public health risks increase, with less available disinfectant, and more microbiological activity. A distribution or tank nitrification event could result in a coliform positive at a compliance sampling point, which primarily impacts maintaining regulatory compliance with the Total Coliform Rule. Secondary concerns include advanced corrosion in customer piping systems causing non-compliance with the Lead and Copper Rule (AWWARF “Chloramine Effects on Distribution System Materials). Nitrite is an intermediate product of the nitrification process, and is converted to nitrate through mostly microbiological activity. Therefore it is also used as an indicator of the process. The DRA Response to Cal Water on proposed tank turnover projects cites that Nitrite levels do not reach the MCL of 1.0 mg/L, and the Chlorine residuals are not below the minimum requirement of 0.2 mg/L. Although these are compliance limits enforced by our primacy agency.
(California Department of Public Health – CDPH), the intent is for supply disinfectant residuals and Total Coliform Rule compliance respectively.

Nitrification Action Plans: CDPH has required Cal Water to develop nitrification control plans which identify nitrification-prone areas of chloraminated distribution systems. The letter where CDPH has acknowledged Cal Water’s nitrification control plan has been included. Once a nitrification event has been identified, measures must be taken immediately to control and cease the event. These measures are time-sensitive and can have a significant impact to operations. Absent of defined regulatory nitrification control limits, Cal Water has developed the required nitrification control plans by referencing Drinking Water Industry Standards as advised by the American Water Works Association (AWWA) and the respective guidance documents (Manual M56). As part of the nitrification control plan, the advised control and response levels of nitrite within system tanks and distribution system is 0.01mg/L and 0.015 mg/L respectively. For the purpose of the Cal Water specific plan and the need to define a clear range of field instrumentation, the response level is adjusted to 0.02 mg/L for Nitrite. Although 0.2 mg/L of chlorine residual does represent compliance for surface water supplies, the decline in chlorine concentration can be used to indicate 1) dissociation of chloramines (which creates free ammonia) and 2) bacteriological demand. These two factors along with stagnant or stratified water create the perfect setting for nitrification and a potential total coliform positive.

Tank Nitrification Impacts Operations: As part of the nitrification response for tanks, the nitrifying tank is isolated from the distribution system and break-over chloramines to free chlorine is practiced. This typically requires rigorous tank cycling, discharging thousands to millions of gallons of water to waste, and includes a high frequency of monitoring field nitrite and chlorine residuals to determine the endpoint of the nitrification event. Performing these corrective actions especially on larger tanks, can have a significant impact to operations. In some cases, the tank may need to be taken out of service for long periods of time, thus reducing water supply for fire flow and emergencies, and increasing maintenance since the cathodic protection system within the tank needs water to operate successfully. The root cause of nitrification is related to stagnant and stratified water. Stratification promotes uneven chloramine residuals and temperature variations. Introducing a tank mixing system that keeps water constantly moving is a preventative measure to address nitrification and helps alleviate the need for corrective steps after a nitrification event has already occurred. Proper mixing provides a uniform water quality in a tank and it prevents water stagnation and stratification, giving less opportunity for bacterial activity. It allows a more consistent chloramine residual, less dissociation to create ammonia, and better final water quality to Cal Water customers.
Cal Water recommends that the Commission approve this critical project to improve storage for emergency usages such as fire and earthquake. Cal Water contends that there is simply not enough storage in the San Carlos system of this district for emergency operations. Based on the Water Supply & Facilities Master Plan, the San Carlos system has total emergency storage deficit of 4.91 million gallons. The proposed storage tank at Station 115 would partially satisfy this deficiency. DRA contends that Zone 600 has storage surplus so there is no need for the additional storage. While Cal Water acknowledges that Zone 600 has a storage surplus, this tank at Station 115 will provide emergency storage for lower elevation customers for zones that do not have this important emergency storage.

The proposed tank would directly serve customers in Zones 550 and 715 during normal operations. During an emergency event when supply is limited, the proposed tank would provide emergency supply to customers in the lower zones via PRV valve by-passes. Specifically the proposed tank would mediate some of the emergency storage deficit in Zone 200 where 2.85 million gallon of storage is needed and Zone 300 where there is no existing storage tank.

DRA also contends that the proposed tank is not necessary because it is unlikely that fire and emergency incident with critical pipe break and power outage would occur at the same time. DRA believes that total storage deficit should be calculated based on using the maximum of fire or emergency reserve per an AWWA article “Determining Distribution Storage Needs”. The AWWA article actually recommended two methods to calculate the volume of required storage. The first method uses “the sum of the three types of storage.” The second method uses “the sum of equalization storage and whichever is the larger requirement: fire protection volume or emergency storage.”

Cal Water selected the first method because it determined that it would provide the most reliable service to customers during an emergency event such as an earthquake where it is likely that fires would occur at the same time as critical pipe breaks and power outages. The Bayshore district is located in the Cities of San Mateo, San Carlos, and South San Francisco which are close to the San Andreas and Hayward Faults.
During the Loma Prieta earthquake in 1989, San Francisco had 22 structural fires during the seven hours from the time the earthquake struck until midnight. San Francisco Water Department experienced 70 water main breaks, EBMUD identified 120 water pipeline breaks, and San Jose Water Company reported 55 pipe breaks. In an earthquake event, fire and water supply outage do occur at the same time. For the reasons described above, the proposed emergency storage tank at Station 115 is necessary for emergency preparedness and should be allowed.

**61132, 62953- Design & Construct 500,000 gal tanks at Stations 12 & 14 (Pg 7-33 Ln 12 & 20)**

Cal Water recommends that the Commission approve these critical projects to improve storage for emergency usages such as fire and earthquake. Cal Water contends that there is simply not enough storage in the South San Francisco system of this district for emergency operations.

Based on the Water Supply & Facilities Master Plan, the South San Francisco system has total emergency storage deficit of 8.76 million gallons. The proposed storage tanks at Stations 12 and 14 would partially satisfy this deficiency. DRA contends that Zone 555, where the proposed tank at Station 12 would be constructed, has storage surplus of 0.10 million gallons so there is no need for the additional storage. While Cal Water acknowledges that Zone 555 has a storage surplus, these tanks will provide emergency storage for lower elevation customers for zones that do not have this important emergency storage.

The proposed tanks at Station 12 and 14 are for storage deficiencies in the lower zones. Since South San Francisco is primarily built out, there are limited locations to build tanks in this area. During an emergency event when supply is limited, the proposed tank would provide emergency supply to customers in the lower zones via PRV valve by-passes. Specifically the proposed tanks would mediate emergency storage deficits in Zones 360 and 265 where 0.56 and 0.83 million gallon of storage are needed.

DRA also contends that the proposed tank at Station 14 is not necessary because it is unlikely that fire and emergency incident with critical pipe break and power outage would occur at the same time. DRA believes that total storage deficit should be calculated based on using the maximum of fire or emergency reserve per an AWWA article “Determining Distribution Storage Needs”. The AWWA article actually recommended two methods to calculate the volume of required storage. First method is using “the sum of the three types of storage”. The
second method is using “the sum of equalization storage and whichever is the larger
requirement: fire protection volume or emergency storage”.

Cal Water selected the first method because it determined that it would provide the most
reliable service to customers during an emergency event such as an earthquake where it is
likely that fires would occur at the same time as critical pipe break or power outage. The
Bayshore district is located in the Cities of San Mateo, San Carlos, and South San Francisco
which are close to the San Andreas and Hayward Faults.

During the Loma Prieta earthquake in 1989, San Francisco had 22 structural fires during
the seven hours from the time the earthquake struck until midnight. San Francisco Water
Department experienced 70 water main breaks, EBMUD identified 120 water pipeline breaks,
and San Jose Water Company reported 55 pipe breaks. In an earthquake event, fire and water
supply outage could occur at the same time. For the reasons described above, the proposed
emergency storage tanks at Station 12 and 14 is necessary for emergency preparedness and
should be allowed.

61318- Drill, Develop, & Equip Well at Station 1-24 (Pg 7-37 Ln 13)
Cal Water requests that the Commission approve this project. Construction of Well
Station 1-24 will benefit South San Francisco customers because it will improve system
reliability and improve local groundwater supply for the system. It will also provide an additional
source of supply to supplement water from SFPUC and will serve as a reliable source of supply
for emergency events such as earthquakes and other supply outages. Finally it is a more cost
effective alternative for customers as compared to purchasing water from SFPUC.

DRA contends that the scenario of only one SFPUC turnout being available for South
San Francisco is highly unlikely. The South San Francisco system is primarily supplied by three
main SFPUC transmission pipelines. During a major earthquake, a break in the transmission
pipeline could result in major disruptions in SFPUC supply. During the Loma Prieta Earthquake
in 1989, the San Francisco Water Department experienced about 70 water main breaks.
EBMUD identified 120 water pipeline breaks. Some of the significant damage included a break
in a 60-inch water pipeline. Santa Clara Water District experienced substantial damage to its
water filtration plant that required units to be out of service for three to four months. Having
additional source of supply such as local, groundwater wells provide a more reliable source of
supply for customers during these emergency events.

DRA also contends that Cal Water would spend more money over the next 30 years
treating well water than purchasing water from SFPUC. This statement is incorrect. DRA
based this statement on a cost and benefit analysis performed for the proposed well in San Mateo. The expected flow rate for the proposed well at Station 1-24 in South San Francisco is approximately 250 gpm. The correct cost and benefit analysis for Well Station 1-24 is shown in Attachment A. Using a 30 year analysis, net present worth of purchasing water from SFPUC is approximately $21.5 million compared to $4.3 million for treating groundwater well. There is significant cost benefit to treating groundwater well compared to purchasing water from SFPUC, in addition to improved system reliability. Because of these reasons, Project 61318 should not be disallowed.

Attachment A- BAY_61318_Attach 1_Cost Benefit Analysis Sta 1-24.pdf

61596- Fe/Mn Facility Expansion at SSF Station 1 (Pg 7-30 Ln 15)

Cal Water requests Commission approval for this project. This project should be allowed because a minimum sized expansion of the existing treatment facility is needed for the additional well supply for the system. This is the lowest cost of service alternative for Cal Water customers.

DRA contends that the expanded treatment facility would be able to treat a maximum capacity of 2,500 gpm, which is 1,000 gpm more than Cal Water is expecting to treat and recommends disallowance. While DRA's logic has some validity, the reality of this situation is that any expansion of the treatment facility includes construction of a second filtration vessel. This filtration vessel should be the same size as the existing vessel for operational and system hydraulic purposes. Installing the second vessel with similar sizing as that of the existing vessel does increase the maximum instantaneous capacity of the treatment facility to 2,500 gpm. However it is not reasonable or practical to install a second filtration vessel that produces only a fraction of the flow of the existing one as this would negatively impact system hydraulics and operations when both vessels are in operation.

As noted on the Department of Public Health (DPH) Permit (see attachment A) the total maximum flow through the iron and manganese treatment facility at SSF Station 1 is limited to 1,150 gpm. The DPH permit also states that flow cannot by-pass the treatment facility at any time. An additional benefit of sizing the second treatment train to match the existing treatment train is that it provides operational reliability, should the first train experience mechanical issues or require maintenance. Flow could be switched to the second train and this would allow continuous operations. This type of sequencing allows for more consistent operations of the treatment plant and results in a superior blending configuration of the water within the distribution system.
DRA also disagrees with the need for proposed Well 1-24 under PID 61318. DRA contends that Cal Water would spend more the next 30 years treating well water than purchasing water from SFPUC. This statement is incorrect. DRA based this statement on a cost and benefit analysis performed for the proposed well in San Mateo. The expected flowrate for the proposed well Station 1-24 in South San Francisco is approximately 250 gpm. The correct cost and benefit analysis for Well Station 1-24 is shown in Attachment C. A 30 year analysis, net present worth of purchasing water from SFPUC is approximately $21.5 million compared to $4.3 million for treating groundwater well. There is significant cost benefit to treating groundwater well compared to purchasing water from SFPUC, in addition to improved system reliability. Expansion of the existing treatment plant is necessary because with the additional supply at Well Stations 1-23 and 1-24, total well station capacity would exceed the maximum capacity of the treatment facility.

61972, 61336- Purchase land and construct well in San Mateo (Pg 7-35 Ln 22)

Cal Water recommends that Commission to approve these two projects to initiate development of a groundwater supply in the San Mateo system.

The project will improve system reliability by providing an additional, local source of supply. The project will also provide a limited supply during SFPUC shutdowns and emergencies. It will provide additional supply during drought and reduce drought cutback amounts. It will help offset expensive and limited SFPUC water supply.

DRA contends that the cost estimate for the land purchase is unreasonable and too low. They disagreed with the average cost of $65/square ft. The unit cost used to estimate the purchase cost of the well lot is based on an analysis performed by a professional realtor. The realtor compared sales in the San Mateo area and determined that for single and multifamily homes sale values range from $50-$65/sq. ft. For strictly industrial use, sale values range from $40-$50/sq. ft. For highly desirable, commercial retail use, sale value range from $100-$120/sq. ft. The proposed well will be located at a residential/industrial site so a unit cost of $65/sq-ft or $650,000 is a reasonable estimate for property purchase in this area.

DRA also contends that the Cost/Benefit analysis shows water from the well with a treatment facility is more expensive than purchasing water from SFPUC. DRA stated that, “On the District tour, Cal Water staff mentioned that “water from most, if not all wells on the peninsula require some sort of treatment before entering the distribution system.” That may be
accurate for wells in South San Francisco where treatment facilities are already in-place. With
the expected lower well capacity in San Mateo, treatment, if any, would most likely be simple
blending with SFPUC which would not require complex treatment. There is no water treatment
facility proposed for the San Mateo well at this time. A well without treatment would have net
present value of $ 5.4 million compared to net present value of $ 6.0 million for purchased water
based on the Cost-Benefit Analysis (See Attachment A).

Attachment A- BAY_61972 & 61336_Attach 1_SM Well cost impact.pdf

62096, 62332, & 62852- Hydrant Replacements at various locations. (Pg 7-19 Ln 12)
Cal Water recommends that the Commission approve these projects for the original
estimated costs. DRA contends that these particular projects use a higher dollar cost estimate
for each hydrant than are used in other projects in this same district. This is an overly simplistic
approach in that these are individual hydrant projects, each of which have their own costs
depending on location. Work must be performed to cut existing pipe, install flexible couplings
and a tee to connect to existing mains. Therefore, by nature, these project unit costs are more
expensive than main line installations, where hydrants tees are simply installed as part of the
main line project.

62797, 62972, and 63063- Panelboard Replacements (Pg 7-27 Ln 14)
Cal Water agrees with DRA recommendations to decrease these project budgets to
$142,107.

62832-8” PVC 31st Ave (Pg 7-20 Ln 5)
Cal Water recommends that the Commission approve this project. DRA contends that
the request to replace this section of pipe is not justified because similar to project 20582 there
has only been 2 recorded leaks. Actually, this section of pipe has had 9 leaks from 1969-2011
(see attachment). DRA also contends that according to GO 103-A, “the utility shall not be
responsible for modifying or replacing at its expense any existing facilities, which are otherwise
adequate, in order to provide increased fire flow or duration due to changes in standards after
the initial construction”. This statement is from a section titled “Changes in The Fire Code.” The
replacement of this section of pipe is not based on change in the fire code. The replacement is
based on change in the physical characteristic of the pipe that reduced its flow capacity.
This project is composed of replacing approximately 2,400 feet of 6 inch cast iron main with 2,400 feet of 8" PVC. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment B- BAY_62832_Attach 2_Leak History.pdf

62872-8" PVC Seville, Avila & Maple (Pg 7-20 Ln 5)

Cal Water recommends that the Commission approve this project. DRA contends that the request to replace this section of pipe is not justified because similar to project 20582 there has only been 2 recorded leaks. Actually, this section of pipe has had 8 leaks. DRA also contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code”. The replacement of this section of pipe is not based on change in the fire code. The replacement is based on change in the physical characteristic of the pipe that reduced its flow capacity.

This project is composed of replacing approximately 3,100 feet of 6 inch cast iron main with 3,100 feet of 8" PVC. The attachment shows a 4" CI Main that is representative of the tuberculation currently present in the main.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_20537_Attach1_Picture1.JPG

62996- Replace Pump and Motor: station 107-B

DRA noted the poor efficiency of this pump, but recommended disallowance of this project because of low savings. Cal Water recommends including this project in this case. Due to age, low efficiency, and reliability Station 107-B is not the lead pump at station 107. The lead pump is 107-C. Thus the current run hours and therefore the savings for 107-B are low. Cal Water intends on making 107-B, the lead pump and the run hours will be split between 107-B and 107-C with 107-B having a bit more run hours. This will increase the run hours for 107-B to roughly 2000 hrs/yr. With an increase on run hours for 107-B, Cal Water will realize a savings of roughly $6,500/yr. Cal Water asks that this project not be disallowed or adjusted because of the opportunity for savings in energy cost.
63040-6” PVC North Delaware & State (Pg 7-20 Ln 5)

Cal Water recommends that the Commission approve this project. DRA contends that the request to replace this section of pipe is not justified because similar to project 20582 there has only been 2 recorded leaks. Actually, this section of pipe has had 5 leaks between 1993 & 2012 (see attachment). DRA also contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code”. The replacement of this section of pipe is not based on change in the fire code. The replacement is based on change in the physical characteristic of the pipe that reduced its flow capacity.

This project is composed of installing 1,200 feet of 6 inch PVC main to replace 4” steel and 6” cast iron pipes. The attachment shows a 4” CI main that is representative of the tuberculation currently present in the main. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_20537_Attach1_Picture1.JPG
Attachment B- BAY_63040_Attachment2_Leak History.pdf

63044-6” PVC Chukker (Pg 7-20 Ln 6)

Cal Water recommends that the Commission approve this project. DRA contends that the request to replace this section of pipe is not justified because similar to project 20582 there has only been 2 recorded leaks. Actually, this section of pipe has had 3 leaks between 1994-2010 (see attachment). DRA also contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code.” The replacement of this section of pipe is not based on change in the fire code.

The replacement is based on change in the physical characteristic of the pipe that reduced its flow capacity. This project is composed of installing 300 feet of 6 inch PVC main to replace 2” cast iron. The attachment shows a 4” CI main that is representative of the tuberculation currently present in the main. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_20537_Attach1_Picture1.JPG
Attachment B- BAY_63044_attachment 2_Leak History.pdf
63047- 6” PVC Cowgill Alley (Pg 7-20 Ln 6)

Cal Water recommends that the Commission approve this project. DRA contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code.” The replacement of this section of pipe is not based on change in the fire code. The replacement is based on change in the physical characteristic of the pipe that reduced its flow capacity.

This project is composed of replacing approximately 1,340 feet of 4 inch cast iron main with 1,340 feet of 8” PVC. The attachment shows a 4” CI main that is representative of the tuberculation currently present in the main. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_63047_Attach 1_Leak History.pdf
Attachment A- BAY_20537_Attach1_Picture1.JPG

63066- 6” PVC 40th & Fairbanks (Pg 7-20 Ln 6)

Cal Water recommends that the Commission approve this project. DRA contends that the request to replace this section of pipe is not justified because similar to project 20582 there has only been 2 recorded leaks. Actually, this section of pipe has had 3 leaks between 1984 & 2011 (see attachment). DRA also contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code.” The replacement of this section of pipe is not based on change in the fire code. The replacement is based on change in the physical characteristic of the pipe that reduced its flow capacity.

This project is composed of replacing approximately 900 feet of 2 inch cast iron main with 900 feet of 6” PVC. The attachment shows a 4” CI Main that is representative of the tuberculation currently present in the main. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_20537_Attach1_Picture1.JPG
Attachment B- BAY_63033_Attachment 2_Leak History.pdf
63134- MPS – 106 Panelboard Replacement & Genset (Pg 7-27 Ln 14)

DRA’s report recommends approving the project but at a lower amount. DRA found a similar size generator on a website and assumed that the generator shown in the advertisement would be suitable for the application at station 106. The 80KW GENERAC Standby Generator proposed by DRA will not work for the Cal Water application for these reasons:

The proposed unit is a single phase unit, the electrical system at the Cal Water facility requires 3 phase. The fuel type of natural gas is not suitable as an emergency source as it is dependent on the natural gas supply from the utility company. California EPA Emission Regulation requires Tier 3 or higher, the proposed unit does not have a rating associated with it. The specification for DRA’s proposed generator clearly states that the unit is “Not for sale in CA,” see attachment 1. Cal Water is standing by the original estimate in the amount of $212,479. Supporting document (PO#40346 and invoice#002-9596) for the proposed Generator and automatic transfer switch is attached. The PO is from 2007 and is for $36,784. When factoring in 5 years of price escalation at 3% per year, the $42,000 estimate for the generator and ATS reflects the real expected costs for the equipment. The project should be approved in rates at the Cal Water estimated amount of $212,749.

63192-6” DI Hillcrest & Valley (Pg 7-20 Ln 6)

Cal Water recommends that the Commission approve this project. DRA contends that the request to replace this section of pipe is not justified because similar to project 20582 there has only been 2 recorded leaks. Actually, this section of pipe has had 6 leaks between 1971-2011 (see attachment). DRA also contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code.” The replacement of this section of pipe is not based on change in the fire code. The replacement is based on change in the physical characteristic of the pipe that reduced its flow capacity.

This project is composed of replacing approximately 500 feet of 4 inch cast iron main with 500 feet of 6” ductile iron main. Also it will replace 1,400 feet of cast iron main with 1,400 feet of 6” ductile iron main. The attachment shows a 4” CI Main that is representative of the tuberculation currently present in the main. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.
63258-6in PVC 42nd Ave (Pg 7-20 Ln 6)
Cal Water maintains its need for this project. DRA contends that the request to replace
this section of pipe is not justified because similar to project 20582 there has only been 2
recorded leaks. Actually, this section of pipe has had 9 leaks between 1992-2012 (see
attachment). DRA also contends that according to GO 103-A, “the utility shall not be
responsible for modifying or replacing at its expense any existing facilities, which are otherwise
adequate, in order to provide increased fire flow or duration due to changes in standards after
the initial construction”. This statement is from a section titled “Changes in The Fire Code”.
The replacement of this section of pipe is not based on change in the fire code. The
replacement is based on change in the physical characteristic of the pipe that reduced its flow
capacity.
This project is composed of replacing approximately 2,000 feet of 4 inch cast iron main
with 2,000 feet of 6" PVC. The attachment shows a 4" CI Main that is representative of the
tuberculation currently present in the main. Regarding Conditional Based Assessment (CBA) or
lack of leaks on pipelines, please see Global Rebuttal section.

63397- New Operations/Customer Center (Pg 7-41 Ln 9)
DRA recommends that Cal Water file a separate application for the new operations /
customer center project after Cal Water obtains bids, so that the Commission can better
evaluate the scope and costs of this project.
Cal Water requests that the Commission allow this project in this case based upon the
clear need to replace an obsolete facility in poor condition, which is not seismically stable, has
an inadequate electrical system, contains hazardous materials, and experiences major drainage
issues. Cal Water did an outstanding job of detailing, analyzing, planning, and designing the
improvements. Waiting for a separate application will cause cost increases that are
unnecessary. Cal Water understands the project and the costs. DRA acknowledges the
significant issues with this site, but simply recommends pushing the project down the road. This
is not a prudent recommendation.
This project was planned very carefully and Cal Water scheduled this project to meet the
time lines for the current rate case. Cal Water was prudent with its project justification and
followed the Rate Case Plan. Cal Water also balanced the infrastructure needs in this district to
ensure that this project would not drive a huge rate increase. The schedule is attached and
shows how Cal Water advanced the project plan and time table for the various tasks. Cal Water
is certain of the costs and timing of this project.

Since filing the GRC in July, Cal Water has made additional and significant
achievements to move this project forward. For example, Cal Water just received a 5-0
approval from the City of San Mateo Planning Commission for this project. This project meets
the City’s needs for a community project, and has all of the characteristics that are essential to
achieve a high LEED rating. This approval process took 10 months and started with a
presentation before the local neighborhood association, extensive City underwriting and peer
reviews, changes to the project requested by the various City departments, and ultimately the
unanimous vote of the Planning Commission. The City is very supportive of the project and Cal
Water. The process (shown on the attached Bar Chart) started much earlier than 10 months
ago with the design and depiction of the building and site needs, extensive internal space
planning, an extensive review of alternative courses of action, extensive review of the project
with qualified contractors to include pricing strategies and suggested value engineering
changes, reports by various qualified and certified entities regarding soils, structural,
environmental, site drainage and storm water runoff engineering, and historical and landscape
issues. After submission to the City additional studies to include traffic, public safety, lighting,
landscape, tree removal, and archeological issues were conducted. Cal Water incorporated all
needed changes to the project and upon approval has a project that is ready to start.

DRA points out that the company did not consider the sale of the land, which the district
currently operates. DRA made the comment that Cal Water could sell the existing site and thus
reduces the cost of the project by building someplace else. Land on the San Francisco
Peninsula, particularly in the Bayshore District, sells for approximately $50 per square foot if you
can find it. This equates to about $2,000,000 an acre. Assuming Cal Water could sell its
current site for that price per acre, Cal Water would have to find a comparable site and
purchase it for a comparable price. The current site is ideally located to service the market.
Another site may not be as well located, particularly if Cal Water is simply trading sites for the
same dollars. No appreciable savings would result. Cal Water needs yard space in addition to
parking. Cal Water needs to store oversize pipe and other materials in order to carry out its
mission. This calls for a site that can accommodate both a building of adequate size as well as
a yard that works for the company parking and storage needs. Cal Water looked extensively in
the market area for vacant land or acceptable land with a tear down on it. Neither kind of site
was located by CB Richard Ellis. The current site, owned by the company is the right location to
service the market, allow for emergency services, and interact with the community. Further, in
order to sell the existing site, Cal Water would have to declare this site, “no longer, necessary or
useful in the performance of the water corporation’s duties to the public.” 22 Since this district
has an overall storage deficiency and it is possible to utilize this site for a storage tank and
booster station, Cal Water cannot make this declaration. This would in-turn lead to a higher
cost for this project as there would not be an offsetting property sale to reduce the impact of
purchasing additional property.

It would be a mistake to push this project to another rate case or to stop the momentum
for a separate application. Cal Water has interviewed and received proposals from all of the
necessary participants in the design process and will be able to start as soon as possible.
Waiting would stall the approval process and likely cause escalations in costs. The real estate
markets are beginning to pick up and with that will come cost escalations. Additionally there are
a number of other things that need to be coordinated in order for the company to continue its
service during the demolition and construction process.

Cal Water has included letters from the contractors to show the process they went
through to price the design. This was completed with Cal Water input and discussions of
various aspects of the building. These are experienced contractors and their ability to price a
project preliminarily is quite good. They do this all the time. Like Cal Water, they are concerned
that slowing the process will certainly accelerate costs as the market gets more competitive.
We need to call attention to the fact that the price of this building is very comparable to buildings
of a like size and nature. At approximately $325 per square foot this building can be built as
designed. Including the site cost, soft costs, and permits, the price for the project is
approximately $560 per square foot of building, which is very competitive and adequate to
complete this building on budget. Waiting for more review will do nothing but increase costs.
The budgets that were prepared were done so with great care and knowledge of both the
building shell and the tenant improvements. Cal Water took care and significant time to plan the
space needs. Cal Water spent detailed time on storage needs, customer service stations, filing
needs, operational controls, employee and departmental interaction, and work flows to come to
very exacting costs. These budgets were not generic or pulled from some shelf. Cal Water
took great efforts to accurately be able to present the project to the CPUC and the City with

22 California Public Utilities Code, Section 790(a).
certainty about what was being produced. Contractors had numerous suggestions on pricing strategies, schedules, and value engineering suggestions which were taken into account in the budgets set forth in the reports, which should not be regarded lightly or regarded as educated guesses. It is also important to note that budgets had input from the structural engineers as well as the MEP engineers.

It is important to move from the current building as soon as possible. The building continues to deteriorate and is unsafe in a seismic event. In addition to a concern for the safety of Cal Water's employees, Cal Water provides a life sustaining and public safety service that customers assume and expect will always be available. This operations / customer center is at the heart of the effort to dispatch field repair crews in order to expedite restoration of water service to customers during and following emergencies.

The CPUC should allow this project in this rate case.

63402- Office furniture for New Operations/Customer Center

DRA recommends disallowance of this project. Cal Water requests that the Commission approve this project. This furniture purchase is linked to the previous project for the new operations/customer center. The new office furniture for the New Operations/Customer Center, the cashier's security workstations, and employee workstations will be designed to Cal Water standards. The existing furniture is old, in disrepair, and it does not meet Cal Water ergonomic standards.

63652- 12in PVC Delmonte & Del Paso (Pg 7-20 Ln 6)

Cal Water maintains its need for this project. DRA contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code”. The replacement of this section of pipe is not based on change in the fire code. The replacement is based on change in the physical characteristic of the pipe that
reduced its flow capacity. This project is required in order to move water from the 360 zone to
the 330 zone in the event of an emergency. Project construction is estimated to begin in April of
2013 and be completed by June of 2013. Work will be performed by Cal Water’s contractor
under a general contract agreement. Pipeline projects smaller than 12” diameter are typically
not bid out individually and are installed under a general contract agreement, which is bid out
every 3-5 years. Please reference similar project# 17489 that was completed in 2011. The cost
per foot for #17489 was $246.00. Our estimated cost for this project reflects a substantial
increase in paving costs which we are anticipating. The attachment shows a 4” CI Main that is
representative of the tuberculation currently present in the main. Regarding Conditional Based
Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_20537_Attach1_Picture1.JPG
Attachment B- BAY_63652_Attachment 2_Leak History.pdf

63732, 64672, 64733, 65369 – Pipeline replacements various locations
(Pg 7-20 Ln 6)

Cal Water requests that the Commission approve pipeline replacement projects because
of the seriously degraded internal condition of these pipes, which has been verified by extensive
flow test calculations. The specific replacement of the existing 8” cast iron main in Washington
Street under Projects 63732, 64672, and 64733 and the 6” cast iron main in Humboldt, College,
and Idaho are necessary and should be allowed because the flow in these pipelines has been
severely compromised due to accumulated tuberculation over past 50 years.

DRA contends that tuberculation “occurs when small mounds of corrosion products
accumulate on the inside of a pipe”. Cal Water disagrees with this oversimplified
characterization. Depending on local conditions, tuberculation could be more than “small
mounds of corrosion products.” Tuberculation is defined in the AWWA Distribution
Infrastructure Management: Answers to Common Question as “an encrustation of corrosion
products and mineral deposits that forms on the inside of a pipe.” The article goes on to say, “It
obviously affects the carrying capacity of the pipe, but it also affects water quality.
Tuberculation reduces fire flow capacity, increases pumping cost, and leads to chlorine
depletion, water discoloration, and taste and odor problems.” The attached photo of a section of
pipeline from one of the Bayshore district’s distribution systems clearly illustrates that
tuberculation can significantly reduce the internal diameter and thus the carrying capacity of a
pipe.
DRA further states that they disagree with Cal Water’s assessment of the condition of the pipelines because “experimental errors could arise.” DRA contends that the Darcy Weisbach equation should have been used to calculate the restriction in the pipelines instead of the Hazen-Williams equation. DRA claims that this is because the Hazen-Williams equation is limited in its application because it assumes water remains a constant temperature, flow is fully turbulent, and C-values remain constant with increasing Reynolds number.

Cal Water contends that the unidirectional flow testing regimen and the Hazen-Williams equation were the appropriate, prudent, and valid procedure and equation to use to assess the pipelines condition. The test results confirmed that these identified cast iron pipelines are severely tuberculated and in urgent need of replacement.

Unidirectional flow testing, which employs the use of pressure recorders to gather pressure loss data along the length of a pipeline, is commonly used by water utilities to calibrate distribution system hydraulic models. Specifically the tests are conducted to determine representative “C-values” for each unique pipe in the model. DRA’s assertion that experimental errors skewed the results of the flow test is unfounded and speculative. The unidirectional flow tests were performed with calibrated equipment. The pressure recorders utilized are returned to the manufacturer on a routine basis to ensure their accuracy. In addition, prior to each flow test, pressure readings measured at a nearby service connection are compared to the pressure recorder reading located at a hydrant as a check that the test results are representative of actual field conditions. The pressure recorders are configured to collect six (6) data points every second during the test period. Resolution and accuracy of the recorders per the manufacturer’s specification sheet is 0.025% of full scale. This equates to an instrumentation error of only 0.05 pound per square inch. Please see the attached Telog Overview and Details.

The Hazen-Williams equation is an empirical formula that was developed in 1905 from extensive review of real pipe installations from all over the world. It has been widely accepted and used by engineers in the water industry for more than 100 years to design and analyze pressurized water pipelines. A position paper presented at an ASCE National Meeting in 1968 entitled Flow of Water in Pipeline by A.M. Friend (1968) compared friction losses calculated by the Hazen-Williams, Darcy-Weisbach, Manning, and Scobey Equations and concluded “the calculated losses in a 12” pipe vary within six (6) percent at a flow of five (5) feet per second on the above criteria and about four (4) per cent for the same velocity of flow in the 24-inch pipe.” The article summary states, “The Hazen-Williams formula is satisfactory for hydraulic calculations of losses in the flow of water in pipes with proper attention to the value of the roughness coefficient within the limits of accuracy of all the factors involved.”
DRA’s indication that use of Hazen Williams was inappropriate because it was only valid in situations where flow was turbulent and at a constant temperature is unfounded. This contention implies that the flow rate experienced during the tests was not turbulent. The attachment entitled BAY_63732_64672_64733_Attachment #3_Reynolds Num.pdf indicates that for the test flow rate of 700 gpm, regardless of temperature and pipe roughness, the Reynolds’s numbers are clearly within the turbulent portion of the Moody diagram. Furthermore, Reynolds’s numbers, particularly for the 50-70 degree temperature range of water in public systems, fall within a very narrow range. As such, friction factors, regardless of pipe roughness, will be essentially constant similar to Hazen-William’s C-factor.

Therefore, whether one uses Darcy-Weisbach or Hazen Williams, the assessment’s purpose is to determine whether a significant reduction in hydraulic capacity of the pipeline has occurred. Cal Water’s assessment has demonstrated that and Cal Water strongly contends that this project should be allowed in this case.

Cal Water maintains its original position regarding this project. Based on a storage requirement analysis in the Master Plan, San Mateo system has a total storage deficit of 10.33 million gallons (MG). The majority of the storage deficit is located in pressure zones 145, 270, 275 and 345 where the current storage deficit is 8.44 MG. Replacement of the Crystal Springs reservoir would provide an additional 2.4 MG of storage at Station 6.

This project is necessary because it would partially satisfy the storage deficit in pressure zones 145, 270, 275, and 345. The new tanks would provide an additional source of reliable supply for operation needs and for emergency events, including planned and unplanned supply and power outages.

Due to the high price of land in this area, limited property size, and community resistance to new tanks replacing out of service tanks with new tanks on existing properties has
become a preferred alternative. The proposed replacement of the existing tank at Station 6 is a buried concrete tank so it is believed that there will be minimal City and community resistance to replacing this tank.

DRA stated that they reviewed the preliminary design by Waterworks Engineers and approves it. However they disagreed with the construction cost estimate because it is based on the preliminary design. Waterworks Engineers performed a comprehensive and detailed engineer’s cost estimate based on DRA approved preliminary design. They evaluated every aspect of the project from site work, equipment, piping and valves, structural, and electrical work and developed a representative construction cost for the project.

Because of the reasons stated above, the replacement of Station 6 tanks should not be deferred until the next GRC filing, but rather allowed in this GRC.

63838-6in & 8in PVC Eaton, W 3rd & Parrott

Cal Water maintains its need for this project. DRA contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code”. The replacement of this section of pipe is not based on change in the fire code. The replacement is based on change in the physical characteristic of the pipe that reduced its flow capacity. This project is composed of replacing approximately 1,600 feet of 4 inch cast iron main with 400 feet of 8” PVC and 1,200 feet of 6” PVC. The attachment shows a 4” CI Main that is representative of the tuberculation currently present in the main. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_20537_Attach1_Picture1.JPG
Attachment B- BAY_63838_Attachment 2_Leak History.pdf

64153- Install control valve for Station 33 Tanks (Borel) (Pg 7-29 Ln 18)

Cal Water maintains its original position regarding this project. DRA disallowed PID 64153 because they said “nitrification occurs as a result of thermal stratification, which occurs less frequently in the winter time”. Nitrification occurs due to thermal stratification during the summer time but it can also occur during the winter time. For the Station 33 tanks, winter time is the real issue when water usage is low and the tanks are stagnant and do not turnover frequently.
The control valve being proposed in this project would allow us to limit the supply coming from a SFPUC turnout so the majority of supply to the Zone would come from the Station 33 Tanks, turning them over more frequently.

64769, 64789- Install 4 PRV Bypasses in SC and SM (Pg 7-30 Ln 1)

Cal Water maintains its original position regarding this project. Installations of the PRV bypasses are necessary because they would enhance supply reliability and allow an alternate pathway of water to supply zones during supply outages and emergencies.

DRA disagrees with the Water Supply and Facilities Master Plan assumption that only one SFPUC turnout is in operation. Although San Carlos system has three turnouts, they are in only two separate locations. Although San Mateo has five turnouts, they are in only three separate locations. In addition, these turnouts are supplied from SFPUC’s common transmission lines, so in the event of an earthquake and water line break there is the possibility that only one turnout could be in operation, if any, depending on the severity of the damage. DRA also contends that both systems have adequate PRV capacity for both existing and build out peak hour demands. The PRV Evaluation in the WS&FMP is based on PRV capacities and zone demand during normal operating conditions. The PRV by-passes proposed in these two projects are based on the Reliability Analysis that evaluated alternate pathways of water to supply zones during supply outages and emergencies.

For example in San Carlos, Cal Water has currently scheduled an outage of two SFPUC turnouts in Cordilleras Rd to repair and replace a 14” broken gate valve on a transmission line feeding the East side of SC. This turnout is currently the only source of supply for Zones 200, 300, 345, 240,400, 435, 490, 560, 585 and 635. During this outage, there will be only one SFPUC turnout available to supply water to the entire San Carlos System. Without the proposed improvements in place, the existing system is not capable of providing water from this available SFPUC turnout to the affected zones. Because of the reasons mentioned above, Projects 64769 and 64789 should not be disallowed.

64829 and 66269- Field – Skip Loaders

Cal Water requested and DRA recommended allowing a project for two operations center skip loaders in the 2013 budget (one based in San Mateo and one based in South San Francisco). These requests were for $50,000 and $43,777 respectively. Cal water is seeking to increase these funding projects to $75,600 for each skip loader based on updated information. Cal Water now believes sweeper attachments would be beneficial as the cities in the Bayshore...
District have adopted new required BMP’s (best management practices). The sweeper
attachment would provide a more thorough and timely clean up after pipeline leaks. Please see
attached quote and cost breakdown. Additionally, the original cost estimate is 3 years old now
and equipment costs have increased due to inflation. Cal water currently uses its forklift bucket
attachments to load leak trucks and 10 wheel trucks. The attachment bucket is over 20 years
old and this type set up using the fork lift as a loader is inefficient.

Attachment- BAY_66269_Attach1-QUOTE.pdf
Attachment- BAY_66269_Attach2-Costbreakdown.pdf
Attachment- BAY_64829_Attach1-Costbreakdown.pdf
Attachment- BAY_64829_Attach2-QUOTE.pdf

65376-6in PVC Brairwood, Sherwood Ravenwood (Pg 7-20 Ln 7)

Cal Water maintains its need for this project. DRA contends that according to GO 103-A,
"the utility shall not be responsible for modifying or replacing at its expense any existing
facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to
changes in standards after the initial construction". This statement is from a section titled
"Changes in The Fire Code". The replacement of this section of pipe is not based on change in
the fire code. The replacement is based on change in the physical characteristic of the pipe that
reduced its flow capacity. This project is composed of replacing approximately 2,600 feet of 4"
inch cast iron main with 2,600 feet of 6" PVC main. The attachment shows a 4" CI Main that is
representative of the tuberculation currently present in the main. Regarding Conditional Based
Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_20537_Attach1_Picture1.JPG

66831- Install 5 SCADA RTUs
Refer to global rebuttal on SCADA RTUs

66832- Install 3 SCADA RTUs in South San Francisco
Refer to global rebuttal regarding SCADA RTUs

66892- Install Well Level Transducers
Refer to global rebuttal on well level transducer projects
67042- Install 8 flow meters in SSF
Refer to global rebuttal regarding flow meter projects

67073- Replace Data Acquisition Radio System for SCADA
DRA discusses SCADA generally then observes: However, although Cal Water has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers. In fact, if there were no SCADA system the Bayshore district would have to add twelve pump operators to maintain the same level of customer service. The remainder of the DRA discussion is unrelated to this radio replacement project.
The data acquisition radio system is a critical component for the SCADA system and has been providing tangible benefits for the rate payers for the last 10 years. This project will replace the outdated radio equipment, allowing Cal Water to improve the existing SCADA communications system and continue to contain growth in operating costs. Project 67073 should be approved in rates for the amount of $73,716.

67132- Install HOA Switch Position detectors at SCADA RTUs
DRA discusses SCADA generally then observes: However, although Cal Water has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers. In fact, if there were no SCADA system the company would have to add eighty-eight pump operators to maintain the same level of customer service. DRA’s report mentions a pilot project for Marysville that would take 51 years to return the investment in that project. DRA is mistaking a pilot project authorized in Mid-Peninsula with a savings calculated for Marysville and has used this as a basis for recommending disallowance for all SCADA projects.
The HOA upgrade is an important component for the SCADA system that has been providing tangible benefits for the rate payers. The purpose of the project is to monitor the current state of the electrical controls for each pump to determine its capability of running automatically. By monitoring the state of each pump’s controls, Cal Water will make more efficient use of its operations staff and have a more predictable control system which will continue to contain the increase in the cost of operations and improve the reliability of the SCADA system.

67294- Install Pressure Transducers
Refer to global rebuttal on pressure transducer projects
67452- Install power meters at stations in SSF
Refer to global rebuttal on power meters.

75053-6 PVC Fay, Willow Glen (Pg 7-20 Ln 7)
Cal Water maintains its need for this project. DRA contends that according to GO 103-A, “the utility shall not be responsible for modifying or replacing at its expense any existing facilities, which are otherwise adequate, in order to provide increased fire flow or duration due to changes in standards after the initial construction”. This statement is from a section titled “Changes in The Fire Code”. The replacement of this section of pipe is not based on change in the fire code. The replacement is based on change in the physical characteristic of the pipe that reduced its flow capacity. This project is composed of replacing approximately 800 feet of 2 inch cast iron main and 300’ of 4” cast iron main with 800 feet of 6” PVC. The attachment shows a 4” CI Main that is representative of the tuberculation currently present in the main. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment A- BAY_20537_Attach1_Picture1.JPG

4 Vehicles for new employees- Vehicles (4) - New Vehicle & Accessories
Cal Watet maintains its original position. A new vehicle is requested for new employees, Distribution superintendent, Inspector, Foreman Hydrant-Maint. and Utility Worker. The CPUC should reconsider the DRA’s recommendation to disallow the project.

SMD0900, SSF0900- METER REPLACEMENT PROGRAM
Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $728,000, $654,900 and $674,600 for years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements was $389,404, and was not contested by DRA. For Bayshore, DRA recommends a reduced budget of $303,680, $312,791 and $322,175 for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:
PUC General Order 103-A mandates meters be tested or replaced based on age. It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water's response to DR PR-004. Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8&quot;</td>
<td>20</td>
</tr>
<tr>
<td>1&quot;</td>
<td>15</td>
</tr>
<tr>
<td>1.5&quot;</td>
<td>10</td>
</tr>
<tr>
<td>2&quot;</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Bayshore in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

5.3 CARRYOVER PROJECTS

5.3.1 Advice Letter Projects

Not Applicable
5.3.2 Non Specific Carryover Projects

43307, 53568, 58932, 59192, 59752, 60472, 60792, 61354, 69289, 69530, 71853, 73373, 73376, 74854, 77014, 77693, 77893, 77913, 78194, 78833, 78893, 79195

These non-specific carryover projects are now in service. These projects are in use and useful and should not be disallowed or adjusted.

5.3.3 Specific Carryover Projects

20275- Generator Station 17

This is a carryover project that was approved in the 2009 GRC for $248,000. Assumptions made in the estimating of the project turned out to be incorrect and the project costs increased. Justification for the increase in costs is included. The project is in construction and will be completed in 2013. The costs are fair and justifiable and should be approved in rates.

Attachment A- BAY 20275_1 Justification.pdf
Attachment B- BAY 20275_2 Summary_Stn17_summary_costs.xlsx
Attachment B- BAY 20275_3
Attachment B- BAY 20275_4
Attachment B- BAY 20275_5
Attachment B- BAY 20275_6
Attachment B- BAY 20275_7
Attachment B- BAY 20275_8
Attachment B- BAY 20275_9
Attachment B- BAY 20275_10
Attachment B- BAY 20275_11

20659- Replace existing leaking pressure vessel

The original project scope was to replace the existing 4,500 gallon pressure tank and appurtenances. The boosters on-site were being replaced on a separate PID #20656 at the same time so the station piping modifications and electrical changes were split between these two projects.
Because the scope of work expanded as described in Attachment 1, additional unplanned labor and materials were accrued. Extra drafting was required to capture new electrical and structural components. The piping was modified to accommodate the new equipment. And a significant amount was spent replacing the pressure vessel by removing the existing building roof and using a crane to install the new vessel in its place. This unplanned labor includes Cal Water labor and contractor labor. This was the most feasible solution to replace the pressure vessel without accruing hazardous material fees or modifying the building wall which would have required adhering to the current Building Code.

Attachment A- BAY_20659_Replace Pressure Tank Sta 12-MKF

21198-5 SCADA RTUs (3 turnouts, and Station 101)

This project is complete. Labor costs were over budget due to staffing constraints. The Bayshore district uses two EMTs to perform all of the maintenance work on pumps, valves, and electrical equipment as well as construction of small electrical projects such as the RTU installation for this project. During the construction of this project, there was only one EMT available due to a leave of absence. That EMT was responsible for all of the maintenance work causing work to be completed inefficiently as that EMT was only available to work on the project part time. Additionally, that EMT would have to work overtime which also increased the cost to the project. Because the project was delayed, additional time was spent on managing the project which also increased the costs to the project. There were also unanticipated complications with some of the sites which led to increased costs. In the original estimate it was estimated that the replacement of the equipment would be a simple remove and replace type project. Significant rework of most of the sites was required in order to completely replace the old RTU leading to increased costs. The project is in service, used, and useful and the full costs against the project should be recognized and approved in rates.

37127- Extend drain pipe at Station 109

This project is still needed and should not be disallowed. The project entails the extension of a drain line and it is required in order for the tank to be drained for water quality issues and periodic inspections and routine maintenance. It will also help alleviate potential environmental issues. Without the line, water will flood homes below the property.
57548 - City SM Flint Pump Sta. Rel. 12” AC

This project is use and useful and should not be disallowed or adjusted. Due to close
proximity of sewer facilities, California Department of Public Health required 90 feet of special
piping (12” CL&C). This caused the project to go over above the initial cost by 63,826.86.

59692 - Replace control panels station 115

Project was written to replace a rusted through electrical enclosure and repair the
associated conduit. No CAD drawings existed for the station so drawings were drafted for the
project. Higher priority, in terms of field resources, was given to complete other projects. The
enclosure still needs to be replaced to safely contain the controls and electrical equipment used
as part of the backup control system. Project 59692 should remain in the carry-over list.

71993 - 1379 San Mateo Ave. 6” F/S

This project is use and useful and should not be disallowed or adjusted. This project
needed to be completed due to numerous leaks that were causing property damage. The city
required a large area of additional paving that caused the project to go over budget by $38,708.

72854- Replace Pump, motor, and column: SSF 1-20

The older pump failed due to excessive pumping of sand. At the time the pump failed,
the non specific project was created and the anticipated cost to complete the project was
$37,800.00. Test pumping to find an adequate flow which would mitigate sand production was
conducted and the cost was placed on this project since test pumping was needed for the
design of the new pump going in. The project was completed on 02/21/2013 and was over-
budget due to test pumping which was not part of the initial budgeted cost. This project should
be allowed for the total cost at project close out.

73854- Replace Pump and Motor

The old pump failed and an inspection revealed that the damage was beyond repair.
The pump was 48 years old and the motor 27 years old before replacement. The pump and
motor have been replaced and most of the vendor charges are in, but the pump was pending
start up because the station was shut down temporarily due to some SFPUC connection work.
The project is still open since it cannot be closed until the unit is in service. Initial cost estimate
for the project was $39,000. Current charges to date equal $54,305.00. Cost overrun is due to
incorrect in-house labor estimation but also due to interest and allocations.
9670 - New Well

17885 - Security Mitigation Improvements

20369 - Replace 30 Various Blow Offs

These projects are in use and useful and should not be disallowed or adjusted.

12582, 54990, 55090, 66969, 75674- Non-Specific projects that are Open

The following projects include non-specific projects that were not closed to utility plant at the end of 2012. These projects were not anticipated in the 2009 GRC and Cal Water contends that these projects will be beneficial to customers once they are in service. They are all under $20,000 in total cost, and Cal Water believes they are considered controversial by DRA simply because of the timing with the projects.

73378- Replace Blow offs

This non specific project is in use and useful and should not be disallowed. This project was needed to accommodate additional blow-offs to the water main to provide adequate service needs.

77514- Install Pump Control Valve at Station 27

This non-specific project is still currently in process and should not be disallowed. Major sections of the work have been completed. Due to a failed pump control valve, this valve needed to be replaced. Additional excavation was required to install the check valve.

77753- Replace 24” Valves on Delaware

This project is in use and useful and should not be disallowed. This project was needed because Cal Water had two large transmission valves that were broken and it was unknown whether they were open or closed. In the event of an emergency, it is critical to be able to isolate portions on the transmission main. Part of the high cost was due to temporary valves that had to be installed in order to replace the permanent valves.

5.4 ATTACHMENTS

The attachments listed below will are located in Book 5..

Attachment A- BAY_20537_Attach1_Picture1.JPG
Attachment B- BAY_20537_Attach2_Leak History.pdf
Attachment A- BAY_20581_Attach 1_23A 2009
CHAPTER 6 BEAR GULCH PLANT ADDITIONS

6.1 INTRODUCTION

6.1.1 Global Responses

Global Rebuttal Responses can be found in chapter 2 of this book. The following capital projects are part of the global response for this district:

- 68854 – Field 2-way radio system (Pg 7-26, Ln 23)(Section 2.6)
- 64507 – Vehicle (Work Papers)(Section 2.9)
- 64689 – Vehicle (Work Papers)(Section 2.9)
- 64690 – Vehicle (Work Papers)(Section 2.9)
- 65395 – Vehicle (Work Papers)(Section 2.9)
- 65537 – Vehicle (Work Papers)(Section 2.9)
- 65538 – Vehicle (Work Papers)(Section 2.9)
- 79555 – Vehicle (Work Papers)(Section 2.9)
- 79915 – RAMCAP (Work Papers)(Section 2.4)
- 65537 – Vehicle (Work Papers) (Section 2.9)
- 102–NON-SP (Work Papers)

6.2 SPECIFIC PROJECTS

18134 - Paint Tank Exterior (Work Papers)

DRA’s recommendation of disallowing this project is completely based on the “good” condition of the roof coating on one of the two tanks and is misguided. Although the inspection report does evaluate the appearance of the roof coating as “good”; this rating refers to the aesthetics of this section and does not relate to the condition or performance of the protective coating. The remaining coating appearance of both tanks was rated as fair, along with noting general rusting conditions through the exterior shell walls. A general rusting rating is a clear indication of coating failure across the entire assessed surface per SSPC VIS Guide 2 standards. In addition, it was noted in the DRA report, that removal of the fungi and moss would be a proper remediation technique. However, removing this material actually accelerates the corrosion process. The moss acts as a natural protective layer in some cases. When the coating has failed under the moss, and the moss is removed, the steel is exposed to more
elements which are detrimental to the substrate. When the moss is attached to newer coating it is removed during the preventive maintenance tank cleaning process to remediate. The coating on the exterior of this tank is deteriorating rapidly, exposing the metal to corrosion and potential metal loss. Unlike interior coatings which have a CP system as secondary protection method, exterior protective coatings don’t have anything. Disallowance of the replacement of the exterior coating will allow corrosion to persist, possibly causing irreparable harm to the structural integrity of the tank and ultimately resulting in interruption of service, water quality issues, costly repairs, or even replacement of the tank.

Appearance and coating condition are not necessarily equivalent. It is plausible to have a coating in excellent condition, while having a poor appearance. This is due to UV exposure or other damage caused by the elements. However, the integrity of the protective coating system is intact; it just doesn’t look pristine. Aesthetics of stations are an important operations priority because it is directly related to customer perception of the product and service of the company. Therefore, during routine inspections, the appearance is rated to ensure the structures are not affecting the appearance of the overall station.

Please see Cal Water’s global response for recommendation regarding maintaining tank coating projects at capital projects.

18138 - Paint Tank Interior (Work Papers)

DRA’s recommendation of disallowing this project completely based on the “good” condition of the metal is misguided. Cal Water assesses exposed metal to determine the integrity of the steel substrate. Since the protective coating has already failed at this location, the inspection identifies the metal loss of the exposed steel. The purpose of this inspection is to both rate the severity of the metal loss and further determine the effectiveness of the cathodic protection (CP) system. Three levels of exposed steel ratings are indicated by the Society of Protective Coating guidelines. Good – no metal loss; Etched, minor metal loss generalized; Pitted – moderate metal loss. Thus, the metal assessment performed is indirectly related to the condition of the coating.

The purpose of the identified project is to replace the deteriorated coating, in order to retain the integrity of the steel substrate. The “good” condition of the metal is the result of a properly maintained tank, which had an effective protective coating and CP system. The deterioration of the coating is what Cal Water focuses on during these inspections since this is the major protection that the metal has from experiencing any metal loss from corrosion. Failure to address the protective coating at this time will cause the CP system to overwork, become less
Effective, and ultimately lead to metal loss. Disallowing the project completely will cause continual coating degradation and CP overworking, possibly causing irreparable harm to the structural integrity of the tank and ultimately resulting in interruption of service, water quality issues, costly repairs, or even replacement of the tank.

Please see Cal Water’s global response for recommendation regarding maintaining tank coating projects at capital projects.

29009- Paint underside of roof and upper 6’ of shell, paint exterior of roof and replace anodes (Work Papers)

DRA does not elaborate on why the project was disallowed, thus making it difficult to understand their position. Similar to other tank coating recommendations, this tank was assessed using SSPC VIS 2 standards and recommendations were identified based on the condition of the coating. For this tank, the coating on both sides of the roof is in critical condition requiring replacement of the interior coating and spot repair/overcoat of the exterior roof. Failure to address roof coating created added risk to the structural integrity of this area.

61115 - Routine main replacement - Hillside 6” DI (Pg 7-11, Ln 19)

DRA recommended approval of this project with an adjustment to the capitalized interest component. Cal Water does not agree with this adjustment. Please see the global rebuttal section regarding capitalized interest.

61116- Tuscaloosa Ave.– 8” PVC (Pg 7-13, Ln 17)

Cal Water contends that this main replacement is very important to the distribution system in this area of the low zone and the Commission should allow this main in this GRC at the full cost. The main has experienced severe tuberculation and is not operating at its design capacity. As the blocks in this area are very long, the water system in this area has limited gridding to help the flow and pressure in this area.

This work will be coordinated with the Town of Atherton street overlaying project for 2013 and the Town is holding off in order for Cal Water to replace this scheduled main. This coordination will provide the lowest cost of replacement and will save customers because of the reduced asphalt requirements for the replacement of trench and roadway. This coordination also saves on stripping and slurring of the roadway. Additionally, with the tuberculation of the 6” cast iron main, water quality issues arise during routine and emergency shut downs. It is important that
Cal Water complete this project quickly, as once the Town of Atherton resurfaces a street, it imposes a five year moratorium on any work that can be done.

DRA indicated that part of this main was replaced already. This is true. The section of approximately 700’ of main, which was replaced in 1999, will not be replaced within the scope of this project. This project will tie into the main at both ends utilizing the 700 feet as part of the new main line.

Regarding lack of leaks on pipelines, please see Global Rebuttal Section.

61358 - Upgrade CP System (Work Papers)

DRA’s recommendation of disallowing this project completely based on the “good” condition of the metal is mis-intended. Cal Water assesses exposed metal to determine the integrity of the steel substrate. Since the protective coating has already failed at this location, the inspection identifies the metal loss of the exposed steel. The purpose of this inspection is to both rate the severity of the metal loss and further determine the effectiveness of the cathodic protection (CP) system. Three levels of exposed steel ratings are indicated by the Society of Protective Coating guidelines. Good – no metal loss; Etched, minor metal loss generalized; Pitted – moderate metal loss. Thus, the metal assessment performed is indirectly related to the condition of the coating.

The purpose of the identified project is to replace the deteriorated coating, in order to retain the integrity of the steel substrate. The “good” condition of the metal is the result of a properly maintained tank which has an effective protective coating and CP system. The deterioration of the coating is what we focus on during these inspections since this is the major protection that the metal has from experiencing any metal loss from corrosion. Failure to address the protective coating at this time will cause the CP system to overwork, become less effective, and ultimately lead to metal loss.

The protective coating and CP systems work in parallel to reduce corrosion of the tank substrate. It is important to have both an effective coating along with a working CP system to maintain maximum structural integrity of the tank. Although both are regarded as separate systems, it is important to identify the link between them. The CP system performance is greatly affected by the condition of the coating. When the coating is deteriorating more rapidly due to age and conditions, the CP system has to work harder to maintain the balance necessary to reduce corrosion activity on the surface of the steel. The CP systems are not designed for 100% exposed metal conditions. They are designed to protect coated surfaces with initial inefficiencies of 5%, deterioration at a rate of 1%/year, and maximum coating inefficiency of
25%. Therefore, when the coating condition reaches a certain level, the CP system is ineffective. Disallowing the project completely will cause continual coating degradation and CP overworking, possibly causing irreparable harm to the structural integrity of the tank and ultimately resulting in interruption of service, water quality issues, costly repairs, or even replacement of the tank.

61375 - Paint Interior (Work Papers)

DRA’s recommendation of deferring this project to a future GRC based on the “good” condition of the metal is misguided. Cal Water assesses exposed metal to determine the integrity of the steel substrate. Since the protective coating has already failed at this location, the inspection identifies the metal loss of the exposed steel. The purpose of this inspection is to both rate the severity of the metal loss and further determine the effectiveness of the CP system. Three levels of exposed steel ratings are indicated by the Society of Protective Coating guidelines. Good – no metal loss; Etched, minor metal loss generalized; Pitted or Grove – moderate metal loss. Thus, the metal assessment performed is indirectly related to the condition of the coating. The purpose of the identified project is to replace the deteriorated coating, in order to retain the integrity of the steel substrate. The “good” condition of the metal is the result of a properly maintained tank which has an effective protective coating and CP system. The deterioration of the coating is what we focus on during inspections, since this is the primary barrier to prevent metal loss occurring from corrosion. Failure to address the protective coating at this time will cause the CP system to overwork, become less effective, and ultimately lead to metal loss. Deferring the project to a future GRC will cause continual coating degradation and CP overworking, possibly causing irreparable harm to the structural integrity of the tank, and ultimately resulting in interruption of service, water quality issues, costly repairs, or even replacement of the tank.

Please see Cal Water’s global response for recommendation regarding maintaining tank coating projects at capital projects.

61598 – 12” DI Main, Services, Hydrants (Pg 7-11, Ln 19)

DRA recommends allowing this project at a lower unit price because of differences between this project and another 12” ductile iron pipeline project in this case. This difference in unit price is due to San Mateo County paving requirements that include additional slurry sealing and thermo stripping to be applied after the paving is completed. This extra work also requires additional labor for lane closures to install and allow the thermo striping to cure before traffic, bikes, or
pedestrians can be allowed on the new surface. All of these factors led to a higher unit price for this project.

DRA also recommended an adjustment to the capitalized interest component for this project. Cal Water does not agree with this adjustment. Please see the global rebuttal section regarding capitalized interest.

DRA also recommended an adjustment to the price escalation for this project. DRA did not take into account that the project cost estimate was completed in 2011. The project is in the budget year 2014 and price escalation (9% or 3% per year) was applied correctly.

61695- Almandral replacing pipe replacement (Pg 7-13, Ln 17)

Cal Water contends that this main replacement is very important to the distribution system in this area of the low zone and the Commission should allow this main in this GRC at the full cost. The main has experienced severe tuberculation and is not operating at its design capacity. As the blocks in this area are very long, this area has limited gridding to help the flow and pressure in this area. This work will be coordinated with the Town of Atherton street overlaying project for 2013 and the Town is holding off in order for Cal Water to replace this scheduled main. This coordination will provide the lowest cost of replacement and will save customers because of the reduced asphalt requirements for the replacement of trench and roadway. This coordination also saves on stripping and slurring of the roadway. Additionally, with the tuberculation of the 6” cast iron main, water quality issues arise during routine and emergency shut downs. It is important that Cal Water complete this project quickly, as once the Town of Atherton resurfaces a street, it imposes a five year moratorium on any work that can be done.

Regarding lack of leaks on pipelines, please see Global Rebuttal Section.

61733 - Routine main replacement – 6” PVC Cresta Vista (Pg 7-11, Ln 19)

DRA recommends allowing this project with an adjusted price escalation factor. Cal Water recommends holding to a 3% per year price escalation for all projects. DRA did not take into account that the project cost estimate was completed in 2011. The project is in the budget year 2013 and price escalation (6% or 3% per year) was applied correctly.

DRA also recommended an adjustment to the capitalized interest component for this project. Cal Water does not agree with this adjustment. Please see the global rebuttal section regarding capitalized interest.
61873 - Replace Pump and Motor: Sta 19-B (Work Papers)

Replace Pump and Motor: sta 19-B

Cal Water agrees with DRA to remove this project from this case. Cal Water initially requested this project based on pump test results from 2009, which indicated an OPE of 25.9%. A subsequent test performed in 2012, after the 2012 GRC filing, indicates an OPE of 68%. In April 2013, Cal Water reviewed the test procedures with the pump tester and has concluded that the 2009 test was not performed correctly as the pressure tank isolation valve was open during the test. The 2012 test was correct. Cal Water agrees with DRA to disallow project.

Attachment – BG 61873 1
Attachment – BG 61873 2

61892-Replace main along Olive Hill (Pg 7-11, Ln 19)

Cal Water maintains the need for this project at the original cost estimate. DRA recommended only a portion of this project. The total scope of the project is to install a total of 4,400’ of 12” main. The location of this line will be in Olive Hill from Albion to Canada and in Canada from Lanning to Station 23. Cal Water proposed the replacement of 2470’ of 4” CI in Olive Hill with 12” DI, and an additional main of 2,330’ of 12” DI in Canada, which will tie Station 23 into the main Olive Hill.

The reason for this project is to remove flow bottlenecks in the grid and increase reliability to customers in a large area of the system. The replacement of this section of main will eliminate the need for Station 15. The Water Supply and Facilities Master Plan (“WS&FMP”) recommends both the replacement of 2,000’ of new main from Station 23 along Canada Road to Olive Hill Lane and 2,400’ of main on Olive Hill in lieu of rehabilitating Station 15. However, the WS&FMP was misinterpreted when preparing the justification this project. The DRA’s comment is correct in that support for the 2470’ of main in Olive Hill (in lieu of rehabilitating Station 15) was taken from the WS&FMP; this is exactly what Cal Water is proposing. A second option suggested in the WS&FMP (as a method to eliminate the need for Sta 15), is to relocate Sta 15 to Sta 23 by installing 2,000’ of new main from Station 23 along Canada Rd. While Cal Water proposed the installation of 2,330’ of new main in Canada, the purpose for the installation and tie-in points for the proposed main are very different than the reason for the suggestion in the WS&FMP. Cal Water is proposing to install 2,000’ of new main in Canada, not to eliminate the need for Station 15, but rather, to provide reliability in the transmission of water from Station 23 to Station 22 as this section currently contains an extremely long dead end, which is
vulnerable to slides and washout. Additionally this heavily wooded area is prone to wild fire and
this project will add additional safety for the community. See Attachment B for clarification,
WS&FMP Excerpt.
Upon reviewing the WS&FMP, DRA discovered the elimination of Station 15 would require only
an additional pressure reducing valve (“PRV”) and 2,400’ of main. The WS&FMP recommended
another option to relocate Station 15 to Station 23 if space was available; 2000’ of main and a
PRV would be required if Cal Water planned to do this. Cal Water is not proposing to relocate
Station 15 to Station 23 and is not proposing a PRV for this purpose. As stated above, Cal
Water is proposing 2000’ of new main to tie into Olive Hill for reliability to feed Station 22 from
Station 23. See Attachment B.
Cal Water correctly states each recommendation of the WS&FMP, but it is clear that only one
recommendation should be followed. Cal Water is only recommending one of the options for
that purpose in this proposal.
Additionally, the second option includes a pump, which is nowhere to be found in the supporting
cost documentation provided in project justifications. DRA incorrectly states that Cal Water
requestied funds for a pump. DRA recommends only allowing the installation of 2,000’ of main
and new pressure reducing valve at a cost of $1,117,783. Cal Water maintains its request for
$2,243,000.00 to complete the project as proposed.

63574 and 61912 - Purchase Land and construct well in low zone (Pg 7-24, Ln 11)
DRA recommends disallowance of this project because it contends that Cal Water failed to
prove that this project would save money for ratepayers and the new source would be
insignificant for alternative supply compared to average day demands. Cal Water maintains that
this is an important project to allow Bear Gulch ratepayers customers access to another cost
effective local supply and maintain some limited local supply for use during droughts. Cal Water
recommends that the Commission approve this project.
The project estimate is based on conservative assumptions to cover major design issues
involved with the development of a well project for the Bear Gulch District. These major design
assumptions include extensive wellhead treatment and land acquisitions. Project cost would be
significantly reduced if only disinfection is needed at the wellhead and water quality is
acceptable after blending with the surface supply.
In reviewing the cost impact worksheet provided with DRA-A.1207007.JG4009 question 3, Cal Water found that it did not include an inflation rate for the price of water after year ten. In addition Cal Water realized that it had used the estimated purchase water cost of 2012 in year 1, while the project is not scheduled to be completed until 2015, thus year 1 should represent the 2016 estimated cost. A revised worksheet is attached, which uses the SFPUC provided estimated wholesale water cost for the first six years and then annually inflates this cost using a 3% per year inflation rate. Cal Water apologized for these errors in the analysis and the confusion they caused.

The following titled paragraphs address the items brought up by DRA in the Chapter 7 report for Bear Gulch.

Project Life Cost

The values quoted by the DRA for the 30-year cost is misidentified. The values stated are the net present values for the cost columns that represent the Total Annual Customer Cost (Capital and O&M Expense) and the Avoided Purchase Water Cost; and not the 30-year cost. Based on the revised worksheet analysis, developing and operating a well of this size for the Bear Gulch District would cost $14.0 million over a 30-year depreciation period, while purchasing a like amount of SFPUC water would cost $17.4 million. The difference of these two values provides a savings of $3.4 million to the ratepayers. A benefit to cost ratio of 1.24 ($17.4 million / $14.0 million) shows a benefit to proceed with the project.

Performing a net present value calculation on the two data streams of Total Annual Customer Expenditure and the Avoided Purchased Water Cost show a benefit/cost ratio of 1.08 ($10.7 million/$9.90 million), slightly more than unity. Due to the nature of the net present value function, the larger annual project costs in the near term have a greater influence than the low energy savings. Thus, the higher near term costs of the project have negative effect on the cost/benefit ratio. The ratepayers pay more annually now in the short term in order to gain greater savings in the future.

Average Annual Expenditure

The average annual expenditure for the project over the 30-year period would be $467,866 versus $580,574 average annual savings from reduced purchases of water.

Cost of Water

Under the revised cost impact analysis, the unit cost for water [per AF] from the capital and O&M cost of the well would not be less then purchased water unit cost for approximately 13 years; however, this is based on a very conservative estimate for the purchase price of land and treatment. If the project costs are reduced, then breakeven point would be sooner.
The DRA did not note in their report that the unit cost to purchase SFPUC is increasing. The SFPUC Rate Administrator has provided an estimated schedule for the unit cost of water from SFPUC, which will reach $5.03/ccf ($2,191/AF) by 2021. This amount is likely to be greater than estimated since actual unit costs for 2012 and 2013 are more than the original SFPUC estimate. For 2012, the SFPUC Rate Administrator estimated a per unit cost of $2.63/ccf ($1,146/AF) while Cal Water customers paid $2.87/ccf ($1,252/AF); 9% more than SFPUC’s estimated. Similarly for 2013, the estimated per unit cost was $2.88/ccf ($1,255/AF), but the initial 2013 invoices show Cal Water customers paid $3.08/ccf ($1,341/AF); a 7% increase over the estimated value.

Cal Water’s customers will soon face purchasing water from SFPUC at a rate of $5.03/ccf ($2,191/AF), which is approximately 60% increase from current prices; it will be very advantageous for Cal Water to investigate additional sources of water that can be added to the District’s water portfolio with a unit cost of water that is less than the SFPUC estimated unit cost.

Supply Limits

Cal Water entered a Water Supply Agreement (WSA) with the SFPUC in 2009, which replaced the previous 1984 Agreement. Part of this agreement is the Individual Supply Guarantee (ISG), which is a supply assurance to the SFPUC’s wholesale customers. Cal Water’s ISG amount is 35.68 MGD. From 2000 to 2008, Cal Water’s purchases were at or above this amount for six of the nine years. Total water purchased for 2012 was 32.31 MGD; the difference at 3.47 MGD provides less than 10% buffer compared to Cal Water’s ISG of 35.68 MGD. Under the most optimistic scenario, with the current conservation programs, demand projections show the purchase amount will exceed the ISG in the period between the years 2025 to 2035, roughly 12 to 22 years from now. This time period would best be utilized in developing alternative local supplies such as wells and a brackish water treatment plant.

Another part of the WSA is the Interim Supply Allocation (ISL), which restricts total water deliveries from the SFPUC system to 265 MGD until 2018. Currently, Cal Water’s ISL is the same as the ISG, 35.68 MGD. However, SFPUC is considering reducing this to allow additional agencies to become permanent members of the wholesaler agencies. In order for this to happen SFPUC is encouraging water conservation by the establishment of an Environmental Enhancement Surcharge to be levied against agencies who exceed their ISL limit. At the current time, it is being assumed that the current amount will be maintained, although there is a possibility that it could be reduced. Increasing this amount is restricted until additional environmental studies are completed.

Conservation Goals
The DRA’s statement, “With SBX 7-7, Bear Gulch District is expected to reduce its water use by 20% by 2020.” is misleading. The goal of the SBx7-7 is to become more efficient in water use by reducing per capita demand by 20% by 2020; and not to limit total demand by that amount. The current status of the conservation programs is on track to meet SBx7-7 goal, however, the total demand is still increasing for the Cal Water’s Districts due to increase in population and redevelopment. The cities that Cal Water serves are promoting redevelopment projects with new housing constructed as multifamily or attached townhome-type dwellings, rather than detached single-family homes. This redevelopment is in response to state and regional housing directives for communities along the CalTrain/101 corridor to increase housing stocks as a means of reducing fuel consumption and traffic congestion. This will increase population densification, and thus will increase total water demand. At some point, conservation practices will reach a plateau and customers will stop saving additional water. At today’s demand levels Cal Water has an extremely limited supply (less than ten percent of the ISG) to address this increasing demand and if not address could prevent these communities from achieving their housing objectives. Cal Water would rather be prepared for this increase than become an obstacle to progress.

Drought Cutbacks

The DRA appears to conclude that, given the SFPUC has not asked for any reduction in water use due to drought conditions since 2009, there will be no possibility of drought related reduction in the near future. The general nature of the DRA comment is focused on the near term, a concern only for the present rate case period. The DRA failed to note that the region was under a voluntary cutback from 2008 to 2011, as rainfall total were below average. The customers have been fortunate that a mandatory supply reduction has not been called recently due to a major drought, as they faced in 1988-1992, but that does not mean we will not face one in the near future. For two of the past three years rainfall totals have been below average, with the other one way above average. That third year, 2011 provided significant runoff and reservoir storage that has enabled normal supply conditions in the other two years. But that could well be changing with 2013 being below normal. Drought reductions in supply can be called at anytime. Reviewing the historical records, SFPUC has called for a cutback for 10 years since 1923, 11% of the time since the regional water system has been delivering water to the area. A favorable condition that could shift at any time. SFPUC planning criteria is for a seven to eight year drought period that historical records indicate has occurred.

The DRA did not consider in their report that if SFPUC were to call for a cutback, Cal Water customers would based on their recent water use practices, need to cutback an additional
amount. For example, during a 20% system wide cutback, wholesalers would have to cutback 28% based on the provisions of the WSA. And under the DRIP program, Cal Water customers would need to cutback an additional 5% or more. The additional amount is based on the seasonal usage and the high percentage of the demand met by purchases from the SFPUC out of our available ISG. To minimize the drought cutback amount for Cal Water customers, it would be prudent to reduce the amount of water purchased by developing additional local supplies. Conservation is helping to reduce this demand during normal water year, but it is uncertain if additional conservation programs can be effective during drought periods. A local groundwater well would be a drought proof supply, would help offset purchases from SFPUC and help to minimize the amount the customers would need to cutback.

Percentage of Well Supply

The final point that the DRA discussed was that based on average day demand in the Bear Gulch District, this well is expected to supply “a mere 1.2% of the total demand” and that “in the unlikely event the SFPUC asks Cal Water to limit its water use”. For all the reasons discussed above, the small percentage of supply this well would provide is an irrelevant point; when SFPUC does call for a cutback, the percentage reduction called for will be less and this well would supply additional water to meet the remaining demand. In addition, the Master Plan has indicated that two to four wells can be developed for the District, which would supply 5% to 6% of the total demand.

Conclusion

The main points of pursuing this project is to allow the district customer’s access to a local supply, a supply that is cost effective, and allow the district to expand its water portfolio to address future demand and maintain some limited local supply for use during droughts.

Attachment A- BG_61912 and 63574 cost impact.xlsx

62102 - Replace Pump and Motor: BG Sta 20-A (Work Papers)

Cal initially requested the approval of project 62102 to replace a pump and motor at station 20-A based on a pump test result from 2009. This test indicated an OPE of 35%. A subsequent test performed in 2012, after the 2012 GRC filing, indicates an OPE of 62%. It is unclear to Cal Water as to why the test in 2012 shows a substantial increase in OPE, but Cal Water believes it may be a bad test or a big change in operating conditions. Cal Water’s intention is to do a third test to verify accuracy of the latest two tests and request the Commission to approval this project under the condition of validation for poor efficiency.
63435 – Clayton main replacement (Pg 7-11, Ln 19)
Cal Water holds to 3% per year price escalation for all projects. DRA did not take into account that the project cost estimate was completed in 2011. The project is in the budget year 2015 and price escalation (12% or 3% per year) was applied correctly. Regarding capitalized interest, please see Global Rebuttal Section.

63857 - Station 6 Panelboard Replacement (Pg 7-17, Ln 6)
DRA recommended including a panelboard replacement project for station 6 at a lower cost than Cal Water budgeted. Upon further investigation, Cal Water found that this was a duplicate project and agrees to remove project 63857 from its advanced capital budget and keep the carryover project, 20896, in rates at the agreed to amount of $148,700.

63933 - Station 40 Standby Generator (Pg 7-20, Ln 14)
DRA recommends including a standby generator at station 40, but recommends reducing the price because of differences in capitalized interest. Cal Water stands by its original estimate of $244,000 for the cost of the proposed generator and requests the Commission to include this project at the full cost. The project should be approved in rates for the amount of $244,000. Please see the global capitalized interest rebuttal.

64059, 64060- Rebuild Station 8 at Station 13 and extend and replace existing pipeline (Pg 7-13, Ln 17)(Pg 7-21, Ln 1)
The rebuild of Station 8 at Station 13 along with the pipeline extension project associated with it is important for supply reliability to the south-western portion of the Bear Gulch system and should not be disallowed. This critical station is in poor condition with poor access and no space for any type of retrofit or rehabilitation work.
It is necessary to relocate Station 8 because the station is unreliable in its current state and location. The scope of work for this project includes combining Stations 8 and 13 into a single facility (Project 64060) and extending and replacing approximately 5,900 feet of pipeline south of Station 8 (Project 64059).
DRA disagrees with the need for these two projects. Based on a recent pump replacement done at the station, DRA recommend adjusting the cost of the station rebuild project by simply
converted it to a pump replacement project. Cal Water disagrees with the DRA recommendation. Converting the station rebuild project to a pump replacement project will not resolve the reliability issue at the station.

Station 8 is the only major booster pumping facility feeding a large portion of Portola Valley and is the only direct supply feed to Zone 660. It is a critical station. If Station 8 becomes inoperable for any reason, the southwestern portion of the system could be out of water. The only solution to the station reliability issue is to completely rebuild the station at another location, where equipment that can be easily maintained and accessed during emergencies. This is currently not the case at Station 8.

DRA agreed with the need to replace the existing pumps at Station 8 but, as stated on the project justification, it is also necessary that all existing electrical equipment at the station be replaced. The electrical system was first installed when the station was built in the 1950’s. Originally, the station was designed to run only two pumps continuously but now it has three to four pumps running continuously. Through the years, additional pumps along with their electrical components were added to the existing electrical system. As a result the electrical system is now over utilized and overloaded, making it unreliable.

It is simply not feasible to replace all the existing pumps and all existing electrical equipment in this small lot and keep the station in-service during construction. To complicate construction, the only access is the front of the station where there are low hanging power lines. During the previous pump replacement, there was a major safety concern when a crane had to be maneuvered over the existing, low hanging power lines to pull the existing pump out and replace it.

Cal Water requests that the Commission approve this project as proposed.

65249 – Dam Modifications (Pg 7-26, Ln 10)
Design of Bear Gulch Dam modifications
Given the nature of the project, Cal Water accepts Advice Letter status per DRA recommendation.

65371, 65389- Tank Retrofits projects (Pg 7-20, Ln 1)
Cal Water maintains the need for the original project estimates. Regarding capitalized interest, please see Global Rebuttal Section.
65910 - Water Quality – Bear Gulch Lake Aeration project (Pg 7-25, Ln 21)

Water Quality category project
Cal Water maintains the need for the original project estimates. Regarding capitalized interest, please see Global Rebuttal Section.

66069, 66109- Brackish Groundwater Investigation (Pg 7-22, Ln 4)
Cal Water disagrees with DRA in regard to its recommendations for the Brackish Ground Water Study for the Bear Gulch and Bayshore districts. Cal Water recommends including the total estimated cost for this project in its test year plant. The following is a discussion on the DRA’s misinterpretation of the provided information regarding the importance of this proposed Brackish Ground Water Study.

Project Outcome
The necessary first step in any major project is to identify the uncertainties, develop a benefit/cost analysis, and make a recommendation for the best possible option. The DRA mistook these different tasks and classified them as uncertainties. The Integrated Long Term Water Supply, which is a very preliminary high-level assessment of need, outlined different configurations, plant sizes, locations, and performed a high-level cost estimate for several options. The uncertainties that the DRA noted are, in fact, the reasons for conducting this feasibility and site determination study; Cal Water needs to conduct site investigations, soil sampling, groundwater modeling, pilot well drilling, and water quality sampling. The outcome of this proposed investigative study will clarify these uncertainties and provide information to prepare Cal Water to address the environmental hurdles associated with a desalination project.

Conservation Goals
The DRA’s concept of “Cal Water is on target to meet its SB-7 goals” is misleading. The goal of the SBx7-7 is to become more efficient in water use and not limit total demand. The current status of the conservation programs is on track to meet SBx7-7 goal, however, the total demand is still increasing for Cal Water’s Districts due to increases in population and redevelopment. The cities that Cal Water serves are promoting redevelopment projects with new housing constructed as multifamily or attached townhome-type dwellings, rather than detached single-family homes. This redevelopment is in response to state and regional housing directives for communities along the Cal Train/101 corridor to increase housing stocks as a means of reducing fuel consumption. This will increase population densification, and thus will increase total water demand. At some point, conservation practices will reach a plateau and will stop
saving additional water. At today’s demand levels Cal Water has an extremely limited supply to address this increasing demand and if not addressed could prevent these communities from achieving their housing objectives.

Supply Limits

Cal Water entered a Water Supply Agreement (WSA) with the water wholesale agency, the San Francisco Public Utilities Commission (SFPUC) in 2009, which replaced the previous 1984 Agreement. Part of this agreement is the Individual Supply Guarantee (ISG), which is a supply assurance to the SFPUC’s wholesale customers. Cal Water’s ISG amount is 35.68 MGD for its Bayshore and Bear Gulch districts in total. From 2000 to 2008, Cal Water’s purchases have been at or above this amount. Total water purchased for 2012 averaged 32.31 MGD and has been increasing since 2010. Under the most optimistic scenario, with the current conservation programs, demand projections show the purchase amount will exceed the ISG in the period between the years 2025 to 2035, roughly 10 to 20 years from now. This time period would best be utilized in developing a brackish water treatment plant, since designing, permitting, environment studies, soil testing, groundwater modeling, and drilling pilot wells will require at best a minimum of 10 years.

Another part of the WSA is the Interim Supply Allocation (ISL), which restricts total water deliveries from the regional system’s watersheds to 265 MGD until 2018. Currently, Cal Water’s ISL is the same as the ISG, 35.68 MGD. However, SFPUC is considering reducing this to allow additional agencies to become permanent members of the wholesaler agencies. In order for this to occur, water conservation is being encouraged by the establishment of an Environmental Enhancement Surcharge for agencies who exceed their ISL limit. At present, it is being assumed that the current ISL amount will be maintained, although there is a possibility that it could be reduced. Increasing this amount is restricted until additional environmental studies are completed.

Drought Cutbacks

The DRA appears to conclude that, given that the SFPUC has not asked for any reduction in water use due to drought conditions since 2009, there will be no possibility of drought related reductions in the near future. The general nature of the DRA comment is focused on the near term, a concern only for the present rate case period. The DRA did not note that the region was under a voluntary cutback from 2008 to 2011, as rainfall total were below average. The customers have been fortunate that a mandatory supply reduction was not called due to a major drought, as they faced in 1988-1992, but that does not mean the region will not face one in the near future. For two of the past three years rainfall totals have been below average, with the
other one significantly above average. That third year, 2011, provided significant reservoir
replenishment, which has enabled normal supply conditions in the other two years. This
situation may change as drought reductions, because of a lack of supply, can be called at
anytime. Reviewing the historical records, SFPUC has called for a cutback in 10 different years
since 1923, 11% of the time since the regional water system has been delivering water to the
area. A favorable condition that could shift at any time. SFPUC planning criteria is for a seven
to eight year drought period that historical records indicate has occurred.
The DRA did not consider in their report that if SFPUC were to call for a cutback, Cal Water
customers would need to cutback an additional amount. For example, during a 20% system
wide cutback, retail water agencies, including Cal Water, would have to cutback 28%. And
under the DRIP program, Cal Water customers would need to cutback an additional 5% or
more. The additional amount is based on the seasonal usage and the high percentage of the
demand met by purchases from the SFPUC out of Cal Water’s available ISG for the District’s
customers. To minimize the drought cutback amount for Cal Water customers, it would be
prudent to reduce the amount of water purchased. Conservation is helping to reduce this
demand during normal water years, but it is uncertain if additional conservation programs can
be effective during drought periods. A brackish water treatment plant would serve as a drought-
proof supply and it would help to minimize the amount that customers would need to cutback.

Cost of Water
The DRA did not note in their report that the unit cost of purchase SFPUC water has been
increasing. The SFPUC Rate Administrator has provided an estimated schedule for the unit cost
of water from SFPUC, which will reach $5.03/ccf ($2,191/AF) by 2021. This amount is likely to
be greater than estimated since actual unit costs for 2012 and 2013 are more than the original
SFPUC estimate. For 2012, the SFPUC Rate Administrator estimated a per unit cost of
$2.63/ccf ($1,146/AF), while Cal Water customers paid $2.87/ccf ($1,252/AF); 9% more than
SFPUC’s estimated. Similarly for 2013, the estimated per unit cost was $2.88/ccf ($1,255/AF),
but the initial 2013 invoices show Cal Water customers paid $3.08/ccf ($1,341/AF); a 7%
increase over the estimated value.
Cal Water’s will soon face purchasing water from SFPUC at a rate of $5.03/ccf ($2,191/AF),
approximately 60% increase from current prices; it will be very prudent for Cal Water to
investigate additional sources of water that can be added to the District’s water portfolio with a
unit cost of water that is less than the SFPUC estimated unit cost. The Integrated Long Term
Water Supply Plan has identified several desalination treatment options that could yield a unit
cost of water which will be less than the future purchase price of the SFPUC water. Cal Water
needs to begin today to investigate in greater detail those options so that Cal Water and its customers are prepared to address and offset large future increase in purchased water costs.

66729 - Install RTUs Station
Install RTUs station 11, 15, 18, and 28
Please refer to global rebuttal on SCADA RTU projects

67032 - Install flow meters
Please refer to global rebuttal on SCADA flow meter projects

67190 - Pressure Transducers
Install 15 Pressure Transducers
Please refer to global rebuttal on pressure transducer projects

12922 and 20196 Fish Passage (Work Papers)
Cal Water is requesting to continue Aadvice Letter status for both projects along with increasing the project cost estimates. Cal Water has two projects for fish passage in Bear Gulch Creek. PID 12922 in the amount of $400,000 is primarily for design and permitting and PID 20196 in the amount of $1,310,000 is for construction of a fish ladder. Cal Water has determined that these amounts need to be increased to allow for changes in the project scope. These projects are required for compliance to ensure protection for threatened Steelhead Trout.

During the last few years the project direction has changed, and the current cost estimate has increased, due to the site conditions. The new project scope includes constructing a fish ladder in a different location (along the existing dam and Cal Water intake pipe), and building a retaining wall to protect the fish ladder from landslides.

Cal Water negotiated with the adjacent property owner for two years in an effort to obtain a 1400 Square foot easement. The property owner refused several offers including an offer that he specifically made. After considering all options, including eminent domain, Cal Water decided to change the location of the fish ladder from a roughened channel located in the entire creek, to a different design and location, which allows the ladder to be located on the Cal Water side of the creek to avoid the need for an easement.

Cal Water worked with a geotechnical firm regarding the site geotechnical evaluation. According to the geotechnical report, the site is situated in an area characterized by numerous small and large landslides and it is subjected to very strong seismic ground shaking within the
life of the structure. The report shows that there is a high landslide risk to the proposed fish ladder, screen, and intake structure. The risk can be mitigated by constructing a shear pin and tieback wall along the access road. The retaining wall is not only required to protect the fish ladder, but to establish a 15’ width for construction and maintenance access.

Cal Water has completed 30% design for the fish ladder and 100% for the shear pin and tieback wall along the access road. Cal Water is planning to complete the design and permitting in 2013 and complete construction in 2015. The new estimated budget for PID 12922 is $1,096,000 and for PID 20196 is $3,650,000. The total estimated budget increase for both projects is $3,036,000.

This estimate is based on:

- 100% retaining wall design (not included in the original cost estimate),
- 30% fish ladder and fish screen intake design,
- proposal for a final fish ladder and intake design,
- construction cost estimate provided by Syblon Reid,
- estimated permitting and other cost

As shown in Attachment 2, on page 10, and based on the 30% design, the largest cost item is the shear pin retaining wall ($1.4 mil). Other high cost items are:

- Soil Nails, Shotcrete, Cast In Place (CIP) Piers, and Micro Piles needed for the fish ladder foundation - $225,500
- Mechanical Equipment - $333,900
- Electrical contingency - $461,029

Cal water opted for early contractor involvement with Syblon Reid, to review all phases of design for value engineering to minimize construction costs and possible change orders. Further, the design ensures minimum maintenance costs for the district. A less expensive design may require more maintenance and have higher risk for Cal Water and its customers to be out of compliance.

Attachment - BG 20196 1 Construction Estimate Breakdown
Attachment – BG 20196 2 Construction Cost Estimate
Attachment – BG 20196 3 Geologic Map
Attachment – BG 20196 4 Tree Removal
Attachment – BG 20196 5 Proposed fish ladder design
Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $251,500, $209,500 and $215,800 for years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements was $12,433, and was not contested by DRA. For Bear Gulch, DRA recommends a reduced budget of $167,593, $172,621 and $177,799 for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:

• PUC General Order 103-A mandates meters be tested or replaced based on age.
• It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s response to DR PR-004.
• Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8”</td>
<td>20</td>
</tr>
<tr>
<td>1”</td>
<td>15</td>
</tr>
<tr>
<td>1.5”</td>
<td>10</td>
</tr>
<tr>
<td>2”</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years.
years, it is not always the case; significant differences do occur, primarily due to variance in
housing improvements/developments taking place within the water service area.
In Summary, replacement of meters meeting the age criteria to be replaced in Bear Gulch in
years 2013-2015 requires the level of funding submitted for approval, or the district will fall
behind in meeting the requirements of General Order 103-A.

6.3 CARRYOVER PROJECTS

6.3.1 Advice Letter Projects

20196 – Fish Passage(Work Papers)
The response for 20196 is combined with 12922 and it located under specific projects.

6.3.2 Non Specific Carryovers

53048, 54869, 55048, 62633, 62854, 62858, 63576, 63632, 64478, 67070, 68269,
69169, 70729, 71913, 73013, 76693 (Work Papers)
This section contains some projects that include system issues that urgently needed to be
addressed, water quality issues, and equipment purchased to monitor and maintain the water
supply and water quality throughout the system. These projects are in use and useful and
should not be disallowed or adjusted.

20606 – Noel - Sta. 24 - 600' 6" HDPE; 2 Hydrants (Work Papers)
This project is in use and useful. The project went over budget due to the recommendation by
the Geotechnical Engineer Cotton & Shires Associates to use ductile iron pipe with restrained
joints and special fittings in the area of the previous landslides. Along with the pipe, the trench
detail and backfill material was more labor intensive to install, requiring small lifts and slurry
blocks in the areas of the slide.
Given road conditions, the pipe length also had to be extended to go around the areas of the
slide. The existing steel main which was installed above ground, had to be replaced to address
the leaks experienced along the pipeline. Please see the attachment for a list of final project
costs.
BG_20606_Attachment1 Spreadsheets P-20606 04-18-2013
Project 30028 was written as a non-specific project to convert the old phone line SCADA communication system to many of the sites in Bear Gulch to a radio communication system. The phone circuits are no longer supported by the phone company and are being converted to digital lines which require Cal Water to change out its equipment. The project was estimated at an amount of $89,745. To date Cal Water has incurred more than $60,000 in charges to the project and is waiting on resolving some difficult permitting issues before it completes its final installation. Project 30028 should be included in the carryover amount.

This carryover project is currently in-progress and should not be disallowed or adjusted. This project is important to purchase equipment to maintain compliance with water quality standards at the treatment plant set by state and federal laws. Portions of the equipment purchases are already in-service for this project.

Cal Water requests that the Commission allow this completed project in rates. This project has been completed and should not be disallowed or adjusted.

In 2001 the DRA recommended that Cal Water relocate its Customer Center due to high monthly rent. Cal Water began looking for rental properties that would accommodate employees and customers. One of the criteria used was to find a location near our Operations Center.

The work that needed to be completed prior to move-in included: reconstructing offices to Cal Water standards, installing conduit for computer stations, design and permitting of the break room and bathrooms, as well as design and permitting of the sprinkler systems to meet fire codes. The building leased by Cal Water was bare.

The location of the new building is closer to the Operations yard by 2 miles from the old location which has a direct impact on efficiency for daily operations and emergencies.

Attachment – BG 53748 1 ORA 2001 recommendation to reduce rent
Attachment – BG 53748 2 Bear Gulch rental contracts
**58512 – BG Commercial Office Remodel (Work Papers)**

This project is needed for employee safety and should not be disallowed or adjusted. The CPUC should reconsider the DRA’s recommendation to disallow. The non-specific project was generated due to recent events in Cal Water where our employees were held at gunpoint. CWS has implemented a security standard for Customer Service Centers where the front counters are bullet proof. The design is complete. We have submitted it to the City of Menlo Park for a permit and it is in the final stages of approval. We have contractors ready to bid once the permit is approved. This project is set to start construction by June 2013.

**71353 – Manzanita Main Replacement (Work Papers)**

This project is currently in process. The project went over the estimated cost due to several reasons. The Town of Woodside (Town) hired a private company to inspect the job and also required the road be open at all times. Traffic delays were required to be no more than 5 minutes, which thus required additional labor to keep flaggers at both ends of the job at all times. This extended the time of the job by 50 percent. The Town also required extensive pavement replacement and saw cutting due to the narrowness of the road. Two jurisdictions were involved: The County of San Mateo on Sandhill Road and the Town of Woodside on Manzanita. The County also had requirements for additional flagging for lane closure due to the speed of traffic and bicyclists in the area. The County also required slurry of the trench area which then required additional stripping of the road. Due to the soil conditions in some areas, open-cut trench was required to install the domestic services, versus the normal way of drilling underground across the roadway. This also caused additional labor, paving materials, and backfill materials to install the services. Please see the attachment for a list of the project costs.

Attachment – BG 71353 1 Spreadsheet

**72613 – Alt Valve Sta 14 (Work Papers)**

This project is in use and useful and should be allowed. During installation of the altitude valve complications arose with the existing station piping and the horse trail. The valve and vault had to be moved out towards the street, which meant that a traffic rated vault had to be purchased to be able to handle vehicle weights. Installing this specialized vault and piping extension
required additional labor, materials, and time. Once the vault and valve were installed, the horse trail had to be graded out and moved to allow the horses to not walk on or get spooked around the vault.

Attachment – BG 72613 1 Spreadsheet

**78756 – Michaels Way Main Replacement (Work Papers)**

This project is in use and useful and should be allowed. This project had higher than expected costs because a second hydrant was requested by the Menlo Park Fire Protection District, which required additional piping. Due to the existing utilities in the ground, the new main had to be located in the newly overlaid asphalt. Because of this, the Town of Atherton required additional paving requirements and potholing, causing additional installation time. It was imperative to replace the existing main when installing the new fire hydrant as the existing 2” cast iron main contained tuberculation leading to problems serving the homes with water on the street.

Attachment – BG 78756 1 Spreadsheet

**6.3.3 Specific Carryovers**

Not applicable

**6.4 ATTACHMENTS**

The attachments listed below will are located in Book 5.

Attachment – BG 61873 1
Attachment – BG 61873 2
Attachment - BG_61892_1_Woodside Geologic Map Excerpt.pdf
Attachment - BG_61892_2_Facility Master Plan Excerpt.pdf
Attachment - BG_61912 and 63574 cost impact.xlsx
Attachment - BG 62102 20-A
Attachment - BG 62102 Cal Water BG 20-A
Attachment - BG 20196 1 Construction Estimate Breakdown
Attachment - BG 20196 2 Construction Cost Estimate
Attachment – BG 20196 3 Geologic Map
Attachment – BG 20196 4 Tree Removal
Attachment – BG 20196 5 Proposed fish ladder design
Attachment – BG 53748 1 ORA 2001 recommendation to reduce rent
Attachment – BG 53748 2 Bear Gulch rental contracts
Attachment – BG 71353 1 Spreadsheet
Attachment – BG 71353 1 Spreadsheet
Attachment – BG 72613 1 Spreadsheet
Attachment – BG 78756 1 Spreadsheet
CHAPTER 7 CHICO PLANT ADDITIONS

7.1 INTRODUCTION

7.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

- 65050 - Vehicle (Work Papers) Section 2.9
- 65396 – Vehicle (Work Papers) Section 2.9
- 68859 – 2-Way Voice Radio (Section 2.6)(Pg 7-21, Ln 5)
- 79956 - RAMCAP (Pg 7-19, Ln 13) Section 2.4
- CHD900- Meter Replacement Program (Pg 7-15, Ln 1)

7.2 ADVANCED CAPITAL BUDGET SPECIFIC PROJECTS

- 622402214, 62173, 62240 - Replace pump, motor, (Work Papers) DRA does not provide specific comment on why these projects are recommended to be disallowed. Cal Water request the Commission to approve these projects because of the above risks associated with operating oil-lubed pumps in wells., Cal WaterWS has adopted a company standard to convert to water-lubed pumps. This current company-wide specification for well pumps calls for is water-lubed only. Cal Water WS should not be prevented from eliminating this threat to public health and safety from the our water system. The following points support this position:
  - AWWA publication finding is that food grade oil used in oil-lubed pumps is a food source for bacteria, causing high levels of HPC readings, which is a public health and safety violation.

Due to DPH restrictions, alternatives such as pouring chlorine down the well to reduce bacteriological issues are prohibited.

- Well maintenance is very costly. Once a water quality issue arises, it may cost $100,000-$150,000 to rehabilitate the well due to stringent discharge requirements.
  - Some Most well sources require treatment such as iron/manganese removal whereby oil
from the pump may enter the treatment units or into the distribution system. Replacing
treatment media costs approximately $50,000 in addition to cleaning the treatment
vessel and/or the storage tank.

CWS will retest this pump's performance and if the OPE does not fall to the poor rating we
will not replace the entire unit. If not allowed to replace the entire pump, CWS must take a
position of replacing the motor and the column. The column unit price used reflects a recent
quote for 8-inch column from a local dealer

Attachment – CH 62240 1
Attachment – CH 62240 2
Attachment A- CH_62173 1 _ Attachment 1_HPC and Oil Lube Pumps
Attachment B- CH_62173 2_ Attachment 2_ New Cost Estimate

64812 – Intermediate Zone Improvements (Pg 7-17, Ln 13)

Based on attached revised Hydec quote (see attach 1), the current total
budgetary cost is $4,422. Difference of $578 is for labor cost to install. Qty - 2 units.
The 6% Capitalized Interest of $9,553.98 should not be removed based on writer’s
assumption that project will be completed in year 2013 (one year). Past permitting
application Chico permit application process until final approval have lasted between 4-
6 months (see attach 2) at minimum, depending on project complexity.
In addition, project includes work at several main -busy travelled road intersections
through residential/commercial downtown Chico. A detailed traffic plan submission
indicating required road closure, alternative diversion route and street signs at each
location will be required. Actual work at location will be further dictated by other
constraints limited works hours, steel plate and crossing, barricading at sidewalks,
overhead utilities services and so forth. All these considerations will have impact on
daily work progress.

Another key consideration is... because Chico is predominantly a student/
academic community, work during school holiday schedule only maybe only realistic
option.

Due to various permit application required, anticipated longer review period for
permit approvals (including ex. furlough days) and site constraints to complete
construction, a longer duration will most likely be required. Therefore, project completion is realistically anticipated in early 2014.

Because of required tie-in works, CWS will have to provide alternative support as required to minimize disruption to existing service connections in this area. Examples of locations include:

(a) adding a new check valve at intersection near East Ave & Marigold Ave (Attach 3). This is a commercial area with two schools also located nearby on Marigold Ave.

(b) adding a new pressure reducing valve and check valve at intersection near Hooker Ave & Larch Street (Attach 4). This is a residential area with lots of pedestrian traffic.

Cal Water holds to 3% per year price escalation for all projects.

Regarding Capitalized Interest, please see Global Rebuttal section.

CWS is requesting original funding - $202,554.28 to remain without any deduction.

Attachment – CH 64812 1 Hydec Quote
Attachment – CH 64812 2 Permit

15867 — Blow-off and drain piping at Station 63 (Pg 7-22, Ln 21)
DRA recommended approval of this project as a lower cost because of a difference in capitalized interest. Cal Water requests the Commission to include the full estimated cost of this useful project in rates in this case. anticipates that the project will be completed within one year, but given city permitting process, this timeline is not guaranteed. Cal Water maintains that capitalized interest should still be included in the estimate. Regarding capitalized interest, please see Global Rebuttal Section.

16855 - 1600’ of main in Oak Drive, 40 services, and one hydrant (Work Papers)
This project is in use and useful and should not be disallowed or adjusted.

20515- 1.5 MG Storage Tank & booster pumpss, (Pg 7-13, Ln 3)
The Chico DRA Report indicates that the Water Supply and Facilities Master Plan (WSFMP) recommends that 2.7MG be added to zone 350, which is incorrect. The actual value recommended in the WSFMP is 5.7MG.
DRA’s position is largely based on California Department of Public Health’s (CDPH) report, which made two incorrect assumptions. First, Department of Public Health (CDPH) incorrectly assumed that Chico’s distribution system is configured so that system’s storage could be utilized to meet Peak Hour Demand (PHD) throughout the distribution system regardless of the location and/or pressure zone. In doing so they applied Section 64554.a.1 of the Waterworks Standards to the system as a whole ignoring the provision of Section 64554.a.3, which states that, “Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone”. Secondly, DPH assumed that the full volume of each storage tank can be used to meet PHD. The concept of completely depleting a system’s storage is extremely troubling to Cal Water as it could leave a system and/or its pressure zones vulnerable to fire and without emergency supply. This practice could also contribute to backflow and back siphonage conditions that could adversely impact customer health and safety.

Following is a computation that mirrors DPH’s formulation but is specific to Zone 350. Currently, only 3 of 4 of elevated tanks provide peaking supply to the distribution system but the supply is partial. This is due to their height relative to typical system pressure at peak hour. Experience indicates that the level in Tanks 1, 2, and 3 drop a maximum of 3 feet during peak periods. The corresponding volumes delivered to the system are 8,530 gallons for Tank 1, 12,850 gallons for Tank 2, and 28,200 gallons for Tank 3. Cal Water budgeted for and installed a booster pump at Station 8, Tank 3 for the purposes of utilization of the tank’s volume to assist wells in the area to meet PHD and to increase turnover of the volume to ensure that water quality is maintained. The new booster pump is now operational now. Assuming that the booster pump is designed to allow Tank 3 to draft by 50% over the PHD period, this would result in a volume of 120,000 gallons being available from Tank 3 and 141,380 gallons available from storage as a whole for peaking. This is equivalent to approximately 589 gpm over 4 hours, not the 9790 gpm that DPH calculated and DRA adopted.

The storage that will be available from station 79 - 1.5 MG tank will be available to supply for PHD since the site will also be equipped with booster pumps for the purpose of moving the stored water into the distribution system.

Taking into account the fact that the MDD in the last 10 years occurred in 2006 and looking at zone 350 alone, the Cal Water CWS analysis indicates a PHD of approximately
45000 GPM. The gpm, a firm well capacity is of approximately 38,250 GPM, which indicates the need for approximately 6750 GPM to meet PHD. Approximately 589 GPM can be supplied by storage in the 350 zone, as previously indicated. This leaves the system in need of approximately 6161 GPM to reach PHD in the 350 zone.

Additionally, this project already has City of Chico Conditional Use Permit approval for the tank location and height. If the permit expires (Cal Water is currently requesting the one extension allowed), then Cal Water will be forced to re-submit the entire Conditional Use Permit, which has no guarantee of acceptance of the location, height or site design. Given the supply needs and the permit conditions it is critical that this tank be allowed in 2013.

This Commission should approve of this project in this case. Project should not be disallowed or adjusted.

Attachment A- CH_20515_zone 350 PHD vs. Capacity Graph.pdf

60833 - 2013 Main Replacement in 9th Street (Work Papers)

DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an extremely old 3” wrought iron main installed in 1926. This type of pipeline is turburculated and is a flow restriction in the system. The history of our water main replacements indicates that by being proactive in replacing water mains, it has a direct influence on the amount of main leaks required each year. This in turn reduces the amount of expenses and service interruptions that will be also be required due to being reactive.

Regarding Condition Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal Section.

60836 - 2013 Main Replacement Ivy St. between Hazel and 11th St (Work Papers)

DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an extremely old 4” steel main installed in 1947. This pipeline is in poor condition and is a flow restriction in the system. This project has already been completed and has been in service since 03/21/2013.

Regarding Condition Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal Section.
The history of our water main replacements indicates that by being proactive in replacing water mains, it has a direct influence on the amount of main leaks required each year. This in turn reduces the amount of expenses and service interruptions that will be also be required due to being reactive.

This project has already been completed and has been in service since 03/21/2013.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

60838 - 2013 Main Replacement 19th St. (Work Papers)
DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an extremely old 2" steel main installed in the 1920s. This pipeline is in poor condition and is a flow restriction in the system. This project has already been completed and has been in service since 02/26/2013.

Regarding Condition Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal Section.

The history of our water main replacements indicates that by being proactive in replacing water mains, it has a direct influence on the amount of main leaks required each year. This in turn reduces the amount of expenses and service interruptions that will be also be required due to being reactive.

This main has already been completed and has been in service since 02/26/2013.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

60841 - 2014 Main Replacement 6th St. between Walnut & Oak St. (Work Papers)
DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an extremely old 1-1/2" steel main installed in 1926. This pipeline is in poor condition and is a flow restriction in the system.

Regarding Condition Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal Section.

The history of our water main replacements indicates that by being proactive in replacing water mains, it has a direct influence on the amount of main leaks required each year. This in
The history of our water main replacements indicates that by being proactive in replacing water mains, it has a direct influence on the amount of main leaks required each year. This in turn reduces the amount of expenses and service interruptions that will be also be required due to being reactive.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

60845 - 2014 Main Replacement 16th St (Work Papers)
DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an extremely old 4" steel main installed in 1926. This pipeline is in poor condition and is a flow restriction in the system.

60848 - 2014 Main Replacement Mechoopda St. (Work Papers)
DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an extremely old 3" steel main installed in 1920s. This pipeline is in poor condition and is a flow restriction in the system.

60852 - 2015 Main Replacement Ivy St. between 9th St. & 10 St (Work Papers)
DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an
extremely old 2-1/2” steel main installed in 1920s. This pipeline is in poor condition and is a flow restriction in the system.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

The history of our water main replacements indicates that by being proactive in replacing water mains, it has a direct influence on the amount of main leaks required each year. This in turn reduces the amount of expenses and service interruptions that will be also be required due to being reactive.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

60853 - 2015 Main Replacement 19th St. between Park Ave. & Normal St. (Work Papers)

DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an extremely old 4” steel and 3” wrought iron main installed in 1926. This pipeline is in poor condition and is a flow restriction in the system.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

The history of our water main replacements indicates that by being proactive in replacing water mains, it has a direct influence on the amount of main leaks required each year. This in turn reduces the amount of expenses and service interruptions that will be also be required due to being reactive.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

60854 - 2015 Main Replacement El Paso between White Ave. & East Ave. (Work Papers)

DRA does not provide specific comment on why this project is recommended to be disallowed. Cal Water request the Commission to approve this project because this is an extremely old 4” steel main installed in 1953. This pipeline is in poor condition and is a flow restriction in the system.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.
The history of our water main replacements indicates that by being proactive in replacing water mains, it has a direct influence on the amount of main leaks required each year. This in turn reduces the amount of expenses and service interruptions that will be also be required due to being reactive.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

62173 - Replace pump, motor, and column because existing oil-lubed pump poses water quality risk (sta. 20). (Work Papers)

- AWWA publication finding is that food grade oil used in oil-lubed pumps is a food source for bacteria, causing high levels of HPC readings, which is a public health and safety violation.
- Due to DPH restrictions, alternatives such as pouring chlorine down the well to reduce bacteriological issues are prohibited.
- Well maintenance is very costly. Once a water quality issue arises, it may cost $100,000-$150,000 to rehabilitate the well due to stringent discharge requirements. Most well sources require treatment such as iron/manganese removal whereby oil from the pump may enter the treatment units or into the distribution system. Replacing treatment media costs approximately $50,000 in addition to cleaning the treatment vessel and/or the storage tank.

Because of the above risks associated with operating oil-lubed pumps in wells, CWS has adopted a company standard to convert to water-lubed pumps. The current company-wide specification for well pumps is water-lubed only. CWS should not be prevented from eliminating this threat to public health and safety from our water system. If not allowed to replace the entire pump, CWS must take a position of replacing the motor and the column and we have adjusted the estimate accordingly. The column unit price used reflects a recent quote for 8-inch column from a local dealer at $80/ft.

62214 - Pump, motor, and column replacement- sta 21-01 (Work Papers)

The old oil lubricated pump is incompatible with GAC treatment media and if oil was to ever be pumped into the treatment media, it would be very costly to address the issue. The media would likely need to be replaced at a cost of $40K-$50K per contamination. Cal Water also wants to prevent well bacterial fouling. GAC treatment media was due to be replaced early
2013 and Cal Water decided to place an order for the new pump, motor, and column. Materials have been received and the new pump, motor, and column will be installed within the next two weeks. This project should not be disallowed or adjusted.

63324 - Purchase Land for future Well Site (Pg 7-12, Ln 16)
DRA contends this well will impact rates for existing customers but benefit only future customers of a proposed subdivision. Cal Water has connection fees for new customers in place in this district to take this type of situation into account. As customers come on-line, the connection fees that they pay are treated as advances for supply projects. The number of new connections is estimated in this general rate case and these projected connection fees are treated as a deduction from ratebase, thereby providing benefit to existing customers.

The DRA states that the proposed In addition to supplying future well will supply water to the future Mountain Vista/Sycamore Glen subdivision housing development... The new well will benefit the new development, but it will also supply water to the entire 350 zone through inter-connected piping in the Chico system, therefore benefitting existing customers as well. Given the aging wells in Chico, it is important to purchase land for wells for new developments, as well as to provide replacement of existing wells within the existing zones. Based upon the cost and availability of property at this time, and the available utilities already near the lot, Cal Water considers it prudent to acquire property for this future well.

Cal Water requests that the Commission authorize this project in this proceeding.

63552 - Flat Rate Services to Metered Conversions in Chico (Pg 7-14, Ln 4)
Cal Water WS will accept DRA’s revised estimate.

63594 - Flat Rate Services to Metered Conversions in Hamilton City (Pg 7-14, Ln 15)
The fFlat Rate Services to Meter Conversions in Hamilton City was completed 100% in 2012. This project is no longer needednot needed any more and it will be cancelled by Cal Water.

63826 - Replace Panelboard Sta. 21 (Pg 7-15, Ln 10)
The original requested cost of $158,433 is an accurate estimate for a panel board project of this size. The mMaterial costs estimate was based on actual, past projects, and was not adjusted or escalated before the overall escalation per year. The amounts listed on the
“Project Estimate” document, ($24,000 for electrical panel and $5,000 for metering panel) are actually lower than the cost shown on the attached purchase order example. DRA’s claim that a 3% escalation in material costs occurred prior to the 3% escalation for the entire project is wrong. The project should be approved in rates at the amount originally estimated by Cal Water of $158,433.

63830 - Replace Panel Board Sta. 20 (Pg 7-15, Ln 10)

Cal Water has put into place a company-wide plan to replace existing panel boards. Several of the panels are nearing 60 years old, and are in need of major repairs or replacement parts. It is the intent of the company to replace these panel boards before failure occurs in order to maintain continuous service at all active stations to provide service to customers. Cal Water pump stations should never be inactive for more than 90 days, as this would disrupt routine water quality sampling processes and other factors. Waiting until a panel board fails before fabricating and installing a new panel board would take no less than six months to complete, therefore disrupting all routine water quality processes for the station.

The photographs submitted as part of the justification book clearly show that the enclosure is in poor condition. As noted in the justification, the large crack at the bottom of the enclosure serves as a significant safety hazard, and needs to be replaced. The enclosure is not in proper condition to contain a large arc blast within the panel, therefore jeopardizing the safety of anyone present within the pump building. Several repairs have already been made to the panel board, but it is not reasonable to continue making attempts to properly secure an enclosure that has deteriorated to this level. It cannot be expected that an electrical enclosure, or any electrical component, can last nearly sixty years without needing to be replaced.

Additionally, it should be noted that there are some discrepancies within the DRA documents; the DRA Chico Report shows a total cost of $329,521, rather than $163,000, which is shown in the DRA request document. The correct requested amount is $163,000.
California Water Service Company has put into place a company-wide plan to replace existing panelboards. Several of the panels are nearing 60 years old, and are in need of major repairs or replacement parts. It is the intent of the company to replace these panelboards before failure occurs, to maintain continuous service at all active stations. CWS pump stations should never be inactive for more than 90 days, as this would disrupt routine water quality sampling processes and other factors. Waiting till a panelboard fails before fabricating and installing a new panelboard would take no less than six months to complete, therefore disrupting all routine water quality processes for the station.

The photographs submitted as part of the justification book show that the enclosure, throughout its 57 years of existence, has gone through multiple repairs in regards to rust damage. It can also be seen that the panel is at full capacity with regards to the amount of equipment mounted within and on the enclosure. Although the Oil To Water Lube Conversion project and proposal for a new, larger pump was addressed in the justification, a new pump is not the only reason that the panelboard needs to be replaced. Cal Water had just intended to coordinate the two projects together. This project should be recommended for allowance in rates.

Attachment – 63844 Reference Article

Cal WaterWS will accept DRA’s revised estimate.

Cal WaterWS will accept DRA’s revised estimate.

The Flat Rate Services to Meter Conversions in Hamilton City was completed 100% in 2012. This project is no longer needed anymore. Cal Water will cancel this project.
64716 - Flat Rate Services to Metered Conversions in Hamilton City (Pg 7-14, Ln 16)

Flat Rate Services to Meter Conversions in Hamilton City was completed 100% in 2012. This project is not needed anymore. Cal Water will cancel this project.

64756 - Model Conservation Garden at Station 28 (Pg 7-17, Ln 1)

Though the Chico District has already achieved meeting the Assembly Bill X7-7 goal of 20% reduction by the year 2020 there is no guarantee that Cal Water will remain under the target in subsequent years. Failure to meet targets is a violation of law for administrative or judicial proceedings after January 1, 2021. Chico’s target for 2020 is 229 GPCD. In 2010 it was 226.2 GPCD. In 2011 it was 218 GPCD but in 2012 it climbed back up to 222 GPCD. CWS must still promote conservation to assure we are meeting the target in 2020.

Beyond the requirements of Assembly Bill X7-7, Cal Water believes promoting water conservation is the right thing to do, especially in a state facing severe water issues. Public education as a component of a conservation program is still important and that is the aim of having a site that the public can visit showing a model of water efficient practices. Unfortunately, the existing Model Water Conservation Garden at Station 34 is being significantly reduced in size and appearance because of the Cal Trans on-ramp expansion project. Please see the attached photos.

The proposed Model Water Conservation Landscaping at Station 28 is considered by CWS to be a “Green Project”. We believe this is in line with the CPUC’s desire to see more green projects from water utilities.

Attachment -CH 647561 Sta 34 SAM_0619
Attachment - CH 647562 Sta 34 SAM_0620
Attachment - CH 647563 Sta 34 SAM_0620
Attachment - CH 647564 Sta 34 SAM_0622
Attachment - CH 647565 Sta 34 SAM_0623
Attachment - CH 647566 Sta 34 SAM_0624
65427 - Install 2 Fire Hydrants per Agreement with City of Chico (Work Papers)

Cal Water maintains the need for the original estimate. The increase in dollar amount is due to the effort involved in meeting the needs of new hydrant locations in commercial areas. Typically the hydrant runs are longer and there is more paving needed to complete these projects. The city’s fire marshal has made the request that we install hydrants in these much needed areas to maintain fire protection.

65429 - Install 2 Fire Hydrants per Agreement with City of Chico (Work Papers)

Cal Water maintains the need for the original estimate. The increase in dollar amount is due to the effort involved in meeting the needs of new hydrant locations in commercial areas. Typically the hydrant runs are longer and there is more paving needed to complete these projects. The city’s fire marshal has made the request that we install hydrants in these much needed areas to maintain fire protection.

65430 - Install 2 Fire Hydrants per Agreement with City of Chico (Work Papers)

Cal Water maintains the need for the original estimate. The increase in dollar amount is due to the effort involved in meeting the needs of new hydrant locations in commercial areas. Typically the hydrant runs are longer and there is more paving needed to complete these projects. The city’s fire marshal has made the request that we install hydrants in these much needed areas to maintain fire protection.

184
65431 - Install 2 Fire Hydrants per Agreement with Hamilton City Volunteer Fire Department (Work Papers)
Cal Water maintains the need for the original estimate. The increase in dollar amount is due to the effort involved in meeting the needs of new hydrant locations in commercial areas. Typically the hydrant runs are longer and there is more paving needed to complete these projects. The city’s fire marshal has made the request that we install hydrants in these much needed areas to maintain fire protection.

65432 - Install 2 Fire Hydrants per Agreement with Hamilton City Volunteer Fire Department (Work Papers)
Cal Water maintains the need for the original estimate. The increase in dollar amount is due to the effort involved in meeting the needs of new hydrant locations in commercial areas. Typically the hydrant runs are longer and there is more paving needed to complete these projects. The city’s fire marshal has made the request that we install hydrants in these much needed areas to maintain fire protection.

65433 - Install 2 Fire Hydrants per Agreement with Hamilton City Volunteer Fire Department (Work Papers)
Cal Water maintains the need for the original estimate. The increase in dollar amount is due to the effort involved in meeting the needs of new hydrant locations in commercial areas. Typically the hydrant runs are longer and there is more paving needed to complete these projects. The city’s fire marshal has made the request that we install hydrants in these much needed areas to maintain fire protection.

CHD0900- Meter Replacement Program
Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $154,800, $160,500 and $165,300 for years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements was $51,578, and was not contested by DRA. For Chico, DRA recommends a reduced budget of $36,989, $62,197 and $63,957 for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:
PUC General Order 103-A mandates meters be tested or replaced based on age.

- It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s response to DR PR-004.
- Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8”</td>
<td>20</td>
</tr>
<tr>
<td>1”</td>
<td>15</td>
</tr>
<tr>
<td>1.5”</td>
<td>10</td>
</tr>
<tr>
<td>2”</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Chico in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

7.3 CARRYOVER PROJECTS

7.3.1 Carryover Advice Letter Projects

Not Applicable

7.3.2 Carryover Non Specific Projects
57708, 58112, 59112, 59152, 59832, 63261, 71914, 72294, 72514, 73276, 74575, 77754, 78233, 78975 - These non-specific carryover projects are now in service. 

(Workpapers)

These projects are in use and useful and should not be disallowed or adjusted.

78557 – Install PVC C.P. Test Tube

The installation of the PVC tubes, to improve the catholic protection testing process, was identified through the company’s continuous improvement principles. It was identified through benchmarking assessment, the installation of this device improves the ability of copper sulfide reference cell to properly enter the tank and maintain the proper distance from the interior tank vertical wall for testing. The installation of these devices is limited to steel tanks with a rounded “knuckle” style roofs. In addition to improving the ability of the reference cell to enter the tank, the PVC test tubes also improve the safety of the individual performing the task. Historically, a telescoping rod was required to be carried up the tank to guide the reference cell to the proper location within the tank. Carrying this rod was identified as a climbing hazard because it would get caught in between the ladder rungs. Installation of these test tubes has been completed company wide. There are still outstanding invoices causing the project to remain open.

68509 - This non-specific carryover project is now in service. (Workpapers)

This projects is in use and useful and should not be disallowed or adjusted.

The cost ran over due to unexpected excavation depth requiring additional shoring. Additionally, some work needed to be completed at night. Estimated cost: $110,400. Actual cost: $150,370.

7.3.3 Carryover Specific Projects


These plume Remediation Projects (PIDs 16041, 16860, and 16952) are currently in process and should not be disallowed. Cal Water maintains its request to merge all three projects.

Chico has an intermediate zoned central plume contaminated with PCE in the downtown vicinity. The origins of the plume are from several known dry cleaning sources of the past, responsible for improper disposal of household cleaning agents. Through the years, the
contaminants have spread partially due to continued pumping of the water from the contaminated zone. In order to contain the plume and prevent from future spreading, Cal Water has agreed to pump, manage, drill and operated new and existing monitoring wells. These wells will be piped in network to an existing GAC facility for filtration of PCE and dispersion of water.

The Chico Central Plume Remediation project is divided into three phases:

- Phase 1 in 2007 (PID 16041 Design & Preliminary Installation of Transmission Mains as part of the Chico Remediation Agreement between DTSC and Cal Water)
- Phase 2 in 2008 (PID 16860 Design for the Chico Remediation - Agreement between DTSC and Cal Water)
- Phase 3 in 2009 (PID 16952 Chico Remediation Improvements – Construction of GAC Facility)

DRA in its Report on the Results of Operations for the Chico District\textsuperscript{23} disagrees with merging the three projects because PID 16952 is an advice letter project. DRA also alleges that Cal Water decided to merge all the costs of the central plume remediation projects to cushion the cost cap of PID 16952. Cal Water disagrees with these allegations. Phase 1 of the project is for the design and installation of two new wells (S3 & S4) including equipment and transmission mains to the treatment facility in accordance with the agreement between DTSC and Cal Water. This project has an estimated cost of $119,000 and actual year to date charges is $111,069.

Due to a change in the project manager, the charges for the design and installation of new wells, including equipment and transmission mains to treatment facility were combined in PID 16952 for ease of project management. This is the reason why there is only $31,140 in year to date charges for PID 16860 compared to a budgeted amount of $350,300. The combined estimated cost for the design and installation of new wells, including equipment and transmission mains currently stands at $753,452.

Cal Water must also upgrade the existing treatment plant equipment, piping and fittings to manage increased 400 gpm combined flow from both new wells. The expected final cost to complete project is $1,020,662. This amount is approx. $228,638 lower than the combined estimated cost of the three project ($119,000 + $350,300 + $780,000 = $1,249,300). All three projects are expected to be in service on by 7/31/2013.

\textit{Attachment- CH 16952 1}
DRA’s report states that Cal Water should have known its costs to replace the tower in its 2009 GRC filing and have not recommended allowance of any costs over budget. The costs to make all necessary improvements to the antenna tower were not known prior to our 2009 GRC filing as the final antenna configuration for the communications tower was not known prior to our 2009 filing. Cal Water hired a contractor to reconfigure the antenna tower and a contractor to reinforce the antenna tower in order to meet the structural requirements based on the final antenna design. DRA recognizes in their report that the original antenna tower was damaged during a windstorm in 2008 and that it was replaced as an emergency project. The assumption DRA makes is that Cal Water should have had a complete understanding of its future requirements at the time of the storm. There was no way Cal Water could anticipate everything needed for the future while trying to work through an emergency replacement project that was further complicated by its joint effort with the City of Chico. All costs associated with the project have been accounted for and all assets are in service, used, and useful. Cal Water requests the full cost of the project, $434,960.16, to be approved in rates.

20375 – Energy Efficient Monitoring (Workpapers)
This is a carryover project previously approved in the 2009 GRC for advice letter recovery in the amount of $99,100. The project was completed in 2012 (in use and useful) for a total project cost of $41,985. On June 1, 2012, CWS filed Advice Letter 2075 to recover the costs for this project. However, CWS would like to confirm that the dollars associated with this project will remain in Chico’s plant in service.

20375 – Replace Pump (Work Papers)
This is a carryover project previously approved in the 2009 GRC for advice letter recovery in the amount of $99,100. The project was completed in 2012 (in use and useful) for a total project cost of $41,985. On June 1, 2012, CWS filed Advice Letter 2075 to recover the
costs for this project. However, Cal Water would like to confirm that the dollars associated with
this project will remain in Chico’s plant in service.

20889, 21052 - These specific carryover projects are now in service. (Work Papers)
These projects are in use and useful and should not be disallowed or adjusted.

10960 - Zone specific testing sta 55 (Workpapers)
Cal Water provided an update to the costs for this project as part of PPM-04. These
costs are still considered accurate. The project is used and useful.

16936 - New 1.5 MG Storage tank at Chico Sta 81. (Workpapers)
Cal Water provided an update to the costs for this project in PPM-04. These costs were
accurate upon putting the project into service. This project is in use and useful. Cal Water is
requesting for the full amount submitted, as shown in Attach 1. Charges in Powerplant (as of
4/11/13) are $2,889,415. Due to some additional landscaping and electrical work required, this
project incurred additional charges totaling $69,905 since the PPM-04 response.

Attachment- CH 16936 1
Attachment- CH 16936 2

20519 - Drill, Develop, and equip new well- ch 9-03 (Workpapers)
This project is currently in process. This project was delayed due to the need for a City
Storm Drain extension to allow for well flushing. The project is expected to be completed in
2014 and will be an important component of the overall supply.

20905 - Zone repair- sta 55 (Workpapers)
Cal Water provided an update to the costs for this project as part of PPM-04. These
costs are still considered accurate. Cal Water is continuing to work with the Department of
Public Health to get the well packer installation approved to put the well back into service.

20889, 21052, 20820, 20821 - These specific carryover projects are now in service.
(Workpapers)
These projects are in use and useful and should not be disallowed or adjusted.
57708, 58112, 59112, 59152, 59832, 63261, 71914, 72294, 72514, 73276, 74575, 77754, 78233, 78975 - These non-specific carryover projects are now in service. (Work Papers)
These projects are in use and useful and should not be disallowed or adjusted.

68509 - This non-specific carryover project is now in service. (Work Papers)
This project is in use and useful and should not be disallowed or adjusted.
The cost ran over due to unexpected excavation depth requiring additional shoring.
Additionally, some work needed to be completed at night and being required to do some of the work at night.

10960 - Zone specific testing sta 55(ALLOWED) (Work Papers)
Cal Water provided an update to the costs for this project as part of PPM-04. These costs are still considered accurate. The project is used and useful.

16936 - New 1.5 MG Storage tank at Chico Sta 81. (Work Papers)
Cal Water provided an update to the costs for this project in PPM-04. These costs were accurate upon putting the project into service. This project is in use and useful. Cal Water is requesting for the full amount submitted, as shown in Attach 1.
Charges in Powerplant (as of 4/11/13) are $2,889,4154.87. Due to some additional landscaping and electrical work required, this project incurred additional charges totaling $69,905 since the PPM-04 response.
Attachment- CH 16936 1
Attachment- CH 16936 2

These plume Remediation Projects (PIDs 16041, 16860, and 16952) are currently in process and should not be disallowed. Cal Water maintains its request to merge all three projects.
Chico has an intermediate zoned central plume contaminated with PCE in the downtown vicinity. The origins of the plume are from several known dry cleaning sources of the past, responsible for improper disposal of household cleaning agents. Through the years, the
contaminants have spread partially due to through time and continued pumping of the water from the contaminated zone. In order to contain the plume and prevent from future spreading, Cal Water has agreed to pump, manage, drill and operated new and existing monitoring wells. These wells will be piped in network to an existing GAC facility for filtration of PCE and dispersion of water.

The Chico Central Plume Remediation project is divided into three phases:

- Phase 1 in 2007 (PID 16041 Design & Preliminary Installation of Transmission Mains as part of the Chico Remediation Agreement between DTSC and Cal Water)
- Phase 2 in 2008 (PID 16860 Design for the Chico Remediation - Agreement between DTSC and Cal Water)
- Phase 3 in 2009 (PID 16952 Chico Remediation Improvements – Construction of GAC Facility)

DRA in its Report on the Results of Operations for the Chico District\textsuperscript{24} disagrees with merging the three projects because PID 16952 is an advice letter project. DRA also alleges that Cal Water decided to merge all the costs of the central plume remediation projects to cushion the cost cap of PID 16952. Cal Water disagrees with these allegations.

Phase 1 of the project is for the design and installation of two new wells (S3 & S4) including equipment and transmission mains to the treatment facility in accordance with the agreement between DTSC and Cal Water. This project has an estimated cost of $119,000 and actual year to date charges is $111,069.

Due to a change in the project manager, the charges for the design and installation of new wells, including equipment and transmission mains to treatment facility were combined in PID 16952 for ease of project management. This is the reason why there is only $31,140\textsubscript{39.87} in year to date charges for PID 16860 compared to a budgeted amount of $350,300. The combined estimated cost for the design and installation of new wells, including equipment and transmission mains currently stands at $753,452.

Cal Water must also have to upgrade the existing treatment plant equipment, piping and fittings to manage increased 400 gpm combined flow from both new wells. The expected final cost to complete project is $1,020,662. This amount is approx. $228,638 lower than the combined estimated cost of the three project ($119,000 + $350,300 + $780,000 = $1,249,300). All three projects are expected to be in service on by 7/31/2013.

Attachment- CH 16952 1
Attachment- CH 16952 2
20519 - Drill, Develop, and equip new well- ch 9-03 (Work Papers)
This project is currently in process. This project was delayed due to the need for a City
Storm Drain extension to allow for well flushing. The project is expected to be completed in
2014 and will be an important component of the overall supply..

20905 - Zone repair- sta 55 (ALLOWED) (Work Papers)
Cal Water provided an update to the costs for this project as part of PPM-04. These costs
are still considered accurate. Cal Water is continuing to work with the Department of Public
Health to get the well packer installation approved to put the well back into service.

20889, 21052, 20820, 20821 - These specific carryover projects are now in service.
(Work Papers)
These projects are in use and useful and should not be disallowed or adjusted.

7.4 ATTACHMENTS
The attachments listed below will are located in Book 5.

Attachment - CH_62173 1 Attachment 1_HPC and Oil Lube Pumps
Attachment - CH_62173 2 Attachment 2_New Cost Estimate
Attachment – CH 64812 1 Hydec Quote
Attachment – CH 64812 2 Permit
Attachment - CH_20515 1_zone 350 PHD vs. Capacity Graph.pdf
Attachment – 63844 Reference Article
Attachment- CH 16952 1
Attachment- CH 16952 2
Attachment- CH 16041 3
Attachment- CH 16860 4
Attachment- CH 16952 5
Attachment- CH 16936 1
Attachment- CH 16936 2Attachment -CH 647561 1 Sta 34 SAM_0619
Attachment - CH 64756 2 Sta 34 SAM_0620
Attachment - CH 64756 3 Sta 34 SAM_0620
Attachment - CH 64756 4 Sta 34 SAM_0622
Attachment - CH 64756 5 Sta 34 SAM_0623


CHAPTER 8 DIXON PLANT ADDITION

8.1 INTRODUCTION

8.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

68860 – Field 2-way radios (Section 2.6)
79958 – RAMCAP (Section 2.4)

8.2 ADVANCED CAPITAL BUDGET SPECIFIC PROJECTS

61632- Replace pump and column sta. 8-01 (Pg 7-8 Ln 5)

Cal Water requests the Commission allow this pump and column replacement project. DRA recommends disallowance primarily due to a variation in efficiencies in pump tests.

The annual pump tests are a snapshot of operating conditions at one point in time. Because this is a well pump, pumping water level and static level are expected to change leading to fluctuations in Total Dynamic Head (TDH). This causes the pump to operate at different efficiency levels on its pump performance curve. For example, the 2008 pump test Pumping Water Level (PWL) was 205 feet whereas the PWL during the 2011 pump test was 312.5 feet. Cal Water believes the swing in Overall Plant Efficiency (OPE) in this case to be normal for a well that has fluctuating standing and pumping water levels throughout the year. Also, both 42% and 49% OPEs are low by CPUC standards. For these reasons, this project should be allowed.

An added benefit, but not the main reason for replacement, for the approval of this project is changing this oil lubed pump shaft to product lubrication to mitigate the risk of losing the source to bacterial fouling, which can be very costly to address. Cal Water has a goal of converting oil lubricated pumps to product lubrication for the reason just stated. Attached is a document titled “AOC Associated with Oils for Lubricating Well Pumps” which suggests changing from oil lubrication to product lubrication at the time of replacement is a benefit.

Attachment- DIX 61632_1
Attachment- DIX 61632_2
Attachment- DIX 61632_3

195
Cal Water requests that the Commission allow this new well in this case because it is a very important component for long-term water supply in Dixon. The Dixon district is severely impacted by high nitrate levels. Cal Water anticipates that constructing a deeper well will result in lower nitrate level water, without the need for nitrate treatment. Cal Water bases this on its recent experience in constructing a new, deeper well at its station 9. The Station 9 well has superior water quality with very low levels of nitrates and is a very high producing well.

DRA bases its recommendation on an incomplete understanding of the Dixon supply. While DRA correctly summarizes the total well capacity as greater than the peak day demand, many of the wells are so high in nitrates that they can only be operated for very short durations before nitrate levels increase to the nitrate action level, requiring shutting down the well.

The pending Hexavalent Chromium MCL (Chrome 6) is anticipated to impact in all wells in Dixon, including the deep aquifer well at station 9. Cal water’s approach is that all wells in Dixon will require treatment to meet any Chrome 6 MCL. Having two major wells instead of ten smaller wells will result in reduced numbers of Chrome 6 treatment plants, so this well will help with long term compliance strategies.

Nitrates are an acute health risk. For the health and safety of Cal Water’s customers, the Commission should allow this well. The following points support this position.

Nitrates.

Historically Dixon is an agricultural community. Past practices of farmers included the application of fertilizers containing nitrates or ammonia.

The resulting effect on the groundwater is the presence of nitrates in concentrations approaching or exceeding the MCL of 45 mg/L (ppm).

As an operational contingency measure to assure compliance for sources impacted with nitrate, Cal Water installed on-line nitrate analyzers which track nitrate levels and alarm/shut down sources when nitrate concentrations reach 40 mg/L.

Dixon wells 1, 4 and 6, have recorded concentrations above 30 mg/L.

Dixon wells 7, 8 and 9 all have nitrate concentrations below 20 mg/L.

Chromium 6 MCL

To-date, a draft MCL to establish MCL levels for Chromium 6 is still pending. See Attach 1 - WQ Summary, Discussion on Chromium 6. If all wells have concentrations that exceed the anticipated MCL for Chromium 6 (ug/L), than each well source will require treatment.

- Provided that all well sources in Dixon have concentrations exceeding established MCL, then all locations will be required to treat for Chromium 6 compliance.
• Cal Water is seeking a logical and economical application of applied treatment technology at TWO high producing sources (ex. Sta 9 & Sta 4) rather than all 9 sources.
• Base on geographic arrangement, location, system distribution, operation and conveyance, Sta 9 and Sta 4 have been identified.
• New well can be drilled on ex. Sta 4 property, thus avoiding cost for new real estate purchase.

Operations
• The existing well at Sta 4 is approx. 550 GPM (see Attach 1 - WQ). Existing source and reliability will not be able to support required firm pumping capacity for new Poulte subdivision, located across the station. See Attach 5 - Firm pumping capacity.
• In DRA’s Report, Line 1-4, DRA stated that that Dixon’s District’s water demands are currently met with its existing well production and there is a decreasing trend in water demand in the district… This is incorrect, since CWS is required by Title 22 Section 64554 (b) (1) to use the highest max day in the past 10 years as the basis for our analysis. Furthermore, the possibility of exceeding Maximum Contamination Level (MCL) for Chromium 6 as discussed in section b, supports the need for new well addition at this site.

Past operational report have shown a need to increase supply flow to this southern section of Dixon system. New well at Sta 4, along with new distribution feed pipeline will serve as an additional benefit towards meeting these deficiencies in pressure and fire demand needs (see Attach 3 - System Map).

Cost
• The cost breakdown (see Attach 4 - PID 61955 Cost) references cost incurred on recently completed well at Sta 9. By drilling a deep well, extending to depths over 1,400 feet will yield a low nitrate high capacity water source, therefore avoiding need for onsite nitrate treatment addition. Installing a deeper well seal will also help prolong possible leaching and contamination to source water from above shallower zones.
64375 - 24 in Rosedale Bag System at Sta 8 (Pg 7-10 Ln 17)

Cal Water maintains its original cost estimate regarding this project. This project is already in-progress as it is tied to water quality and needed to be done quickly as the original bag system was breaking down internally.

The original quote for the bag system was a rough estimate from the vendor given standard product selections. A final quote has now been received and is attached showing a higher than estimated cost. The new unit has now been installed, and is expected to be in-service shortly. The originally estimated budget will still be needed for this project. Regarding Capitalized Interest, please see Global Rebuttal section.

Attachment- DIX_64375_Attach 1 - Rosedale_Filter_Quote_#1907.pdf
Attachment- DIX_64375_Attach 2_Site Pictures.pdf
Attachment- DIX_64375_Attach 3 - Sta 8 Piping.pdf

64731 - 5,000 Gal Surge Tank at Sta 7 (Pg 7-8 Ln 20)

Cal Water maintains its need for the full cost estimate for this project. This project has started and is currently in progress. The final quote for the surge tank has been confirmed at $36,024, and is included as Attachment 1. The original estimate called for a surge tank price of $34,100 including foundation design. It was clear that the original estimate was reasonable, and in fact was low compared to current pricing. Cal Water is continuing to work on this project, and has already ordered the surge tank. The project is currently awaiting Building Permit approval, with the hope to install the tank in early summer 2013. Regarding Capitalized Interest, please see the Global Rebuttal section.

Attachment- SEL_64731_1

67045 – Data Acquisition Radio Replacement (Pg 7-12 Ln 1)

DRA discusses SCADA generally then observes: However, although CWS has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers. In fact, if there were no SCADA system the Dixon district would have to add three pump operators to maintain the same level of customer service. The remainder of the DRA discussion is unrelated to this radio replacement project. The data acquisition radio system is a critical component for the SCADA system and has been providing tangible benefits for the ratepayers for the last 10 years. This project will replace the outdated radio equipment, allowing Cal Water to improve the existing SCADA communications system and continue to contain growth in operating costs. Project 67045 should be approved in rates for the amount of $71,267.
**DIX0900 – Meter Replacement Program**

Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $39,500 for year 2013. Cal Water's recorded cost for its 2012 scheduled meter replacements was $27,930, and was not contested by DRA. For Dixon, DRA recommends a reduced budget of $27,450 for year 2013 based on recorded 2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:

- PUC General Order 103-A mandates meters be tested or replaced based on age.
- It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s response to DR PR-004.
- Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
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<tbody>
<tr>
<td>5/8”</td>
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<td>10</td>
</tr>
<tr>
<td>2”</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.
Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Dixon in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

8.3 CARRYOVER PROJECTS

8.3.1 Advice Letter Projects
Not applicable

8.3.2 Non-Specific Carryover Projects

42410 – Sand Separator (Workpapers)
This project to install a sand separator is complete and used and useful. The final amount of the project was $62,121, which exceeded the authorized budget. There were additional costs in this project for design, contractor costs, and overhead for additional work associated with resolving aluminum issues and ensuring the finished water did not exceed the secondary maximum contaminant level (“SMCL”) for aluminum. The sand separator serves the added purpose of removing the aluminum particles from the water. Cal Water seeks Commission approval to include the full cost of this project in plant.

DIX_42410_Attach 1 - Sta 6 Charges
DIX_42410_Attach 2 - Foundation Design
DIX_42410_Attach 3 - Sand Separator
DIX_42410_Attach 4 - Crutchfield Construction

8.3.3 Specific Carryover Projects
**15148 – Replace Panel Station 1 (Workpapers)**

- This panelboard replacement project is complete, in service, and operational.
  The final project cost was $210,578. The majority of the over budget is due to increase in labor amount due to the following items:
  
  - When the project was initially estimated our method of estimating labor hours was unreliable and the total labor hours were underestimated. Partly this is due to the complexity of the project compared to the assumptions made when estimating the project. Cal Water has developed better tools to use in developing project labor estimates.
  
  - The labor estimates included in the project did not include the correct overhead and benefits amounts assigned to each labor group. This led to a much greater gap in the labor estimate versus the actual charges.
  
  - The overhead rate on the estimate was significantly lower than the actual overhead rates charged to the project.

There was a change in the way capitalized interest was charged to projects from the time the project was estimated to the time when the project was completed. Capitalized interest was not included in the original estimate but was charged to the project during construction.

**19802, 19803, 19805 - RTU Installation (Workpapers)**

Projects 19802, 19803, and 19805 were approved capital projects in Cal Water’s 2009 GRC filing. Although DRA’s report does not discuss these projects as carryovers or recommend any change in approval to these projects, DRA did not include the cost of these projects in their workpapers as part of the carryover amount. Cal Water provided an update to these projects and the reasons for the delays in completing the work. Cal Water has incurred costs in its effort to design the projects and anticipates completing the projects for the budgeted amount of $18,000 per site. Projects 19802, 19803, and 19805 should be approved as part of the carryover projects.

**19809- New Generator station 9 (Workpapers)**

Carryover project complete
The generator is in service and operational. The primary reason for the increase in cost was noted in the data request response for PPM-004. The project should be included in rates for the total amount of $178,559.

19811 – 500K Storage tank (Workpapers)

Cal Water maintains the need for the full project cost of this project, because there was a misunderstanding of the Cal Water response to DR JG4-014. DRA states that Cal Water changed the scope of the project to include a second 600,000 gallon tank. This statement is incorrect, and was not the intent of the data request response. Cal Water only installed one tank at this site. There is room for an additional tank, but it was not built with this project. This new 500,000 gal tank has been constructed and is in service at Sta 10. Estimated costs were provided with the data request response. These costs have now been updated and are included in Attach 1a. The estimated final costs are $2,285,543. A narrative of the project timeline and construction challenges is provided in Attach 1c and 1d. Attachments 2-10 provide additional drawings and bids justifying the costs of the project.

Attachment- DIX_19811_1a - Project Charges.xls
Attachment- DIX_19811_1c - Timeline.pdf
Attachment- DIX_19811_1d - Explanation.pdf
Attachment- DIX_19811_2 - Dixon street map.pdf
Attachment- DIX_19811_3 - DIX 565.pdf
Attachment- DIX_19811_4 - City of Dixon Storm Drain.pdf
Attachment- DIX_19811_5 - Crutchfield Const Bid.pdf
Attachment- DIX_19811_6 - Elm Tree.pdf
Attachment- DIX_19811_7 - Bird Survey.pdf
Attachment- DIX_19811_8 - Luhdorff Report.pdf
Attachment- DIX_19811_9 - DIX 593.pdf
Attachment- DIX_19811_10 - Cusac Const Bid.pdf

20742 – Replace Pump Station 7-01 (Workpapers)

This project is in use and useful and should not be disallowed or adjusted.

Note: The project incurred contractor labor and materials cost in addition to interest, engineering time and labor, and overheads. All this summed up to $55,526 which is close to the original estimate. This project should not have been adjusted in the last GRC to $41,549 as this would have closed with total costs similar to the estimated cost.
8.4 ATTACHMENTS

The attachments listed below will are located in Book 5.

Attachment- DIX 61632_1
Attachment- DIX 61632_2
Attachment- DIX 61632_3
Attachment- DIX_61955_Attach 1 - WQ Summary.pdf
Attachment- DIX_61955_Attach 2 - Poulte Subdivision.pdf
Attachment- DIX_61955_Attach 3 - System Map.pdf
Attachment- DIX_61955_Attach 4 - Cost.pdf
Attachment- DIX_61955_Attach 5 - Firm Pumping Capacity.pdf
Attachment- DIX_64375_Attach 1 - Rosedale_Filter_Quote_#1907.pdf
Attachment- DIX_64375_Attach 2 - Site Pictures.pdf
Attachment- DIX_64375_Attach 3 - Sta 8 Piping.pdf
Attachment- SEL_64731_1
DIX_42410_Attach 1 - Sta 6 Charges
DIX_42410_Attach 2 - Foundation Design
DIX_42410_Attach 3 - Sand Separator
DIX_42410_Attach 4 - Crutchfield Construction
Attachment- DIX_19811_1a - Project Charges.xls
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Attachment- DIX_19811_8 - Luhdorff Report.pdf
Attachment- DIX_19811_9 - DIX 593.pdf
Attachment- DIX_19811_10 - Cusac Const Bid.pdf
Rebuttal responses for Dominguez will be submitted on May 14th
CHAPTER 10 EAST LOS ANGELES PLANT ADDITION

Rebuttal responses for East Los Angeles will be submitted on May 14th.
Rebuttal responses for Hermosa Redondo will be submitted on May 14th.
CHAPTER 12 KERN RIVER VALLEY

12.1 INTRODUCTION

12.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

134-NON-SP Advanced Capital Budget Non-Specifics
27089 - Paint Exterior Complete Sta. 9 (Section 2.2.1)
55089 - Install PVC C.P. test tube (Section 2.16)
51988, 59632, 63328 - Paint (Section 2.2.1)
68904 - Field 2-way radios (Section 2.6)
79962 - RAMCAP Vulnerability Assessments (Section 2.4)

12.2 ADVANCED CAPITAL BUDGET SPECIFIC PROJECTS

KRV0900 - Meter Replacement Program (Pg 7-13, Ln 3)

Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $600, $18,100 and $18,700 for years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements were single digit and were not included in the 0900 program. In Kern River Valley, DRA recommends a fixed annual budget for 2012-2015 of $600. Cal Water disagrees with DRA’s recommendation to set an arbitrary budget for this program, as the budget for this program is determined by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Kern River Valley GRC capital budget for 2013-2015 for the following reasons: PUC General Order 103-A mandates meters be tested or replaced based on age. It is more cost-effective to replace rather than test and repair (This is elaborated in Cal Water’s response to DR PR-004).

Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.
The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

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The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area. In Summary, replacement of meters meeting the age criteria to be replaced in Kern River Valley in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

61361, 61372, 61374 – Install Water Sample Stations (Pg 7-8, Ln 2)

Cal Water is requesting approval to install fifteen dedicated distribution water sample stations per year between 2013 and 2015 at the cost of $73,976 per year among its various systems in the Kern River Valley District for the following reasons:

Dedicated samples sites are critical to obtain non-contaminated samples from the distribution system for required water quality analyses.

Currently, the majority of distribution system samples in the Kern River Valley District are collected at unprotected sites. These unprotected sites included customer hose spigots, fire hydrants, and fire protection post indicator valves. Because these are not dedicated sample sites, there is the potential for environmental exposure, vandalism, and chemical and bacteriological contamination.

DRA recommends disallowance of these projects as they are not convinced of the need for these sample stations. Dedicated, and secure, sample stations are now the standard in most Cal Water distribution systems, as well as the systems of most other utilities, and are the preference noted by the California Department of Public Health (“CDPH”) during their inspections. Cal Water requests the Commission adopt these projects.
**63896, 65562, 65590, & 67589 – Seismic Retrofit (Workpapers)**

Cal Water requests four seismic retrofit projects in Kern River Valley for a total proposed cost of $286,853. DRA recommends disallowance of these projects due to the lack of seismic activities in the region. Cal Water disagrees with DRA’s assessment of a lack of seismic activity in the region where the proposed retrofits are to take place.

Cal Water points out that the Kern River Valley District surrounds Lake Isabella and in 2006, Isabella Dam was found to be too unstable to hold water at full capacity. Approximately 40% of a full reservoir had to be let out to restabilize the earth works. At present the U.S. Army Corps of Engineers will not allow the water level in the lake to exceed 60% of capacity and is conducting extensive seismic stability studies. The Isabella Dam bisects an active fault that could lead to a catastrophic failure if an earthquake occurs along it. This fault was considered inactive when the site was studied in the late 1940s.

Due to the active seismic fault in the Kern River Valley noted in the attached documents and the location of many of the storage tanks in the Kern River Valley system, CWS is requesting approval of the four seismic retrofits as requested in its July 2012 filing for Projects 63896, 65562, 65590 and 67589 at their estimated costs of $102,417; $62,729; $39,569 and $82,137, respectively.

**Attachment - KRV - 63896, 65562, 65590, 67589 1 (Kern Canyon Fault documents)**

**66170 - Construct new well in Lakeland system (Pg 7-10 Ln 9)**

Cal Water requests $666,202 in its 2014 budget to construct a new well in its Lakeland system. DRA recommends disallowance of this project. Additionally, DRA presented caustic language regarding information provided by the company, which was further clarified in Cal Water’s response to a data request issued to Cal Water a couple of days before DRA’s report was issued. Cal Water requests approval for the additional well in its Lakeland system in its Kern River Valley District for the following reasons:

Production from two of the three existing wells continues to decline as the wells get older. With the largest well of the three existing wells out of service per the requirements of the California Waterworks Standards, the two remaining wells can only provide about 50% of the Maximum Day Demand (MDD).
Even if all three wells are operating, they can only provide about 90% of the MDD, and Cal Water must rely on its storage tanks to keep it from running out of water. There are no emergency connections available from adjacent water systems.

The project to construct the additional well is to ensure there is a reliable supply of water for the customers in the Lakeland system. Two of the three existing wells have had a significant drop in production, which, if it continues, will jeopardize the Kern River Valley District’s ability to provide that reliable supply. There are no emergency connections available with adjacent water systems. The additional source will also allow the wells whose production have dropped to be taken out of service for maintenance to the well and/or its related equipment as needed.

Property adjacent to the existing treatment plant has already been purchased; a portion of it will be used for this well construction. Therefore, Cal Water is requesting approval Project 66170 in its 2014 capital budget at the estimated cost noted, which does not include a component for property.

Cal Water would also like to address the assertion in DRA’s report relative to this project that Cal Water “failed to provide accurate information, whether intentionally or inadvertently” relative to its response to Data Request JAU-007. In response to DRA’s request for MDD for each year between 2008 and 2011, CWS provided the following information: “As the Lakeland System does not have SCADA or take daily readings, the company is unable to provide this data.” This statement was provided by the Local Manager for the Kern River Valley District.

Based upon Cal Water’s response to this data request, DRA questioned Cal Water’s basis for the requirement for this well if Cal Water did not know the maximum amount the company needed to supply the customers in the system. DRA next noted that it was able to obtain the MDD from a CDPH 2011 Sanitary Survey Report (copy attached), dated November of 2012, for the Lakeland System. Based upon the information in the CDPH report that noted a MDD of 40.4 gpm and a combined well capacity of 90 gpm, DRA stated the system had the source capacity to supply a peak hour demand of 60.6 gpm. Therefore, an additional well was not needed.

DRA alleged that Cal Water “has been less than forthcoming in its response to DRA’s Data requests about this same information (DR JAU-007 dated January 7, 2013),” and that “It was not clear why CWS can provide MDD and other pertinent information to CDPH and yet failed to provide this same information to DRA.” They couched this as a “lack of candor” on behalf of Cal Water and as a “clear and troubling example.” There were other assertions noted in DRA’s report regarding the information supplied to them versus what they were able to obtain from CDPH. In their report, they stated “Ratepayers are also harmed when it leads the analysis and
decision making to erroneous conclusions. At this time, DRA recommends the Commission put
CWS on notice for not providing the necessary information when provided."

It is important to address several points here. First is the November 2012 CDPH
Sanitary Survey Report that DRA referenced as the basis for a number of its assertions. Some
of the information in that report came from another report that is submitted on an annual basis
by Cal Water to CDPH’s Drinking Water Program (copy attached). In the Drinking Water
Program report, which is essentially a form in which information is inserted by water system
personnel, on page 3 there is a location for the Maximum Day usage (MDD) for that year.
However, there is a footnote attached to that Maximum Day category that states, “Only report
Maximum Day if it is actually measured or determined from production records. It should not be
the average day demand during the maximum month of production.” As the production meters
are not read daily as noted in the data request response, Cal Water does not insert a number in
the Maximum Day area, but provides the monthly total for the Maximum Month. This number
was 2,335 Ccf for the month of August in 2011. It would appear that the basis of the MDD in the
2012 Sanitary Survey report from CDPH that DRA referenced (bottom of page 1 and top of
page 2 of that report) was based upon the Maximum Month information Cal Water submitted in
its report to the Drinking Water Program. However, the 40.4 gpm noted in that Sanitary Survey
Report as the MDD was actually the Average Day Demand in the maximum month in 2011,
calculated by dividing the maximum production month in 2011, that being August, by 30
days(even though August has 31 days): (2,335 Ccf x 748 gal/Ccf) /(30 days x 1,440 min/day) =
40.4 gpm. The Sanitary Survey Report goes on to note that the 40.4 gpm reflects using a
peaking factor of 1.5. However, it does not appear as that was the case, otherwise the MDD
should have been noted as 60.6 gpm (40.4x1.5).

MDD is addressed as follows in Chapter 16 of the California Waterworks Standards
(WWS), §64554. New and Existing Source Capacity (copy attached):
(b)(2) If no daily water usage data are available and monthly water usage data are available:

(A) Identify the month with the highest water usage (maximum month) during at least
the most recent ten years of operation or, if the system has been operating for less than
ten years, during its period of operation;
(B) To calculate average daily usage during maximum month, divide the total water
usage during the maximum month by the number of days in that month; and
(C) To calculate MDD, multiply the average daily usage by a peaking factor that is a
minimum of 1.5.
(c) Community water systems using only groundwater shall have a minimum of two approved
sources before being granted an initial permit. The system shall be capable of meeting MDD
with the highest-capacity source off-line.

On the top of page 2 of the Sanitary Survey Report, CDPH states, “The current source
capacity (90 gpm) exceeds the estimated Maximum Day Demand (40.4 gpm) and the estimated
peak hour demand of 60.6 gpm. The central RO treatment plant, which receives and treats
groundwater from two of three wells, has a capacity of 100 gpm; thus, it is adequate to meet the
maximum day demand.” However, there several important issues that Cal Water has with the
preceding statements.

First, as noted above, the MDD based upon the Maximum Month data for 2011 and
application of the WWS should be 60.6 gpm and not the 40.4 gpm noted.

Second, it should be noted that these calculations are based upon the quantity of water
that exits the RO plant. The 2,335 Ccf for August of 2011 was the quantity of finished water
available to the customers, not the raw water entering the RO plant. The CDPH wants the
finished water amount listed in the submittal Cal Water makes annually to the Drinking Water
Program. However, what this does not take into account is the RO plant efficiency relative to
the amount of raw water it takes to get the finished water quantity noted. In August of 2011, the
quantity of raw water entering the RO plant was 4,051 Ccf to get a finished water quantity of
2,335 Ccf, which meant there was a “waste” of about 40%. Constituents being removed in the
treatment process include fluoride, nitrates and radionuclides. Therefore, with a MDD of 60.6
gpm of finished water, it would take a raw water flow of 101 gpm (60.6gpm/0.6). As noted in
the Sanitary Survey Report, the current wells produce 90 gpm, which was verified by the well
logs for August of 2011 that showed a combined production of 88 gpm. Therefore, the existing
well capacity of 90 gpm is not capable of meeting the MDD of raw water of 101 gpm. For
comparison, the maximum month in 2012 was July with a finished water quantity of 2,700 Ccf
and a raw water quantity of 4,513 Ccf, again approximately 40% waste through the plant. Using
these quantities would result in a raw water MDD of 113 gpm ((4,513Ccf/748 gal/Ccf)x1.5/1440
minutes), even higher than the 2011 figure.

Third, Section (c) above in the WWS notes “The system shall be capable of meeting
MDD with the highest-capacity source off-line.” The production from the three wells is
comprised of 28, 20 and 40 gpm flow rates. If the largest well that produces 40 gpm was taken
off-line, that leaves approximately 50 gpm of raw water available for the MDD, when the
requirement is 100 to 110 gpm.
Based upon the above analysis, and clarification of the flow rates required relative to MDD, Cal Water requests approval to construct the additional well in its Lakeland system. Cal Water also requests an acknowledgement from DRA that Cal Water was not intentionally withholding information requested, and that DRA retract its recommendation that “the Commission put CWS on notice for not providing the necessary information when requested.”

Attachment - KRV - 66170 2 (Drinking Water Program)
Attachment - KRV - 66170 3 (Excerpt from CH16 of WWS)

61355, 64293, 71193, 71194, 71197 - Equipment Purchase (Pg 7-12 Ln 19)

Cal Water requests the following capital projects be approved:

- 61355 – New Handhelds, $19,380, 2013
- 64293 – GPS Unit, $7,650, 2013
- 71193 – Point-to-point Radio Controls, $20,268, 2013
- 71194 – Point-to-point Radio Controls, $20,268, 2014
- 71197 – Point-to-point Radio Controls, $20,268, 2015

The point-to-point radio control equipment (71193, 71194, 71197) proposed to be purchased and installed in each of the three GRC capital budget years is intended to address ongoing inability to monitor the storage tanks throughout the Kern River Valley District on a timely basis. The Kern River Valley systems are spread out over a large area that make it virtually impossible to monitor all, or even the most critical, of the storage tanks on a frequent enough basis during periods of high demand by literally visiting each site. This can result in some tanks reaching critically low levels, and in some cases be completely emptied. The levels in the tanks can also be affected significantly by mainline leaks and/or supply restrictions due to wells or treatment facilities off-line. The proposed radio control equipment will address this issue with a defined installation schedule spread out over a three-year time frame. As such, they are not of an emergency nature for which non-specific funds are used. Therefore, these specific projects (71193, 71194 and 71197) should be approved as requested in Cal Water’s July 2012 filing.

The new handhelds capital project (61355) is intended to replace existing meter reading handheld units that are no longer repairable or compatible with current billing software, with new units.

213
Project 64293 is to purchase a portable GPS unit. This purchase will allow KRV to locate and tie-down hard to locate facilities and forward this information to our Engineering Group for inclusion in the Company’s GIS system.

DRA recommends use of non-specific funding to address these projects, citing historical non-specific purchases made by the company of related items.

Cal Water does not agree with moving these equipment purchases to non-specific. Non-specific purchases should be reserved for those purchases that are more emergency or immediate in nature. The equipment purchases requested are planned capital purchases. In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital expenditures. DRA has not objected to these projects, DRA only where they should be charged to. Cal Water requests that the Commission approve these projects as specific projects for the reasons stated above.

12.3 CARRYOVER PROJECTS

12.3.1 Advice Letter Projects

Not applicable

12.3.2 Non-Specific Carryover Projects

13565, 52028, 52029, 52048, 55089, 68270, 75613, 75693, 77113, & 74653- Non-specific carryovers from 2012 (Workpapers)

These projects are in use and useful, benefiting customers today, and should not be disallowed or adjusted.

71153- Construct 22k tank in Lakeland (Workpapers)

Cal Water requests $181,348 for construction of a 22,000 gallon tank in its Lakeland system. Cal Water disagrees with DRA’s disallowance of this project given its classification as a carryover, non-specific project. Cal Water proposed this project as a 2011 non-specific item due to the need and urgency associated with its replacement given its severely deteriorated condition (as noted in the attached inspection report conducted in 2010) and given the importance/criticality of the station relative to the Lakeland system supply. Cal Water has made significant progress on this project recently and requests approval.
This project will replace the existing 42,000 gal tank at Station 8 with a 22,000 gal tank. A second 22,000 gal tank will also be constructed at Station 8 as part of proposed WO 64669 in 2014, which has been recommended for approval by DRA. Located at Station 8 is the treatment facility that provides 100% of the supply to the Lakeland system. The existing 42,000 gallon tank stores finished water from the treatment plant and pumps then distribute this supply to the system. Supply would be lost if the tank fails and therefore its replacement is of critical importance. At the completion of both projects, the site will have two tanks which will allow routine inspection and repair of both tanks to significantly extend their useful life. Site size constraints have delayed this project. Recently, Cal Water was successful in purchasing an piece of property adjacent to Station 8 upon which to construct the replacement tanks. Design will commence shortly and construction will follow. Targeted in-service date is 1st quarter 2014.

Attachment - KRV - 71153 1 (Tank Inspection Report)

12.3.3 Specific Carryover Projects

20285 – Relocation and Installation (Workpapers)
Cal Water received approval in the 2009 GRC for $494,500 for Installation of 4,250’ of 6-inch PVC to replace 4-inch steel main and relocation of 42 services. In response to DR PPM-004, Cal Water provided an updated actual project cost. The final cost of this project to be in-service was $516,205. DRA recommends allowance of the project at $494,500. The project was completed in early 2012 at a cost approximately 4% over the amount approved in the 2009 GRC. Cal Water requests the total completed cost should be allowed in plant in service.

20408 - Paint Exterior Complete – Sta. 8 Tank 1 (Workpapers)
Cal Water received approval in the 2009 GRC for $23,900 to paint the exterior of Sta. 8 Tank 1. In response to DR PPM-004, Cal Water provided an updated actual project cost. The final cost of this project to be in-service was $58,424. The additional charges were incurred from the following:
1) Actual bid costs were higher than originally anticipated.
2) Capital interest was accrued for a period of four months prior to closing the project
3) Overhead cost & miscellaneous charges to cover for CWS labor and unforeseen issues during the work in progress.
DRA recommended approval of the project at the lower cost. Cal Water requests that this project not be disallowed or adjusted because it is used and useful and providing benefits to customers.

**20667- Countrywood Interconnection Carryover (Workpapers)**

Cal Water received approval in the 2009 GRC for $192,300 for installation of 1,200' of 6” PVC main. Cal Water requests approval for the actual cost of the project of $219,055 for the following reasons:

The actual cost difference of $25,014 is about a 13% increase when compared to that approved in the 2009 GRC.

The approved 2009 project budget included construction overhead of 8.0%. Cal Water currently applies a DRA-accepted 20% construction overhead to all capital projects. Applying the 20% construction overhead factor to the original project subtotal results in an adjusted budget of $213,667 as noted below, which is 2.45% lower than the actual project cost of $219,055.

<table>
<thead>
<tr>
<th>Project 00020667 Scope Items</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
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</tr>
<tr>
<td>Miscellaneous Construction Materials</td>
<td>$90.56</td>
</tr>
<tr>
<td>Facilities Installation</td>
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<tr>
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<tr>
<td>Construction Overhead (%)</td>
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<td><strong>2009 GRC Settlement Approved Budget</strong></td>
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<table>
<thead>
<tr>
<th>Project 00020667 Scope Items</th>
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<tr>
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<tr>
<td>Subtotal</td>
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<tr>
<td>Construction Overhead (%)</td>
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</tr>
<tr>
<td>Construction Overhead ($)</td>
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<tr>
<td><strong>Adjusted Budget</strong></td>
<td><strong>$213,667</strong></td>
</tr>
</tbody>
</table>

The project is complete, in service, used and useful and providing benefits to customers. Cal Water requests that the project be included in rates.
12.4 ATTACHMENTS

The attachments listed below are located in Book 5.

Attachment - KRV - 63896, 65562, 65590, 67589 1 (Kern Canyon Fault documents)
Attachment - KRV - 66170 2 (Drinking Water Program)
Attachment - KRV - 66170 3 (Excerpt from CH16 of WWS)
Attachment - KRV - 71153 1 (Tank Inspection Report)
CHAPTER 13 KING CITY PLANT ADDITIONS

13.1 INTRODUCTION

13.1.1 Global Responses
Global Rebuttal Responses can be found in chapter 2 of this book. The following capital projects are part of the global response for this district:

- 63798 – Itron (Pg 7-11 Ln 23)
- 68891 – 2-way voice radio (Pg 7-10 Ln 22)(Section 2.6)
- 79966 – RAMCAP (Pg 7-12 Ln 14)(Section 2.4)
- 109-NON-SP
- KCD0900 – Meter Replacement (Pg 7-12 Ln 6)

13.2 ADVANCED CAPITAL BUDGE SPECIFIC PROJECTS

64334 - Remodel customer center (Pg 7-8 Ln 11)
This project is currently in progress and Cal Water request the Commission to allow this project. The current office space needed to be remodeled to provide room for water quality activities and proper employee ergonomic workstations. The office space needed a proper sink that can be used for sampling, as well as equipment calibration. Please see the attached photo from the Visalia district, as well as a letter from the Water Quality Project Manager to show the intent and need for the sink. In addition, Cal Water's Human Resources Department is standardizing updating the safety and ergonomic workstation standards for all districts. Ergonomic measures are needed to avoid long-term injury and short term re-injury of existing employees due to the existing office equipment.

Attachment- KC_64334_Attach 1_64334_KC VisaliaSink.jpg
Attachment- KC_64334_Attach 2_E. Furtado.docx

21303, 50528, 51168 – Main Replacement (Workpapers)
Cal Water requests the Commission to approve these three pipeline projects, which are designed to improve pressure to Cal Water Customers in the King City District. DRA contends that these projects are being proposed based on recommendations of Cal Water's King City's
Water Supply and Facility Master Plan (WSFMP) to meet the requirements of future growth and that Cal Water’s minimum pressure criteria of 40 psi is overly conservative.

Cal Water agrees that Figures 7-1 and 7-2 should have been included along with the other figures when submitting the justifications for these projects. However, Cal Water it disagrees with both DRA assertions, that the pipelines proposed in these projects are intended to meet future growth and that the criteria that it utilizes to evaluate system pressure is too conservative.

GO 103-A Section VII.6.C. Changes to Existing Distribution Systems states:

“Changes shall be designed to maintain an operating pressure at each service connection of not less than 40 psi during PHD. If a utility cannot meet this requirement as a result of cost and/or system limitation, the utility must request an exemption in accordance with Section I.8.A of this General Order.”

As DRA noted in its report, Figure 7-1 identifies locations of low pressure in the existing system, figure 7-2 indicates where hydraulic restrictions are located in the existing system, and that a portion of Project 21303 would be installed in an area identified as having excessive head loss. Figure 7-5, although developed to illustrate future system improvements, and Figure 8-1 both denote pipeline improvements in San Antonio Drive. and Broadway Street as “Existing” recommendations. Figure D-1 from Appendix D denotes these same reaches, along with the pipeline installed under Project 21268 as improvements required to resolve hydraulic deficiencies.

Project 21268’s original alignment was proposed to be installed in San Antonio Drive and Broadway Street Dr between Mildred to Bedford and as recommended by the WSFMP. See Attachment 1. When in late 2010, Cal Water representatives met with City of the King City engineers to review the design of the project for permitting purposes. Cal Water was they were informed that the proposed pipeline route traveled through contaminated soil near the intersection of Broadway Avenue. and San Antonio Avenue (see attachment 1). There is an active clean-up site located at 1140 Broadway Street, and known as Terrible Herbst #100. This site that includes soil vapor extraction wells located on both sides of the street. San Antonio Drive. has been realigned and the contamination emanates from an abandoned gas station that was located in what is now the middle of the San Antonio Drive. Installation in the original alignment would have required special precautions to protect construction workers and the public. The soil removed as part of the pipeline installation would have to be treated as a hazardous waste. Finally, the petroleum product in the soil and could have led to permeation
of the soil contaminant into the pipeline through the gaskets, where the pipelines segments are connected.

Thus Cal Water determined that safest and best cost alternative was to reroute the pipeline to the alignment indicated in Project 21268. The reaches in San Antonio and Broadway as proposed in the WSFMP were intended to work in tandem. Therefore, realignment of the San Antonio Drive reach necessitates similar realignment of the Broadway Street reach. Extension of Project 21268 as a replacement for the Broadway Street extension was the logical choice for Cal Water.

As such, Cal Water maintains that these three projects will eliminate hydraulic restrictions that exist in the system, will improve transmission of system supply to the King City existing customers, and improve system pressure as allowed by GO 103-A.

Attachment- KC_21303, 50528, 51168  Attach 1.jpg
Attachment- KC_21303, 50528, 51168  Attach 2.jpg
Attachment- KC_21303, 50528, 51168  Attach 3.jpg
Attachment- KC_21303, 50528, 51168  Attach 4.jpg
Attachment- KC_21303, 50528, 51168  Attach 5.jpg
Attachment- KC_21303, 50528, 51168  Attach 6.jpg

63395 - Purchase new imaging system (Pg 7-11 Ln 23)

The district needs this imaging system to consolidate all office functions including copying, faxing, scanning, and to be used for digital archival of records to cut down on paper records management and storage.

DRA does not oppose this project but recommends moving this project to non-specific. Cal Water does not agree with moving this equipment purchase to non-specific. Non-specific purchases should be reserved for those purchases that are more emergency in nature or unanticipated or immediate in nature. The equipment purchase requested is a planned capital purchase. In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases.
**63774 - Replace 4-inch meter (Workpapers)**

DRA recommend moving this project to non-specific adjusted this project to replace 4-inch meter at 440 Jayne Street to

$16,694. Cal Water does not agree with moving this equipment purchase to non-specific. Non-specific purchases should be reserved for those purchases that are planned capital purchase. In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases.

The estimate of $26,275 should be allowed. The 4" service and vault are deteriorated, unsafe and obsolete.

Cal Water does not agree with moving this equipment purchase to non-specific. Non-specific purchases should be reserved for those purchases that are more emergency or immediate in nature. The equipment purchase requested is a planned capital purchase. In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases.

**63939 - Valve operating equipment (Pg 7-11 Ln 23)**

This project and equipment purchase is not only needed and necessary but is a safety concern. Due to the lack of equipment, the existing valves are deteriorating and becoming non-functional. Because the district is limited with man power, therefore it can only exercise the valves on an as needed basis. The new equipment would allow one person to operate valves safely without straining or injuring their back.

DRA does not oppose this project but recommends moving this project to non-specific. Cal Water does not agree with moving this equipment purchase to non-specific. Non-specific purchases should be reserved for those purchases that are emergency in nature or unanticipated. The equipment purchase requested is a planned capital purchase. In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases.

Cal Water does not agree with moving these equipment purchases to non-specific. Non-specific purchases should be reserved for those purchases that are more emergency or
immediate in nature. The equipment purchases requested are planned capital purchases. In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases.

This project and equipment purchase is not only needed and necessary but is a safety concern. Due to the lack of equipment the existing valves are deteriorating and becoming non-functional. Because the district is limited with man power therefore it can only exercise the valves on an as needed basis. The new equipment would allow one person to operate valves safely without straining or injuring their back.

Attachment A- KC_63939_Attachment1_valve1.jpg
Attachment B- KC_63939_Attachment1_valve2.jpg

**KCD0900 – Meter Replacement Program (Pg 7-12 Ln 6)**

Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $34,900, $36,400 and $37,500 for years 2013, 2014 and 2015, respectively. For King City, DRA recommends a reduced budget of $1,500, $1,500 and $1,500 for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:

• PUC General Order 103-A mandates meters be tested or replaced based on age.
• It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s response to DR PR-004.
• Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:
<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8&quot;</td>
<td>20</td>
</tr>
<tr>
<td>1&quot;</td>
<td>15</td>
</tr>
<tr>
<td>1.5&quot;</td>
<td>10</td>
</tr>
<tr>
<td>2&quot;</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in King City in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

18053 - Bitterwater Road Jack and Bore Installation (Workpapers)

The construction of this project is near completion and this project is critical because it is the only pipeline that crosses under the railroad tracks to provide supply to the high zone on the east side of town. Current project costs are higher than the original estimate. The original estimate was written for 150-feet of galvanized steel main installation underneath a railroad crossing at a cost of $329.04 dollars per linear foot. Upon bidding the project, actual costs came in at $880 dollars per linear foot. Additionally, the final railroad permit required additional pipeline distance due to bore pit location, and city setback requirements. These unforeseen requirements led to a total length of 225 feet, rather than the 150 feet estimated. Please see Attach1 for final costs, and Attach2 for an explanation of the change order required for this project.

Attachment- KC_18053_Attach1_Bitter Final Costs.xlsx
Attachment- KC_18053_Attach2_Change order#2 bitterwater.pdf

13.3 CARRYOVER PROJECTS
76334 - New 4-inch service for Mee Memorial Hospital (Workpapers)

This project is in use and useful and should be allowed in rates. This work was necessary to replace two 2-inch meters for Mee Memorial Hospital. A new 4-inch service was installed to accommodate a new 3-inch meter. Mee Memorial Hospital re-plumbed part of its building for temporary service during the re-connect but did not have funds to install the required backflow devices. The work was completed for $15,506 and is still open because Cal Water waited until the hospital was ready to reconnect before installing the device. Everything is now complete.

13.3.1 Advice Letter Projects

Not applicable

13.3.2 Non Specific Projects

76334 - New 4-inch service for Mee Memorial Hospital (Workpapers)

This project is in use and useful and should be allowed in rates. This work was necessary to replace two 2-inch meters for Mee Memorial Hospital. A new 4-inch service was installed to accommodate a new 3-inch meter. Mee Memorial Hospital re-plumbed part of its building for temporary service during the re-connect but did not have funds to install the required backflow devices. The work was completed for $15,506 and is still open because Cal Water waited until the hospital was ready to reconnect before installing the device. Everything is now complete.

70109 & 24490 – Ph Meters (Workpapers)

These projects are in use and useful and should not be disallowed or adjusted.

55128 – Install PVC Cathodic Protection. P. test tube (Workpapers)

The installation of the PVC tubes, to improve the catholic protection testing process, was identified through the company’s continuous improvement principles. It was identified through benchmarking assessment, the installation of this device improves the ability of copper sulfide reference cell to properly enter the tank and maintain the proper distance from the interior tank vertical wall for testing. The installation of these devices is limited to steel tanks with a rounded “knuckle” style roofs. In addition to improving the ability of the reference cell to enter the tank, the PVC test tubes also improve the safety of the individual performing the task. Historically, a
telescoping rod was required to be carried up the tank to guide the reference cell to the proper
location within the tank. Carrying this rod was identified as a climbing hazard because it would
get caught in between the ladder rungs. Installation of these test tubes has been completed
company wide. There are still outstanding invoices causing the project to remain open.

78593 - Gallon Pressure Tank (Workpapers)
A 2,500-gallon hydro-pneumatic tank is needed to replace the old bladder tank at Station
7. The project is currently underway and the budget is still accurate. The tank has been
purchased and fabricated, and the design is complete. This project should be allowed in rates
by the Commission.

13.3.3 Specific Projects

18053 - Bitterwater Road Jack and Bore Installation (Workpapers)
The construction of this project is near completion and this project is critical because it is
the only pipeline that crosses under the railroad tracks to provide supply to the high zone on the
east side of town. Current project costs are higher than the original estimate. The original
estimate was written for 150-feet of galvanized steel main installation underneath a railroad
crossing at a cost of $329 dollars per linear foot. Upon bidding the project, actual costs came in
at $880 dollars per linear foot. Additionally the final railroad permit required additional pipeline
distance due to bore pit location, and city setback requirements. These unforeseen
requirements led to a total length of 225 feet, rather than the 150 feet estimated. Please see
Attach1 for final costs, and Attach2 for an explanation of the change order required for this
project.

Attachment- KC_18053_Attach1_Bitter Final Costs.xlsx
Attachment- KC_18053_Attach2_Change order#2 bitterwater.pdf

13.4 ATTACHMENTS

The attachments listed below will are located in Book 5.

Attachment- KC_64334_Attach 1_64334_KC VisaliaSink.jpg
Attachment- KC_64334_Attach 2_E. Furtado.docx
Attachment- KC_21303, 50528, 51168 Attach 1.jpg
Attachment- KC_21303, 50528, 51168  Attach 2.jpg
Attachment- KC_21303, 50528, 51168  Attach 3.jpg
Attachment- KC_21303, 50528, 51168  Attach 4.jpg
Attachment- KC_21303, 50528, 51168  Attach 5.jpg
Attachment- KC_21303, 50528, 51168  Attach 6.jpg
Attachment A- KC_63939_Attachment1_valve1.jpg
Attachment B- KC_63939_Attachment1_valve2.jpg
Attachment- KC_18053_Attach1_Bitter Final Costs.xlsx
Attachment- KC_18053_Attach2_Change order#2 bitterwater.pdf
CHAPTER 14 LIVERMORE PLANT ADDITIONS

14.1 INTRODUCTION

14.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

- 68892 – Field 2 Way Radio System (Section 2.6)
- 79953 – RAMCAP (Section 2.4)
- 110-NON-SP

14.2 ADVANCE CAPITAL BUDGET SPECIFIC PROJECTS

41127- Paint Interior Complete Sta. 18 Tank 1 (Workpapers)

DRA recommends approving this project for a lower cost. Cal Water originally estimated $211,236 for this project. DRA recommends $139,806 in part due to lower cost per square foot comparables and duplicated cathodic protection work that is being completed under PID 54968. Cal Water agrees that the unit price can be decreased and the cathodic protection should be eliminated. Cal Water estimates a new amount of $155,100.

Attachment-LIV 41127_Attach 1_Revised Estimate for Rebuttal 3_2013

50668- Paint Interior, Upgrade, Install Manway at Sta. 22 T 1(Workpapers)

DRA’s recommendation of deferring this project to a future GRC based on the “good” condition of the metal is not conducive to preventive maintenance. Cal Water requests that the Commission include this project in this case at the original estimated cost.

Cal Water assesses exposed metal to determine the integrity of the steel substrate. Since the protective coating has already failed at this location, the inspection identifies the metal loss of the exposed steel. The purpose of this inspection is to both rate the severity of the metal loss and further determine the effectiveness of the CP system. Three levels of exposed steel ratings are indicated by the Society of Protective Coating guidelines. Good – no metal loss; Etched, minor metal loss generalized; Pitted or Grove – moderate metal loss. Thus, the metal assessment performed is indirectly related to the condition of the coating.

The purpose of the identified project is to replace the deteriorated coating, in order to retain the integrity of the steel substrate. The “good” condition of the metal is the result of a properly maintained
tank which has an effective protective coating and CP system. The deterioration of the coating is what we focus on during inspections, since this is the primary barrier to prevent metal loss occurring from corrosion. Failure to address the protective coating at this time will cause the CP system to overwork, become less effective, and ultimately lead to metal loss. Deferring the project to a future GRC will cause continual coating degradation and CP overworking, possibly causing irreparable harm to the structural integrity of the tank, and ultimately resulting in interruption of service, water quality issues, costly repairs, or even replacement of the tank.

Although the larger man-ways appear to be convenience related, engineering assessment has deemed the 30 inch size critical for proper maintenance and tank accessibility. Cal Water has identified the replacement of older 20 inch man-ways to 30 inch man-ways for various maintenance reasons. First, the 20 inch man-ways are highly difficult to maneuver industrial equipment through. For tank cleaning, pressure washers are used to remove oil and other foreign material from the tank surface. With small man-ways, maintenance staff is forced to leave the pressure washers outside the tank and use longer hoses. Similar to distribution dynamics, the pressure is greatly reduced the further the nozzle is from the pressure source. Therefore the effectiveness of the cleaning the upper portion of the tank is greatly reduced. Second, during interior coating activity, scaffolding, surface preparation and coating equipment are required to be mobilized inside the tank. The 20 inch man-way greatly limits the efficiency of the equipment installed, ultimately leading to more time and costs.

50728- Paint Interior, Upgrade, Install Air gap and Manway at Sta. 22 T 2

(Workpapers)

DRA agrees with the cost and need for this project with the exception of the installation of the larger manway. DRA recommends a reduced cost for this project. Cal Water recommends the full budget for this project as it deems the larger manway important for maintenance reasons.

Although the larger manway appears to be a matter of convenience, engineering assessment has deemed the 30 inch size critical for proper maintenance and tank accessibility. Cal Water has identified the replacement of older 20 inch man-ways to 30 inch man-ways for various maintenance reasons. First, the 20 inch man-ways are highly difficult to maneuver industrial equipment through. For tank cleaning, pressure washers are used to remove oil and other foreign material from the tank surface. With small manways, maintenance staff is forced to leave the pressure washers outside the tank and use longer hoses. Similar to distribution dynamics, the pressure is greatly reduced the further the nozzle is from the pressure source. Therefore the effectiveness of the cleaning the upper portion of the tank is greatly reduced. Second, during interior coating activity, scaffolding, surface preparation and coating equipment are
required to be mobilized inside the tank. The 20 inch man-way greatly limits the efficiency of the equipment installed, ultimately leading to more time and costs.

54968- Upgrade Cathodic Protection System for Station 18 Tank

DRA recommends approval of the coating system for this tank under PID 41127 discussed previously. However, DRA recommends eliminating the cathodic protection system for this tank as it would not be needed with the new coating. Cal Water contends that the CP system and coating work in unison to preserve tank steel components. Cal Water requests the Commission approve this project at the original cost because the CP system was removed from PID 41227.

A new CP system is required to upgrade from a manual system to an Auto-Potential system to provide precise amount of current to protect the new epoxy lining system. CP systems works in parallel with the coatings to reduce the corrosion of the tank substrate. It is important to have both an effective coating along with a working CP system to maintain maximum structural integrity of the tank. Although coatings provide primary corrosion protection, it often contains flaws, holidays when first applied and further degrades with time. A conjoint use of coatings and cathodic protection system will result in most economic protection system.

56528- Chloramination at Sta 18 (Pg 7-18, Ln 5)

DRA agrees with the need for this project but disagrees with the capitalized interest calculation. Cal Water maintains the need for the original estimate. Regarding capitalized interest, please see Global Rebuttal Section.

56531- Replace 100K Gallon Redwood Tank Sta 11 (Pg 7-17, Ln 1)

DRA agrees with the need for this project but disagrees with the capitalized interest calculation. Cal Water maintains the need for the original estimate. Regarding capitalized interest, please see Global Rebuttal Section.

56569- Install Chloramination at Sta 14 (Pg 7-18, Ln 5)

DRA agrees with the need for this project but disagrees with the capitalized interest calculation. Cal Water maintains the need for the original estimate. Regarding capitalized interest, please see Global Rebuttal Section.
DRA’s report recommends disallowing these two projects. Cal Water believes that these two projects are necessary and requests Commission approval for the full amounts that were proposed. Cal Water provides water that is secondarily disinfected with chloramines, which is a controlled ratio of chlorine to ammonia introduced at the effluent of a supply source, or provided in water from our wholesale suppliers.

**Nitrification is a concern:**

In distribution systems, areas where water is stagnant or stratified (dead ends or tanks with low turnover) nitrification occurs through microbiological activity. Ammonia Oxidizing Bacteria (AOB) convert ammonia (used for disinfection), to nitrite. Nitrifying bacteria convert nitrite to nitrate. In this process, disinfectant residual is consumed for microbiological activity. The potential for system bacteriological growth and public health risks increase, with less available disinfectant, and more microbiological activity.

A distribution or tank nitrification event could result in a coliform positive at a compliance sampling point, which primarily impacts maintaining regulatory compliance with the Total Coliform Rule.

Secondary concerns include advanced corrosion in customer piping systems causing non-compliance with the Lead and Copper Rule (AWWARF “Chloramine Effects on Distribution System Materials”).

**Nitrite is an Indicator, not a concern:**

Nitrite is an intermediate product of the nitrification process, and is converted to nitrate through mostly microbiological activity. Therefore it is used as an indicator of the process.

The DRA Response to Cal Water on proposed tank turnover projects cites that Nitrite levels do not reach the MCL of 1.0 mg/L, and the Chlorine residuals are not below the minimum requirement of 0.2 mg/L. Although these are compliance limits enforced by the California Department of Public Health (“CDPH”), the intent is for supply disinfectant residuals and Total Coliform Rule compliance respectively.

**Nitrification Action Plans:**

CDPH has required Cal Water to develop nitrification control plans which identify nitrification-prone areas of chloraminated distribution systems. The letter where CDPH has acknowledged Cal Water’s nitrification control plan has been included.

Once a nitrification event has been identified, measures must be taken immediately to control and cease the event. These measures are time-sensitive and can have a significant impact to operations.
Absent of defined regulatory nitrification control limits, Cal Water has developed the required nitrification control plans by referencing Drinking Water Industry Standards as advised by the American Water Works Association (AWWA) and the respective guidance documents (Manual M56). As part of the nitrification control plan, the advised control and response levels of nitrite within system tanks and distribution system is 0.01mg/L and 0.015 mg/L respectively. For the purpose of the Cal Water specific plan and the need to define a clear range of field instrumentation, the response level is adjusted to 0.02 mg/L for Nitrite.

Although 0.2 mg/L of chlorine residual does represent compliance for surface water supplies, the decline in chlorine concentration can be used to indicate 1) dissociation of chloramines (which creates free ammonia) and 2) bacteriological demand. These two factors along with stagnant or stratified water create the perfect setting for nitrification and a potential total coliform positive.

**Tank Nitrification Impacts Operations:**

As part of the nitrification response for tanks, the nitrifying tank is isolated from the distribution system and break-over chloramines to free chlorine is practiced. This typically requires rigorous tank cycling, discharging thousands to millions of gallons of water to waste, and high frequency of monitoring field nitrite and chlorine residuals to determine the endpoint of the nitrification event. Performing these corrective actions especially on larger tanks, can significantly impact operations. In some cases, the tank may need to be taken out of service for long periods of time, thus reducing water supply for fire flow and emergencies, and increasing maintenance since the cathodic protection system within the tank needs water to operate successfully.

**Mixing is an effective aid to prevent Nitrification:**

The root cause of nitrification is related to stagnant and stratified water. Stratification promotes uneven chloramine residuals and temperature variations.

Introducing a tank mixing system that keeps water constantly moving is a preventative measure to address nitrification and helps alleviate the need for corrective steps after a nitrification event has already occurred.

**Proper mixing provides:**

- Greater representation of tank contents (due to homogeneous mixing)
- Prevention from water stagnation and stratification, less opportunity for bacterial activity
- More consistent chloramine residual, less dissociation to create ammonia.

Attachment- LIV 56571, 56573 1
**56572 – Install 8” mains and PRV Wetmore Rd (Pg 7-10, Ln 23)**

DRA recommends disallowing this main as it does not see the benefit of the project, there is limited leak information, and the revised cost is higher than requested. Cal Water recommends the Commission approve this main at the higher cost because this project will improve water quality to customers in this area.

The primary purpose of this project is to address water quality and ensure safe drinking water to customers along Wetmore Road. Cal Water is proposing to loop two 8” dead end mains between Lagiss and Talinga Drive, which will improve circulation and eliminate stagnation of water. Approximately 600 linear feet of 8” PVC pipe will be installed to connect the two dead end mains together (Attachment 5 - map).

Additionally, a 12” pressure reducing valve is being proposed at the intersection of Siena Road and Bresso Drive to allow water to flow from Pressure Zone 690 to 610. This will also improve circulation within the vicinity, and help move water from the 12” and 8” mains in Wetmore Road towards the lower pressure zone. Moreover, as part of Cal Water’s efforts to eliminate stagnant water in the distribution system, two normally closed valves located east of the corner of Wetmore and Hansen Road will be opened, which will shift the zone line easterly towards the new 12” pressure reducing valve. The shifting of the zone line will move 10 houses from the lower zone (610) to the higher zone (690), increasing the static pressure from 70 psi to 100 psi in the newly re-zoned area. In order to keep the pressure to a reasonable level, individual pressure reducing valves will be installed at the meter for each of the 10 houses.

Regarding the discrepancy in the project estimate and the Advance Capital Budget (ACB), the ACB was written before the actual quotes from vendors were received. The contractor cost in the ACB was based on previous projects, but the quotes attached in the project justification reflected the required amount of $351,283. Cal Water requests the Commission to approve the project in this case at total budget of $351,283.

Attachment A- LIV_56572_Attach 1_Customer work order.pdf

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**56574 – Replace 50,000 Gallon Redwood Tank at Sta 10 T 1(Workpapers)**

Cal Water maintains its original position regarding this project. The existing 59 year old redwood tank is in very bad condition on the interior and is in need of replacement. All the statements in the original justification are still accurate and applicable. Please see the attached documents for the Cal Water tank inspection report, additional pictures of the tank, and a letter from CDPH to our Los Altos district stating that providing an air gap and overflow screen is a requirement. This requirement is
applicable to all Cal Water districts. This is an important station and project to Cal Water to maintain water quality throughout the distribution.

Attachment – LIV 56574 1 Tank Inspection Report
Attachment – LIV 56574 2 Tank Inspection Letter
Attachment – LIV 56574 3 Pictures

56749, 63824- Purchase Land and Construct New Well in Zone 610 (Pg 7-19, Ln 7)

Cal Water maintains its position of needing additional land and supply in the 610 pressure zone and disagrees with DRA’s recommendation to disallow this project.

Please see the attached ‘Letter of Support’ from Zone 7 for this intention, RESOLUTION NO 13-4230, Water Supply Reliability Policy, Goal 2, ‘Zone 7 Communications’ and other attached documents for further understanding of the need to drill wells in CWS LIV pressure Zone 610.

Please see the responses below to DRA Chapter 7 comments.

1) **CWS consistently meets or exceeds its pumping quota set by Zone 7;**

Cal Water agrees. This however is irrelevant to the assessment of need for additional source capacity in the 610 zone to meet maximum day demand (MDD) and peak hour demand (PHD).

Title 22 Section 64554 (a) states:

> At all times, a public water system’s water source(s) shall have the capacity to meet the system’s maximum day demand (MDD).

and

Title 22 Section 64554 (a)(3) state:

> Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone.

Therefore Cal Water must determine whether it sources can reliably meet its customer’s MDD and PHD. A detailed analysis of the 610 zones sources to meet these requirements follows the responses to DRA’s specific assertions.

2) **CWS’s definition for firm pumping capacity is unreasonable and is not a regulatory standard;**

Cal Water disagrees with both contentions.

Title 22 Section 64554 (c) states:

> … The system shall be capable of meeting MDD with the highest-capacity source off line.

Cal Water’s experience in its Stockton district and elsewhere where its purchased supply constitutes its primary source dictates that it must evaluate the reliability of that supply and as such its ability to
meet the MDD and PHD (where applicable) supply requirements of Title 22. Zone 7 does constitute the largest source for Livermore’s 610 zone. As indicated in the attached copy of Zone 7 Board of Director’s Resolution 13-4320, Zone 7 has committed to being able to provide 80% of its customer’s maximum month contractual demands in the event that one of their supply facilities experiences an outage. Therefore the detailed assessment that follows utilizes this criterion as in assessing the zones firm supply.

3) **Complete loss of Zone 7 water supply is not likely;**

Severe medium to long term reductions in supply from Zone 7 could occur should its raw water source be interrupted. A plausible cause is a major earthquake that either causes severe damage to the Sacramento-San Joaquin River Delta or an outage of the its raw water supply conveyance, the South Bay Aqueduct. Zone 7 supply can be compromised from time to time for various reasons, for emergency repairs, maintenance etc. Please see the attached document named ‘**Zone 7 Conversations**’ for instances when Cal Water supply has been affected due to issues with Zone 7 supply lines. Also attached, entitled is a letter from Zone 7’s General Manger that supports out intention of drilling a well to avoid any inconvenience to our customers.

4) **Unknown capacity for the proposed pump;**

The well’s yield or capability to produce water will be determined based on specific tests performed after it is drilled. As such, the pump’s capacity cannot be determined until well construction and the pumping tests are completed. The assessment that follows indicates that a deficiency of 2601 GPM would exist at peak hour assuming the 20% reduction in Zone 7 supply. Hence we will need to drill well(s) in the 610 pressure zone to compensate for that need.

5) **Unknown location of the proposed well;**

The location of the proposed well is still unknown as CWS will pursue the finding of the property when the project is approved. The land project # 63824 is tied to the well drilling project # 56749.

6) **A well is currently being built in Zone 610;**

An attempt was made to complete the well in Zone 610 authorized in the 2009 rate case. It was not completed because of water quality issues detected during the sampling of the test well drilled on the purchased property. Zone Specific Testing revealed high levels of arsenic and conductivity. Additionally, the capacity of the well was very low.

**Justification to prove the need for the new well in 610 zone for self-reliability:**

Title 22 Section 64554 (b)(1) states:
If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD; determine the average hourly flow during MDD and multiply by a peaking factor of at least 1.5 to obtain the PHD.

The highest MDD in the Livermore district, **21.11 MGD**, occurred in 2004. Customers in the 610 zone comprise approximately 34% of the total district usage.

2004 MDD = 21.11 MGD

Zone 610 MDD = 0.34 * 21.11 = **7.1774 MGD**

Cal Water’s Projected Maximum Month Turnout Deliveries from Zone 7 turn outs are listed in the following table.

<table>
<thead>
<tr>
<th>Turnout from Zone 7</th>
<th>MG/Month of September 2013</th>
<th>MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWS-4</td>
<td>20</td>
<td>0.67</td>
</tr>
<tr>
<td>CWS-6</td>
<td>64</td>
<td>2.13</td>
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<tr>
<td>CWS-9</td>
<td>74</td>
<td>2.47</td>
</tr>
<tr>
<td>CWS-10</td>
<td>65</td>
<td>2.17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>223</strong></td>
<td><strong>7.43</strong></td>
</tr>
</tbody>
</table>

610 Zone Well Capacity

<table>
<thead>
<tr>
<th>Well</th>
<th>GPM</th>
<th>MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sta 15</td>
<td>364</td>
<td>0.52416</td>
</tr>
<tr>
<td>Sta 20</td>
<td>385</td>
<td>0.5544</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>749</strong></td>
<td><strong>1.07856</strong></td>
</tr>
</tbody>
</table>

As noted above per RESOLUTION NO 13-4230, Zone 7 is committed to provide at least 80% of the maximum month contractual demands.

Maximum Day Demand versus 610 zone supply assessment

Zone 7 firm supply = 7.43 MGD * 0.8 = 5.94 MGD or 8,559 GPM

610 zone wells 15 & 20 capacity = 1.08 MGD or 749 GPM

Total MDD firm supply = 5.94 MGD + 1.08 MGD = 7.02 MGD

610 zone MDD = 7.18 MGD

Supply – Demand = Surplus(+) or Deficit(-)

7.02 MGD – 7.18 MGD = -0.16 MGD
The 610 zone has a single booster pump located at Station 23 to assist in meeting PHD. The rated capacity of this pump is 1400 GPM or 2.02 MGD.

Peak Hour Demand versus 610 zone supply assessment

Total PHD firm supply = 7.02 MGD + 2.02 MGD = 9.04 MGD

Zone 610 PHD = 7.178 X 1.5 = 10.77 MGD

Supply – Demand = Surplus(+) or Deficit(-)

9.04 MGD – 10.77 MGD = -1.73 MGD

Livermore’s 610 zone’s demand exceeds its firm supply capacity for both the MDD and PHD conditions. Therefore Cal Water needs to add additional land and well capacity in the 610 zone to reliably meet its customers demand per Title 22 requirements in the event of an emergency that requires Zone 7 water to call for the 20% reduction in its deliveries.

DRA recommends approving the pump and panel board portions of this project, but recommends disallowing the building and emergency generator. Cal Water maintains its position regarding this project that the entire scope should be approved by the Commission.

A new building is necessary at this site to house the panel board and one vertical turbine pump. Three other vertical turbine boosters will be in shelters outside. Cal Water contends that it cannot use the existing building for the new panel board because the building height will not allow for a full size panel board and the necessary concrete foundation. Additionally, this site has had significant vandalism issues in the past. The building is needed to protect the electrical equipment from tampering and vandalism.

The generator is proposed to replace the failing natural gas booster. Additionally, DRA contends that a power failure would not impact all of the six stations that pump into this zone at the same time. This is not the case because the other five sites do not have back up power. Removing the generator from the station will reduce Cal Water’s emergency pumping capacity to the 690 zone which is already limited and this could cause problems for customers during emergencies.
64275- Replace Electrical Panel board at Sta 16 (Pg 7-23, Ln 6)
DRA recommends inclusion of this project at a lower cost. Cal Water recommends that the Commission include this project in this case for the original estimate. It is unclear from DRA’s report how it determined the recommended cost for project 64275. Cal Water can only assume that DRA removed capitalized interest and contingency from Cal Water’s estimated cost for the project. Please refer to Cal Water’s global response regarding capitalized interest and contingency. Cal Water adheres to the estimated cost for the project of $159,030.

60794- Install 6” PVC in Aaron Street (Pg 7-10, Ln 17)
DRA agrees with the need for this project but disagrees with the capitalized interest calculation. Cal Water maintains the need for the original estimate. Regarding capitalized interest, please see Global Rebuttal Section.

60839, 60846, 60952, 60973, 61012- Pipeline Replacements (Pg 7-10, Ln 23)
DRA recommend disallowing or deferring these main replacement projects based on a lack of documented leak history. Cal Water requests the Commission approve these projects at the estimated cost in this case. These pipelines meet Cal Water’s guideline for replacement of unlined steel and undersized pipelines.
Please see the Global Rebuttal Section regarding a lack of leaks on pipelines.

64076- Install SCADA RTUs at 4 stations (Workpapers)
DRA recommended complete disallowance for these projects. This is not reasonable. Cal Water recommends that the Commission approve these replacement projects as they are integral to the pumping operations. Please refer to the global rebuttal regarding SCADA RTUs.

65073- Vehicle - 0.5 Ton Pick Up and Outfitting
Project 65073 should be deferred to 2015. It is anticipated that this vehicle should qualify for replacement under CDGS guidelines of 120,000 miles in 2015.
**66878- Install Well Level Transducers (Workpapers)**

DRA recommended complete disallowance for these projects. This is not reasonable. Cal Water recommends that the Commission approve these projects to facilitate automated operations. Please refer to the global rebuttal on well level transducer projects as part of the overall SCADA rebuttal.

**67036- Install 3 Flow Meters at stations 12, 15, and 17**

DRA recommended complete disallowance for these projects. This is not reasonable. Cal Water recommends that the Commission approve these projects to facilitate automated flow recording to help streamline operations. Please refer to the global rebuttal on flow meter projects as part of the overall SCADA rebuttal.

**67047- Replace Data Acquisition Radio System (Workpapers)**

DRA recommends disallowance of this project. This is not reasonable. Cal Water recommends that the Commission approve this replacement project for pump controls as it is integral to the pumping operations and the existing system is old and becoming less reliable.

DRA discusses SCADA generally and then observes: However, although Cal Water has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers. In fact, if there were no SCADA system the Livermore district would have to add four pump operators to maintain the same level of customer service. The remainder of the DRA discussion is unrelated to this radio replacement project.

The data acquisition radio system is a critical component for the SCADA system and has been providing tangible benefits for the ratepayers for the last 10 years. This project will replace the outdated radio equipment, allowing Cal Water to improve the existing SCADA communications system and continue to contain growth in operating costs. Project 67047 should be approved in rates at $116,375.

**67417- Install 25 Power Meters (Workpapers)**

DRA recommended complete disallowance for these projects. This is not reasonable. Cal Water recommends that the Commission approve these projects to facilitate automated power recording to help streamline operations. Please refer to the global rebuttal on power meter projects as part of the overall SCADA rebuttal.

**67420- Install Pressure Transducers (Workpapers)**

DRA recommended complete disallowance for these projects. This is not reasonable. Cal Water recommends that the Commission approve these projects to facilitate automated pressure recording to
help streamline operations. Please refer to the global rebuttal on pressure transducer projects as part of
the overall SCADA rebuttal.

**LIV0900 Meter Replacement Program**

Cal Water requests that the Commission approve its three-year specific 0900 meter replacement
program at the original proposed costs of $152,300, $130,300 and $134,200 for years 2013, 2014 and
2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements was $88,097,
and was not contested by DRA. For Livermore, DRA recommends a reduced budget of $104,896,
$108,043, and $111,284 for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and
escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in
determining future budgets for this program, as the budget for this program is determined not by historical
spending, but by need for replacement. Cal Water’s methodology is described below.
Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its
Westlake GRC capital budget for 2013-2015 for the following reasons:

- PUC General Order 103-A mandates meters be tested or replaced based on age.
- It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s
response to DR PR-004.
- Meters meeting the age criteria to be replaced are made of traditional bronze and were installed
prior to the CA legislation requiring meters to have a weighted-average lead content of not more
than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be
replaced, for each district are determined by the number of meters meeting the following meter age
criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8”</td>
<td>20</td>
</tr>
<tr>
<td>1”</td>
<td>15</td>
</tr>
<tr>
<td>1.5”</td>
<td>10</td>
</tr>
<tr>
<td>2”</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to
provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous
years can be an indication of how many meters of each size may meet the age criteria in future years, it is
not always the case; significant differences do occur, primarily due to variance in housing
improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Livermore in years
2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting
the requirements of General Order 103-A.

**14.3 CARRYOVER PROJECTS**
14.3.1 Advice Letter Projects

14.3.2 Non Specific Carryover Projects

20825, 24467, 75953, 75993, 77619, 77773, 73953, 78874

These projects are in use and useful and should not be disallowed or adjusted.

71693 - Install 12” pipe First Street and Portola Avenue (Workpapers)

This project is currently in progress and should not be disallowed. The project costs are now higher than originally estimated because the City of Livermore required Cal Water to relocate the existing 8” water main due to the installation of a new sewer main.

An additional $16,149 in paving charges was incurred due to the thickness of the existing pavement (up to 24”). Two 12” fabricated piping offsets were needed due to utility conflicts at an additional cost of $32,800. A piping configuration change on Gardella Plaza also became necessary at an additional cost of $27,408.

Original estimate cost - $525,962
Revised estimated cost - $683,775
Attachment- LIV 71693

78574- The installation of the PVC tubes (Workpapers)

The installation of the PVC tubes, to improve the catholic protection testing process, was identified through the company’s continuous improvement principles. It was identified through benchmarking assessment, the installation of this device improves the ability of copper sulfide reference cell to properly enter the tank and maintain the proper distance from the interior tank vertical wall for testing. The installation of these devices is limited to steel tanks with a rounded “knuckle” style roofs.

In addition to improving the ability of the reference cell to enter the tank, the PVC test tubes also improve the safety of the individual performing the task. Historically, a telescoping rod was required to be carried up the tank to guide the reference cell to the proper location within the tank. Carrying this rod was identified as a climbing hazard because it would get caught in between the ladder rungs. Installation of these test tubes has been completed company wide. There are still outstanding invoices causing the project to remain open.

14.3.3 Specific Carryover Projects
In the 2009 Rate Case PID 16949 was settled for $161,000. This settled project did not include any electrical work to the station. Since that time, the station has continued to deteriorate, requiring additional scope, and thus requiring additional costs. Cal Water is now requesting the project budget be increased to $647,616 as it is critical to keep this station operational.

Livermore Station 13 is the only pump station that supplies water to the 730 zone. There are two existing booster pumps that serve this purpose (see attach 1 and 2). Booster Pump B (inside pump building) has already failed and has been inoperable for the last five years. Booster Pump C (outside) is rapidly failing, and is leaking badly. Recently, the pump motor packing had to be replaced, as the pump was leaking so bad that water was ponding around the pump base. This was forming large weeds and potentially undermining the foundation of the pump as well as the redwood tank near the pump. (See Attach 6 for a picture of inside the pump shelter, actually showing water coming out from the pump.)

Pump efficiency and flow continues to drop as the pump continues to operate below its design curve. Repair parts are very difficult to find for these old model horizontal pumps, and it is clear that moving to vertical turbine pumps (current company standard) is needed to help operations and maintenance going forward.

If Pump C fails, the station will immediately need 24 hour portable booster operation to keep the 730 zone with water. Hence, there is urgency to complete this project as soon as possible.

The current budget of $161,000 is not accurate given the amount of work needed to replace the booster pumps and keep the station running. These station re-build projects have been difficult to estimate as often there is more piping and design work required that cannot be anticipated until the project has already started. The following reasons provide specific details as to what is required of this site and why additional funds are needed.

1. This station must stay operational right up until the new booster pumps are installed. This has meant that considerable design time is required to understand the existing operations, and install essentially a second piping system to allow for immediate switch over. Given the small size of the station, and the existing piping already in the ground, the piping design becomes especially complex, and construction phasing is definitely required. Additionally, installing new vertical pumps with 10’ deep pump cans creates vertical piping connection challenges, and prevents the use of putting the new pumps inside the existing building.

2. Despite not being included initially, re-constructing this station will require additional electrical components. New conduits are needed to bring power to the new pump...
foundations, and upgraded electrical equipment in the building is needed for the new pumps.

3. Design time for this project has already been far greater than originally estimated because inconsistencies in pump cycle times, zone pressures, and zone flows from Station 13 were consistently being recorded via the SCADA system. This led to much additional field investigation as to what was causing these inconsistencies so that the pumps could be properly designed. It was always the goal to properly size the pumps to meet the demand in the upper zone, but it became clear through the process that water was bleeding in from the lower zones through check valves. This added flow was affecting how much flow the pumps needed to produce. Through much testing the final pump design point has now been found, but it took significantly more labor than originally expected.

4. Since the time of the start of the project, Department of Public Health (DPH) requirements have changed, requiring the existing tanks to put in proper air gaps for the overflow pipes. This work was not included in the original estimate. It was already known at the station that the existing drainage pipe from the overflow pipes was not adequately sized, and had root intrusion. Therefore, to fix the overflow pipes and put in new storm drain boxes, it also required fixing the storm drain pipe leaving the station. This work needed to be designed now, as it had a potential affect on the final water piping for the new booster pumps. These additional piping, drain inlet and overflow adjustment costs have now been completed, but were at a bid cost $53,800 that was not part of the original estimate.

5. The original estimate included $50,000 for station piping. A contractor quote showed this work to cost $160,200. It is clear that the original estimate did not properly capture all of the piping re-configurations that would be needed to provide for the new booster pumps while keeping the existing pipes still in service. Additionally, after installation of the new system, numerous existing pipes then need to be abandoned to simplify the final piping scheme. This piping cost is a conservative estimate, and has not been completed to date as the electrical work for the booster pumps is still being finalized. Attach 4 shows the proposed piping plan for the station. The Phase 1 work is now complete, and part of Phase 2 and 3 is also complete. Once the electrical design work is finalized, the remaining Phase 2 and 3 work will be completed to install the new booster pump foundations, pumps, piping, shelters and abandon the existing piping. The electrical work required a new PG&E
application and this is currently in process along with the upgrades to the existing equipment in
the building. Construction is expected to be complete in summer of 2013.

Please refer to Attach 5 for a complete listing of project costs. Project charges to-date stand at
$135,431 or still under the original settlement amount. Cal Water is now requesting a new budget amount
of $647,616 to complete the work at the station.

It is critical to complete this work as soon as possible as the remaining pump at the station could
fail at any time. This would cause an immediate shutdown of the station, stopping new flow to the 730
zone. Cal Water would then need to quickly mobilize a portable booster, and continue to use it until the
new booster pumps are operational. The scope of the project has changed, and it is clear that this station
requires additional work to keep the station operational.

Attachment- LIV_16949_Attach 1 - Booster B1.pdf
Attachment- LIV_16949_Attach 2 - Booster C.pdf
Attachment- LIV_16949_Attach 3 - Dist Map.pdf
Attachment- LIV_16949_Attach 4 - LIV 2719.pdf
Attachment- LIV_16949_Attach 5 – Charges.xls
Attachment- LIV_16949_Attach 6_BoosterPump Leak.jpg
Attachment- LIV_16949_Attach 7_WV Const._LIV 13 Quote.pdf

19110 – Automated Valve replacement (Workpapers)

This project is in use and useful and should not be disallowed. Costs for this project were higher
due to the reasons described below.

The original estimate was based upon replacing the existing 12” check valve with a new 10” Cla-Val
which could be operated with SCADA controls. The costs for the Cla-Val were underestimated by
$4,327 and the installation of a 10” gate valve became necessary when an existing 10” gate valve broke
during the shutdown for the installation of the Cla-Val. Also, the installation of a 2” blow off assembly
became necessary due to the need for flushing and sampling of station piping after the Cla-Val
installation. Due to depth of the excavations and the need for shoring, additional contractor costs based on
time & material were incurred. Once the Cla-Val installation was complete, additional labor was
necessary to program the valve for SCADA operation due to the need for assistance from SCADA
Engineering Dept. Please see attachments for additional invoice information.

Attachment A- LIV_19110_Attach 1_501306_Cla_Val_20090309.pdf
Attachment B- LIV_19110_Attach 2_1791304637_Corix_20090527.pdf
20556- Replace Existing Pump Equipment (Workpapers)

The original costs were estimated based on replacing the horizontal split case pump with an in-kind pump. Later it was identified that the booster foundation needed replacing. The estimate for the foundation replacement was costly and outside of the budget. Based on the anticipated costs, the decision was made to install a vertical turbine booster outside the existing building. The installation of the vertical turbine required a new suction canister, foundation, booster pump, new piping and electrical work. Also, the planning, drafting, designing, bidding and overseeing of the construction took additional engineering and district time that was not previously estimated.

Given the additional labor hours and unanticipated construction changes, have led to a current estimated final cost of $205,285. The piping and booster pump work has now been completed on-site, and start up and in-service status is expected by summer 2013.

Attached are the purchase orders for the construction and a table showing the expected final cost of the project.

Attachment A- LIV_20556_Attach 1_Pacific_Engineering_pump_foundation PO.pdf
Attachment B- LIV_20556_Attach 2_Salinas_Pump_20121022.pdf
Attachment C- LIV_20556_Attach 3_RPS_Acoustical_Shelter_20121206.pdf
Attachment D- LIV_20556_Attach 4_Carr_Electric_20130129.pdf
Attachment E- LIV_20556_Attach 5_West_Valley_PO.pdf
Attachment F- LIV_20556_Attach 6_Expected Project Cost for LIV Sta 20.pdf

21183- Chloramine Treatment at Sta 24-01(Workpapers)

Cal Water provided an update to the costs for this project in PPM-04 (copied below). These costs were accurate upon putting the project into service (please see attached cost breakdown). This project is in use and useful and should not be disallowed or adjusted.

Final Total: $474,904

The project was put into service in June 2012, and is now functioning as designed. The original estimate included two fiberglass shelters as the chemical storage rooms. Due to City of Livermore code requirements and site constraints, it was found that these shelters did not meet the proper burn ratio required in the case of a fire. This was because of the nature of the fiberglass, as well as their proposed proximity to existing structures and the property line. Because of this, a concrete block building consisting of two separated chemical rooms and a concrete roof, was required to be able to complete the project. This concrete building allowed for the proper fire ratio, as well as the needed site location given existing building and property line constraints. This building was higher in cost than the original
estimate, but was designed and constructed by the same contractor who installed the treatment system, saving time and costs. Although higher in initial cost, this building will have lower maintenance costs in the future.

Additionally, it was found that project costs for chloramination installation and piping costs were higher than originally estimated. Some of these larger chloramination costs were due to the concrete building and foundation. The piping costs were also higher than estimated largely due to material costs rising. It should be noted that the project did require the existing station flowmeter to be replaced, leading to additional costs.

Finally, due to permitting requirements, contractor scheduling and Department of Public Health approval delays, the project duration was longer than expected. This led to higher labor and overhead charges.

Attachment A- LIV-21183-Attach 1_Justification.doc
Attachment B- LIV-21183-Attach 2_CostDetails.xlsx

21185- Chloramination Conversion at St 10 (Workpapers)

The final project cost is estimated to exceed the approved project budget. The original estimate that was made in 2009 included using fiberglass shelters for chemical storage rooms instead of a concrete block building. Due to City of Livermore code requirements and site constraints, it was found that these shelters did not meet the proper burn time ratio required in the case of a fire. This was true due to the nature of the fiberglass, as well as their proposed proximity to existing structures and the property line. Because of this, a concrete block building with a concrete roof is required to be able to complete the project. This concrete building allows for the proper fire ratio, as well as the needed site location given existing building and property line constraints. This building will be higher in cost than the original estimate, but is designed and will be constructed by the same contractor who installs the treatment system, saving time and costs. Although higher in initial cost, this building will have lower maintenance costs in the future.

Additionally, it was found that project costs for chloramination installation and piping costs were higher than originally estimated in 2009. Some of these larger chloramination costs were due to the concrete building and foundation, but Cal Water has also seen chloramination installation costs continue to rise. The piping costs were also higher than estimated largely due to material costs rising.

In addition, due to the lack of available bidders for this type of work, Cal Water used this project to update the standard chloramination drawings and specifications to be more specific in the parts to be used. Previously this work was incorporated by the contractor as part of the design/build contract, but in order to allow more future bidding of the work, the plans and specifications were updated. This updating
work required more labor hours than originally estimated, but will be used on all chloramination projects in the district going forward. It should be noted that the final estimated project cost is in-line with the recently completed project at Sta 24 (proj # 21183) in the same district at $474,900 – Please see the attached document ‘LIV Sta 24 Final Cost’. The attached document ‘Estimated_Project_Costs’ provides the actual cost estimated that will be incurred using the updated contract and project quotes.

Attachment A- LIV_21185_Attach 1 West Valley Proposal Partial Papers.pdf
Attachment B- LIV_21185_Attach 2 LIV Sta 10 Charges-to-date.pdf
Attachment C- LIV_21185_Attach 3 LIV Sta 24 Final Cost.xls
Attachment D- LIV_21185_Attach 4 Original Justification.pdf
Attachment E- LIV_21185_Attach 5 Quilici Engineering Invoice.pdf
Attachment F- LIV_21185_Attach6 Krazan Special Inspection Proposal 20120720.pdf
Attachment G- LIV_21185_Attach7 Swan LIV 10 Pressure relief valve 20120625.pdf
Attachment H- LIV_21185_Attach8 Prominent LIV 10 20120223.pdf
Attachment I- LIV_21185_Attach9 Estimated_Project_Costs.pdf

**21228- Realign Pressure Zone Line (Workpapers)**

Cal Water provided an update to the costs for this project in PPM-04 (copied below). These costs were accurate upon putting the project into service (please see attached cost breakdown). This project is in use and useful and should not be disallowed or adjusted. Final cost: $554,032.

The actual cost for the project exceeded the budgeted amount due to numerous reasons as explained in the following paragraphs.

The original cost estimate significantly underestimated the required labor costs for design, assuming the entire project could be completed by the engineer in 32 labor hours. The estimate also excluded cost for surveying the site and drafting, which were required to prepare the construction drawings.

Another reason for the cost overrun was the underestimation of the required length of pipe. The estimate was based on 355 linear feet of 12” pipe and 260 linear feet of 8” pipe, however, the actual installation consisted of 683 of 12” pipe and 193 of 8” PVC pipe. Additionally, the estimate for the cost of encroachment permit was much lower than the actual amount. In general, the construction cost estimate was incorrect, contributing to the cost overrun.
Moreover, cost for modifying the control valves at Turnouts 2 and 9 were not included in the original estimate. These improvements were required to automate the control valves, and enhanced operations for the affected pressure zones. Although some of this work was mentioned in the original Justification, the cost estimate did not reflect the cost required to perform this work.

Lastly, the cost of capitalized interest was not included in the original estimate, and the overhead rate was lower than the current rate of 20%, leading to an incorrect value.

Attachment A- LIV_21228_Attach 1_CostDetails.xlsx
Attachment B- LIV_21228_Attach 2_Justification.docx

21362 - Replace Booster Pumps A & B and Electrical Panel board – Station 11
(Workpapers)

This project is currently in progress. Preliminary design has now been completed, and it is clear that the original budget will not be sufficient. Cal Water is now requesting an increase in the project budget to $511,410 (Please see Attachment 9 for a full cost breakdown). The original budgetary estimate for the replacement of the panel board and booster pumps A and B at Livermore Station 11 was $193,253. Additional funds are required because:

- The original piping estimate was not accurate compared to current piping installation costs for similar scope projects. The estimate grouped the piping costs in with the pump costs, and this value will not be sufficient.
- A new flow meter and vault are now required as part of the design and were not included in the original estimate.
- The pump shelters were not included in the original estimate.
- The cost of labor to perform site work was not included in the original estimate. The cost of equipment was not inclusive of the cost of installing the equipment. Therefore, the additional cost to install the equipment must be added to the budget to compensate for the expected contractor costs.
- Engineering labor and drafting time was underestimated given the inclusion of the above changes.
- One pump has already failed, and the other is quickly approaching that point. Upon failure, a portable booster will be required to maintain supply in the zone. This project is a critical project to quickly replace the booster pumps.

The specific cost changes are described below:

- Based on a similar budgetary estimate from West Valley Construction, Phase 2 for Livermore Station 13, the cost of construction is estimated to be $126,800 for the
installation of all piping modifications as well as the vertical turbine pump foundations. This is an estimate, but a comparable one based on the similar scope at Station 13.

- It has also been determined that the addition of new vertical turbine pumps along with a new panel board should be accompanied by the replacement of the existing, non-functioning, flow meter and vault. The cost incurred by the addition of a new flow meter will include the cost of the of a new flow meter, estimated to be $1918.35 per a Badger Meter Inc. quotation, with the majority of increased cost being lumped into the construction labor costs.

- The cost of a new pump, discharge head, suction can, delivery and installation was originally estimated at $25,000. A quote from Commercial Pump and Mechanical for a similar 40 HP pump at Livermore Station 20 was $36,727.34, with the pump alone costing $24,020.00. The discharge head, suction can, delivery and installation are expected to incur the same cost. Due to a decreased pump size, 20 HP, an estimated reduction in $6,000 from the cost of the pump leads to anticipated cost for Station 11 to be approximately $30,000 per pump.

- Each vertical turbine pump will be outdoors and will therefore require a pump shelter. A quote from RPS Industries provides a cost of $7,568 per shelter for a similar shelter at Livermore Station 20.

It is clear that the original estimate was incomplete, but this project is very much needed due to the failing pumps. Cal Water is therefore requesting additional funds to properly complete the project to its original intent and scope.

58212- Land - New Well (Workpapers)

The total cost including the land purchase for W.O. 58212 was originally estimated at $385,000. The actual cost for the land purchase was $294,163.50. Cal Water was required to abandon two existing
wells on the purchased property at a total cost of 39,068.96. Consultant costs of $82,510.00 were necessary to complete the conditional use permit process as well as negotiating the property purchase.

Attachment A- LIV_58212_Attach 1_Salinas_Pump_Invoices.pdf
Attachment B- LIV_58212_Attach 2_City_of_Livermore_Fees.pdf
Attachment C- LIV_58212_Attach 3_Professional_Land_Services_Invoices.pdf

14.4 ATTACHMENTS

The attachments listed below will are located in Book 5.

Attachment-LIV 41127_Attach 1_Revised Estimate for Rebuttal 3_2013
Attachment- LIV 56571, 56573 1
Attachment A- LIV_56572_Attach 1_Customer work order.pdf
Attachment A- LIV_56574_Attach 1_2010 Tank Inspection Report.pdf
Attachment B- LIV_56574_Attach 2_LAS Tanks inspection letter 2008.pdf
Attachment C- LIV_56574_Attach 3_LIV PID 56574 Pictures.pdf
Attachment- LIV 56749_63824 1
Attachment- LIV 56749_63824 2
Attachment- LIV 56749_63824 3
Attachment- LIV 56749_63824 4
Attachment- LIV 56749_63824 5
Attachment- LIV 56749_63824 6
Attachment- LIV 56749_63824 7
Attachment A- LIV_63953_Attach 1_Genset_Invoice.pdf
Attachment B- LIV_63953_Attach 2_OutdoorMeteringPanel.pdf
Attachment C- LIV_63953_Attach 3_station2_400KW.pdf
Attachment D- LIV_63953_Attach 4_PowerPlant.pdf
Attachment E- LIV_63953_Attach 5_Sta 23 Pictures.pdf
Attachment- LIV 71693 1
Attachment- LIV_16949_Attach 1 - Booster B1.pdf
Attachment- LIV_16949_Attach 2 - Booster C.pdf
Attachment- LIV_16949_Attach 3 - Dist Map.pdf
Attachment- LIV_16949_Attach 4 - LIV 2719.pdf
Attachment- LIV_16949_Attach 5 – Charges.xls
Attachment- LIV_16949_Attach 6_BoosterPump Leak.jpg
CHAPTER 15 LOS ALTOS PLANT ADDITION

15.1 INTRODUCTION

15.1.1 GLOBAL RESPONSES

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

68893—Field 2-Way Voice Radio System (Section 2.6)
79954 – RAMCAP Vulnerability Assessments (Section 2.4)

15.2 ADVANCE CAPITAL BUDGET SPECIFIC PROJECTS

5189 - Sunshine Street Main Replacement (Pg 7-10 Ln 1)

DRA recommends approval of this project at a lower cost because it uses different contingency and escalation factors. Cal Water maintains its original position for this project. Cal Water recommends holding to a 10% contingency for all projects. This is a conservative industry standard, and is reasonable given the size, scope and duration of the project.

Cal Water also recommends holding to 3% per year price escalation for all projects. This is applied from the year the justification was written, which may be prior to the 2012 GRC years of 2013-2015.

15602 - Increase Station Output

The goal of the project is to optimize the station and allow pumping to the distribution system and to the tank at the same time. Originally, this scenario was not possible, and thus limited how the station could be utilized. In order to accomplish this, a site survey was performed to locate the new inlet and piping depths. Extensive piping changes were then needed, including cutting into a sloped concrete berm near the tanks. Cutting into this berm required deeper trenching, and also required that the berm be re-created at the end of the work. An inlet port was cut into one of the tanks to provide a separate inlet and outlet, and an EBBA earthquake fitting was added to the inlet. The extensive trenching, additional piping and
earthquake fitting were not anticipated at the beginning of the project and led to higher costs.

All invoices are attached.

Attachment - LAS_15602_1_Invoices from contractors.xlsx
Attachment - LAS_15602_2_Powerplant Charges.pdf
Attachment - LAS_15602_3_SPIESS Invoice.pdf
Attachment - LAS_15602_4_EBAA Invoice.pdf
Attachment - LAS_15602_5_West Valley Invoice-1.pdf
Attachment - LAS_15602_6_West Valley Invoice-2.pdf
Attachment - LAS_15602_7_West Valley Invoice-3.pdf
Attachment - LAS_15602_8_West Valley Invoice-4.pdf
Attachment - LAS_15602_9_West Valley Invoice-5.pdf
Attachment - LAS_15602_10.pdf

15631 - Replace 4” CI main in Grant Road (Pg 7-10 Ln 1)

DRA recommends approval of this project at a lower cost because it uses different contingency and escalation factors. Cal Water maintains its original position for this project. Cal Water recommends holding to a 10% contingency for all projects. This is a conservative industry standard, and is reasonable given the size, scope and duration of the project. Cal Water also recommends holding to 3% per year price escalation for all projects. This is applied from the year the justification was written, which may be prior to the 2012 GRC years of 2013-2015.

16750 – 6” PVC Pipe – Mountain View Ave (Pg 7-10 Ln 8)

INSTALL 2,700 FT. 6” PVC MAIN, RENEW SERVICES, INSTALL 3 HYDRANTS

DRA recommends disallowing this project to replace an older 3” cast iron main. DRA cites lack of documented leaks and lack of specific fire protection standards. Cal Water disagrees with this recommendation. Cal Water contends that this pipeline is old, tuberculated, and causes water quality issues for customers. Cal Water contends that this line meets Cal Water main replacement criteria of replacing unlined steel and small diameter mains. Cal Water requests the Commission to include this pipeline in this case.

The existing 3” cast iron water main in Mountain View Avenue is located in a remote, dead-end area of the Los Altos distribution system. Cal Water shuts this main down from time to time due to repairs and evidence of rust/tuberculation inside the main is manifested by discolored/red water when the main is restored to service. Flushing to reduce visually obvious
rusty water and tuberculation is time consuming and requires voluminous discharges to the local
storm system in accordance with BMP standards. Discharging this flushed water is also a
flooding concern to private property due to the absence of curb and gutter storm drain inlets in
this area.

The City of Mountain View Fire Department requires available water flow/pressure of
1,500 GPM @ 20 psi to meet fire protection standards. The existing water main is estimated to
provide up to 170 GPM @ 20 psi, however, there are no hydrants or large domestic services on
a certain section of Mountain View Avenue from which to perform fire flow tests in the vicinity of
Cal Water customers. The calculated flow estimate was based on the nearest 6" fire hydrant at
Vista Grande Ave and extrapolated to a service connection point approximately 350 feet north
off of the 3" Cast Iron main, including head loss by Cal Water’s engineering department.

Recent 2012 chlorine residual tests indicate a marked reduction in chloramine residual from the
Park Avenue trunk at the end of the Mountain View Avenue water main to 0.2 ppm or less. A
low chloramine residual is a potential violation to DPH primary water quality standard, which
requires additional collection of Presence/Absence Total Coliform bacteria samples and
Heterotrophic Plate Count (HPC) bacteria water quality samples in order to rule out potential
pathogenic contamination of distribution system potable water.

After further research, the Los Altos district was able to identify two main leaks on the El
Camino Real (private alley) trunk of the Mountain View Ave. 3" Cast Iron main that required

This water main should be replaced to improve water quality and flow capacity in this
remote section of the distribution system which was built between 60 and 100 years ago. Cal
Water needs to replace this water main as it is not in compliance with the Mountain View City
fire service standard, and it also poses an unacceptable water quality liability with respect to
state and federal primary and secondary water quality standards; i.e. low chlorine residual levels
and high levels of rust and turbidity at consumer taps after water main repairs.

Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see
Global Rebuttal section.

Attachment - LAS_16750_1

19416 - Paint Tank Interior

DRA’s recommendation of deferring this project to a future GRC based on the “good”
condition of the metal is an erroneous assessment. Cal Water requests that the Commission
include this project in this case. Cal Water assesses exposed metal to determine the integrity of
the steel substrate. Since the protective coating has already failed at this location, the
inspection identifies the metal loss of the exposed steel. The purpose of this inspection is to
both rate the severity of the metal loss and further determine the effectiveness of the cathodic
protection (CP) system. Three levels of exposed steel ratings are indicated by the Society of
Protective Coating guidelines. Good – no metal loss; Etched, minor metal loss generalized;
Pitted – moderate metal loss. Thus, the metal assessment performed is indirectly related to the
condition of the coating.

The purpose of the identified project is to replace the deteriorated coating, in order to
retain the integrity of the steel substrate. The “good” condition of the metal is the result of a
properly maintained tank which has an effective protective coating and CP system. The
deterioration of the coating is what we focus on during these inspections since this is the major
protection that the metal has from experiencing any metal loss from corrosion. Failure to
address the protective coating at this time will cause the CP system to overwork, become less
effective, and ultimately lead to metal loss. Deferring the project to a future GRC will cause
continual coating degradation and CP overworking, possibly causing irreparable harm to the
structural integrity of the tank and ultimately resulting in interruption of service, water quality
issues, costly repairs, or even replacement of the tank.

Please see Cal Water’s global response for recommendation regarding maintaining tank
coating projects at capital projects.

19447- Upgrade CP System, Replace Interior Safety Climb & Paint Interior

Complete

The final cost of this project to be in-service was $121,144.30. The additional charges were
incurred from the following:

1) $6,500 – Installation of new 24” roof vent - (enlarged to allow for better ventilation to the tank
and prevent corrosion in the under roof area of the tank)

2) $6,500 – Installation of new 30” manway - (enlarged to allow for tank interior accessibility.
Existing manway made it highly difficult to maneuver industrial equipment through. For tank cleaning,
pressure washers are used to remove oil and other foreign material from the tank surface. With a smaller
manway, maintenance staff is forced to leave the pressure washers outside the tank and use longer hoses.
However, similar to distribution dynamics, the pressure is greatly reduced the further the nozzle is from
the pressure source. Therefore the effectiveness of the cleaning the upper portion of
the tank is greatly reduced. In addition during interior coating activity, scaffolding and
surface preparation and coating equipment are required to be mobilized inside the
tank. The existing manway greatly limited the efficiency of the equipment installed, ultimately leading to more time and costs. Although the larger manway appear to be convenience related, engineering assessment has deemed the 30 inch size critical for proper maintenance and tank accessibility.

3) $2,635 – Capital interest accrued due to having the project open to incur charges for CP system installation which was done after painting of tank was completed

4) $36,379 – CWS labor, overhead cost & miscellaneous charges to cover for the additional scope of work and unforeseen issues during the coating of the tank

20161- Retrofit tank at station (Pg 7-16 Ln 15)

Cal Water maintains its need for the entire scope and budget for this project. This project and scope was previously approved by the Commission. The California Department of Public Health (DPH) concern with the existing roof drain configuration escalated the need to retrofit tanks now (2013) rather than in 2015 as planned. The contractor has now completed modifying the tank roof drains. Engineering has also initiated the overflow pipe air gap and drainage work as this is also tied to DPH regulations. Upsizing the manway was included in the original scope of work that was approved by the Commission in the last rate case. This work is necessary for safety purposes. The current 20-inch manway poses a safety and health concern for workers who access the tank multiple times for maintenance carrying scaffolding or heavy equipment when necessary. Cal Water seeks to upsize the manway to prevent future safety problems, and to update the manway size to current Cal Water standards.

Attachment - LAS_20161_1

25649 - Paint Tank Interior & Exterior

Paint interior underside of roof and upper shell – Tank #1, paint exterior complete – Station 121 (Tanks #1, #2, and #3)

DRA recommended only painting the interior of this tank. Cal Water disagrees with this assessment and request that the Commission to allow both interior and exterior coatings in this case.

Although the inspection report does evaluate the appearance of the coating as “good”, this rating refers to the overall aesthetics of the tank and does not relate to the condition or
performance of the coating. It is plausible to have a coating in excellent condition while having a poor appearance. This is due to UV exposure or other damage caused by the elements. However, the integrity of the protective coating system is intact, but it just doesn’t look pristine. Aesthetics of stations are an important operations priority because it is directly related to customer perception of the product and service of the company. Therefore, during routine inspections, the appearance is rated to ensure the structures are not affecting the appearance of the overall station. In the case the appearance was poor, a maintenance ticket would be created to clean and touch-up the tank accordingly. The coating on the exterior of this tank is deteriorating, exposing the metal to corrosion and potential metal loss. Unlike interior coatings which have a CP system as secondary protection method, exterior protective coatings don’t have anything. Disallowance of the replacement of the exterior coating will allow corrosion to persist, possibly causing irreparable harm to the structural integrity of the tank and ultimately resulting in interruption of service, water quality issues, costly repairs, or even replacement of the tank.

Please see Cal Water’s global response for recommendation regarding maintaining tank coating projects at capital projects.

25650- Paint Interior Complete and Upgrade C.P. System – Sta. 14-Tank 2

DRA’s recommendation of deferring this project to a future GRC based on the “good” condition of the metal is miss-intended. Cal Water assesses exposed metal to determine the integrity of the steel substrate. Since the protective coating has already failed at this location, the inspection identifies the metal loss of the exposed steel. The purpose of this inspection is to both rate the severity of the metal loss and further determine the effectiveness of the cathodic protection (CP) system. Three levels of exposed steel ratings are indicated by the Society of Protective Coating guidelines. Good – no metal loss; Etched, minor metal loss generalized; Pitted – moderate metal loss. Thus, the metal assessment performed is indirectly related to the condition of the coating.

The purpose of the identified project is to replace the deteriorated coating, in order to retain the integrity of the steel substrate. The “good” condition of the metal is the result of a properly maintained tank which has an effective protective coating and CP system. The deterioration of the coating is what we focus on during these inspections, since this is the primary protection of the substrate. The tank interior coating is in critical condition, along with the CP system. The existing CP system was not designed to effectively protect the level of coating failure on this tank. This is shown from accelerated zinc anode depletion. Failure to
address the protective coating at this time will cause the CP system to overwork, become less
effective, and ultimately lead to metal loss. Deferring the project to a future GRC will cause
continual coating degradation and CP overworking, possibly causing irreparable harm to the
structural integrity of the tank and ultimately resulting in interruption of service, water quality
issues, costly repairs, or even replacement of the tank.

57289 - Mitigate Tank Settlement (Pg 7-15 Ln 14)
DRA recommends approval of this project at a lower cost because it uses different
capitalized interest factors. Cal Water recommends using the original cost of this project.
Regarding capitalized interest, please see the Global Rebuttal Section.

58333 - Install Chloramination Equipment (Pg 7-17 Ln 6)
DRA recommends approval of this project at a lower cost because it uses different
capitalized interest factors. Cal Water recommends using the original cost of this project.
Regarding capitalized interest, please see the Global Rebuttal section.

58334 - Install Chloramination Equipment (Pg 7-17 Ln 6)
DRA recommends approval of this project at a lower cost because it uses different
capitalized interest factors. Cal Water recommends using the original cost of this project.
Regarding capitalized interest, please see the Global Rebuttal section.

60893 - Mitigate Tank Settlement (Pg 7-16 Ln 3)
DRA recommends deferring this project to a future rate case after Cal Water conducts a
geotechnical assessment. Cal water considers the differential settlement condition of the
foundation at this tank to be a safety and supply concern. Cal Water requests that the
Commission authorize this project in this case because of this safety concern.
The differential settlement can be seen by the cracks in the concrete ring wall foundation
and the drainage gutter surrounding the foundation. In addition, uplift of the tank is clearly
visible. There are locations where the tank bottom is not in contact with the ring wall foundation.
Catastrophic failure of this one million gallon tank could result in damage and flooding to
neighboring homes.
Since the 1 MG tank is the only supply up the Woodland zone and the station 33 zone,
not addressing this issue could cause loss of supply to numerous residents. There are no other
redundant tanks to service the 2 zones. Currently, Cal Water is in contract with Cotton Shires
and Associates to conduct ongoing monument surveys for settlement classification and
geotechnical recommendations.

62077 - Replace 100K Redwood Tank (Pg 7-14 Ln 3)

DRA recommends deferring this project to a future rate case after Cal Water conducts a
geotechnical assessment. Cal water considers the integrity of the tank to be a safety and
supply concern. Cal Water requests that the Commission authorize this project in this case
because of this safety concern.

Cal water reiterates that the condition of the tank is cause for safety concerns as cited in
the original justification. Further conducting a geotechnical investigation as requested by the
DRA will only address soil conditions and will not provide any additional information to access
the general condition of the tank. The geotechnical investigation will be a part of the overall
replacement projects. The Commission should note that this unlined redwood tank is over 51
years old and does not meet current standards. Additionally, this tank needs to be addressed
because the integrity of the tank is in question, older unlined redwood tanks eventually lead to
water quality issues.

62672 - Replace Pump and Motor (7-18 line 6)

DRA notes that $1,447 savings per year (from an unspecified reference) is not sufficient
for replacement and recommends disallowance. A sole cost analysis should not be the only
basis for informed decisions to replace equipment. CWS prioritizes pump replacements based
on several factors including serviceability, historical repair frequency, motor loading, efficiency,
and repair vs. replace cost comparison. A review of the pump test results on 4/24/2013 resulted
in correction to the report because the pumping water level should have been negative (-)14
because suction is taken from an above ground tank and the usage was corrected to actual run
hours equaling 492 AF/Yr of pumped water. The revised report is attached and now shows an
OPE of 47.6% and potential savings of $8,284 per year.

In addition to the justification previously submitted, the motor has been re-wound/rebuilt
four times since its installation in 1962. Since its design in the 1960’s, operations and system
needs have changed. If the pump and motor continue on its trend, running over 100% of its
rated motor load for over 2,000 hours a year, it will require another major overhaul fairly soon.
Additionally, in 2010 the pump and motor were noticed to have mechanical issues. The
inspection of the pump and motor revealed a significantly deteriorated motor wire insulation and
pump wear components in addition to a pitted pump impeller. At the time this was discovered
the district was experiencing high demand and needed the pump back in service ASAP. For this reason, Cal Water decided repair of the pump and rewind of the motor would bring the pump back to service faster. If timing had not been an issue, Cal Water would have replaced the pump and motor at that time due to its age and its condition. Such repair done in 2010 is expected to last a few years and the loading on the motor is also expected to deteriorate motor wiring insulation faster. To proactively replace this low efficient and old deteriorated pump and motor, Cal Water requests that this project allowed. See pump and motor pictures included in the rebuttal folder.

Attachment A- LAS_62672_Attach 1_Sta 30-A maint history
Attachment B- LAS_62672_Attach 2_Sta 30-A 2009 Pump Test Report
Attachment C- LAS_62672_Attach 3_Sta 30-A 2012 Pump Test Report
Attachment D- LAS_62672_Attach 4_Sta 30-A Pump Impeller Condition
Attachment E- LAS_62672_Attach 5_Sta 30-A PUMP-MOTOR REP 2010
Attachment F- LAS_62672_Attach 6_Sta 30-A 2013 Pump Test Report

66250 - Replace Panelboard (Pg 7-18 Ln 8)
DRA recommends this project but at a lower cost than Cal Water determined. Cal Water recommends that the Commission approve this project for the full cost. The DRA report states that it is not clear how Cal Water developed cost estimates based on the supplied supporting documents. For clarification, Cal Water has outlined costs on “Exhibit A”, a project estimate sheet found on page 217 of the LAS Justification Book. All costs and references are indicated on this sheet, and also supplemented with actual copies of purchase orders and/or invoices that correspond with the values. In the “Cost Basis” column of page 217, corresponding examples for each cost are noted. DRA does not provide any information on how they developed their proposed cost for the project and Cal Water provided justification and supporting documentation for all costs associated with the project. The project should be allowed in rates at the Cal Water proposed cost of $151,400.

66809 - Install SCADA RTUs
DRA recommended complete disallowance for these projects. This is not reasonable. Cal Water recommends that the Commission approve these replacement projects as they are integral to the pumping operations. Please refer to the Global Rebuttal Section regarding SCADA RTUs.
**66829 - Install SCADA RTUs**

DRA recommended complete disallowance for these projects. This is not reasonable. Cal Water recommends that the Commission approve these replacement projects as they are integral to the pumping operations. Please refer to the global rebuttal regarding SCADA RTUs.

**67049 – Data Acquisition Radio System**

DRA recommend disallowance of this project. This is not reasonable. Cal Water recommends that the Commission approve this replacement project for pump controls as it is integral to the pumping operations and the existing system is old and becoming unreliable. DRA discusses Supervisory Control and Data Acquisitions (SCADA) systems generally then observes: *However, although CWS has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers.* Cal Water contends that if there were no SCADA system the Los Altos Suburban district would have to add four pump operators to maintain the same level of customer service. The remainder of the DRA discussion is unrelated to this radio replacement project. The data acquisition radio system is a critical component for the SCADA system and has been providing tangible benefits for the rate payers for the last 10 years. This project will replace the outdated radio equipment, allowing Cal Water to improve the existing SCADA communications system and continue to contain growth in operating costs. Project 67049 should be approved in rates for the amount of $201,913.

**73093, 79094 – Tank Painting Sta 42 T2**

The CPUC previously agreed with CWS that tank painting work is a capital cost because the improvement prolongs the life of the steel structure and restores the asset to a “like-new” condition. Re-painting these steel structures protect and extend the life of the existing structure instead of completely replacing a tank which may cost upwards of $1,000,000 for design, permitting, construction, and coating. Refer to the expense as opposed to capital expenditure global response.

**77616 – Upgrade Facilities in Los Altos (Pg 7-19 Ln 4)**

DRA recommends approval of this project, but disagrees with how the project cost was developed. Cal Water maintains its need for the full budget of $240,000 for this project and recommends that the Commission adopt the full cost. The initial quotes that Cal Water received
show that the full amount will be needed in order to implement security at each of the identified
sites, which includes fencing and security cameras.

Attachment A- LAS_77616_Attach 1_Supporting Docs.pdf

**LAS0900 – Meter Replacement Program**

Cal Water requests that the Commission approve its three-year specific 0900 meter
replacement program at the original proposed costs of $160,900, $150,600 and $155,200 for years
2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter
replacements was $104,863, and was not contested by DRA. For Los Altos, DRA recommends a reduced
budget of $85,888, $88,465 and $91,119 for years 2013, 2014 and 2015, respectively, based on recorded
2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use
historical dollars in determining future budgets for this program, as the budget for this program is
determined not by historical spending, but by need for replacement. Cal Water’s methodology is
described below.

Cal Water is requesting approval of its requested three-year meter replacement program as
outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:

- PUC General Order 103-A mandates meters be tested or replaced based on age.
- It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s
  response to DR PR-004.
- Meters meeting the age criteria to be replaced are made of traditional bronze and were
  installed prior to the CA legislation requiring meters to have a weighted-average lead content of
  not more than 0.25%. New replacement meters have a weighted average lead content less than
  0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters
to be replaced, for each district are determined by the number of meters meeting the following meter
age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8”</td>
<td>20</td>
</tr>
<tr>
<td>1”</td>
<td>15</td>
</tr>
<tr>
<td>1.5”</td>
<td>10</td>
</tr>
<tr>
<td>2”</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to
provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in
previous years can be an indication of how many meters of each size may meet the age criteria in future
years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Los Altos in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

15.3 CARRYOVER PROJECTS

15.3.1 Advice Letter Projects
Not Applicable

15.3.2 Non Specific Carryover Projects

55069, 71773, 72753, 73594, 74655, 77593, 77814, 77815, 78738, 78755, 79213, 79313, 74213, 68690, 61474, 60452, 74096, 74234, 74373, 77453, 75475, 76233, 78553, 74714, 75433, 78395, 80215 –
These projects are in use and useful and should not be disallowed or adjusted.

25147 – Upgrade 6” Main
Upgrade 6” main to 8” CL&C on the Fremont Avenue Bridge in Los Altos.
DRA recommends removal of all dollars associates with projects identified as using “non-specific funding in Cal Water’s list of carry-over projects. Cal Water recommends that the Commission approve this carry-over non-specific project. This project should not be disallowed or adjusted as this is a carryover project that was created to coordinate replacement of a pipeline in the Fremont Street Bridge with the City of Los Altos Fremont Street Bridge Replacement Project. Once construction starts, Cal Water will relocate its facilities and implement an upgrade on the main to improve infrastructure.
To date, Cal Water has spent $36,700 on the design of the project and construction is scheduled to take place in 2013.

49390 - Monitor Tank Settlement at Sta 111
Please see rebuttal for PID 60893. This project should not be disallowed, as the project is currently in-progress. PID 60893 is the tank replacement project, while this project is the geotechnical investigation, distress mapping, and geotechnical reporting. It was determined that the tank had uneven settlement and additional monitoring is required. Currently Cotton
Shires and Associates is in contract with Cal Water to perform bi-annual survey monument monitoring which will end in summer 2014. $20,415 has been spent to date.

Attachment - LAS_49390_1_CS_Proposal for Geotech Report_20100820
Attachment - LAS_49390_2_CS_Proposal for Geotech Monitoring_20101214
Attachment - LAS_49390_3_CS_Proposal_LAS_111_Settlement_20120203

55069 – Install PVC C.P. Test Tube
The installation of the PVC tubes, to improve the cathodic protection testing process, was identified through the company’s continuous improvement principles. It was identified through benchmarking assessment, the installation of this device improves the ability of copper sulfide reference cell to properly enter the tank and maintain the proper distance from the interior tank vertical wall for testing. The installation of these devices is limited to steel tanks with a rounded “knuckle” style roofs. In addition to improving the ability of the reference cell to enter the tank, the PVC test tubes also improve the safety of the individual performing the task. Historically, a telescoping rod was required to be carried up the tank to guide the reference cell to the proper location within the tank. Carrying this rod was identified as a climbing hazard because it would get caught in between the ladder rungs. Installation of these test tubes has been completed company wide. There are still outstanding invoices causing the project to remain open.

66509 - Olive Tree Rezoning Improvements
This project should not be disallowed. This project is currently in progress. Under the current operation of the system, the tank at station 37 provides limited fire protection for the Olive Tree Area and is in poor condition. It also causes water quality issues consistent with stagnation. The intent of this project is to remove the tank at Station 37 and adjust pumping to compensate for this reduction in storage. The improvements provided by this project will allow the removal of station 37 by adding new pumps at station 28 to supplement for the loss of supply. In addition, a series of pressure reducing valves (PRV's) will be added to decrease the pressure to under 125 PSI.

The project is currently 95% designed and Cal Water has obtained a building permit from the City of Los Altos Hills. Cal Water anticipates starting construction in summer 2013. Half of the project costs are funded under a contribution project by the Los Altos Hills Fire Department.
67949-Los Altos Land Development

DRA recommends an adjustment to beginning plant balance of $2.426 million because it believes Cal Water inappropriately included land for the future Los Altos Customer Center replacement project that is not used and useful to ratepayers.

Cal Water requests that the Commission include this land in this case as plant held for future use. Ordinarily, the value of facilities is excluded from rate base if not used and useful. However, if the property is owned by a regulated company, there are circumstances under which it may be allowed to be included in rate base such as plant held for future use. California Commission Uniform System of Accounts (“USOA”) guidelines require that the property must have a specific future use and a specific date on which it is expected to be placed in service; generally five years or two GRC cycles. Cal Water prudently purchased the property in good faith to construct a new customer/operations center. The construction project had been planned to be submitted with this case, but Cal Water delayed this project to reduce impact on customers during this difficult economy. Cal Water presents the detailed history of this project below and has definite plans to pursue construction in the next rate case, which is quicker than the 5 years typically allowed for future use qualifications.

For many years, Cal Water’s operations staff has been discussing how best to improve the Los Altos district office operations. The current field yard and commercial office are not physically connected, but require employees to continually travel back and forth between the two offices throughout the day. Additionally, the field yard is on a piece of property that does not provide sufficient parking for employees in addition to company vehicles. In fact, there is no employee parking provided on site and parking is extremely limited in the area. With the City of Los Altos Loyola Corners planned improvements, parking will become even more limited in the area. After searching for alternatives for some time, the district was presented with the opportunity to purchase the “Echo” restaurant property adjacent to the existing field yard. Since this opportunity was not anticipated in the regular capital budgeting process, the purchase was approved only after special review by Cal Water officers. With officer authorization, the purchase and sale agreement was executed on April 23, 2010. The purchase price for the property was $2.4 million, which reflected fair market value in light of recent appraisals showing valuations from a low of $1.9 million to a high of $2.7 million.

Once the property purchase was complete, Cal Water engaged a consultant to help prepare a preliminary design report for the site that would accommodate a new building with
sufficient parking for both company and employee vehicles as well as customer parking. Additionally, with a new combined customer center and operations center in place, the current customer center rental would no longer be needed. At various stages in the preliminary design process, Cal Water met with City of Los Altos officials to ensure that the new design would meet City parking regulations as well as fit in with the City’s master plan for the Loyola Corners area of Los Altos. When the preliminary design was complete, the company reviewed the rate impact and decided not to include the capital costs for the building construction in the present GRC due to the large rate impact on Los Altos customers. Instead, it was determined that the Company would undertake the project in phases to lessen the initial rate impact on customers by completing the demolition of the existing structure and finishing the grading and paving during this rate cycle and then propose constructing the new building in the next rate cycle, much like what was done for the new commercial office in Cal Water’s Marysville district. In that instance, the CPUC staff approved the purchase of the land in one rate cycle and then reviewed the building construction costs in the next.

Cal Water has submitted the pre-application package to the City of Los Altos Planning Department for review and the City has agreed to place the project on hold until our next rate case filing. The City of Los Altos is generally supportive of our application for the new building as is evidenced by a recent e-mail. We anticipate filing for the construction costs of the new building in the next GRC for the CPUC staff to review. In the meantime, the property is currently used and useful for employee parking and storage as well as the future use of a new building location, so it is appropriately included in used and useful plant.

Attachment- LAS 67949

80133 - Replace 18” valve

This project is now in-service and had a final cost of $191,061. This was a valve leak repair done on an emergency basis to ensure the normal operation of one of the most critical pipelines in the Los Altos district. Due to the complication of the valve structure being removed, the special materials (valve, line stop, shoring equipment) that had to be ordered, and the special location within Caltrans right-of-way, the final actual cost was higher than estimated. The project and its actual cost were previously submitted as part of the response to DRA Data Request PPM-004.

15.3.3 Specific Carryover Projects

265
21195 - Station 11, 15, 38, and 117 SCADA RTU Installation

Two of the four stations are in use and useful. The two remaining stations (38 and 117) are in construction and near completion. The project was budgeted for $107K and is currently over the budget by $41K because capitalized interest, correct labor rates with benefits, and the actual construction overhead rate were not included in the original estimate. Additionally, the installation labor was underestimated at 300 hours and the design and drafting labor were also not included in the original estimate. The final costs for the project will be approximately $170,000. The project costs are fair and justifiable and Cal Water requests the estimated final costs of $170,000 to be included in the carryover project.

29729- WS&FMP update

This project is still on-going. Estimated final project costs were discussed in PPM-04, which is attached. The estimated cost to complete this project is $306,993 (existing cost) plus $41,991 of consultant costs (remaining budget) plus $50,000 estimated internal labor costs to complete this project. Internal labor includes review of on-going data gaps, as-needed field monitoring, review of final documentation, and overall project management of the hydraulic model development project. The internal labor costs are based on prior model update projects, using a ratio of consultant to internal labor of 1 to 1 plus contingency. The total estimated cost to complete the project is $398,984.

Attachment- LAS_29729_Attach1_PPM-04 Justification.doc
15.4 Attachments

The attachments listed below will be located in Book 5.

Attachment - LAS_15602_1_Invoices from contractors.xlsx
Attachment - LAS_15602_2_Powerplant Charges.pdf
Attachment - LAS_15602_3_SPIESS Invoice.pdf
Attachment - LAS_15602_4_EBAA Invoice.pdf
Attachment - LAS_15602_5_West Valley Invoice-1.pdf
Attachment - LAS_15602_6_West Valley Invoice-2.pdf
Attachment - LAS_15602_7_West Valley Invoice-3.pdf
Attachment - LAS_15602_8_West Valley Invoice-4.pdf
Attachment - LAS_15602_9_West Valley Invoice-5.pdf
Attachment - LAS_15602_10
Attachment - LAS_16750_1
Attachment - LAS_16750_2
Attachment - LAS_20161_1
Attachment A- LAS_62672_Attach 1_Sta 30-A maintain history
Attachment B- LAS_62672_Attach 2_Sta 30-A 2009 Pump Test Report
Attachment C- LAS_62672_Attach 3_Sta 30-A 2012 Pump Test Report
Attachment D- LAS_62672_Attach 4_Sta 30-A Pump Impeller Condition
Attachment E- LAS_62672_Attach 5_Sta 30-A PUMP-MOTOR REP 2010
Attachment F- LAS_62672_Attach 6_Sta 30-A 2013 Pump Test Report
Attachment A- LAS_77616_Attach 1_Supporting Docs.pdf
Attachment - LAS_49390_1_CS_Proposal for Geotech Report_20100820
Attachment - LAS_49390_2_CS_Proposal for Geotech Monitoring_20101214
Attachment - LAS_49390_3_CS_Proposal_LAS_111_Settlement_20120203
Attachment- LAS 67949 1
Attachment- LAS_29729_Attach1_PPM-04 Justification.doc
CHAPTER 16 MARYSVILLE PLANT ADDITIONS

16.1 INTRODUCTION

16.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

- 68894 – Field 2 Way Radio System (Section 2.6)
- 79975 – RAMCAP Vulnerability Assessments (Section 2.4)

16.1.2 Deferred Advance Capital Budget Projects

17434, 17863, 19663, 62935, 63956 – Deferred Projects

Cal Water has already agreed to defer projects to allocate for funds to Cal Trans project 50588 as stated in the response

- P17434-Ellis Lake Dr Main Replace-$428,500 (Carryover 2012)
- P17863-Replace D Street Mains-$416,200 (Carryover 2011)
- P19663-Flow Meters 4ea-$43,200 (Carryover 2012)
- P62935-Replace Booster Sta 10a-$29,280 (2015)

16.2 ADVANCE CAPITAL BUDGET SPECIFIC PROJECTS

65090 – District Manager Vehicle

Project 00065090 allowing for the purchase of a replacement vehicle for light duty vehicle V209033 in budget year 2015 should be allowed because the mileage requirement will have been met by December 31, 2014. In DRA report on the Results of Operation for Cal Water's Marysville District, the DRA correctly states that the agreed upon mileage requirement for light duty vehicles is 120,000 miles. However, without any supporting calculations or documentation, the DRA then incorrectly states that the purchase of a replacement vehicle should not be allowed for light duty vehicle V209033 since it doesn't meet the 120,000 mile requirement. DRA suggests that the purchase of a replacement vehicle should be deferred until the next Rate Case. Vehicle V209033 was purchase in January of 2009. It is a light duty two-wheel drive Ford Explorer. On March 31, 2013, V209033 had over 90,000 miles on the
odometer. The time period between January 2009 and March 2013 is 51 months. The average monthly miles V209033 has been driven is 1,765 miles. V209033 will continue to be in service until December of 2014, or 21 more months, and will be driven an additional estimated 37,065 based on its previous monthly use average. Total mileage on V209033 on December 31, 2014 is projected to be 127,065. A replacement vehicle purchase should be allowed for V209033 since the required 120,000 miles replacement criteria will have been met.

16.3 CARRYOVER PROJECTS

16.3.1 Advice Letter Projects
Not applicable

16.3.2 Non Specific Carryover Projects

55309 – Install PVC C.P. test tube
The installation of the PVC tubes, to improve the catholic protection testing process, was identified through the company’s continuous improvement principles. It was identified through benchmarking assessment, the installation of this device improves the ability of copper sulfide reference cell to properly enter the tank and maintain the proper distance from the interior tank vertical wall for testing. The installation of these devices is limited to steel tanks with a rounded “knuckle” style roofs. In addition to improving the ability of the reference cell to enter the tank, the PVC test tubes also improve the safety of the individual performing the task. Historically, a telescoping rod was required to be carried up the tank to guide the reference cell to the proper location within the tank. Carrying this rod was identified as a climbing hazard because it would get caught in between the ladder rungs. Installation of these test tubes has been completed company wide. There are still outstanding invoices causing the project to remain open.

16.3.3 Non Specific Carryover Projects

17829, 18844 – New Customer Center
The new Customer Center opened in March 2013. The final cost to build the new Customer Center was higher than the original estimate. The initial estimate was based on preliminary engineering. As the building design and detailed construction drawings were completed and the project was sent out to bid, the proposals yielded more accurate and higher cost to build. As construction began, unforeseen problems occurred, such as the presence of unstable soil requiring excavation and importing replacement soil, higher permitting costs, and
sidewalk replacement requirements from the city that were unknown during the estimating process. Cal Water company design and equipment standards changed during construction including security and safety enhancements for customer service staff, and the use of green materials and construction techniques, which were not specified in the original proposal. Cal Water provided an update to the costs for this project in PPM-04. New costs have incurred as the construction of the center was not complete at that time. The most up to date costs for PID 17829 total $296,204 and for 18844 total $841,861. Projects are in service as of March 11, 2013. These projects are in use and useful and should be included in rates.

**17352, 17354, 17355, 19657, 19658 - Flowmeters**

Cal Water substituted projects 17352, 17354, and 17355 to fund non-specific project 28608 to install power meters at all operating facilities in the Marysville district. Project 28608 is in service, used, and useful and the final costs have been accounted. Project 28608 should be approved in rates at its final cost of $58,826.

**30567, 60272, 60312 – Gate Valve Replacements**

The following projects include non-specific projects that were not closed to utility plant at the end of 2012. These projects were not anticipated in the 2009 GRC and Cal Water contends that these projects will be beneficial to customers once they are in service. They are all under $20,000 in total cost, and Cal Water believes they are considered controversial by DRA simply because of the timing with the projects.

**50588 – Main Relocation Along Routes 20, 70**

Please see the rebuttal testimony on Balancing and Memo Accounts, specifically the discussion of the Caltrans Litigation Memorandum Account, Preliminary Statement AF.

**16.4 ATTACHMENTS**

No attachments
17.1 INTRODUCTION

17.1.1 Global Responses

Global Rebuttal Responses can be found in chapter 2 of this book. The following capital projects are part of the global response for this district

- 68895 – 2-way radio (Section 2.6)
- 79997 – RAMCAP (Section 2.4)

17.2 SPECIFIC PROJECTS

63473 - Spoils Bins – 3 Bays (Pg 7-9, Ln 21)
Cal Water does not agree with moving this project to non-specific. Non-specific purchases should be reserved for those purchases that are emergency or unanticipated in a rate case. This project is a planned project that will allow conservation and reduce the amount of spoils going to a landfill. Cal Water does not seek to increase the non-specific budget for planned capital purchases.

63476 - Lincoln Ave. Main Replacement (Pg 7-9, Ln 1)
Cal Water requests the Commission to allow this project in this case. This 6" steel main is 66 years old. Due to internal corrosion it has rusted paper thin and is in need of replacement. The main is on a hill above several businesses that are impacted when it leaks. One customer has complained when water entered his shop and parking lot area, but luckily there was no damage to the office area. There are other businesses below the main that could be impacted and damage may result in costly repairs. Additionally increasing this main size from a 6" to 8" will increase flows through the system, eliminate a flow restriction, and enhance fire protection. The enhancement to the system is at a minimum cost as only materials cost is added to the project.

DRA recommended disallowing this project on the grounds that Cal Water did not perform a cost benefit analysis on repairing versus replacing this main. This is simply not a valid argument for a main in poor condition with a history of leaks. DRA also references upgrade for increased fire flow requirements. Again this is not a valid argument at an increase in flow is not driving the need for this project. The repeated leaks on this line are the reason for this project.
63535- Replace pump and motor at station 15-B. (Pg 7-10, Ln 14)

Cal Water prioritizes pump replacements based on several factors including serviceability, historical repair frequency, motor loading, efficiency, etc. Cal Water are anticipating the life of pump 15-B is near to its end. All the pumps A, B, C, & D pump to the clear well and are approximately the same age; we do not want to have failures at the same time. Cal Water's asks the commission for the approval of this project.

63915- Field Various Tools for gardening & canal (Work Papers)

Cal Water maintains its need for this project. It is unclear why DRA disallowed this project. These tools need to be purchased, as they wear out quickly due to fuel additives and the work they are used for. Cal Water also does not agree to move these purchases to non-specific as this is a planned capital purchase.

67051- Replace Data Acquisition Radio System for SCADA(Pg 7-11, Ln 5)

DRA agrees with all of the Cal Water underlying arguments but suggests that Cal Water should wait for the existing system to become non-functional before replacing it. DRA then misquotes a Stockton document to suggest that the operating costs for the new system will be higher than current radios. The Oroville system relies on having a functional SCADA communication system in order to control the operation of the water treatment plant and the pumping stations. Without functional radios the system would require around-the-clock operators to control the pumping equipment. Performing this project as a planned capital replacement makes the total project costs far less than trying to do emergency repairs on a failed system, while also manually controlling the pumping equipment during the failure. Cal Water has already experienced failures in its older communication equipment where it had to make replacements under a non-specific project. DRA recommends the company pursue the radio replacement as a non-specific project while simultaneously recommending a smaller non-specific budget and requiring that Cal Water provide reasonable justification for excess non-specific expenditures. Cal Water has submitted justification for this project as a specific project for its inclusion in rates. Cal Water requests that this project be approved in the amount of $60,529 as a specific project.
79455 - Daryl Porter Main Replacement (Pg 7-8, Ln 9)

Cal Water maintains its original budget for this project. DRA recommends adjusting the project budget by reducing the unit cost for service connections from $6,000 to $703. Although the referenced 2011 project—number 15056—was approved using $703 per service connection, it was completed approximately 240% over budget. Project 15056 was proposed in 2008, which was clearly underestimated for 2011, and would be a deficiency for this 2014 project.

Unit cost is affected by many factors such as site specific constraints, replacement method, environmental protection, hazardous waste disposal, etc. that vary from project to project. Similarly, multiple residences and small businesses in this area may require traffic control, repairing sidewalks, hand digging, or special tools. Additionally, the $703 unit cost excludes Cal Water's overhead and capitalized interest.

DRA's approach does not consider the aforementioned variables that significantly affect the ultimate project cost. Cal Water reviewed the cost estimate and requests that the CPUC approve this project for the total project amount of $154,650.

Attachment- ORO_79455_1 Daryl Porter main repl 2014.doc
Attachment- ORO_79455_2 Daryl Porter Leak report.xls
Attachment- ORO_79455_3 Daryl Porter main repl.doc

20790 - Linden Ave. main replacement – Competed 2012, More than 20% over (Work Papers)

This old, odd sized 7” main required special clamps. The main had 4 leaks in the past few years. The replacement costs increased with higher paving cost, two large tie-ins with the removal of the old pipe, a storm drain repair, 22 feet of sidewalk/ curb & gutter replaced, and additional striping of the street. This needed main replacement project had unforeseen increased cost but was a beneficial project for the district.

Attachment- Oro_20790_1 Linden Ave main repl justif.doc
Attachment- Oro_20790_2 Oroville Leak report for main repl.xls
Attachment- Oro_20790_3 Map – Linden Ave main repl.doc
Attachment- Oro_20790_4 WV invoice 30k.pdf
Attachment- Oro_20790_5 WV invoice 9k.pdf
Attachment- Oro_20790_6 WV invoice 26k.pdf
Attachment- Oro_20790_7 WV invoice 40k.pdf
Attachment- Oro_20790_8 WV invoice 133k.pdf
20791- Wilcox Ave. Main Repl. – Completed, More than 20% over (Work Papers)

This was a vintage 1942 wrought iron main. Due to internal & external corrosion the metal was weakening, pitting & cracking. Cal Water had experienced multiple leaks in the last 9 years. The replacement cost increased due to higher paving costs, 15ft of over depth work, a storm drain repair, 15ft of curb & gutter replacement and striping of the street. This needed main replacement project had unforeseen increased cost but was a beneficial project for the district.

Attachment- ORO_20791_1_ Wilcox Ave Main Repl. Justification .doc
Attachment- ORO_20791_2_Oroville Leak Report.xls
Attachment- ORO_20791_3_Map – Wilcox Ave Main Repl.doc
Attachment- ORO_20791_4_WV invoice 28k.pdf
Attachment- ORO_20791_5_WV invoice 1k.pdf
Attachment- ORO_20791_6_WV invoice 24k.pdf
Attachment- ORO_20791_7_WV invoice 19k.pdf
Attachment- ORO_20791_8_WV invoice 131k.pdf

17.3 CARRYOVER PROJECTS

17.3.1 Advice Letter Projects
Not applicable

17.3.2 Non-Specific Carryover Projects
55308, 66909, 79933- These non-specific carryover projects (Work Papers)
These non-specific carryover projects are now in service. These projects are in use and useful and should not be disallowed or adjusted.

17.3.3 Specific Carryover Projects
21511- Carryover specific project that is over budget by more than 20%. (Work Papers)
Project 21511 was originally budgeted at $243,000 but charges are $430,000. Project 21511 is in service, used, and useful. The total project costs are more than the original estimate. Refer to the attached justification document for description and justification for the additional costs. The project is complete and all of the costs are known. Cal Water requests the final costs of the project to be included in rates.

17.4 ATTACHMENTS
The attachments listed below will are located in Book 5.
Attachment - ORO_63476_1 Lincoln Ave & easement 2015, Project Justification.doc
Attachment - ORO_63476_2 Lincoln Ave & easement Leak report.xls
Attachment - ORO_63476_3 Lincoln Ave & easement Main Repl.doc
Attachment- ORO_79455_1 Daryl Porter main repl 2014.doc
Attachment- ORO_79455_2 Daryl Porter Leak report.xls
Attachment- ORO_79455_3 Daryl Porter main repl.doc
Attachment- Oro_20790_1__Linden Ave main repl justif.doc
Attachment- Oro_20790_2__Oroville Leak report for main repl.xls
Attachment- Oro_20790_3_Map – Linden Ave main repl.doc
Attachment- Oro_20790_4_WV invoice 30k.pdf
Attachment- Oro_20790_5_WV invoice 9k.pdf
Attachment- Oro_20790_6_WV invoice 26k.pdf
Attachment- Oro_20790_7_WV invoice 40k.pdf
Attachment- Oro_20790_8_WV invoice 133k.pdf
Attachment- ORO_20791_1_ Wilcox Ave Main Repl. Justification .doc
Attachment- ORO_20791_2_Oroville Leak Report.xls
Attachment- ORO_20791_3_Map – Wilcox Ave Main Repl.doc
Attachment- ORO_20791_4_WV invoice 28k.pdf
Attachment- ORO_20791_5_WV invoice 1k.pdf
Attachment- ORO_20791_6_WV invoice 24k.pdf
Attachment- ORO_20791_7_WV invoice 19k.pdf
Attachment- ORO_20791_8_WV invoice 131k.pdf
CHAPTER 18 PALOS VERDES PLANT ADDITION

Rebuttal responses for Palos Verdes will be submitted on May 14th
CHAPTER 19 REDWOOD VALLEY PLANT ADDITIONS

19.1 INTRODUCTION

19.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

Coast Springs
- 69029 – Install PVC C.P. test tube (Section 2.16)

Lucerne
- 61090 – Install PVC C.P. test tube (Section 2.16)

Unified
- None

Redwood Valley
- 147-150-NON-SP Advanced Capital Budget Non-Specifics (Section 2.7)
- 68897 - Field 2-way radios (Section 2.6)
- 79998 - RAMCAP Vulnerability Assessments (Section 2.4)

19.2 ADVANCED CAPITAL BUDGET SPECIFIC PROJECTS

Coast Springs

64889 - Replace mains Main Replacement, in Cliff from Beach to Ocean View (Pg 7-11, Ln19)

Cal Water requests $173,400 in its 2013 budget to replace a section of main in Cliff Street. DRA does not recommend replacement of this main in this GRC because of a lack of documented leaks on this main. Cal Water recommends the Commission include this main in this case. Cal Water notes that leaks that occur in this district tend to not be discovered as the soil is very sandy and leaks do not surface. Cal Water has established leaks and leakage on these mains, which were sent to DRA in the company’s response to DR JMI-007 (see attached for excerpt from response). In addition, repairs to those leaks have established that the mains are tuberculated almost to the point of complete blockage and must be replaced now. This project was rejected/deferred during the last GRC rat case GRC proceeding and is now even more critical for the reliable operation of the system. Additionally, this main will add critical fire
hydrants to this system that were discussed at the Public Participation Hearing and further elaborated on in Cal Water’s response to DR JMI-016 (see attached).

Regarding Condition Based Assessment (CBA) or lack or leaks on pipelines, please see Global Rebuttal section.

CWS has established leaks and leakage on these mains. In addition, repairs to those leaks have established that the mains are tuberculated almost to the point of complete blockage and must be replaced now.

Regarding Condition Based Assessment (CBA) or lack or of leaks on pipelines, please see Global Rebuttal section.

Attachment - CSP - 64889 1 (Excerpt from CWS response to DR JMI-007)
Attachment - CSP - 64889 2 (Cal Water Response to DR JMI-016)

76853 - Water testing of Hill Pond water (Pg 7-14, Ln 5)

Cal Water requests $52,560 in its 2013 capital budget to pursue establishing the Hill Pond as a permitted water source to meet MDD and thereby lift a development moratorium. During the Ddistrict tour, weCal Water indicated to DRA that the company was hesitant to pursue this water source because of concerns over water quality and the impact to the treatment plant and would be removing this project from the company’s budget. After further consideration, CWS Cal Water has decided to not cancel this project and to pursue establishing the Hill Pond as a permitted water source to find enough water to meet MDD and thereby end the development moratorium. After having evaluated the possibility of pre-treating the pond water while it is still in the pond, combined with the diminishing cost-effective alternatives to lifting the moratorium, we the company feels confident that we can find an effective treatment process for the water so we can avoid impacting the treatment plant. We The company are still interested in pursuing this project and requests approval and funding for the project in the full amount.

Lucerne

64851 - Main Replacement, First Avenue & Country Club Drive (Pg 7-11, Ln 19)

Cal Water requests $259,260 in its 2014 budget to replace a section of main at First Avenue and Country Club Drive. DRA does not recommend replacement of this main in this GRC because of a lack of documented leaks on this main. Cal Water recommends the Commission include this main in this case disagrees with DRA’s assertions regarding a lack of documented leaks. In response to data request DR JMI-007, Cal Water provided leak history for
the main proposed to be replaced in this project showing eight occurrences and locations (see
attached for excerpt from response). Cal Water has documented the leaks on the Country Club
Drive and First Avenue mains in the attachment. This main will help improve water quality in
this area as the existing main is old and badly turburculated. This imparts color to the and the
water and the discolored water causes customer complaints. Cal Water requests the
Commission adopt full approval of these projects as submitted.

Regarding Condition Based Assessment (CBA) or lack or of leaks on pipelines, please
see Global Rebuttal section.

Attachment - LUC - 64851 1 (Excerpt from CWS Response to DR JMI-007)

64890 - WQ Compliance DBP Removal at LWTP (Pg 7-14, Ln 16)

Cal Water requests $150,000 in its 2013 budget to address disinfection by-product
(“DBP”) concerns at the Water Treatment Plant in Lucerne. DRA does not object to the need for
the project but, because the pilot study has not yet been completed, disagrees with the need for
this project recommends allowance of only a portion of the cost for the pilot study and for Cal
Water to defer the project to the next GRC because the pilot study has not yet been
completed. Cal Water requests that the Commission allow this project at the full estimated cost.
The driver for this project is the new Stage II disinfection by product (DBP) compliance rule,
which requires the Lucerne system to monitor disinfection by product DBPs at two high-risk
locations. If at any time, the annual running DBP average is above 0.08 ppb of Total
Trihalomethane ("TTHM"s - a form of DBPs), then Cal Water will be in violation. The new rule
will take place in October 2013. Currently, the distribution system-wide 3rd quarter weighted
average TTHMs are 0.101 ppb. If no mitigation measures are done to treat the source
water at the treatment plant, then Cal Water has a high risk of non-compliance.
Currently, the California Department of Public Health ("CDPH") has approved a pilot project,
which uses aeration after the clarifier to bring the TTHMs suspended in the water to the surface.
The TTHMs will naturally dissipate as it comes in contact with the air at the surface. If
successful, Cal Water would like to proceed to the immediate permanent conversion, pending
California Department of Health (CDPH) approval.

Cal Water has also elected to move the potassium permanganate injection further upstream of the treatment process to promote the
oxidation of organics. This process change helps with coagulation and reduces the chance of
TTHMs formation.
Additionally, Cal Water proposes to can perform other implement additional measures now to improve the chances of TTHMs reduction. Cal Water anticipates the following modifications will have a compounding positive effect on TTHMs reduction:

  Installing Variable Frequency Drive(s) to constantly pump water into the system without any start and stops. Since the clarifier does not have a flocculator propeller, which assists with flocculation, starts and stops stir up settled material inside the clarifier, increasing the amount of organics exposed to the chlorine and increasing the risk of TTHMs formation.

  Installing Amiad Prefiltration before the clarifier to help remove organics entering the clarifier.

These potential improvements along with the pilot and permanent aeration measures would costs approximately $150,000. Cal Water has currently spent $33,500 on the project under these two improvements and requests that the full amount of $150,000 be allowed for the project.

The Commission should allow this project because the new Stage II disinfection by product (DBP) compliance rule requires the Lucerne system to monitor disinfection by products at two high risk locations. If at any time, the annual running DBP average is above .08 ppb of Total Trihalomethane (TTHMs - a form of DBPs), then Cal Water will be in violation. The new rule will take place in October 2013. Currently, the distribution system-wide 3rd quarter weighted average TTHMs are .101 ppb, and if no mitigation measures are done to treat the source water at the treatment plant, then Cal Water has a high risk of non compliance.

  Currently, the California Department of Public Health has approved a pilot project which uses aeration after the clarifier to bring the TTHMs suspended in the water to surface. The TTHMs will naturally dissipate as it comes in contact with the air at the surface. If successful, Cal Water would like to proceed to the immediate permanent conversion pending California Department of Health (CDPH) approval.

  Cal Water has also elected to move the Pottasium Permaganate injection further upstream of the treatment process to promote the oxidation of organics. This process change helps with coagulation and reduces the chance of TTHMs formation.

Additionally, Cal Water can perform other measures now to improve the chances of TTHMs reduction. We anticipate the following modifications will have a compounding positive effect on TTHMs reduction:

  Installing Variable Frequency Drive(s) to constantly pump water into the system without any start and stops. Since the clarifier does not have a flocculator propeller which assists with
flocculation, starts and stops stir up settled material inside the clarifier, increasing the amount of organics exposed to the chlorine and increasing the risk of TTHMs formation.

Installing Amiad Prefiltration before the clarifier to help remove organics entering the clarifier.

These potential improvements along the pilot and permanent aeration measures would costs approximately $150,000.

We have currently spent $33,500 on the project under these two improvements and request that the full amount of $150,000 be allowed for the project.

61812 - LUC - Sta. 004-T1 - Paint interior complete (Pg 7-12, Ln 12)

Cal Water requests $92,362 in its 2015 budget to paint the interior of Station - Tank 1. 004-T1. DRA recommends disallowance of this project due to lack of inspection reports for the tank and what DRA interprets to be inconsistent unit cost estimates. Cal Water disagrees with DRA’s recommendation and requests the Commission adopt the project.

Regarding DRA’s first argument, Although although no inspection report exists for this tank, less intrusive visual inspections through the roof hatch has have revealed cracking and peeling of the coating. It is safe to assumeThis suggests that the integrity of the interior coating is compromised. Furthermore, The the age and the apparent condition of the coating is consistent with Cal WaterWS’s experience with interior coatings on tanks without a CP system. Cal WaterWS believes that because of the the visual inspection, the life expectancy of coatings without a CP system, and the age of the tank coatings, this tank warrants sufficient evidence as to the deterioratedplorable condition of the existing interior coating. Cal Water will perform a A tank inspection is expected in the next couple of months but not before the submittal of this rebuttal. Cal Water WS expects the tank inspection to reinforce the need for this project. Deferring the project to a future GRC will cause continual coating degradation;, possibly causing irreparable harm to the structural integrity of the tank and ultimately resulting in interruption of service, water quality issues, costly repairs, or even needed replacement of the tank.

The California Water service Co.Regarding DRA’s concern about unit costs, CWS uses a combination of protective coating industry standards along with internal policies to estimate tank coating projects. First, the protective coating industry recommends estimating projects by using an average square foot cost based on historic projects. This method is recommended because it normalizes and combines all the fixed and variable costs associated with protective coating projects. Second, internal estimating policies are used to improve the estimate by adding additional variables. The variables include: location/region of project, scope of the
project (location of to be coated and surface preparation required), site accessibility, and the
surrounding environment/neighborhood. OnAt the surface, the additional variables appear to be
minor in the scope of the estimate, but significantly impact the total cost. For example,
prevailing wages in the SF/Bay Area region are generally 15% higher than those in the central
valley. Therefore, adding other another variable takes into account additional costs that are
generally overlooked. Reference projects, as they are internally named, are documented on the
estimate and submitted with all project justifications.

Below is an overview of the tank coating estimating methodology:

- Determine the location, square footage, and surface preparation to be coated.
- Search for reference project in similar region with close scope of work and sq.
  footage. Information contains the range of bids received for the associated project.
- Use the average of tall the square footage . ft costs used in the reference project.
- Input the square footage .ft cost into estimating spreadsheet. Overhead, inflation,
  labor and other additional activities are added as a proportion of the total direct cost.
- Review estimate for consistency.

For the better part of 10 years, Cal Water has used this method has been used with the
and resulted that the in the actual project costs being within +/- 10% of the estimated costs. It
is important to note that reference projects from 2008 and 2009 grossly underestimated costs in
2010+ projects. This is because bids were extraordinary lower in these years due to the global
economic recession.

61813 - LUC - Sta. 004-T1 - Provide cathodic protection to tank (Pg 7-13, Ln 10)

Cal Water requests $7,846 in its 2015 budget to upgrade the cathodic protection ("CP")
system at Station 4 – Tank 1. 004-T1. DRA recommends deferral of this project until the
company performs a tank inspection. The need for an updated CP system can be determined
independently of the existence of a current inspection report. This project will update the CP
system on a tank that currently is relying on an outdated CP system. The CP system
performance is greatly affected by the condition of the coating. When the coating is
deteriorating more rapidly due to age and conditions, the CP system has to work harder to
maintain the balance necessary to reduce corrosion activity on the surface of the steel. As the
demand on this tank’s CP system increases over time it will soon overtake the system’s ability
to provide adequate protection. An upgraded CP system will increase the amount of protection
and extend the service life of both the coating and the tank. Given the high costs associated
with replacing the protective coating system, upgrading the CP system to current standards is an effective approach to extend the life of the tank at the lowest unit cost to customers.

Unified

61894 - ARMV Sta. 002-T1 - Paint interior complete (Pg 7-12, Ln 12)
Cal Water requested $92,362 in its 2015 budget to paint the interior of Station 2 – Tank 1. 002-T1. DRA recommended disallowance of this project on the same basis as with the similarly proposed project in Lucerne (61812) as noted above. Please see discussion above for Cal Water’s response to DRA’s objections. Cal Water requests the Commission approve the project to be included in rates in this proceeding.

61952 - ARMV Sta. 002-T1 - Provide cathodic protection to tank (Pg 7-13, Ln 10)
Cal Water requested $7,846 in its 2015 budget to upgrade the CP system at Station 2 – Tank 1. 002-T1. DRA recommended disallowance of this project on the same basis as with the similarly proposed project in Lucerne (61813) as noted above. Please see discussion above for Cal Water’s response to DRA’s objections. Cal Water requests the Commission approve the project to be included in rates in this proceeding.

62239 - Replace well pump with 7.5 HP new submersible designed for 50 gpm (Pg 7-13, Ln 19)
Cal Water requested $15,000 to replace a well pump at Station 1-01. DRA recommended disallowance of this project and for the company to use non-specific funding to purchase a new pump when the existing pump fails. Cal Water does not agree with moving this project equipment purchase to non-specifics. Non-specific purchases should be reserved for those purchases that are more emergency or unknown or immediate in nature. The pump installation equipment purchase requested is a planned capital project purchases. In some cases in the past, some well pump replacements of the referenced equipment purchases may have been made as non-specific, but these were due to unforeseen failure urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases.

The existing pump is of unknown age and is the well is the only source of supply. This pump and must be replaced to provide allow CWS customers to provide the level of operational reliability that is expected by all water utility customers. This can only be achieved by
implementing preventative maintenance and replacing the unit now with the correct size motor
during a planned outage. The operation of small water systems with only one source and only
one operator covering RDV, Unified, and Coast Springs must handled by solving problems
before they turn into emergencies. Cal Water requests the Commission approve this project
with specific budget funding.

64891, 64892, 64894 - Replace old 2-inch galvanized mains (Pg 7-11, Ln 19 - 20)

Cal Water requested $96,780, $47,880 and $81,000 in its 2015 budget for projects
64891, 64892 and 64894, respectively. DRA recommended disallowance of these projects on
the same basis as their positions for the main the proposed replacement projects in Coast
Springs and Lucerne. CWS acquired these small water systems with little knowledge of the age
or condition of the mains. The water mains in these projects have been evaluated based on our
knowledge of the condition of the pipes and these projects are critical to the reliability of the
system. These pipes must be replaced now, before leaks and breaks are too numerous and
occur so often that local personnel only have time to fix leaks. These mains have been
identified in previous rate cases and the condition continues to deteriorate. Cal Water requests
the Commission approve these projects as proposed.

Regarding Condition Based Assessment (CBA) or lack or of leaks on pipelines, please see
Global Rebuttal section.

Redwood Valley

64941 - Replace Vehicle V208135 (Pg 7-15, Ln 19)

Cal Water requests $42,000 in its 2015 budget to replace vehicle V208135. DRA noted
that according to the mileage of the vehicle as of December 2011, the projected mileage would
not meet the 120,000 mile replacement criteria by 2015. Attached, please find an updated
mileage summary as of December 2012 data as well as projected yearly mileage for 2013, 2014
and 2015. Not only will the vehicle satisfy the mileage criteria by 2015, it will actually meet the
criteria by 2014. Based on the updated information Cal Water requests the project be moved up
to 2014.

Attachment - RDV - 64941 1 (V208135 Updated Mileage Analysis)
19.3 CARRYOVER PROJECTS

19.3.1 Advice Letter Projects
Not Applicable

19.3.2 Non-Specific Carryover Projects
Coast Springs, Lucerne, Redwood Valley
Not Applicable

Unified
25928, 74553, 74913, 76473, 74694, 76473 - Various Non-Specific Carryovers
These projects are in use and useful and should not be disallowed or adjusted.

19.3.3 Specific Carryover Projects

Coast Springs, Unified, Redwood Valley
Not Applicable

Lucerne
14844 - Paint interior, exterior and replace CP system at Station 2 Tank 1 (Pg 7-8, Ln 5)
Cal Water holds to its original position for 100% recovery of the project costs.
During the 2009 GRCgrc, CWS proposed $195,378 for painting the interior, exterior, and replacing CP system at Lucerne Station 2 - Tank 1. DRA was in agreement for the project, but not the estimated cost. DRA suggested that Cal water should have used a tank of similar size for referenced unit costs and suggested to use PID 20295 for the reference cost. (It is to be noted that apart from the size of the tank, cost estimate for a painting project depends on various other factors like location/region of project, scope of the project (location of area to be coated and surface preparation required), site accessibility, surrounding environment, /neighborhood, weather conditions, etc.). The parties agreed to a lower dollar figure of $144,400, although the company argued the cost of the project would exceed the budget cost.
Finally, PID 14844 was approved at a lower amount of $144,400 in the GRC settlement. Although Cal-Water agreed to for a lower amount of $144,400 for re-coating the exterior and interior of the tank, in reality it couldn't be achieved. The project project overrun to closed in
2012 for $200,321.32 (within 2.5% of original estimate) and exceeding $55,921 from the GRC settled amount. Cal Water requests the Commission adopt the total cost of this project in rates.

19.4 ATTACHMENTS

The attachments listed below are located in Book 5 will follow this chapter.

Attachment - CSP - 64889 1 (Excerpt from CWS response to DR JMI-007)
Attachment - CSP - 64889 2 (Cal Water Response to DR JMI-016)
Attachment - LUC - 64851 1 (Excerpt from CWS Response to DR JMI-007)
Attachment - RDV - 64941 1 (V208135 Updated Mileage Analysis)
CHAPTER 20 SALINAS PLANT ADDITIONS

20.1 INTRODUCTION

20.1.1 Global Responses
Global Responses can be found in chapter 2 of this book. The following capital projects are part of the global response for this district:

- 54828 - well destruction
- 65542 - Vehicles (Section 2.9)
- 20829 - Vehicles (Section 2.9)
- 64931 - Vehicles (Section 2.9)
- 64932 - Vehicles (Section 2.9)
- 65093 - Vehicles (Section 2.9)
- 65403 - Vehicles (Section 2.9)
- 65404 - Vehicles (Section 2.9)
- 68898 - 2-Way Voice Radio System (Section 2.6)
- 80000 - RAMCAP (Section 2.4)
- 67269 - Install Pressure Transducers (Work Papers)
- 67430 - Install 25 Power Meters (Work Papers)
- 67449 - Install 10 Power Meters (Work Papers)
- 66830 - Install SCADA RTUs at 11 stations (Work Papers) (Section 2.5)
- 66889 - Install Well Level Transducers (Work Papers)
- 66890 - Install Well Level Transducers (Work Papers)
- 114-NON-SP - 114- Salinas Non-specific (Section 2.7)
- 66890 - Install Well Level Transducers (Work Papers)

20.2 ADVANCED CAPITAL BUDGET SPECIFIC PROJECTS

19042 - 8” PVC main on Capital St. (Pg 7-14, Ln1)
DRA agrees with the need for this project, but disagrees with the cost estimate. DRA compares this project to projects in Cal Water’s Visalia and Bakersfield districts to recommend a much lower overall project cost. Cal Water contends that this is simply not valid because costs in Salinas are much higher than in the referenced central valley districts. In order to develop accurate costs for this project, Cal Water used its West Valley Construction master contract specific to the Salinas District to “build” the cost estimate of this project.

Cal Water recognizes that in the justification report pages 138-139 referred in the DRA report (page 7-15) are templates from old (2004) budget documents that were accidentally
included in the justification reports because of printing mistakes. But these documents have no
relevance to the Salinas justifications reports, and should be disregarded.

Cal Water reiterates the need for this project, stressing that these 6” and 4” cast iron
mains are over 50 years old and are in near-term need of replacement. In recent years there
have been catastrophic failures on these mains that have been costly to repair due to the mains
being located in the street requiring traffic control, as well as requiring after-hours work due to
business and government buildings needing water during the day. Also, these water mains are
located in a concrete street, thus the pavement replacement during these failures is extremely
costly. Per the attached letter from the Salinas Fire Dept, we also need to install fire hydrants,
as part of this project. The attached spreadsheets that estimate the costs of the project are
based on a master contract for Salinas with our contractor, West Valley Construction.

Regarding Capitalized Interest, please see the Global Rebuttal section.

Regarding the price escalation, Cal Water holds to 3% per year price escalation for all
projects and regarding ECOS escalation, please see Global Rebuttal section.

Cal Water is maintaining the original cost estimate of $902,000. This includes $537,519
for the Main, $143,841 for Services, and $47,682 for Hydrants. This totals $729,042 excluding
Capitalized Interest, Escalation and Overheads, which are shown in the original estimate.

Cal Water requests the Commission to approve this project for the full estimated costs.

Attachment- SLN 19042 1
Attachment- SLN 19042 2
Attachment- SLN 19042 3
Attachment- SLN 19042 4

20828 - Vehicle hybrid suv - Utility Worker

This vehicle replacement project has been completed in 2012. It is used and useful and
should not be disallowed or adjusted.

20829 – 3/4 Ton Pickup, Truck Up-fitting and Mobile Radio

Salinas has 35 vehicles and 35 employees requiring vehicles in their daily duties, and
the vehicle proposed for replacement meets the replacement criteria of having greater than
120,000 miles at the time of replacement.

Attachment – 1 SLN 20829 Salinas Positions
Attachment – 2 SLN 20829 Salinas Vehicles
Attachment - 3 SLN 20829 Salinas Mileage
Attachment – 4 SLN 20829 Salinas Replacement Costs

64930 – 3/4 Ton Pick Up and Service Body - Pump Operator

Salinas has 35 vehicles and 35 employees requiring vehicles in their daily duties, and
the vehicle proposed for replacement meets the replacement criteria of having greater than
120,000 miles at the time of replacement.

Attachment – 1 SLN 64930 Salinas Positions
Attachment – 2 SLN 64930 Salinas Vehicles
Attachment - 3 SLN 64930 Salinas Mileage
DRA agrees with the need for this project, but disagrees with the cost estimate. DRA compares this project to projects in Cal Water’s Visalia and Bakersfield districts to recommend a much lower overall project cost. Cal Water contends that this is simply not valid. Costs in Salinas are much higher than in the referenced central valley districts. To estimate the cost of this project, Cal Water uses the West Valley Construction master contract specific to the Salinas District to “build” the cost of this project.

Cal Water reiterate the need for this project and stresses that the 700 feet of 4-inch cast iron main was installed in the 1920’s and has been in service for ninety years. This main had two major failures in 2011. The last failure resulted in a boil water order due to a ruptured sewer line that was caused by the main failure. The new main needs to be relocated away from the existing sewer lines per CDPH. The attached spreadsheets that estimate the costs of the project are based on a master contract for Salinas with our contractor.

Regarding Capitalized Interest, please see the Global Rebuttal section.

Regarding the price escalation, Cal Water holds to 3% per year price escalation for all projects and regarding ECOS escalation, please see Global Rebuttal section.

Cal Water is maintaining the original cost estimate of $204,000. This includes $107,805 for the Main, $28,689 for Services, and $6,596 for Hydrants. This totals $143,090 excluding Cap. Interest, Escalation and Overhead, which are shown in the original estimate.

Cal Water requests the Commission to approve this project for the full estimated costs.

Zone 155 Well Capacity:

On Page 7-27, DRA pointed that Cal Water indicated that there are fourteen wells with 10,283 GPM capacity. In response to data request, Cal Water corrected this and stated that the total capacity is 9,630 GPM. The values provided in the data request were obtained from Cal Water’s District Report on Production (DROP) database. Those values are actual average capacities based on the quantity produced and operational run-time, whereas the values provided in the justification testimony are based on design capacities of the wells extracted from

Cal Water holds to its original position to construct a new well at Station 20 to serve customers in pressure zone 155. Cal Water stresses that new wells in Salinas are critical. This district experiences many contaminants, especially nitrates, VOCs, MTBE, and seawater intrusion. Constructing new wells in area of the district with good water characteristic is logical and necessary. Cal Water requests the Commission approve the wells in this case. Cal water provides detailed rebuttal in the following paragraphs:

Zone 155 Well Capacity:

On Page 7-27, DRA pointed that Cal Water indicated that there are fourteen wells with 10,283 GPM capacity. In response to data request, Cal Water corrected this and stated that the total capacity is 9,630 GPM. The values provided in the data request were obtained from Cal Water’s District Report on Production (DROP) database. Those values are actual average capacities based on the quantity produced and operational run-time, whereas the values provided in the justification testimony are based on design capacities of the wells extracted from
WSFMP. As such, slight discrepancies can arise between calculated average run-time values, and design or manufacturer’s stated (pump curve) values, due to in-situ operational factors.

Page 7-28 on DRA report notes that CWS neglected to include the capacity from two wells (13-01 and Station 47) in its calculation of the total production capacity for Zone155. While well 13-01 is an active well, it is not a reliable source because of MTBE contamination. Operation of well 13-01 is minimized due to the high cost of operating the GAC system specifically due to the frequent carbon change outs needed for MTBE treatment. Based on Cal Water’s experience, running Station 13 requires carbon change out every six weeks at high MTBE levels. The cost of each carbon change out is approximately $52,000. Therefore this well is not considered a reliable source, is held in reserve only for emergency usage, and as such was not included in the capacity analysis.

The production capacity from the proposed well at Station 47 was not included in 2011 analysis because at that time the well was in the preliminary construction phase and Cal Water did not know the pumping capacity of this well. The pumping capacity will not be available until the well has been constructed and pumping tests are completed. Also it should be noted that upon completion, the well at station 47 will replace the well at Station 21. Due to water quality concerns, the well at station 21 will be abandoned and destroyed. There will only be a minor increase in overall source capacity in the 155 zone due to limits in the delivery capability of the Station 47 boosters to the distribution system.

**Firm Pumping capacity of 8.8 MGD:**

On Page 7-29, DRA notes that Cal Water did not include two active wells and if CWS had accounted for all the active wells and new wells in the system, the firm pumping capacity would be 9,600 GPM or 13.8 MGD. If two largest wells in this zone go off-line, there is enough supply from the remaining wells to provide water for the highest day of customer usage. Following are several subsections of Title 22 section 64554 that are pertinent to this assessment. They state:

(a) At all times, a public water system’s water source(s) shall have the capacity to meet the system’s maximum day demand (MDD).
(b)(1) Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone.
(c) Community water systems using only groundwater shall have a minimum of two approved sources before being granted an initial permit. The system shall be capable of meeting MDD with the highest-capacity source off line.

GO 103_A Section III.8.B states:
All other critical equipment not addressed above shall have adequate redundancy and reliability, including fixed or portable backup power, incorporated as determined by the utility and approved by the Commission to meet the requirements of this General Order.

The supply facilities that Cal Water utilizes to satisfy these requirements include wells and booster pump stations. Cal Water has determined that the capacity of these facilities, whether it is in the form of wells or a single lift station, should be computed using a firm pumping
capacity concept and that it should apply to the system as a whole and each individual pressure zone. This concept accounts for some level of outage, thus providing reliability within the overall supply and/or inter-zonal boosting infrastructure in a given system. Section 3.2.2.1 of the American Water Works Association’s (AWWA) Water Distribution Systems Handbook directly states that:

It is also good practice to consider standby capability in the source of supply. If the system has been designed so the entire capacity of the supply is required to meet the maximum demand, any portion of the supply that is placed out of service due to malfunction or maintenance will result in a deficient supply. For example, a community that relies primarily on groundwater for its supply should, at a minimum, be able to meet its maximum day demand (MDD) with at least one of its largest wells out of service.

Section 18.2.1.6 of the same text states that:

... more than one pump usually is placed in each pumping station. The usual rule for the number of pump units is that the station must be able to meet design flows when the largest unit is out of service.

Cal Water supply reliability criterion is consistent with numerous industry guidelines and recommendations (like those cited above). The well supply criterion was also formulated based on Cal Water’s historical operating experience in Salinas as well as in its systems in Marysville and Dixon, where water quality has rapidly deteriorated creating the need to take wells out-of-service, or to swiftly deploy water treatment systems that have notable capital and operating costs.

As such, Cal Water’s experience dictates that it must consider Title 22’s reliability requirement a minimum, as AWWA indicates, in evaluating the risk of not being able to meet MDD and PHD. Loss of the critical (largest) supply well in small districts can amount to significant percentages, from 15% to 35%, of the total supply capacity. Loss of an additional source could result in substandard service. Cal Water also contends that as the numbers of wells (and total capacity) increases so does the risk that multiple production units will be out of service at any given time. This consideration must take into account outages from conditions other than mechanical failure.

As such, firm groundwater pumping capacity is defined by Cal Water as the total active well capacity minus the capacity of the two most critical wells, or ninety percent (90%) of the total active well capacity, whichever is less. And, firm pumping capacity for booster pump facilities is defined by Cal Water as the total station capacity minus the capacity of the largest pump. If there are multiple pump stations serving the same service zone, only one pump is considered to be out of service for all the stations combined.

Therefore the two wells that DRA indicates Cal Water neglected to include were not considered for reliability considerations. Cal Water did not include capacity for the new well because its contribution could not be determined until construction has been completed and capacity tests have been performed. Cal Water anticipates that the new well at Station 47 will be one of the zone’s two most critical wells. The following assessment is based on that determination.
Currently the wells in zone 155 have a total capacity to produce 16.44 MGD. The firm pumping capacity for the zone is 11.33 MGD (excluding two most critical wells at Station 47 and 67).

The highest usage in the past 10 years for zone 155 was recorded in 2003. Demand on that day was 13 MGD.

\[
\text{Supply} - \text{Demand} = \begin{cases} \text{Surplus}(+) & \text{or Deficit}(-) \\ 11.33 \text{ MGD} - 13 \text{ MGD} = -1.67 \text{ MGD} \end{cases}
\]

Therefore, based on Title 22 requirements an additional 1.67 MGD is required for zone 155. As such, Cal Water disagrees with DRA to disallow the projects and substantiates the need for a new well in zone 155.

61956 - Salinas Ag Well (Pg 7-29, Ln 23)

Cal Water has reviewed the DRA’s recommendation to defer or disallow the proposed project, and disagrees with the recommendation. Cal Water contends that this project should not be deferred, since the proposed work will benefit both current and future Cal Water customers relative to a secure firm groundwater supply. Support for this position is provided in the following discussion.

Cal Water acknowledges that development at the Salinas Ag Park has been delayed. However, it should be noted that Cal Water’s pursuit of additional supply in this area is aimed at securing a firm groundwater supply in the face of lost supply at other locations. For instance, previous hydraulic modeling efforts associated with the Salinas Long Term Supply Plan (“LTSP”) demonstrated that a reasonably expected loss of supply in the west and west-central portions of Salinas (Stations 012, 019, 026, and 030) due to a combination of age and water quality related factors would lead to a significant loss of service in the subject service area (e.g., estimated service pressures below 30 psi at peak-hour). These service levels are in conflict with the pressure management guidelines and requirements stated in General 103-A. As such, development of additional supply in the southeast portion of Salinas (e.g., Station 047 and any Ag wells), combined with enhanced pipeline transport north and west is seen as a reasonable hedge against further degradation of local supply in other areas of the 155-zone. In addition, supply calculations for the 155 zone relative to the proposed well at Station 020 demonstrate a need of about 1,100 GPM in order to meet Cal Water’s firm supply criteria (with Station 047 and 067 discounted due to their size/criticality). Should the Station 020 well be disallowed, and/or in-situ (developed) capacity proves to be less than 1,100 GPM, then some form of additional supply in the 155 zone is warranted. As such, Cal Water stands by its original position that supply development in and around the Salinas Ag Park, combined with a suitable mix of pipeline transport is still (or will be) required within the next 1-3 years, e.g., this GRC cycle. In addition, Cal Water contends that suitable cost-sharing and/or transfer options can be developed in the form of per-lot fees levied against any future development, and that this overall construction can be made to be consistent with the provisions of Rule 15.

In conclusion, in a manner consistent with the original Project Justification, as well as based on the additional information presented here, it is Cal Water’s contention that the above-
referenced project **should not be deferred**, based on current and emerging water supply, water quality, and water infrastructure needs that are directly applicable to Cal Water's operations today, and within the scope and timeframe of the current GRC.

Cal Water requests the Commission to authorize this project in this proceeding.

Attachment- SLN 61956

**62103 - Paint Exterior and Replace Cupola Vent at Sta.53 T1 (Work Papers)**

The coating on the exterior of the tank is degraded and exhibiting severe corrosion around the cupola vent, pivot side of hatch and landing platform. The coating on the exterior roof is delaminating and chalking extensively. The epoxy primer and intermediate coats are not designed to withstand UV exposure, so once the finish coat is completely deteriorated, the remaining coats will fail quickly exposing the substrate. The exterior coating is in a condition where complete removal using SSPC-SP6 surface preparation is required. In addition, the existing vent is inadequate and needs to be upgraded to provide safeguard against excess pressure or vacuum buildup during maximum inflow or outflow of water. Cal Water requests the Commission authorize this project.

**62853- 1 Million gallon storage tank at station 108 (Pg 7-32, Ln 10)**

Cal Water holds to its original position, that additional storage should be installed at Station 108 to meet the requirements of the 230/280 zone. DRA indicated in its report that based on 2011 MDD, it determined that the storage requirements in the 230/280 zone is 2.6 MG. DRA calculated the operation storage need based on 20% of MDD or 0.52 MG (0.2 * 1,789 GPM) and the emergency storage as 2.08 MG (ADD= MDD/1.25).

DRA based its analysis on information provided in an article published in AWWA's *Opflow* magazine entitled *Determining Distribution Storage Needs*, terming the information as AWWA recommendations. Cal Water contends that the purpose of the article is to present methodologies for determining storage volume and should not be construed as AWWA recommendations.

The principal function of storage is to provide reserve supply for operational equalization, fire suppression reserves, and emergency needs. The article indicates that there are two methods to calculate the volume of required storage. One method is to compute storage volume based on the sum of the three types of storage. The alternate method is to sum the volume needed for equalization storage and whichever is the larger requirement: fire protection volume or emergency storage volume.

DRA elected to utilize the second method determining, as noted in its report on page 7-34, that it is not necessary to account for both fire and emergency storage in the storage need and as such only included emergency storage in its analysis as this is larger.

Cal Water's planning and design criteria are intended to ensure that the company provides the most reliable service to its customers. In order to accomplish this, Cal Water has determined that it must calculate storage volume based on the sum of the three components of storage and that each component is earmarked to perform the specific function for which it was intended. Thus Cal Water disagrees with the notion of using fire reserves to meet demands associated with day-to-day service disruptions (e.g., main breaks or shutdowns), unscheduled
maintenance, or power outages. The Salinas district is located on active fault lines, the most active being the San Andreas Fault. Experience during emergency events, particularly earthquakes, dictates that fires can and will occur concurrent with other impacts of the emergency. During the Loma Prieta earthquake in 1989, San Francisco had 22 structural fires during the seven hours from the time the earthquake struck until midnight. San Francisco Water Department experienced 70 water main breaks, EBMUD identified 120 water pipeline breaks, and San Jose Water Company reported 55 pipe breaks.

The 2011 max day production for zone 230/280 that DRA used (as reported in JAU-002, 3a) included production only from Wells 27-01, 44-01, 106-01, 108-01 in 2011. Demand met by Station 16 boosters (C & D) was not included. Additionally the 2011 MDD data provided in the response to JAU-002, 3a was extracted from production data for July 6, 2011 which was the MDD for entire Salinas system. MDD for individual pressure zones can occur on different days from the day of maximum demand for the consolidated system. MDD for 230/280 zone for 2011 actually occurred on September 14th, 2011. Total production for the 230/280 zone sources on that day, including Station 16 boosters C and D was 5.286 MGD. The recorded MDD for year 2012 is 4.523 MGD. The 2013 capacity analysis chart for Zone 230/280 (Insert 2) clearly indicates an increasing trend in the demand from 2010, although the demand has dropped between 2008 and 2010.

Title 22 Section 54554 (a)(1) states:
For systems with 1,000 or more service connections, the system shall be able to meet four hours of peak hourly demand (PHD) with source capacity, storage capacity, and/or emergency source connections

Title 22 Section 54554 (b)(1) states:
If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD; determine the average hourly flow during MDD and multiply by a peaking factor of at least 1.5 to obtain the PHD.

The highest usage in the past 10 years for zone 230/280 with was recorded in 2004. MDD in that year was 5.8 MGD or 4028 GPM. This yields a PHD of 8.7 MGD or 6,042 GPM. Assuming that the 230/280 zone’s MDD is provided by the supply sources that deliver directly to the zone and inter-zone transfers then the balance between MDD and PHD must be provided from storage. Therefore to meet the peak hour supply requirements of Title 22 the equivalent volume from storage required is the difference between MDD and PHD over 4 hours. This equates to:

\[(6042 \text{ GPM} - 4028 \text{ GPM}) \times 4 \text{ hours} \times 60 \text{ min/hour} = 483,360 \text{ gallons or 0.48 MG}\]

Emergency storage component = ADD. ADD for the 230/280 zone in 2012 was 3.11 MGD. The fire flow requirement for the zone is 2000 GPM for 4 hours. This equates to a fire suppression reserve of:

\[2000 \text{ GPM} \times 4 \text{ hours} \times 60 \text{ min/hour} = 480,000 \text{ gallons or 0.48 MG}\]

Therefore the total storage requirement for the 230/280 zone equals

\[\text{PHD} + \text{Emergency} + \text{Fire} = 0.48 \text{ MG} + 3.11 \text{ MG} + 0.48 \text{ MG} = 4.07 \text{ MG}\]

Cal Water disagrees with DRA’s claim that 4 MG of storage capacity is available to the 230/280 zone via Stations 16 and 108. Storage at Station 16 can be delivered to either the 180 zone or the 230/280 zone. As such, only a portion, approximately 43%, of the storage at Station 16 is available for Zone 230/280 due to the proportional share based on the capacity of boosters at
Station 16. Therefore the total storage currently available for the 230/280 zone is 3.3 MG, 2.3 MG at Station 16 and 1 MG at Station 108.

\[
\text{Storage need} = \text{Existing Storage} - \text{Required Storage} = \text{Surplus(+)}/\text{Deficit(-)}
\]

\[
\text{Storage need} = 3.3 \text{ MG} - 4.07 \text{ MG} = -0.77 \text{ MG}
\]

Cal Water must account for a certain amount of unusable storage in sizing its storage facilities. Therefore the 1 MG of storage proposed under this project is appropriate.

Cal Water disagrees with the DRA recommendation and requests that the Commission approve this project in the rate case.

*Attachment- SLN 62853 1
Attachment- SLN 62853 2
Attachment- SLN 62853 3*

62992 – Extend station well blow off discharge piping (Work Papers)

Cal Water maintains its original position and estimate of $134,520 regarding this project. Two of the three stations in this project, 32-01 and 50-01 will require that an outfall be installed in addition to the work required at the point of discharge. Station 44 will require a connection from the point of discharge to the existing storm system. Each of these additions will require the costs previously presented and Cal water requests the Commission to authorize these projects.

63032 - Remodel Customer Service Center (Pg 7-37, Ln 6, Pg 7-37, Ln 12)

Cal Water maintains its position regarding the need for this project for a number of reasons. First, the CWS Salinas District has had three workers comp claims regarding ergonomic work stations and these need to be addressed. Second, Cal Water has an additional Customer Service Representative for the cashier position due to the increase in the number of walk-in customers and workspace for this position is needed. Third, the changes are needed to comply with Sarbanes Oxley controls regarding cashboxes so that when cashiers are on breaks/lunch, the stand-in cashier will avoid using the same cash boxes. Fourth, and importantly, other utilities in Salinas (PG&E and ALCO Water) have been robbed at gun point and security updates are needed as part of this project. The Salinas District had to temporarily have an armed security guard in the customer center until the perpetrator of the robberies was caught. Finally, the existing carpet in the customer center is very old, worn out, and needs to be replaced. Beneath the carpet is asbestos tile which requires proper removal and abatement.

63092- 8 inch PVC – Riker St

DRA agrees with the need for this project, but disagrees with the cost estimate. DRA compares this project to projects in Cal Water’s Visalia and Bakersfield districts to recommend a much lower overall project cost. Cal Water contends that this is simply not valid. Costs in Salinas are much higher than in the referenced central valley districts. To estimate the cost of this project, Cal Water uses the West Valley Construction master contract specific to the Salinas District to “build” the cost of this project.

To reiterate the need for this project, Cal Water stresses that the 1,546 feet 4 inch cast iron main has been in service since the 1940’s and needs to be replaced. In recent years from 2000 to present Cal Water has experienced 7 major failures and broken or leaking gate valves
that needed to be replaced at a great cost. This stretch of 4 inch main only has two fire hydrants along the entire run which does not provide adequate fire protection. The main needs to be upgraded to 8 inch PVC C-900 to meet flow requirements. The attached spreadsheets that estimate the costs of the project are based on the West Valley Construction master contract for Salinas.

Regarding Capitalized Interest, please see the Global Rebuttal section.
Regarding the price escalation, Cal Water holds to 3% per year price escalation for all projects and regarding ECOS escalation, please see Global Rebuttal section.

Cal Water is maintaining the original cost estimate of $403,000. This includes $207,549 for the Main, $58,784 for Services, and $12,866 for Hydrants. This totals $279,199 excluding Cap. Interest, Escalation and Overhead, which are shown in the original estimate.

Cal Water requests the Commission to approve this project for the full estimated costs.

Attachment- SLN_63092 1
Attachment- SLN_63092 2
Attachment- SLN_63092 3
Attachment- SLN_63092 4

63356 - Break Room Remodel (Pg 7-37, Ln 6, Pg 7-40, Ln 6)

Cal Water maintains its original position but recommends a revised total cost of $261,692. The break room and its equipment (appliances, tables, chairs etc.) have not been remodeled/updated in the last 17 years. In addition, the current break room is not up to current ADA requirements. The break room is not adequate for current staffing levels and is inadequate for any meetings/training with public participation. The appliance budget quoted by DRA is not accurate compared to the estimate. The DRA estimate showed an appliance allowance of $39,000. Given the size of the staff using the room, large appliances are needed requiring a larger $60,000 budget.

Please see the table in DRA SLN RO Report, table on p. 7-41. DRA’s math is wrong in the second column. Their total is only $161,227 and it should total $198,748. Also, in the same table DRA is not using the 3% per year price escalation that Cal Water holds to for all projects.
Cal Water requests that the Commission approve this project.

Regarding Capitalized interest, please see Global Rebuttal Section.

Attachment- SNL63356 1
Attachment- SNL63356 2

63818 - Remodel Superintendents offices. (Pg 7-37, Ln 6, Pg 7-39, Ln 8)

Cal Water adjusts its position for this project with a revised total cost estimate of $85,097. This reduction is based on not needing furniture at this time and decreasing this project to only include carpeting and asbestos removal in the superintendent offices. This carpeting is old and worn out. Replacement now requires asbestos removal and abatement. Cal Water has removed the office furniture component from this project as the offices already have furniture. Cal Water requests the Commission approve a lower amount for this project in the amount of $85,097.
63835 - Parking Structure  (Pg 7-37, Ln 6, Pg 7-42, Ln 1)

Cal Water maintains its original position. This project is needed for employee parking. The field yard is currently too small to accommodate company vehicles and employee vehicles.

63858 - 8 Inch PVC – Tyler St. (Pg 7-16, Ln 7)

DRA agrees with the need for this project, but disagrees with the cost estimate. DRA compares this project to projects in Cal Water’s Visalia and Bakersfield districts to recommend a much lower overall project cost. Cal Water contends that this is simply not valid. Costs in Salinas are much higher than in the referenced central valley districts. Cal Water uses the West Valley master contract specific to the Salinas District to “build” the cost of this project.

To reiterate the need for this project, Cal Water stresses that the 2,141 feet of 6 inch water main on Tyler Street is in the parking strip and has been in service since the 1940’s. Because of this location, tree roots have become a major issue. Not only are they are lifting the concrete sidewalk, but they produce service connection leaks and main failures where the roots have cracked the main. This main needs to be relocated from the parking strip into the street. Cal Water is maintaining the original cost estimate of $654,041. This includes $309,981 for the main, $111,439 for services, and $32,206 for hydrants. This totals $453,626 excluding Cap. Interest, Escalation and Overhead, which are shown.

Regarding Capitalized Interest, please see Global Rebuttal Section.

Cal Water holds to 3% per year price escalation for all projects and regarding ECOS escalation, please see Global Rebuttal section.

Attachment- SNL 63858 1  
Attachment- SNL 63858 2  
Attachment- SNL 63858 3  
Attachment- SNL 63858 4

64095, 64177- Pipeline Upgrade –Sta. 47

Cal Water has reviewed the DRA’s recommendation to defer or disallow the proposed projects (64095 and 64177), and disagrees with the recommendation. Cal Water contends that these projects should not be deferred, since the proposed work will benefit existing and future Cal Water customers relative to a secure firm groundwater supply. These projects will also secure the associated infrastructure required to transport this supply to current and envisioned locations of need in Salinas. Previous hydraulic modeling work demonstrates that subject areas of concern are the northeast, west, and west-central 155-zone. Support for this position is provided in the following discussion.

Rebuttal of DRA Reason #1 – Information attached to this rebuttal demonstrates the impact of a the loss of supply at Station 056 (Attachment B). This loss is based on a well modification project undertaken in the late summer and fall of 2012, in which a subsurface investigation and (aquifer) zonal isolation project was undertaken to improve water quality at Station 056 (i.e., reduce nitrate concentrations). This reduction in subsurface “pull-area” ultimately produced the desired effect on nitrate concentrations, but it also led to a subsequent reduction in pumping capacity. Recent SCADA data taken from late-2012 and early-2013 demonstrates a loss of pumping capacity of about 900 GPM. More specifically, the pumping
capacity of Station 056 was reduced from its historical level (about 1,550 to 1,600 GPM), to a new production level of about 650 to 700 GPM.

Rebuttal of DRA Reason #2 – As noted above, this point largely revolves around the apparent inconsistent record-keeping and/or testimony pertaining to the construction status of Station 047-01 (carry-over project 15544). Cal Water is currently constructing Station 047-01, and acknowledges some of the historical statement inconsistencies in this case. Unfortunately, around 2007-2009, a number of different planning activities, plus field investigations regarding overall feasibility, aquifer characteristics, combined with some internal communication issues between subject project teams within Cal Water, ultimately led to a mixed picture of the role of Station 047-01, and its integration into the existing system. As it stands now, Cal Water is currently constructing the Station 047-01 well (expected completion summer 2013), and the need for additional transport capability away from the storage tank at Station 047 will be required. This is especially true if any Salinas Ag wells are developed, and/or there is additional loss of supply in the west and west-central area of the 155 zone (e.g., Stations 012, 019, 026, and 030). A driving concern in this later case is degrading water quality in these wells due to nitrate.

Rebuttal of DRA Reason #3 – As noted above, this point pertains to the pipeline extension toward Station 020 (64177). In a similar vein as reason #2 above, the original need for this pipeline was demonstrated by hydraulic modeling efforts associated with the Salinas Long-Term Supply Plan (LTSP) circa 2009. From a historical standpoint, an area northeast of Station 020 has encountered low pressure during periods of high demand (i.e., below 35 psi). While this pressure level is marginally acceptable according to General Order 103-A, it is less than desirable, and leaves this area vulnerable to other forms of supply loss, or facility failures. Hydraulic modeling efforts associated with the LTSP demonstrated that enhanced pipeline transport from Station 047 in the direction of Station 020 would help to alleviate these pressure problems. Cal Water contends that this project is still generally required. However, Cal Water also acknowledges that the need for this pipeline (64177 portion, not the 64095 portion) could be reduced or eliminated, should a new well be developed in the immediate Station 020 area (on-site). Further hydraulic analysis would be required in this case to help establish the need, scope, and scale of a revised pipeline project in this case.

Rebuttal of DRA Reason #4 – As noted above, this point pertains to the lack of apparent development activity in the Salinas Ag-Industrial Park, and the associated lack of required supply that follows. However, it should be noted that Cal Water’s pursuit of additional supply in this area is aimed at securing a firm groundwater supply in the face of lost supply at other locations. For instance, as noted above (Reason #3), previous hydraulic modeling efforts associated with the Salinas LTSP demonstrated that a reasonably expected loss of supply in the west and west-central portions of Salinas (Stations 012, 019, 026, and 030) due to a combination of age and water quality related factors would lead to a significant loss of service in the subject service area (e.g., estimated service pressures below 30 psi at peak-hour). These service levels are in conflict with the pressure management guidelines and requirements stated in General Order 103-A. As such, development of additional supply in the southeast portion of Salinas (e.g., Station 047 and any Ag wells), combined with enhanced pipeline transport north and west is seen as a reasonable hedge against further degradation of local supply in other areas of the 155-zone. As such, Cal Water stands by its original position that supply
development in and around the Salinas Ag Park, combined with a suitable mix of pipeline transport is still (or will be) required within the next 1-3 years, e.g., this GRC cycle. In addition, Cal Water contends that suitable cost-sharing and/or transfer options can be developed in the form of per-lot fees levied against any future development, and that this overall construction can be made to be consistent with the provisions of Rule 15.

To conclude, in a manner consistent with the original Project Justification, as well as based on the additional information presented here, it is Cal Water's contention that the above-referenced project(s) should not be deferred, based on current and emerging water supply, water quality, and water infrastructure needs are that are directly applicable to Cal Water's operations today, and within the scope and timeframe of the current GRC.

Attachment- SLN_64095_64117 1
Attachment- SLN_64095_64117 2

64510 & 64487 - Design and Construct 2nd Tank at Station 70 (Project 64487), Rebuild Station 73 Pump Station (Project 64510) (Pg 7-35, Ln 5)

Cal Water maintains its original position regarding this project. DRA stated that the “major driving force behind Cal Water’s plan to replace and relocate infrastructure in the Buena Vista System is a lack of pressure for five residence located on Trimble Road at the highest part of the system”. This is a misunderstanding. The storage and booster pump facility improvements being proposed in Projects 64487 and 64510 would benefit all the customers in the Buena Vista System.

CWS purchased the Buena Vista System in 2007. The system has approximately 170 customers located at low, middle, and high pressure zones. The system when acquired had numerous safety, supply, and operational problems. The system had been poorly designed and maintained by the previous owners. There was no reliable, alternate source of supply in the system, the transmission main from the supply source to the system was undersized and unreliable, existing storage tanks were seismically unsafe and leaking, existing booster pump stations were undersized and antiquated, and distribution mains were under rated and subject to breakage due to high system pressure. As a result the system has experienced at least 6 boil order advisories by the Department of Public Health since Cal Water acquired the system, in addition to the permanent boil order advisory in the high pressure zone at Trimble Hill Lane.

The Commission, including DRA, was well aware that significant capital improvements were needed for the Buena Vista system. Buena Vista was a “troubled” small system and in Receivership when the Commission approved Cal Water’s 2007 acquisition. By opposing needed capital projects, DRA is thwarting the Legislature’s intent in promulgating Public Utilities Code § 2718-2720, et seq., i.e. facilitating the acquisition of small uneconomic water utilities by large, well-established water utilities, such as Cal Water.

Since Cal Water took over the system, Cal Water has completed numerous projects to make this system more safe and reliable for all the customers in the Buena Vista System. There are still more to be done and the two proposed projects 64487 and 64510 are an essential part of the improvement plan for the system.

DRA also mentioned that the five houses on Trimble Hill Lane are part of a new development that Cal Water agreed to provide water services to. That is not the case. Cal Water tried to negotiate with one homeowner who was building a new home at the top of
Trimble Hill Lane to construct the proposed storage tank at his property because it was an ideal tank location for the system. Unfortunately talks with him have stalled and Cal Water has been forced to look for alternate locations. The proposed tank at top of Trimble Hill Lane was a storage tank that would benefit the entire system and not just the top five customers.

DRA also stated that the proposed booster station at Station 73 (Project 64510) was to “construct enough booster capacity to provide adequate pressures for the five houses on Trimble Lane”. This is another misunderstanding. The proposed project would benefit all the customers in the high and middle zones not just the five customers at top of Trimble Hill Lane.

DRA contends that CWS has already proposed $4.8 million of completed and proposed projects. As previously explained, for better project management and tracking, Project 69429 was created. Funding for Project 69429 (construct first tank (Tank 4) at Station 70) will come from Project 23267. The total cost of projects 23267 and 69429 will not exceed $1.7 million.

Project 23147 (Pump and Motor at Station 72) will be cancelled because the initial investigation showed that rebuilding the well is not cost effective. With these two adjustments, the total project cost for improvements benefiting the entire Buena Vista System equals approximately $4.1 million.

DRA proposed to adjust the cost for Project 64510 with pump replacement costs under Project 25669. Cal Water disagrees and believes the cost estimate of $1.2 million for Project 64510 is justified. The scope of work for Project 25669 is only the replacement of 3 horizontal pumps. The scope of work for rebuilding the booster station facility at Station 73 is much broader and includes the following items below.

- Design & construct new pump building
- Installation of 3 vertical turbine pumps for high zone and 2 vertical turbine pumps at middle zone with piping modifications, headers, and foundation
- Installation of pressure tanks
- Installation of emergency generator
- Installation of pressure reducing valves
- Replacement of all electrical equipment

DRA recommends that no additional funding be allowed for projects 64487 (construct second tank (Tank 5) at Station 70) and 64510 (Rebuild of Station 73). DRA also recommends that Advice Letter project 23267 be used to fund these projects. Cal Water disagrees with the DRA recommendation.

The funding for the first tank (Tank 4) at Station 70 is already an Advice Letter status project. This leaves approximately $1.4 million in Project 23267. Approximately $100,000 has been spent for preliminary design and surveying work associated with negotiating with the homeowner at the top of the hill. Another $150,000 will be used for installation of an in-line booster pump facility at the top of Trimble Hill Lane, which is currently in the design phase. This leaves approximately $1.15 million in Project 23267. These remaining funds would be used to construct additional storage at the top of the Trimble Hill Lane.

Proposed projects 64487 and 64510 are essential part of the improvement plan for the Buena Vista system and the additional funding request should not be disallowed.
64757 - Contaminated Well (Work Papers)

Well at Station 5 is contaminated with VOC's. Treatment is required to discharge well water to the storm drain. A trailer-mounted GAC system is proposed to treat the well discharge from Station 5 and future wells contaminated with PCE’s. Cal Water holds to its original estimate of $259,555. Cal Water holds to 3% per year price escalation for all projects.

SLN 64757 Attachments

67131 - Install HOA Switch Position detectors at SCADA RTUs (Work Papers)

DRA discusses SCADA generally then observes: “However, although CWS has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers.” In fact, if there were no SCADA system the company would have to add eighty-eight pump operators to maintain the same level of customer service. DRA’s report mentions a pilot project for Marysville that would take 51 years to return the investment in that project. DRA is mistaking a pilot project authorized in Mid-Peninsula with a savings calculated for Marysville and has used this as a basis for recommending disallowance for all SCADA projects.

The HOA upgrade is an important component for the SCADA system that has been providing tangible benefits for the rate payers. The purpose of the project is to monitor the current state of the electrical controls for each pump to determine its capability of running automatically. By monitoring the state of each pump’s controls, Cal Water will make more efficient use of its operations staff and have a more predictable control system which will continue to contain the increase in the cost of operations and improve the reliability of the SCADA system.

61633- Construct well - Sta 108 to serve customers in zone 230/280. (Pg 7-20, Ln 7)

Cal Water holds to its original position and substantiates the need for a new well in Zone 230/280. As discussed at length in the rebuttal for project 61713, wells in Salinas are critical and Cal Water requests the Commission to approve this project and all wells in the Salinas district.

65033- 100K gal Tank Addition at Sta 304 (Pg 7-31, Ln 3)

Cal Water maintains its need for this project and requests an increase in the project budget from $431,000 to $509,000. DRA previously agreed with the need for this project, but recommended an adjusted budget of $361,318. Initial design and Geotechnical discovery has shown that the portion of the existing foundation where the new tank is proposed, is located on fill material that needs to be removed and re-compacted. This work will require cutting through the existing foundation concrete and rebar, and rebuilding the foundation. This work, though adding to the cost of the project, is cheaper than the alternative design of constructing piers off of the back of the property to extend the foundation into a steep slope area. Detailed cost estimates and quotations are provided (please see attachments). Regarding Capitalized Interest, please see Global Rebuttal section. Cal Water holds to 3% per year price escalation for all projects.

Attachment-SNL65033 1
Attachment-SNL65033 2
67072 Data Acquisition Radio Replacement

DRA discusses SCADA generally then observes: “However, although CWS has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers”. In fact, if there were no SCADA system the Salinas district would have to add four pump operators to maintain the same level of customer service. The remainder of the DRA discussion is unrelated to this radio replacement project. The data acquisition radio system is a critical component for the SCADA system and has been providing tangible benefits for the ratepayers for the last 10 years. This project will allow us to improve the existing technology and continue to contain growth in operating costs.

77233 - Purchase 3 Trimble GPS Units (Pg 7-47, Ln13)

Cal Water maintains its original estimate of $32,057. Cal Water does not agree with moving these equipment purchases to non-specific. Non-specific purchases should be reserved for those purchases that are more emergency or immediate in nature. The equipment purchases requested are planned capital purchases. In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases.

SLN0900 - Meter Replacement Program

Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $406,600, $375,800 and $387,000 for years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements was 32,453, and was not contested by DRA. For Salinas, DRA recommends a reduced budget of $24,200, $24,700 and $25,200 for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:

- PUC General Order 103-A mandates meters be tested or replaced based on age.
• It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s response to DR PR-004.
• Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
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<tbody>
<tr>
<td>5/8”</td>
<td>20</td>
</tr>
<tr>
<td>1”</td>
<td>15</td>
</tr>
<tr>
<td>1.5”</td>
<td>10</td>
</tr>
<tr>
<td>2”</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Salinas in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

20.3 CARRYOVER PROJECTS

20.3.1 Advice Letter Projects

15789 & 20198 - Carryover Advice Letter projects approved in 2009 GRC, PID

20198 – Purchase well lot in Salinas Hills System, PID 15789 – Drill and Equip a Well along with Site Improvements(Pg 7-11, Ln 7)( Pg 7-11, Ln15)

Cal Water maintains its original position and substantiates the need for a new well in Salinas Hills System. The DRA reports on Page 7-11 (paraphrased) that the max day demand (MDD) of the system is 1,592 GPM with a peak hourly demand (PHD) of 2,388 GPM. There are seven wells in the system with an active source capacity of 4,455 GPM and four standby wells with a capacity of 2,600 GPM. The firm pumping capacity is 1,855 GPM. This exceeds the system’s MDD of 1,592 GPM. Therefore Salinas Hills system has enough sources of supply to meet customer demand by any standards. Cal Water 2013 Capacity analysis indicates that the system has recorded approximately 1,667 GPM (2.4 MGD) of Max Day demand in 2012 while the firm pumping capacity is 1,528 GPM (2.2 MGD) for Salinas Hills system. Firm pumping capacity is calculated based on Cal Water Firm Pumping Capacity criteria. Although demand dropped since 2008 during economic downturn, the demand shows an increasing trend since 2011. The demand is predicted to reach 1806 GPM (2.6 MGD) in 2014 which is higher than the firm pumping capacity available for the system.
Title 22 section 64554 states:

(a) At all times, a public water system’s water source(s) shall have the capacity to meet the system’s maximum day demand (MDD).

and

(a)(3) Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone.

and

(c) Community water systems using only groundwater shall have a minimum of two approved sources before being granted an initial permit. The system shall be capable of meeting MDD with the highest-capacity source off line.

Cal Water contends that Title 22’s reliability requirement stated above should be considered a minimum. Section 3.2.2.1 of the American Water Works Association’s (AWWA) Water Distribution Systems Handbook states:

It is also good practice to consider standby capability in the source of supply. If the system has been designed so the entire capacity of the supply is required to meet the maximum demand, any portion of the supply that is placed out of service due to malfunction or maintenance will result in a deficient supply. For example, a community that relies primarily on groundwater for its supply should, at a minimum, be able to meet its maximum day demand (MDD) with at least one of its largest wells out of service.

As such, Cal Water defines firm groundwater pumping capacity as the total active well capacity minus the capacity of the two most critical wells, or ninety percent (90%) of the total active well capacity, whichever is less. And, firm pumping capacity for booster pump facilities is defined by Cal Water as the total station capacity minus the capacity of the largest pump. If there are multiple pump stations serving the same service zone, only one pump is considered to be out of service for all the stations combined. This supply reliability criterion is consistent with numerous industry guidelines and recommendations.

Cal Water’s well supply criterion was also formulated based on Cal Water’s historical operating experience in systems like Salinas, Marysville, and Dixon, where water quality has rapidly deteriorated creating the need to take wells out-of-service, or to swiftly deploy water treatment systems that have notable capital and operating costs.

Title 22 Section 64554 (b)(1) states: “(1) If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD; determine the average hourly flow during MDD and multiply by a peaking factor of at least 1.5 to obtain the PHD.”

In Salinas Hills, highest max day was recorded in 2004 with 3,222 GPM of demand. Per Title 22 Section 64554 quoted above, the firm pumping capacity (1528 GPM) of the system is significantly lower than the highest max day recorded in the past ten years. Therefore, Cal Water disagrees with DRA that the system has enough firm capacity to meet customer demand in the system, and maintains its position to purchase new land and drill an additional well.

Attachment- SLN 20198_15789_1
69429 & 23267 - PID 23267 is an Advice Letter project to improve storage for Buena Vista. The proposed 69429 is a sister project created under Advice Letter Project 23267 for ease of project management. (Pg 7-11, Ln 1) (Pg 7-11, Ln 8)

Cal Water maintains its need for this project. PID 69429 is not a duplicate project. This project was created as a subproject for approved Advice Letter project PID 23267 for $1,700,214.

For ease of project management, WO 23267 was split into 2 Projects and WO 69429 was created. One tank will be constructed at Cal water Station 70 under WO 69429. A second tank will be constructed under WO 23267 near the top of the hill when property becomes available. It was necessary to split the project into two because of the availability of properties and timelines. Both tank projects will benefit the Buena Vista System. WO 23267 has a total budget amount of $1,190,214 and WO 69429 has a total budget amount of $510,000. Total cost of both WO 69429 and WO 23267 would equal the approved amount of $1,700,214. The project delay for WO 23267 is due to land availability. WO 69429 is currently in the Planning Permit process.

Therefore both projects 23267 and 69429 will be required to improve storage for the Buena Vista system. The total budget (combined) for both the projects is equal to the approved budget of $1.7 M (excluding increased overhead) under advice letter project PID 23267.

73714 - Work Station Ergonomic Modifications (Work Papers)

This project is currently in progress and should not be disallowed. The Salinas District has had three workers compensation claims relating to ergonomically incorrect workstations. Working with Human resources and General Office, the district was required to upgrade the work stations with company standards to be ergonomically correct. The cost for this project is lower, due to the district is not purchasing new furniture for the Assistant District Manager office. The new cost is $16,458.

15885 & 18952 – Construct and Equip Well (Pg 7-11, Ln 7) (Pg 7-12, Ln 15)

Cal Water holds to its original position and reiterates the need for this well.

DRA on page 7-12 of DRA Report notes that CWS has not constructed this well and has plans to transfer the budget for the project to facilitate construction of a well in the Ag-Industrial Center. CWS was not able to construct this well because of the difficulty in acquiring land in Salinas because of the real estate situation. Many land owners are reluctant to sell land at this time because of the low price. Therefore, it was decided to use this well to drill well at the Ag-Industrial center that would serve the proposed development at the Ag-Industrial Center and also Salinas system. The wells to be constructed at the Ag-Industrial Center will meet the needed local demand at this center and the excess capacity will offset the demand in the 155 and 280 zones as well as provide zonal transfer capability in Salinas.

- Attachment - SLN_15885-18952_Insert1_Ag-Industrial Center Concept Plan.pdf
20.3.1 Carryover Projects Specific

26708- Main Relocation Harrison Road (Work Papers)

This project is currently in service and should not be disallowed. The relocation work was necessary due to a realignment of Route 101. An open cut casing extension was planned at Easy Street. An additional Bore and Case was planned at Espinosa Road to create a loop for water quality purposes. Caltrans decided to move ahead with construction before the casing extension at Easy Street was completed. A new Bore and Case that ran parallel to the existing was necessary resulting in increased costs. This is a contribution project with Caltrans contributing 50 percent to the overall project and 100 percent above the original open cut method costs for the Bore and Case at Easy Street.

40287- Fire Hydrant Head Replacement (Work Papers)

Cal Water maintains its need for this project. This project request comes from the Salinas Fire Department that we replace older hydrants in the district. This is an annual project that estimates to replace approximately 15 fire hydrants per year. We replaced 25 this year which increased the cost of the project to $67,341. In addition to fire hydrants, there are extensions (spools) that are required to raise the hydrant above grade. These required materials add to the cost of the project. There were three months of capital interest. Regarding Capitalized Interest, please see Global Rebuttal Section. Some of these hydrants were in the sidewalk area and replacing concrete added to the cost of the project.

55108 - Install PVC Cathodic Protection Test Tubes

The installation of the PVC tubes, to improve the cathodic protection testing process, was identified through the company’s continuous improvement principles. It was identified through benchmarking assessment, the installation of this device improves the ability of copper sulfide reference cell to properly enter the tank and maintain the proper distance from the interior tank vertical wall for testing. The installation of these devices is limited to steel tanks with a rounded “knuckle” style roofs. In addition to improving the ability of the reference cell to enter the tank, the PVC test tubes also improve the safety of the individual performing the task. Historically, a telescoping rod was required to be carried up the tank to guide the reference cell to the proper location within the tank. Carrying this rod was identified as a climbing hazard because it would get caught in between the ladder rungs. Installation of these test tubes has been completed company wide. There are still outstanding invoices causing the project to remain open.

48913- Replace Regulators in Las Palmas

This project is currently in use and useful and should not be disallowed. The total cost of the project was $112,128. Costs were higher for this project as described below. The 4” pressure regulating valve at Honor Ln. and Acclaim Dr. failed due to corrosion, creating a dramatic increase in pressure downstream, causing water heater and residential plumbing failures. District personnel did a comprehensive inspection on other pressure regulating valves in the
affected system and found a 4” and 2” pressure regulating valve at Las Palmas Pkwy and Legends Court showing the same signs of corrosion. After the emergency estimate was created and through further investigation as to the cause, it was discovered that the original installation of all of these pressure regulating valves were installed excessively deep and the in-ground vaults had lost their water tight integrity. This allowed the vaults to fill with aggressive reclaimed irrigation water. It was determined that to properly make this repair and to prevent this from happening again, approximately 40 feet of ductile iron pipe had to be replaced and raised to a reasonable depth and the vault had to be replaced with new material to increase the life of the water tight integrity. After completing the work for the pressure regulating valves at Honor Ln. and Acclaim Dr., it was decided that due to the extensive amount of work/cost that it was better to close out this project and write a new one for the pressure regulating valves at Las Palmas Pkwy and Legends Ct (work order 78493).

43969- Install a 12-inch zonal transfer pipeline along West Bolivar & North Main Street. This is a non-specific carryover project that is now in service. (Work Papers)

These projects are in use and useful and should not be disallowed or adjusted. Water quality concerns at the wells at Stations 108, 65, 103 and 106 have caused the wells to be shut down at times in the 280 zone. Additional supply was needed to provide customers in the 280 zone with water from the 180 zone by installing a new 12-inch transmission main that delivered water to an existing on-site storage tank located at Station 108. During this job there were two change orders that were incurred due to additional work that was required. These change orders caused the project to exceed the originally estimated budget. The first change order was due to additional depth and paving that occurred during the job and the fact that the work needed to be done at night ($175,205). The second change order was due to additional requirements from the City of Salinas due to the original trench paving failure. The footage was approximately 600 feet ($87,670).

Attachment- SLN 43969 1
Attachment- SLN 43969 2

57168 - Bypass and Meter Vaults 2011 (Work Papers)

This project is in use and useful and should not be disallowed. The final cost was $90,981. The cost overruns were related to the following reasons. Large service connection maintenance is required for accurate billing and it was determined that the bypass connections used to keep customers in service during testing were not functional and needed to be replaced. The original estimate was for three services but ten were in need of immediate attention. Large cement cast meter vaults were crumbling posing a safety hazard and needed to be replaced. Some large meter vaults had heavy concrete and steel access lids. Employees could be injured when lifting them. These were replaced with a lighter fiberglass lid. Gate valves were not functional and needed to be replaced. This required street excavation and entire service being replaced. In a couple of locations it was determined the meter was no longer serviceable and
was replaced. Some work had to be done at night or on weekends due to location or type of business (ie. Agriculture) requiring notification before service interruption.

**17469- Replace Pressure Tank – Station 201-01. Project is complete and now in service. (Work Papers)**

This project is in use and useful and should not be disallowed or adjusted. This station needed to stay on-line during construction of the pressure tank to ensure supply to the zone. Additional piping was required upfront at additional cost to have the station ready for immediate switchover to the new pressure tank.

*Attachment- SLN 17469*

**25668 & 23187- Purchase land, FP # 25668, WO # 23187(Pg 7-10, Ln 18)**

DRA on page 7-10 recommends cancelling project 25688. Due to an accounting program error, Cal Water cannot cancel PID 25688 and maintains that it not be removed from the carryover project list. Typically, Cal Water creates a budget as a funding project. However, when the project is ready for opening in the specific budget year a work order will be created for the approved funding project. The project will be executed and all the project charges are tracked using the work order. Usually the work order number will be same as funding project number. However, in this case, because of a programming glitch, a work order was created with a different number. Therefore, this project has two project numbers; one for the Funding Project (23187) and one for the Work Order (25688). Cal Water cannot cancel 25688 because this is the actual number that the project costs are being charged to as the work order. PID 23187 cannot also be cancelled because as the funding project it is tied to PID 25688. When the project is finished and posted to CPR only the 25688 work order will be posted to CPR and the final project cost will reflect only the charges on the 25688 work order. Cal Water assures DRA that there will not be any duplication of the project and both the projects ID's are related to single project associated with the purchase of land for a tank site in Buena Vista.

*Max Day Demand: DRA notes that there is significant difference between CWS and DRA’s analysis. DRA analysis is based on CDPH’s Inspection Report, Jan, 2013. DRA’s analysis notes that the Max Day Demand for 2011 is 20.4 MGD, however, in reality actual MDD recorded for Salinas system for all the zones (including 155, 180, 230/280, 360 zones and Salinas Hills) by Cal Water is 22.2 MGD for 2011 and 23 MGD for 2012. These values are obtained from Cal Water’s District Report on Production (DROP) database calculated based on average run-time values. Although Max Day Demand has dropped since 2008 when conservation was implemented and economic conditions began to decline, Cal Water’s 2013 capacity analysis clearly indicates a rising trend starting 2010. Title 22 Section 64554 (b)(1) states: “ (1) If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD; determine the average hourly flow during MDD and multiply by a peaking factor of at least 1.5 to obtain the PHD.” The highest usage in the past ten years was recorded in 2003 for the Salinas system with a MDD of 31.44 MGD. Both recent MDD data calculated from DROP (23 MGD) and also highest MDD (31.44 MGD) data recorded in the past ten years is higher than DRA MDD data of...*
20.4 MGD for Salinas system. Based on this Cal Water disagrees with DRA’s analysis that “the
current demand is only 20.4 MGD and more recent data support lower demand in future years”.

Well Capacity: DRA on page 7-23 notes that CWS analysis discounted the system’s well
capacity by 19% because the company did not use the most recent production capacity for the
system. CWS did not include 2,000 GPM from a new well at station 47. The Salinas System
analysis provided by Cal Water with original justification for the project was based on the wells
that were in service in 2010. At that time Cal Water did not know the well capacity at Station 47
as the well construction was at a preliminary stage. The new well’s capacity will not be known
until after the well construction and pumping tests are completed. Also it should be noted that
once the new well at station 47 is in service, the well at Station 21 (Water Quality Concerns) will
be taken out of service resulting in only a minor increase in capacity available to the system due
to the existing firm capacity of Station 47’s boosters. System wide well capacity is not pertinent
to an assessment of need for this project because Title 22 section 64554 states that both the
MDD and PHD requirements shall be met in the system as a whole and in each individual
pressure zone.

Station 47 is located within and will provide service to the 155 zone not the 230/280
zone. As such Station 47 is not relevant to zone 230/ 280, and therefore cannot be considered
as additional capacity for the zone and the demand should be met with the wells that serve
230/280 zone.

Firm Capacity: On Page 7-24 of DRA report, DRA notes that CWS is proposing
outrageous “firm pumping capacity” by discounting the supply capacity from the two largest
wells. As the Commission rejected GSWC’s “firm capacity (with one largest well out of service)
as not reasonable in D.10-11-035, CWS’s more restrictive “firm pumping capacity” should be
rejected.

Title 22 section 64554 states:
(a)At all times, a public water system’s water source(s) shall have the capacity to meet
the system’s maximum day demand (MDD).

and

(a)(3) Both the MDD and PHD requirements shall be met in the system as a whole and in
each individual pressure zone.

and

(c) Community water systems using only groundwater shall have a minimum of two
approved sources before being granted an initial permit. The system shall be capable of
meeting MDD with the highest-capacity source off line.

The supply facilities that Cal Water utilizes to satisfy these requirements include wells and
booster pump stations. Cal Water has determined that the capacity of these facilities, whether it
be in the form of wells or a single lift station, should be computed using a firm pumping capacity
concept and that it needs to apply to the system as a whole and each individual pressure zone
as stipulated by Title 22. This concept accounts for some level of outage, thus providing
reliability within the overall supply and/or inter-zonal boosting infrastructure in a given system.
Section 3.2.2.1 of the American Water Works Association’s (AWWA) Water Distribution
Systems Handbook directly states that:
It is also good practice to consider standby capability in the source of supply. If the system has been designed so the entire capacity of the supply is required to meet the maximum demand, any portion of the supply that is placed out of service due to malfunction or maintenance will result in a deficient supply. For example, a community that relies primarily on groundwater for its supply should, at a minimum, be able to meet its maximum day demand (MDD) with at least one of its largest wells out of service. Section 18.2.1.6 of the same text states that:

... More than one pump usually is placed in each pumping station. The usual rule for the number of pump units is that the station must be able to meet design flows when the largest unit is out of service

Cal Water’s experience dictates that it must consider Title 22’s reliability requirement a minimum, as AWWA indicates, in evaluating the risk of not being able to meet MDD and PHD. Loss of the critical (largest) supply well in small districts can amount to significant percentages, from 15% to 35%, of the total supply capacity. Loss of an additional source could result in substandard service. Cal Water also contends that as the numbers of wells (and total capacity) increases so does the risk that multiple production units will be out of service at any given time. This consideration must take into account outages from conditions other than mechanical failure.

As such, firm groundwater pumping capacity (FPC) is defined by Cal Water as the total active well capacity minus the capacity of the two most critical wells, or ninety percent (90%) of the total active well capacity, whichever is less. And, firm pumping capacity for booster pump facilities is defined by Cal Water as the total station capacity minus the capacity of the largest pump. If there are multiple pump stations serving the same service zone, only one pump is considered to be out of service for all the stations combined.

Supply reliability criterion is consistent with numerous industry guidelines and recommendations (like those cited above). The well supply criterion was also formulated based on Cal Water’s historical operating experience in systems like Salinas, Marysville, and Dixon, where water quality has rapidly deteriorated creating the need to take wells out-of-service, or to swiftly deploy water treatment systems that have notable capital and operating costs. Utilizing Cal Water’s firm groundwater pumping capacity criteria for wells dedicated to the zone 230/280 which includes the wells at Station 16(16-01 and 16-02) yields:

FPC = 7.69 MGD – (1.61 MGD + 2.28 MGD) = 3.8 MGD or 2,639 GPM

Zone 230/280 Demand and Supply: Pages 7-24 and 7-25 on DRA report notes that the maximum amount of water that customer used in 2011 is 1,789 GPM (per response to JAU-002, 3a) or 2.6 MGD where as the predicted demand for 2011 is approximately 4.2 MGD (per CWS project justification). The 2011 max day production for zone 230/280 as reported in JAU-002, 3a included production only from Wells 27-01, 44-01, 106-01, 108-01 in 2011. Demand met by Station 16 boosters (C& D) was not included. Additionally the 2011 MDD data provided in the response to JAU-002, 3a was extracted from production data for July 6, 2011 which was the MDD for entire Salinas system including the separate distribution system known as Salinas Hills. MDD for individual pressure zones can occur on different days from the day of maximum demand for the consolidated system. MDD for 230/280 zone for 2011 actually occurred on September 14th, 2011. Total production for the 230/280 zone sources on that day, including
Station 16 boosters C and D was 5.286 MGD. The recorded MDD for year 2012 is 4.523 MGD. Therefore the actual demand recorded in 230/280 zone in 2011 and 2012 were actually higher than the projected demand of 4.2 MGD for 2011 as presented in the original justification.

Title 22 Section 54554(a)(3) states:
“Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone.”

and

Title 22 Section 54554(b)(1) states:
“If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD; determine the average hourly flow during MDD and multiply by a peaking factor of at least 1.5 to obtain the PHD.”

The highest usage in the past 10 years for zone 230/280 was recorded in 2004 at 4031 GPM or 5.8 MGD. The FPC of the zones wells can produce 3.8 MGD or approximately 65% of the amount required. Therefore a deficit of 2 MGD exists between what’s required by Title 22 and reliably available from the 230/280 zone’s wells. As such, Cal Water disagrees with DRA’s recommendation to disallow CWS’s request to construct a new well for zone 230/280.

Attachment- SLN 61633 1
Attachment- SLN 61633 2
Attachment- SLN 61633 3

78493- Replace 4” and 2” Pressure Regulating Valves (Work Papers)

This project is in use and useful and should not be disallowed. Due to the PRV failure at Honor Ln and Acclaim Dr, the district did a comprehensive inspection of all PRV’s in this system and it was found that these PRV’s are highly corroded due to storm and landscape irrigation runoff and needed to be replaced. These PRV’s require major re-piping to raise them so they do not sit so deep underground in the vault to prevent them from sitting in standing water. The new PRV’s are manufactured with stainless steel control pilot plumbing and epoxy coating to inhibit corrosion for a longer life expectancy. If either of these PRV’s failed it would cause catastrophic failures on the water mains downstream and on residential plumbing that is served by these PRV’s. This project is in use and is useful and should not be disallowed

18591-Harrison Rd Main (Work Papers)

This project is currently in process and should not be disallowed. This project was written so that initial charges could be applied to an actual job number, specific to the relocation work at Harrison Road. At the beginning of the project meetings were required to discuss conflicts. A Cal Water District representative, a Civil Engineer and the Design Supervisor attended these meetings. In addition to time and travel charges, Engineering charges were applied for the initial design of the project. These charges were temporarily applied to this non-specific project, and are currently being transferred to PID 26708, or the final project for the Harrison Road relocation. Once these charges are transferred, PID 18591 will be cancelled.
**11255 - Install SCADA RTUs carryover (Work Papers)**

Project 11255 was originally estimated to install RTUs at 15 stations. Cal Water began the design effort in 2007 with the expectation of completing the project in 2008. Due to limitations using internal resources to install the equipment the project was delayed for several years until resources were available to complete the project. This led to capitalized interest to be accrued to the project that was not estimated in the original project estimate. In addition to the capitalized interest charged to the project, the overhead rate in the estimate was 8% but overhead was charged at 20% to the project. The delays also led to additional hours being charged to the project by the project manager and the field staff as they started work but were pulled off to deal with other maintenance tasks. This required additional time to restart the construction work.

The additional labor required for the project from the project manager and the field staff, the additional capitalized interest, and the change in overhead rate caused the total project costs to exceed the original estimate. The project is nearing completion with an anticipated completion date of June, 2013 and the final costs are expected to be $340,000.

**9209 - New Well Site (Pg 7-11, Ln 7) (Pg 7-12, Ln 15)**

Cal Water maintains the need for this project to provide supply to the proposed Ag Industrial Center. This project was originally written for a new well site in the 280 zone in Salinas.

This project will be for land for two wells (#1 & #2) located in the Ag. Industrial Center. This land was delayed in being available due to property owners not wanting to sell while the market is down. Market conditions are starting to change and Cal Water will look for land to be acquired. The land is still needed for the following projects:

- 15885 Drill well #1
- 18952 Equip well #1
- 61956 Drill & Equip well #2

**20459 - Replace Pump & Add Energy Efficient Monitoring**

Replace pump and add energy efficient monitoring – 303-01. This completed project is in service, used and useful. It should be allowed to be included in rates.

**15832 – Phase Two of Zone Transfer Plan (pg 7-8, Ln 5)**

The project was written as phase two of the zone transfer plan. Phase one is PID 12565 (storage/booster facility). Originally Cal Water proposed one 24-inch main from station 68 to 13. The design changed (based on computer/software modeling) to two 16-inch mains. One main was designed and installed for each zone (155 and 180 zone). The Commission should allow this project. In 2006 and 2007, Cal Water was looking at various designs of Station 68. A key desire in this case was to identify a multi-objective project, with adequate capacity to cover a number of concerns, i.e., both hydraulic concerns, but also blending/water quality concerns, and even possible large-scale inter-zonal transfer concerns. Cal Water calculations showed possible transfer (pumping capacity) targets as high as 11,000 GPM to 13,000 GPM (which leads to a 24" diameter pipeline recommendation) if the 155 and 180 pressure zones were combined.
Ultimately, the design at Station 68 was later optimized to what is currently installed, i.e., a pumping capacity of about 5,000 to 6,000 GPM, using two 16” diameter manifolds, one for each pressure zone (155 and 180). This was the reason for the increase in the total length of the installed pipelines (900 feet) and the change in the pipeline diameter (from 24” to 16”).

The “Bore & Case” method was selected for the pipelines installation under CA State Route 183 (N. Main St.) to avoid expensive repair of the reinforced concrete road pavement owned by Caltrans. It also eliminated the need for 24/7 temporary traffic control on this busy road.

The project was completed in 2012 for $1,145,776 five years after the original estimate. It was delayed due to the delay in construction of station SLN 68 (PID 12565) caused by the city and RWQCB extended permitting process. Station 68 (1.5 mil. gal. tank with 4 booster pumps) was also completed in 2012.

18864 - Drill New Well (Pg 7-9, Ln 25)

Drill a new well at Station 205 in Oak Hills in 2008 at a property owned by Cal Water. This is a replacement for well 202, which has serious structural problems. Cal Water holds to its original position for 100% recovery of the project costs.

DRA notes that the additional cost resulted from failure to properly plan, budget and manage. This project is an exception because of all the unexpected biological issues found during the permitting process with the County. The complications related to endangered species lead to nearly 20 conditions, including six mitigation measures, as conditions of approval by Monterey County. This has increased the well construction costs by over $100,000. It should be noted that it is not possible to predict the environmental sensitivity of a property and costs associated with permitting and execution of the permit approval conditions until after submitting the permit applications. The below list includes some of the unexpected tasks performed during the project execution that was not anticipated during project budgeting:

- Two levels of biological assessments for plant and wildlife species.
- Consulted biologists from different organizations for recommendations and second opinions.

The proactive measures taken by Cal Water during the biological assessments saved one year time for focused assessments and $47,000 in additional focused biological surveys.

Several meetings with the neighbors and County helped Cal Water address the concerns of the neighbors and the permitting agencies.

Worked with attorneys and the Grant Deed was recorded as required by Monterey County as this property was acquired through a merger with Water West Corporation, the original owner.

The project would have had higher costs if Cal Water had had to purchase the property at a different location instead of drilling the well at the Cal Water owned property due to several environmental concerns identified. This was eliminated by taking all proactive measures to satisfy the permitting agencies requirements and the concerns of the neighbors.

Due to the above reasons, the Commission should allow the full costs of this project as they were reasonable project related costs that could not be anticipated at the time of the original estimate.

- Attachment - SLN_18864 1 Cost Overrun Justification.pdf
20.3.2 Non-Specific Carryover Projects

68469, 73814, (32328 this one is allowed), 33067, 56929, 74353, 74516, 30147,
49349, 52648, 55029, 56549, 58072, 58612, 58613, 68970, 69269, 71093, 73693,
73734, 73735, 73794, 73833, 73873, 76193, 76433, 76453, 76913, 77733, 78113,
78353, 78413, 78433, 78673, 80053 (Work Papers)

These projects are in use and useful and should not be disallowed or adjusted.

27249, 29010, 68473, 80174 (Work Papers)

These non-specific carryover projects are now in open status planned for under 20K. The following projects include non-specific projects that were not closed to utility plant at the end of 2012. These projects were not anticipated in the 2009 GRC and Cal Water contends that these projects will be beneficial to customers once they are in service. They are all under $20,000 in total cost, and Cal Water believes they are considered controversial by DRA simply because of the timing with the projects.

19534 - Replace CL2 Injector Points (Work Papers)

Replace chorine injector points. This is a non specific project that is currently open. This project was created for the purpose of securing all above ground and open injection points per California Department of Public Health (CDPH) requirements. At this point a majority of the injector locations have been secured and the remaining locations will be completed as soon as possible. There is a substantial amount of coordination that is involved with each location in terms of scheduling a qualified welder, isolating the location and installing the materials. Cal Water fully intends to complete this project in order to comply with CDPH requirements and ask that this project be allowed to continue to its completion.

Attachment - SLN_19534_Attachment1_CDPH Report

78573 - Replace 10” Gate Valve (Work Papers)

Replace 10” Gate Valve @ Terven x Airport Blvd. This project is a non-specific project that was not closed to utility plant at the end of 2012. This project was not anticipated in the 2009 GRC and Cal Water contends that this project will be beneficial to customers once it is in service. Cal Water believes this is considered controversial by DRA simply because of the timing with the project.
**74173 - Replace Gate valve (Work Papers)**

Cal Water maintains its need for this project. The meters have been in service for thirty five years and are not reading accurately without increased servicing by the Meter Mechanic. Broken inlet valve for one meter does not allow servicing without shutting down entire apartment complex. New replacement “Fire Rated” 6 inch meter increases flow capacity to 2500 GPM and eliminates the need for a second meter. Old Vault has heavy steel lids which have been repaired, and increase the risk of injury due to amount of strength required to lift lids. Vault needs to be replaced with a newer version that has torsion assisted lids with anti-skid surface. The original estimate of $7,700 was for 1 gate valve only. Due to the increase in project scope to also include the new fire rated meter, new vault and torsion assist lid, and retiring the existing second 6” meter and vault, the expected project cost will be an additional $15,560 to a total of $23,000.

**79574- Equip Nell Well (Work Papers)**

Equip New Well at Salinas Oak Hills Station 205. In Oak Hills, Cal Water has only two wells for the isolated system. Having another well adds reliability to the small stand alone system. The new well would help meet max day demand and fire flow in the event that any of the other sources become unavailable. The well was drilled under PID 18864 and is complete. All that remains is physically equipping the well. Cal Water has finished the design, a contractor has been selected through the competitive bidding process, and construction is scheduled to begin in April 2013.

**21751- Main Relocation Airport Blvd (Work Papers)**

This project is currently in process and should not be disallowed. This project was written so that initial charges could be applied to an actual job number, specific to the relocation work at Airport Blvd. At the beginning of the project meetings were required to discuss conflicts. A Cal Water District representative, a Civil Engineer and the Design Supervisor attended these meetings. In addition to time and travel charges, Engineering charges were applied for the initial design of the project. These charges were temporarily applied to this non-specific project, and are currently being transferred to PID 33507, or the final project for the Airport Blvd relocation. Once these charges are transferred, PID 21571 will be cancelled.

**20.4 ATTACHMENTS**

The attachments listed below will are located in Book 5.

- Attachment- SLN 19042 1
- Attachment- SLN 19042 2
- Attachment- SLN 19042 3
- Attachment- SLN 19042 4
- Attachment – 1 SLN 20829 Salinas Positions
- Attachment – 2 SLN 20829 Salinas Vehicles
<table>
<thead>
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<tr>
<td>1</td>
<td>Attachment- SLN 43969 2</td>
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<td>2</td>
<td>Attachment- SLN 17469</td>
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<td>3</td>
<td>Attachment- SLN 61633 1</td>
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<td>Attachment- SLN 61633 2</td>
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<tr>
<td>5</td>
<td>Attachment- SLN 61633 3</td>
</tr>
<tr>
<td>6</td>
<td>Attachment - SLN_18864 1 Cost Overrun Justification.pdf</td>
</tr>
<tr>
<td>7</td>
<td>Attachment - SLN_18864 2 Biological Assessment Report.pdf</td>
</tr>
<tr>
<td>8</td>
<td>Attachment- SLN_18864 3 Focused Biological Studies proposal.pdf</td>
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<tr>
<td>9</td>
<td>Attachment - SLN_19534_Attachment1_CDPH Report</td>
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CHAPTER 21 SELMA PLANT ADDITIONS

21.1 INTRODUCTION

21.1.1 Global Responses

*The rebuttal responses for the following Global Rebuttal Responses capital projects can be found in chapter 2 of this book. The following capital projects are part of the global response for this district, global plant:*

- Advanced Capital Budget Non-Specifics
- 66899 – Field 2-way radios (Pg 7-6, Ln 19)
- 80001 – RAMCAP Vulnerability Assessments (Pg 7-8, Ln 8)
- 54931 – Install PVC C.P. test tubes

21.2 ADVANCE CAPITAL BUDGET SPECIFIC PROJECTS

*62472,62492,62515- Replace pump, motor, and column because existing oil-lubed pump poses water quality risk at Stations 13-02, 18-01, 19-01.*

AWWA publication finding is that food grade oil used in oil-lubed pumps is a food source for bacteria, causing high levels of HPC readings, which is a public health and safety violation. Due to DPH restrictions, alternatives such as pouring chlorine down the well to reduce bacteriological issues are prohibited. Well maintenance is very costly. Once a water quality issue arises, it may cost $100,000-$150,000 to rehabilitate the well due to stringent discharge requirements. Most well sources require treatment such as iron/manganese removal whereby oil from the pump may enter the treatment units or into the distribution system. Replacing treatment media costs approximately $50,000 in addition to cleaning the treatment vessel and/or the storage tank. Because of the above risks associated with operating oil-lubed pumps in wells, CWS has adopted a company standard to convert to water-lubed pumps on an expedited basis to mitigate this risk. The current company-wide specification for well pumps is water-lubed only. DRA should support CWS in eliminating this threat to public health and safety from our water system. If not allowed to replace the entire pump, CWS proposes replacing the motor and the column, so we have adjusted the estimate accordingly. The column unit price used reflects a recent quote for 8-inch column from a local dealer at $80/ft.
Oil from these style pump system also accumulates in the distribution creating both water quality and maintenance issues. The oil accumulates on storage tank interior surfaces and damages the coating overtime, since it was designed to be in contact with potable water. Cleaning the higher surfaces is highly difficult causing the oil to over accumulate and cause tension stress on the coating.

Attachment-SEL_OI~1
Attachment- SEL_OI~2

62513 - Sand Separator Addition at Sta 11-01

Confirmation Rebuttal that PID 62513 will be used for a sand separator at Selma Sta 8-01 and not Selma Sta 11-01. This was also confirmed by DRA in Chapter 7 for Selma.

65543 - Replace vVehicle V206085 s (Pg 7-2, Table 7-B)

This project was allowed by DRA as 100% in Table 7-B on page 7-2, but this project was not included in the DRA work papers for Selma. Cal Water requests that this project be added to the DRA work papersrequests that this project is indeed confirmation that the will be included in rates.

64135 - Replace Handheld Meter Reading Radios (Pg 7-3, Table 7-B)

Cal Water requests $13,110 in its 2015 budget to replace handheld meter reading radios. DRA does not specifically address this project other than listing $0 in their position in Table 7-B. Cal Water provided justification for the need and cost breakdown for a related project in response to DR SN-010. Cal Water maintains itsposition and requests the Commission approve thisir request for this project.

62472, 62492, 62515 - Replace pump, motor, and column because existing oil-lubed pump poses water quality risk at Stations 13-02, 18-01, 19-01. (Pg 7-4, Ln 17)

Cal Water requests $68,565, $69,185 and $69,185 in its 2013, 2014 and 2015 budgets for Projects 62472, 62492 and 62515, respectively, to replace pumping equipment at three of its well sites in Selma. DRA recommends disallowance of the equipment replacement as it is not convinced of the potential for water quality problems resulting from use of oil-lube pumps. Cal Water maintains its position that these projects are prudent and necessary. However, Cal Water recognizes that the condition of the pumps is still fair and proposes to limit the scopes of the projects to replacement of the motors and columns. Cal Water’s new proposed costs are
$31,114, $36,654 and $36,654 for Projects 62472, 62492 and 62515, respectively (new cost estimates are attached).

AWWA publication finding is that food grade oil used in oil-lubed pumps is a food source for bacteria, causing high levels of HPC readings, which is a public health and safety violation (AWWA journal article is attached). Due to DPH restrictions, alternatives such as pouring chlorine down the well to reduce bacteriological issues are prohibited.

Well maintenance is very costly. Once a water quality issue arises, it may cost $100,000-$150,000 to rehabilitate the well due to stringent discharge requirements. Most well sources require treatment such as iron/manganese removal whereby oil from the pump may enter the treatment units or into the distribution system. Replacing treatment media costs approximately $50,000 in addition. Additionally, oil can contribute to cleaning the treatment vessel and/or the additional costs to clean storage tanks.

Because of the above risks associated with operating oil-lubed pumps in wells, Cal Water has adopted a company standard to convert its oil-lubed pumps to water-lubed pumps on an expedited basis to mitigate this risk. The Commission DRA should support Cal Water in eliminating this threat to public health and safety from Cal Water’s system. If not allowed to replace the entire pump, Cal Water proposes replacing the motor and the column, so we have adjusted the estimate accordingly. The column unit price used reflects a recent quote for 8-inch column from a local dealer at $80/ft.

Oil from these style pump systems also accumulates in the distribution creating both water quality and maintenance issues. The oil accumulates on storage tank interior surfaces and damages the coating overtime, since it was designed to be in contact with potable water. Cleaning the higher surfaces is highly difficult causing the oil to over accumulate and cause tension stress on the coating.

Attachment - SEL - 62472, 62492, 62515 1 (Revised Cost Estimate)
Attachment - SEL - 62472, 62492, 62515 2 (AWWA Journal Article)

63577, 63796, 63799 - Convert flat rate services to metered service (Pg 7-5, Ln 25)

Cal Water proposes $165,380.79 per year for years 2013, 2014 and 2015 for its flat-to-meter program. DRA does not object to the need for the projects; however DRA recommends advice letter treatment for the projects. The Cal Water requests that these flat-to-meter projects be included in the GRC and not recovered through advice letters. Customers and City Officials are strong in their feelings that they do not want sporadic rate increases for any reason. The company would like to attempt to minimize the frequency of rate increases throughout the three
year rate case cycle such as those created from Advice Letters. The district is confident in the
cost and number of conversions for each year and requests these projects to be included in
rates.

**SEL0900 - Meter Replacement Program (Pg 7-7, Ln 17)**

Cal Water requests that the Commission approve its three-year specific 0900 meter
replacement program at the original proposed costs of $31,000, $26,900 and $27,800 for years
2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter
replacements as of December 2012 was $20,800, and was recommended to be included in
rates by DRA. For Selma, DRA recommends a reduced budget of $21,000, $21,500, and
$22,000 for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and
escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical
dollars in determining future budgets for this program, as the budget for this program is
determined not by historical spending, but by need for replacement. Cal Water’s methodology
is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as
outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:
- PUC General Order 103-A mandates meters be tested or replaced based on age.
- It is more cost-effective to replace rather than test and repair (This elaborated in Cal
  Water’s response to DR PR-004).
- Meters meeting the age criteria to be replaced are made of traditional bronze and were
  installed prior to the CA legislation requiring meters to have a weighted-average lead
  content of not more than 0.25%. New replacement meters have a weighted average
  lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of
meters to be replaced, for each district are determined by the number of meters meeting the
following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8&quot;</td>
<td>20</td>
</tr>
<tr>
<td>1&quot;</td>
<td>15</td>
</tr>
<tr>
<td>1.5&quot;</td>
<td>10</td>
</tr>
<tr>
<td>2&quot;</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order
to provide level quantities of meters of each size to be replaced in each year.
Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Selma in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

**64933 - Replace Vehicle V20825 (Pg 7-8, Ln 1)**

Cal Water requests $62,934 in its 2015 budget to replace vehicle V20825. DRA notes that according to the mileage of the vehicle as of December 2011, the projected mileage would not meet the 120,000 mile replacement criteria by 2015. Attached, please find an updated mileage summary as of December 2012 data as well as projected yearly mileage for 2013, 2014 and 2015. This shows an updated projection of 125,053 for vehicle V20825 in 2015. Based on the updated information Cal Water requests the project be allowed.

Attachment - SEL - 64933 1 (V20825 Updated Mileage Analysis)

**21.3 CARRYOVER PROJECTS**

**21.3.1 Advice Letter Projects**

**63577, 63796, 63799- Convert 223 flat rate services to metered service**

The Selma district would request that all flat to meter projects are included in the GRC and not recovered through advice letters. Customers and City Officials are strong in their feelings that they do not want sporadic rate increases for any reason. We should attempt to minimize rate increases throughout the 3 year cycle such as those created from Advice Letters. The district is confident in the cost and number of conversions for each year.

**21509 - Flat to Meter conversions 2012 (Pg 7-4, Ln 11)**

Project 21509 was approved for advice letter recovery for 2012 in the amount of $80,200 in the 2009 GRC. DRA recommends removal of dollars associated with this project from the carryover budget claiming it needs to be recovered by advice letter for the capped amount of $80,200. This project has been completed for a total cost of $127,338. Costs for this project were higher than originally estimated due to full replacements on old galvanized services. Cal
Water requests asks for the full amount of the project to be included in rates. Regardless of when Cal Water files an advice letter to recover the capped amount of the project, the entire cost of the project must be included in the workpapers as Cal Water’s beginning plant balance for this GRC is December 31, 2011. This means that any project completed after this date, whether in rates or authorized for advice letter recovery, is required to be included as a plant addition in order to be accounted for in the rates that will be ultimately adopted by the Commission. The Selma district would request that all flat to meter projects are included in the GRC and not recovered through advice letters. Customers are strong in their feelings that they do not want sporadic rate increases for any reason. We should attempt to minimize rate increases throughout the 3 year cycle. Therefore, Cal Water requests the Commission adopt the full project cost of $127,338 in rates.

This project is now complete.

21.3.2 Non-Specific Carryover Projects

The following projects are in use and useful and should not be disallowed or adjusted:
- 63292 - Well Level Sensors
- 68032 - Laptop, Monitor and Dock Station
- SEL0600 - Services
- SEL0800 - Meters

Nothing for this section that I can see

21.3.3 Specific Carryover Projects

13854- Storeroom/Warehouse – Field Yard (Not directly addressed in DRA Report)

Cal Water was approved for $198,000 in 2010 in the 2009 GRC. In response to DR PPM-004 Cal Water noted various cost overruns associated with this project resulting in an actual total cost of $274,746.21. The cost overruns for this project were due to the following reasons:

- The sewer lateral, required for the building, did not meet City requirements for slope and had to be run through the adjacent property. This required an easement agreement and additional labor costs which resulted in additional costs of $15,000.
- No Cal Water labor was included in the original estimate. Cal Water charged , and ended with a final cost of $6,900 for inspection and completion of various activities.
• The project accumulated $50,000.00 in overhead costs. The original estimate budgeted $20,000.

• The required shelving and storage bins had a cost of $15,000 over the original estimate.

Please see the attached cost comparison for additional cost details. DRA did not directly address this project in its report. However, their workpapers reflect a cost of $198,000. Cal Water requests the entire project cost of $274,746 be included in rates as this project is in use and useful for utility operations.

Attachment - SEL - 13854 1(Warehouse Cost Comparison)

13914, 14673 - New Well at Sta 22-01 (Pg 7-4, Ln 6)

The new well addition at Selma Sta 22 is comprised of two projects. Phase 1 of the project (13914) involves constructing and developing the well. This was not directly addressed by DRA. However, DRA’s workpapers reflect a cost of $600,000.

Phase 2 of the project (14673) involves equipping the well, and constructing as well as site improvements to the station. In its report, DRA observed Project 14673 to have been approved for advice letter recovery for the amount of $704,000 during the 2009 GRC. DRA recommended removal of dollars associated with this project from the carryover budget claiming it needs to be recovered by advice letter for the capped amount of $704,000. As explained below, although the well has been used and useful since the end of 2012, Cal Water has experienced unforeseeable cost overruns. The final cost of the project is estimated to be $778,000. Additionally, as explained in Cal Water’s discussion of Advice Letter Project 21509, any project completed after December 31, 2011, whether in rates or authorized for advice letter recovery, is required to be included as a plant addition in order to be accounted for in the rates that will be ultimately adopted by the Commission. Therefore, Cal Water requests the Commission adopt the total estimated cost of $778,000 for Project 14673 in rates.

Cal Water was given approval from the Department of Public Health on 12/18/2012 to put the station into service. Since that time, the well has been used and useful. However, Cal Water continues to incur charges to this project due to increased permitting requirements imposed on the company by the City of Selma. Despite issuing a building permit approval dating back to October 2011, the City of Selma has come back four times to Cal Water requiring additional work to be performed outside the property that was neither originally anticipated nor was clearly part of the building permit. This work largely is tied to roadway improvements at the property line to the property. Despite obtaining a verbal approval for a
fourth grading plan submittal on 10/5/12, the final stamped approval issuance from the City was
delayed owing to furlough days, different scheduling, and internal miscommunication within their
organization.

The City Engineer was present on site during the CDPHHS inspection on 12/17/2012.
Following that, additional grading plan requirements were again required by the City of Selma.
A site meeting was held with City staff and Cal Water Management staff on 1/24/2013 (see
Attach 3) to attempt to resolve the issues. Due to a desire to maintain a good relationship
with the City of Selma as the water provider, Cal Water is seeking to meet the new City
requirements, but it will come at a higher cost to the project. Bids have been received to
complete the work required by the City. Cal Water is still working through this process with the
City and thus is still incurring costs. The new anticipated costs are listed below and are covered
in more detail in Attachments 1-4. Final construction is expected in summer 2013.

PID 14673 Breakdown:                        Actual
PERMITTING                        $7,377.78
CONSULTANTS                        $2,256.22
STRUCTURE                        $197,926.81
PUMPS                                $47,857.50
CONTRACTOR                       $260,378.67
CCTV                                $42,612.64
PG&E SERVICE                      $1,994.46
CWS LABOR                        $64,638.12

CWS OVERHEAD                        $153,554.25

$778,596.45

In Summary, Cal Water requests the Commission adopt $600,000 for Project 13914 and
$778,596 for Project 14673.
Attachment - SEL - 14673 1 (Timeline)
Attachment - SEL - 14673 2 (Charges)
Attachment - SEL - 14673 3 (Site Meeting Minutes)
Attachment - SEL - 14673 4 (Survey Plan)
21.4 ATTACHMENTS

The attachments listed below are located in Book 5 will follow this chapter.

Attachment - SEL - 62472, 62492, 62515 1 (Revised Cost Estimate)
Attachment - SEL - 62472, 62492, 62515 2 (AWWA Journal Article)
Attachment - SEL - 64933 1 (V20825 Updated Mileage Analysis)
Attachment - SEL - 13854 1 (Warehouse Cost Comparison)
Attachment - SEL - 14673 1 (Timeline)
Attachment - SEL - 14673 2 (Charges)
Attachment - SEL - 14673 3 (Site Meeting Minutes)
Attachment - SEL - 14673 4 (Survey Plan)
CHAPTER 22 STOCKTON PLANT ADDITIONS

22.1 INTRODUCTION

22.1.1 Global Projects

- 64934, 64935, 65094, 65406, 65450 - VEHICLE (Section 2.9)
- 79963 - RAMCAP (Section 2.4)
- 60773, 61392, 62075, 62112 - PAINT (Section 2.2.1)
- 64007 - Field - New Handhelds for Meter Reading
- 68901 - Field - 2-Way Voice Radio System (Section 2.6)
- 55449 - Install PVC C.P. test tube (Section 2.16)
- 119-NON-SP - 119- Stockton Non-specific (Section 2.7)

22.2 ADVANCE CAPITAL BUDGET SPECIFIC BUDGETS

- 63050, 63096, 63156, 63218, 63318, 63326, 63257, 63406, 63416, 63453, 63475, 63481, 63655, 63715, 63795, 63801 – Install 6” & 8” PVC Pipelines in various locations (Pg 7-22, Ln 11 & 12)

Cal Water requests that the Commission approve all main replacement projects in the Stockton District at the originally developed cost. Stockton has the highest level of leaks per mile of all Cal Water districts. These mains were identified for replacement, in part, through the Condition Based Assessment Pilot Program and these replacements are very important to help achieve a reduction in the number of leaks per mile of pipe in this district.

DRA agrees with the need for these sixteen projects, but disagrees with the cost estimating. DRA recommends using uniform values for cost per foot for these projects based on pipeline size. This is wrong. DRA does not take into account that each of these projects is individually estimated based on the specific conditions and according to master contract schedules. Cal Water factors different items into these projects such as: contractor move on-flat job rate, miscellaneous material rate, hand tamping rate; backhoe rate, service reconnections, imported backfill cost, cost of service saddles, and extra tie-ins (when applicable). The costs associated with all of the activities, along with the costs for pipe, fittings, valves, and blow offs are totaled and divided by the length of pipe to be installed to arrive at a “unit cost”. The amounts included in the spreadsheet were taken directly from the individual “Unit Estimates” panels in PowerPlant for each project. The largest cost impact factor here is whether the job is
in the City of Stockton or San Joaquin County, because the County requires imported backfill to
be used which adds approximately $30 per cubic foot of additional costs that is not factored into
the City locations.

Because no two projects are identical, the “unit cost” will logically vary from job to job.
Examples of such variables that will affect the “unit cost” include: number of service
reconnections for the project, whether the project is located in the City or County, type of backfill
material, depth of pipe installation, and other site-specific concerns. In general, longer footage
pipeline projects have a lower cost per foot than shorter pipeline projects because of the
economy of scale and the fixed price components of the master contract.

DRA recommends reducing contingencies from 10% to 3% for these projects.
Underground construction often requires resolving issues with unforeseen obstacles and Cal
Water has found that a 10% contingency on these types of projects is prudent and request the
Commission maintain this level of contingency. It is also important to note that the dump fees
and transportation of spoils is not part of the master contract and these fees were not included
in the cost per foot. Therefore, part of the 10% contingency is utilized for dump fees that are not
budgeted for elsewhere in the project.

DRA recommends removing capitalized interest for these projects. Cal Water contends
that this is not reasonable and requests the Commission maintain this capitalized interest on a
project level basis as a part of the project. Please see the global rebuttal section for capitalized
interested for this argument. Cal Water is attaching the individual breakdowns used to
determine the cost per foot for each specific project.

Attachment A- STK_63050_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63096_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63156_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63218_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63257_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63318_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63326_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63406_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63416_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63453_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63475_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63481_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63655_Attach 1_Funding Project Estimate Details.pdf
63483, 63575, 63752, 63800, & 63852- Install 6” & 8” PVC Pipelines in various locations (pg 7-22, Ln 20)

Cal Water requests that the Commission approve all main replacement projects in the Stockton District at the originally developed cost. Stockton has the highest level of leaks per mile of all Cal Water districts. These mains were identified, in part, through the Condition Based Assessment Pilot Program and these replacements are very important to help achieve a reduction in the number of leaks per mile of pipe in this district.

For these five projects, DRA disagrees with the need for these projects based on only a few instances of leaks within a short time period or where the leak reports is not identify a specific main to be replaced. Cal Water has reviewed the leak history and type of main for these 5 locations and details the leak history below:

- PID 63483 is a 1200’ long, 63 year old 6” steel pipeline section with 4 leaks since 2001.
- PID 63575 is a 4000’ long, 63-67 year old 6” steel pipeline section with 4 leaks since 2002.
- PID 63752 is a 2050’ long, 68-73 year old 4” steel & 2” cast iron pipeline section with 3 leaks since 2006.
- PID 63800 is a 1140’ long, 63 year old 4” steel pipeline section with 6 leaks since 2002.
- PID 63852 is a 1600’ long, 64 year old 10” steel pipeline section with 5 leaks since 2005.

Cal water points out that each of these mains has a significant leak history, is more than 60 years old, meets the Cal Water main replacement program for undersized and unlined steel pipes, and in total with all projects proposed in this district represents a main replacement cycle of over 200 years. Cal Water believes this to be a reasonable program and these mains should be allowed.

Attachment- STK_63852_Attach 1_Cancellation of PID 20764 (previous Alpine project) e-mail correspondence

63792- Land purchase for new tank and booster station (Pg 7-22, Ln 26)

Cal Water maintains its need for this project. In the DRA’s STK RO Report, page 7-25, L. 23 – 26, the DRA references its assessment of Project 63792 and asserts:
“... CWS’s claims of a storage deficit are faulty using the WSFMP. For the reasons described in that section, DRA determined the Stockton District has more than sufficient storage capacity, source capacity and emergency connections to meet all existing and build-out operational and fire reserve storage requirements.”

Unfortunately, DRA’s testimony is wrong. Cal Water contends that DRA’s made several mischaracterizations in its evaluation of the storage analysis in Stockton’s Water Supply and Facility Master Plan (WSFMP). On page 7-23, L. 17 – 24 DRA states:

“... CWS designs its system to meet the American Water Works Association (“AWWA”) recommended standards, which defines storage capacity with the following:

Operational Storage – to provide for peak hour flow (20% to 25% of MDD)
Fire Storage – to provide for two hours of fire flow (2 hours times fire flow requirement or FF)
Emergency Storage – to provide for average day of customer usage (Average Day Demand or ADD)”

This is not the criteria by which Cal Water determines its storage needs. It also cannot determine the basis of the assertion that the above are AWWA’s recommended standards.

AWWA’s Water Distribution Systems Handbook by Larry W. Mays states the following relative to the components of storage:

Operational storage - … The volume of operational storage required is a function of the diurnal demand fluctuation in a community and is commonly estimated at 25 percent of the total maximum day demand.

Fire storage - … the specific fire flow and the specific time duration vary significantly by community. These values are normally established through the local fire marshall ....

Emergency storage - … The amount of emergency storage included with a particular water system is an owner option ....

Chapter 7 of Stockton’s WSFMP specifies the criteria utilized in determining the required storage volume for the Stockton distribution system based on the following and supply conditions at the time the WSFMP was developed.

Cal Water’s criteria for determining the volume of storage recommended by the WSFMP was:

Operational storage – 25% of MDD, estimated as noted above per AWWA’s Water Distribution Systems Handbook
Fire storage – 4500 gpm for 4 hours per Stockton City Fire Marshall’s requirements and allowances for Governmental and Industrial infrastructure
Emergency storage – there is no emergency storage required. This requirement was offset by the Emergency Storage Credit resulting from auxiliary power available at Stockton East Water District's treatment plant and several Cal Water wells.

DRA makes an additional mischaracterization in its reference to AWWA's Determining Distribution Storage Needs, Page 11 in footnote 26 on page 7-24. This item referenced is an article in AWWA’s magazine, Opflow written by several individuals from the industry, not AWWA. The purpose of the article is to present methodologies for determining storage volume and should not be construed as AWWA recommendations.

DRA's STK RO Report, page 7-24, L. 1 relative to Project 63792 states:

“CWS claims that its analysis shows that the storage need of 48.4 MGD …”

This is incorrect. Table 10-2 of the WSFMP utilized a traditional industry methodology for assessing storage requirements. It indicates that the required storage capacity is 41.6 MG of which 28.5 MG is dedicated for emergencies. As noted above, effectively there is no emergency storage required for Stockton due to the availability of auxiliary power at SEWD and Cal Water facilities. The emergency storage credit included as available storage in Table 10-2 cancels out the emergency component and thus leaving only the operational and fire components. Following is a reevaluation of Stockton’s storage needs per Title 22 based on system supply conditions at the time that the WSFMP was developed.

Title 22, Chapter 16, Section 64554 states:

“…For systems with 1,000 or more service connections, the system shall be able to meet four hours of peak hourly demand (PHD) with source capacity, storage capacity, and/or emergency source connections.”

and;

“A system shall estimate MDD and PHD for the water system as a whole (total source capacity and number of service connections) and for each pressure zone within the system (total water supply available from the water sources and interzonal transfers directly supplying the zone and number of service connections within the zone), as follows:

If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD; determine the average hourly flow during MDD and multiply by a peaking factor of at least 1.5 to obtain PHD.”

The highest usage in Stockton during the past 10 years was 51.3 MGD. It occurred in 2003. Therefore PHD value as established by Title 22 is as follows:

\[
PHD = MDD \times 1.5 = 51.3 \text{ MGD} \times 1.5 = 76.95 \text{ MGD} \text{ or } 53,438 \text{ gpm}
\]
The system’s supply sources, purchased supply from the Stockton East Water District (SEWD) and the company’s well, are insufficient to meet PHD as required by Title 22. The balance must be provided from storage. For the following analysis 100% of SEWD supply is considered to be available and a supply reduction is taken in the district’s well capacity to allow for the reliability considerations.

Title 22 Section 64554 (c) states:

“... The system shall be capable of meeting MDD with the highest-capacity source off line.”

Section 3.2.2.1 of the American Water Works Association’s (AWWA) Water Distribution Systems Handbook states:

“It is also good practice to consider standby capability in the source of supply. If the system has been designed so the entire capacity of the supply is required to meet the maximum demand, any portion of the supply that is placed out of service due to malfunction or maintenance will result in a deficient supply. For example, a community that relies primarily on groundwater for its supply should, at a minimum, be able to meet its maximum day demand (MDD) with at least one of its largest wells out of service.”

Cal Water’s experience dictates that it must consider Title 22’s reliability requirement a minimum, as AWWA indicates, in evaluating the risk of not being able to meet MDD and PHD. Loss of the critical (largest) supply well in small districts can amount to significant percentages, from 15% to 35%, of the total supply capacity. Loss of an additional source could result in substandard service. Cal Water also contends that as the numbers of wells (and total capacity) increases so does the risk that multiple production units will be out of service at any given time. This consideration must take into account outages from conditions other than mechanical failure. In systems like Salinas, Marysville, and Dixon, water quality has rapidly deteriorated creating the need to take wells out-of-service, or to swiftly deploy water treatment systems that have notable capital and operating costs.

As such, Cal Water defines Stockton’s firm groundwater pumping capacity (FPC) as the total active well capacity minus the capacity of the two most critical wells, or eighty percent (80%) of the total active well capacity, whichever is less. And, firm pumping capacity for booster pump facilities is defined by Cal Water as the total station capacity minus the capacity of the largest pump. If there are multiple pump stations serving the same service zone, only one pump is considered to be out of service for all the stations combined. This supply reliability criterion is consistent with numerous industry guidelines and recommendations. The capacity of Stockton’s 2 largest wells exceeds 10% of the total. Therefore the computation for FPC in Stockton is as follows:
Total Well Capacity = 37.12 MGD

Note: The total capacity was extracted from Stockton’s District Report on Production and includes the wells that are blended with SEWD supply.

Capacity of 2 largest wells (66-02 & 77-01) = 5.76 MGD

FPC based on loss of two largest wells = 37.12 – 5.76 = 31.36 MGD or 21,778 gpm

FPC per 80% = 37.12 X 0.80 = 29.7 MGD or 20,622 gpm

The total capacity of Stockton’s sources of supply, SEWD and wells, is as follows:

SEWD

Plant capacity X Cal Water’s allotment = 50 MGD X 0.4704 = 23.52 MGD or 16,333 gpm

Note: The SEWD capacity value indicated above is based on Cal Water’s 2006 allocation which corresponds to the production data that was used in the WSFMP assessment.

Total supply capacity

SEWD + FPC = 16,333 gpm + 20,622 gpm = 36,955 gpm

Therefore the portion of PHD that needs to be provided from storage is as follows:

PHD – Total supply capacity = 53,438 gpm - 36,955 gpm = 16,482 gpm

Over the four hour period yields:

Operation Storage required = PHD X 4 hrs X 60 min/hr = 16,482 gpm X 4 hrs X 60 min/hr

Operation Storage required = 3.96 MG

As noted above the required fire storage capacity was determined by the local fire department requirements, 4,500 GPM for 4 hours. Thus, the required fire storage is:

Fire Storage required = 4500 GPM X 4 hours X 60 minutes/hour = 1.08 MG

Therefore total storage requirement is:

Total Storage = Operational Storage + Fire Storage = 3.96 MG + 1.08 MG = 5.04 MG

Although the total existing storage volume is noted as 9.9 MG, not all of it is available for use in meeting PHD due to a limitation in pumping capacity. Cal Water’s firm pumping capacity for booster facilities where multiple pump stations serve the same service zone indicates that only one pump is to be considered to be out of service for all the stations combined.

Two conditions need to be assessed based on the proposed disallowance of Project 65556, total booster FPC capacity with and without Station 32.

Booster FPC without Station 32

Usable storage volume = 13,933 gpm X 4 hours X 60 min/hour = 3.34 MG

Storage deficit = 5.04 MG – 3.34 MG = 1.7 MG

Booster FPC including Station 32

Usable storage volume = 15,633 gpm X 4 hours X 60 min/hour = 3.75 MG
Storage deficit = 5.04 MG – 3.75 MG = 1.29 MG

The graphs in the attachments represent minimum system pressure as measured at Station 8, a former well site in the extreme southern reaches of the distribution system (see attached sketch). The range of dates, 2010-2012 summer demand period, were selected to illustrate that dips in pressure in this region typically fall below 40 psi and frequently fall below the 30 psi threshold established by GO 103.

Cal Water intends to utilize this project to purchase land in the region where these low pressures have been experienced. This project will allow Cal Water to improve the current level of service, will eliminate the defined storage deficit and improve Cal Water’s ability to properly and efficiently operate the system.

Attachment- STK 63792 1

63823- Land purchase for new well (Pg 7-25, Ln 19)

Cal Water maintains the need for this project. DRA misconstrued Cal Water’s purpose in proposing additional well capacity and this project. Project 63823 – Land for New Well, specifically addresses the Stockton District need for additional source capacity and will be the subject of this rebuttal. Rebuttal relative to DRA’s position on Project 65556 – Station 32 Booster Pump and Panel Board Replacement, addressed in the same section of DRA’s STK RO Report, will be the subject of a separate document.

DRA’s STK RO Report states on page 7-26: “The WSFMP performed a hydraulic analysis on the Stockton water distribution system, based upon a criterion of meeting MDD while maintaining 20 psi at all service connections to determine fire flows.” The analysis referenced by DRA was not utilized as a basis for the project. Cal Water’s justification clearly focused on the need to increase supply reliability, additional well capacity, should its imported water supply from the Stockton East Water District (SEWD) be severely reduced. Fire reserve storage and/or pressure were not indicated as reasons for the additional supply.

Title 22 Section 64554 (c) states, “…The system shall be capable of meeting MDD with the highest-capacity source off line.” Currently Cal Water’s highest capacity source is SEWD. Cal Water has experienced 6 outages or reductions over the past 5 years. The most severe reduction, to below 6 MGD or approximately 25% of the district’s allotted SEWD supply at the time, occurred in 2008 and lasted over 2 months. As such Cal Water determined that in evaluating its supply needs it must consider, at a minimum, a reduction in available supply from SEWD. Outage scenarios include, but are not limited to, a critically dry year, reduced capacity
due to mechanical failure or unplanned maintenance, and equipment failure at the supply
delivery pump station.

On page 7-26, lines 6-8, the DRA states: “The average day demand (ADD) for 2011 in
the Stockton District is 23.82 MGD. In order to meet fire flow (4500 GPM) plus average day
demand (23.82 MGD), a total volume flow rate of 2.5 MG over 2 hours is necessary. At build-out
ADD increases to 35.1 MGD according to the WSFMP, which would require 3.5 MG for the
same two hour period. The total source capacity currently available in Stockton to meet this
condition is 56.5 MGD divided by 12 hours in order to calculate the volume flow rate over 2
hours, or 4.7 MG which is more than sufficient for both existing and build-out scenarios.”
This assessment does not comply with the requirements of Title 22.

Title 22, Chapter 16, Section 64554 (a) states: “At all times, a public water system’s
water source(s) shall have the capacity to meet the system’s maximum day demand (MDD).”
And Section 64554 (a) (1) states: “If daily water usage data are available, identify the day with
the highest usage during the past ten years to obtain MDD …” The highest usage in Stockton
during the past 10 ten years occurred in 2003 was 51.3 MGD.

Stockton’s Water Supply and Facilities Master Plan (WS&FMP), completed by West
Yost Associates (WYA) in 2009, included an evaluation of the district’s existing water system
under a MDD scenario in order to assess the impact of a severely reduced treated surface
water supply from SEWD, a reduction of 65%. The analysis assumed that our customers were
informed of the situation and a reduction in overall customer demand of 15% was achieved.
West Yost’s analysis was based on 2006 MDD as reported in Cal Water’s 2007 Urban Water
Management Plan or 48.4 MGD. As noted above Title 22 requires Cal Water to utilize the
highest MDD in the last 10 years. Even though Cal Water has experienced reductions
exceeding that indicated in the WSFMP the following will utilize the 65% reduction used in West
Yost’s analysis to illustrate the need for additional well capacity in order to increase supply
reliability. Under the current contract Cal Water will receive 58.1 % of SEWD supply.
The total capacity of the district’s wells extracted from Stockton’s District Report on Production,
is 31.97 MGD. This value excludes the wells with water quality issues that are required to be
blended with SEWD supply by Stockton’s permit from the California Department of Public
Health.

SEWD restricted supply = 0.35 X 50 MGD X 0.581 = 10.2 MGD
Cal Water total supply available = 10.2 MGD + 31.97 MGD = 42.17 MGD
Cal Water highest MDD = 51.3 MGD
Therefore, under the scenario outlined, the deficiency to meet the requirements of Title 22 under SEWD supply reductions indicated is:

53.1 MGD – 42.17 MGD = 9.13 MGD

Cal Water maintains its position and justification for additional land for a new well.

65556- Station 32 – Replace Booster Pumps and Panel Board (Pg 7-25, Ln 19)

Cal Water maintains its need for this project. In DRA’s STK RO Report, page 7-25, L. 23 – 26, the DRA references its assessment of Project 63792 and asserts:

… CWS’s claims of a storage deficit are faulty using the WSFMP. For the reasons described in that section, DRA determined the Stockton District has more than sufficient storage capacity, source capacity and emergency connections to meet all existing and build-out operational and fire reserve storage requirements.

Cal Water contends that DRA’s made several mischaracterizations in its evaluation of the storage analysis in Stockton’s Water Supply and Facility Master Plan (WSFMP).

DRA’s STK RO Report, page 7-23, L. 17 – 24 relative to Project 63792 states:

… CWS designs its system to meet the American Water Works Association (“AWWA”) recommended standards, which defines storage capacity with the following:

Operational Storage – to provide for peak hour flow (20% to 25% of MDD)
Fire Storage – to provide for two hours of fire flow (2 hours times fire flow requirement or FF)
Emergency Storage – to provide for average day of customer usage (Average Day Demand or ADD)

This is not the criteria by which Cal Water determines its storage needs. It also cannot determine the basis of the assertion that the above are AWWA’s recommended standards.

AWWA’s Water Distribution Systems Handbook by Larry W. Mays states the following relative to the components of storage:
Operational storage - … The volume of operational storage required is a function of the diurnal demand fluctuation in a community and is commonly estimated at 25 percent of the total maximum day demand.
Fire storage - … the specific fire flow and the specific time duration vary significantly by community. These values are normally established through the local fire marshall …
Emergency storage - … The amount of emergency storage included with a particular water system is an owner option …
Chapter 7 of Stockton’s WSFMP specifies the criteria utilized in determining the required storage volume for the Stockton distribution system based on the following and supply conditions at the time the WSFMP was developed.

Cal Water’s criteria for determining the volume of storage recommended by the WSFMP was:

**Operational storage** – 25% of MDD, estimated as noted above per AWWA’s *Water Distribution Systems Handbook*

**Fire storage** – 4500 gpm for 4 hours per Stockton City Fire Marshall’s requirements and allowances for Governmental and Industrial infrastructure

**Emergency storage** – there is no emergency storage required. This requirement was offset by the Emergency Storage Credit resulting from auxiliary power available at Stockton East Water District’s treatment plant and several Cal Water wells.

DRA makes an additional mischaracterization in its reference to AWWA’s *Determining Distribution Storage Needs*, Page 11 in footnote 26 on page 7-24. This item referenced is an article in AWWA’s magazine, *Opflow* written by several individuals from the industry, not AWWA. The purpose of the article is to present methodologies for determining storage volume and should not be construed as AWWA recommendations.

DRA’s STK RO Report, page 7-24, L. 1 relative to Project 63792 states:

CWS claims that its analysis shows that the storage need of 48.4 MGD …

This is incorrect. Table 10-2 of the WSFMP utilized a traditional industry methodology for assessing storage requirements. It indicates that the required storage capacity is 41.6 MG of which 28.5 MG is dedicated for emergencies. As noted above, effectively there is no emergency storage required for Stockton due to the availability of auxiliary power at SEWD and Cal Water facilities. The emergency storage credit included as available storage in Table 10-2 cancels out the emergency component and thus leaving only the operational and fire components.

Following is a reevaluation of Stockton’s storage needs per Title 22 based on system supply conditions at the time that the WSFMP was developed.

Title 22, Chapter 16, Section 64554 states:

…

*For systems with 1,000 or more service connections, the system shall be able to meet four hours of peak hourly demand (PHD) with source capacity, storage capacity, and/or emergency source connections.*

and;

*A system shall estimate MDD and PHD for the water system as a whole (total source capacity and number of service connections) and for each pressure zone within the system (total water*
supply available from the water sources and interzonal transfers directly supplying the zone and number of service connections within the zone), as follows:

If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD; determine the average hourly flow during MDD and multiply by a peaking factor of at least 1.5 to obtain PHD.

The highest usage in Stockton during the past 10 years was 51.3 MGD. It occurred in 2003. Therefore PHD value as established by Title 22 is as follows:

\[ \text{PHD} = \text{MDD} \times 1.5 = 51.3 \text{ MGD} \times 1.5 = 76.95 \text{ MGD or 53,438 gpm} \]

The system’s supply sources, purchased supply from the Stockton East Water District (SEWD) and the company’s well, are insufficient to meet PHD as required by Title 22. The balance must be provided from storage. For the following analysis 100% of SEWD supply is considered to be available and a supply reduction is taken in the district’s well capacity to allow for the reliability considerations.

Title 22 Section 64554 (c) states:

… The system shall be capable of meeting MDD with the highest-capacity source offline.

Section 3.2.2.1 of the American Water Works Association’s (AWWA) Water Distribution Systems Handbook states:

It is also good practice to consider standby capability in the source of supply. If the system has been designed so the entire capacity of the supply is required to meet the maximum demand, any portion of the supply that is placed out of service due to malfunction or maintenance will result in a deficient supply. For example, a community that relies primarily on groundwater for its supply should, at a minimum, be able to meet its maximum day demand (MDD) with at least one of its largest wells out of service.

Cal Water’s experience dictates that it must consider Title 22’s reliability requirement a minimum, as AWWA indicates, in evaluating the risk of not being able to meet MDD and PHD.

Loss of the critical (largest) supply well in small districts can amount to significant percentages, from 15% to 35%, of the total supply capacity. Loss of an additional source could result in substandard service. Cal Water also contends that as the numbers of wells (and total capacity) increases so does the risk that multiple production units will be out of service at any given time. This consideration must take into account outages from conditions other than mechanical failure. In systems like Salinas, Marysville, and Dixon, water quality has rapidly deteriorated creating the need to take wells out-of-service, or to swiftly deploy water treatment systems that have notable capital and operating costs.
As such, Cal Water defines Stockton's firm *groundwater* pumping capacity (FPC) as the total active well capacity minus the capacity of the two most critical wells, or eighty percent (80%) of the total active well capacity, whichever is less. And, firm pumping capacity for *booster pump facilities* is defined by Cal Water as the total station capacity minus the capacity of the largest pump. If there are multiple pump stations serving the same service zone, only one pump is considered to be out of service for all the stations combined. This supply reliability criterion is consistent with numerous industry guidelines and recommendations. The capacity of Stockton’s 2 largest wells exceeds 10% of the total. Therefore the computation for FPC in Stockton is as follows:

Total Well Capacity = 37.12 MGD

Note: The total capacity was extracted from Stockton’s District Report on Production and includes the wells that are blended with SEWD supply.

Capacity of 2 largest wells (66-02 & 77-01) = 5.76 MGD

FPC based on loss of two largest wells = 37.12 – 5.76 = 31.36 MGD or 21,778 gpm

FPC per 80% = 37.12 X 0.80 = 29.7 MGD or 20,622 gpm

The total capacity of Stockton’s sources of supply, SEWD and wells, is as follows:

SEWD

Plant capacity X Cal Water’s allotment = 50 MGD X 0.4704 = 23.52 MGD or 16,333 gpm

Note: The SEWD capacity value indicated above is based on Cal Water’s 2006 allocation which corresponds to the production data that was used in the WSFMP assessment.

Total supply capacity

SEWD + FPC = 16,333 gpm + 20,622 gpm = 36,955 gpm

Therefore the portion of PHD that needs to be provided from storage is as follows:

PHD – Total supply capacity = 53,438 gpm - 36,955 gpm = 16,482 gpm

Over the four hour period yields:

Operation Storage required = PHD X 4 hrs X 60 min/hr = 16,482 gpm X 4 hrs X 60 min/hr

Operation Storage required = 3.96 MG

As noted above the required fire storage capacity was determined by the local fire department requirements, 4,500 GPM for 4 hours. Thus, the required fire storage is:

Fire Storage required = 4500 GPM X 4 hours X 60 minutes/hour = 1.08 MG

Therefore total storage requirement is:

Total Storage = Operational Storage + Fire Storage = 3.96 MG + 1.08 MG = 5.04 MG

Although the total existing storage volume is noted as 9.9 MG, not all of it is available for use in meeting PHD due to a limitation in pumping capacity. Cal Water’s firm pumping capacity
for booster facilities where multiple pump stations serve the same service zone indicates that only one pump is to be considered to be out of service for all the stations combined. Two conditions need to be assessed based on the proposed disallowance of Project 65556, total booster FPC capacity with and without the pumps at Station 32.

Booster FPC without Station 32

Usable storage volume = 13,933 gpm × 4 hours × 60 min/hour = 3.34 MG
Storage deficit = 5.04 MG – 3.34 MG = 1.7 MG

Booster FPC including Station 32

Usable storage volume = 15,633 gpm × 4 hours × 60 min/hour = 3.75 MG
Storage deficit = 5.04 MG – 3.75 MG = 1.29 MG

Cal Water’s justification indicated a need to replace Station 32’s booster pumps and motor control center due to equipment failure and the resulting impact that loss would have on system operation. Elimination of this project would effectively eliminate up to 0.41 MG of usable storage volume available to meet PHD.

The graphs in the attachments represent system pressure as measure at the point of discharge at Station 65, a pump storage facility located near Station 32 in the same region distribution system (see attached sketch). The range of dates (2012 summer demand period) were selected to illustrate that dips in pressure in this region during peak hour are not intermittent occurrences. Although the dips in pressure typically do not fall below the 30 psi threshold established by GO 103, Cal Water contends that by rebuilding Station 32 pressures in the region pressure during peak hour periods will be maintained at higher levels than as illustrated by the graphs.

This rehabilitation project of existing capital facilities will allow Cal Water to improve the current level of service at minimal investment, without the capital expenditure of securing land and constructing new facilities from scratch.

Cal Water holds to its original position and request that project 65556 – Station 32 Booster Pump and Panel Board Replacement, be included in the 2013 plant additions. As outlined above, if this project is disallowed, it will increase the total storage deficit and further limit CWS’s ability the properly and efficiently operate the system.

Attachment- STK 65556 1
63436 - Replace Electrical Panel board at Station 7 (Pg 7-32, Ln 9)
Cal Water recommends that the Commission include this project in this case at the full estimated cost. DRA recommends allowing the project but without capitalized interest. Please refer to the global rebuttal regarding capitalized interest.

63873 - Replace Electrical Panel board at Station 16 (Pg 7-32, Ln 9)
Cal Water recommends that the Commission include this project in this case at the full estimated cost. DRA recommends allowing the project but without capitalized interest. Please refer to the global rebuttal regarding capitalized interest.

63936 - Replace Electrical Panel board at Station 61 (Pg 7-32, Ln 9)
Cal Water recommends that the Commission include this project in this case at the full estimated cost. DRA recommends allowing the project but without capitalized interest. Please refer to the global rebuttal regarding capitalized interest.

66893 - Install Well Level Transducers (Work Papers)
Please refer to global rebuttal on well level transducer projects.

67089 - Replace Data Acquisition Radio System for SCADA (Work Papers)
DRA discusses SCADA generally then observes: However, although CWS has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers. In fact, if there were no SCADA system the Stockton district would have to add twelve pump operators to maintain the same level of customer service. The remainder of the DRA discussion is unrelated to this radio replacement project.

The data acquisition radio system is a critical component for the SCADA system and has been providing tangible benefits for the rate payers for the last 10 years. This project will replace the outdated radio equipment, allowing Cal Water to improve the existing SCADA communications system and continue to contain growth in operating costs. Project 67089 should be approved in rates for the amount of $149,811.

67310 - Install Pressure Transducers (Work Papers)
Please refer to global rebuttal on pressure transducer projects.
67454- Install 25 Power Meters (Work Papers)
Please refer to global rebuttal regarding power meters.

67455- Install 7 Power Meters (Work Papers)
Please refer to global rebuttal regarding power meters.

79414, 79416- Elevated Tank Seismic retrofits in Stockton (Pg 7-27, Ln 18)
Cal Water requests that the Commission approve this project as submitted and justified in the initial application for customer safety reasons. DRA misinterpreted the structural analysis description and contends that the report says that no damage will occur during an earthquake. DRA has inadvertently misinterpreted the technical terms that were used in the MMI Final report and Cal Water has attached a letter from MMI to simplify the findings in their report. The letter confirms that the support members of these tanks are in danger of failure from the Peak Ground Acceleration associated with the most probable seismic event.
Attachment-STK 79414_79416 Attachments

STK0900- METER REPLACEMENT PROGRAM
Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $303,900, $302,500 and $310,600 for years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements was $195,955, and was not contested by DRA. For Stockton, DRA recommends a reduced budget of $209,087 per year for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future budgets for this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.
Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:
• PUC General Order 103-A mandates meters be tested or replaced based on age.
• It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s response to DR PR-004.
• Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead
content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
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</thead>
<tbody>
<tr>
<td>5/8”</td>
<td>20</td>
</tr>
<tr>
<td>1”</td>
<td>15</td>
</tr>
<tr>
<td>1.5”</td>
<td>10</td>
</tr>
<tr>
<td>2”</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Stockton in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

22.3 CARRYOVER PROJECTS

15550- Customer Service Center Design (Work Papers)

This project is currently in-progress and Cal Water recommends that the Commission approve this project at the current projected cost. This project involves providing architectural design and project management services to design, rehabilitate, and remodel an existing building at the Stockton Operations Center into a new Customer Service Center for Stockton district employees & customers. Itaya-Espalin & Associates of Stockton, is the architect of record for the project. Cost overruns are the result of the following: redesigns associated with City of Stockton building code requirements regarding structural issues; redesigns associated with LEED certification items; redesigns associated with sustainability issues outside the scope of the original contract; and redesigns associated with the incorporation of Cal Water office space and work station standards. The total project cost to date is $137,050 with the following
cost breakdown: Capitalized Interest = $23,345; Contractor Cost (Itaya-Espalin & Associates) = $104,328; Overhead = $9,377.

Occupancy of the new Customer Service Center building is scheduled for May 6, 2013. The architect is currently providing project management services regarding the LEED certification and project "As-Builts" for the building. All remaining costs associated with these items are expected to be finalized after the new Customer Service Center is occupied.

Attachment- STK_15550_1_Work Order Charges Report.pdf

16025- New Customer Service Center (Work Papers)

This project is currently in process and involves construction, remodeling, and repurposing of an existing building at the Stockton Operations Center into a new Customer Service Center for Stockton district employees & customers. This project is currently an Advice Letter project. Cal Water requests the Commission to allow the full cost of this, soon to be used and useful project, in rates in this case.

Upon completion, all Stockton operations for Cal Water will reside at this location. Cost overruns to the project are a result of the following: incorporation of ergonomic work stations; sustainability items; achieving LEED certification; inclusion of Level III bullet resistant Kevlar material for interior walls structures and cashier line; bullet resistant window glazing for employee safety; demountable wall system to conform with CWS workplace standardizations; unknown structural steel and foundation issues discovered during the early stages of construction requiring additional mechanical design, fabrication and installation; seismic retrofit of existing structure to marry with new addition structure; additional city permitting fees and requirements. The total project cost to date is $2,241,076 with the following cost breakdown: Capitalized Interest = $122,998; Contractor Cost = $1,785,570; Overhead = $332,508.

Occupancy of the new Customer Service Center building is scheduled for May 6, 2013. Remaining contractor costs associated with the project as well as retention amounts will be finalized after this date.

Attachment- STK_16025_Attach1_New Customer Service Center.xlsx
Attachment- STK_16025_Attach2_Purchase Order.pdf
Attachment- STK_16025_Attach3_Work Order Charges Report.pdf

16387- Storage & Dump Facility (Work Papers)

This project is currently in use and useful and Cal Water requests the Commission to approve this project in rates. The project involved constructing storage and dump facility to
support field maintenance, leak truck & vacuum truck dumping and re-stocking activities. It also provides covered sand and asphalt storage. This facility converted a dirt lot into a paved lot with cinder block storage bays and a covered block building. A small bobcat loader is currently housed here to move and consolidate spoil debris and re-stock leak trucks with sand and asphalt. Cost overruns to the project are a result of the following: changes in building design to meet City of Stockton building code requirements for structural standards and wind shear factor relating to structure height; reinforcement of steel framework; changes to mechanical design, fabrication and installation of the steel structure; storm drain pollution prevention control permitting requirements; changes to design, fabrication and installation of soil containment holding pit structure and pre-storm drain sediment holding & filtration system.

Total cost for the project is $430,244.00 with the following breakdown: Capitalized Interest = $14,916.00; Contractor Cost (Diede Construction, general contractor for the project) $328,306.00; Labor Cost = $1,651.00; Material Cost = $399.00; Other Cost (permitting fees, letter of credit) $18,570.00; Overhead = $66,402.00

Attachment- STK_16387_1_Storage & Dump Facility.xlsx
Attachment- STK_16387_2_Purchase Order.pdf
Attachment- STK_16387_3_Unitization Summary.pdf

17025- Customer Service Center Furnishings (Work Papers)

This project is currently completed and should not be disallowed. This project involves furnishing workstations, desks, filing cabinets, tables, chairs, storage cabinets and other office accessories for the new Customer Service Center building (projects #16025 & 48948). Project includes the purchase, shipping, delivery & installation costs for all items.

Project cost to date = $138,783.75 with the following cost breakdown: Capitalized Interest = $1,125.22; Contractor Cost (KBM Workspace – office furniture & workstation supplier) = $132,853.70; Overhead = $4,804.83.

Occupancy of the new Customer Service Center building is scheduled for May 6, 2013. Remaining contractor costs associated with the project will be finalized after this date.

Attachment- STK_17025_Attach1_Work Order Charges report.pdf

17394- Install GAC Treatment System at Stockton Station 75 (Work Papers)

This project is in use and useful and should not be disallowed. Cost overruns are due to unexpected bacteriological issues inside the vessels and well (Please see Attach 1 and 2).

Attachment A- STK_17394_Attach 1_ STK 75 Project Summary.docx
**17818- Security Improvements at Stockton Facilities**

This project is currently in process. It involves implementing Priority “A” security mitigation improvements for the Stockton District Pumping and Operations Facilities as recommended in the security vulnerability assessment originally required by the US EPA. Actual cost increases to the project were the result of the following: security upgrades to Stockton’s Emergency Operations Center (EOC) to include audio-visual surveillance and monitoring systems; upgrades to surveillance systems at pumping facilities; and perimeter fencing upgrades at pumping facilities.

**20481- Replace Pump and add energy efficiency monitoring (STK 59-01-Work Papers)**

This project was adjusted in the last rate case settlement from $90,000 to $47,000 by eliminating energy efficiency monitoring. The adjustment was substantial and should have only been minor as total cost of project at completion was $88,920.00, largely due to contractor labor and materials cost. The equipment is in use and this project should be allowed at its closing cost of $88,920.

**20964- Solari Avenue- Install 1,425 feet of 6” PVC pipe (Work Papers)**

This 2012 Specific main replacement project to install 1,425 feet of 6” PVC pipe; retire 570 feet of 2” Cast Iron pipe and 625 feet of 6” Cast Iron pipe in backyard easements is complete, in use, and useful. The project overran the amount budgeted mostly due to San Joaquin County requiring Cal Water to grind and overlay half of the street where the new mains were installed. This paving requirement was unknown at the time the project was estimated in 2008.

**15360- Buena Vista Storm Drain Improvements (Work Papers)**

This project to install 2 – 8” and 1 – 6” CL&C double offsets and 60 feet of 6” Ductile Iron pipe in Fremont Street and Buena Vista Avenue was created for a City of Stockton Storm Drain project. To avoid conflicts with Cal Water facilities, 8” and 6” CL&C pipe offsets were purchased. The City cancelled the project after Cal Water purchased the offsets. Charges for CL&C offset purchases were transferred to Stockton inventory 2/2012 then project was to be cancelled. Once the remaining charges are transferred out of this project, it will be cancelled.
17203- New well station STK21-02 (Work Papers)
Cal Water provided an update to the costs for this project in PPM-04 for this advice letter project. These costs were accurate upon putting the project into service. This project is in use and useful and should not be disallowed or adjusted. Project overruns of $639,400 should be added to 2012 GRC rate base. All construction completed conforms to CWS standard for well station with a building.

19902- Construct concrete block building at Station 1-F (Work Papers)
This project is currently in use and useful. Cal Water requests the Commission to allow this completed project in rates. The project started in 2010 with a budget of $33,000. The design was competed by a Structural Engineer (Pacific Engineering Group - $5,312.50) and sent out to bid to Diede Construction ($56,000), Kelly J. Construction ($90,815), and Cusac Construction ($123,965), in September 2010 with the low bid at $56,000. With the low bid at $26,000 over budget, it was determined to put the project on hold. In November 2011, the project was re-activated and a revised construction cost was provided by Diede Construction. This new estimate increased the project cost by $6,600, to $62,600 to account for the increase in labor and material costs. During the building permit, the City of Stockton building permit fees assessed were $3,077.40 and the City required special inspection during construction. Cal Water choose Kleinfelder from the approved special inspectors for the City, with a contract cost of $2,692.00. During construction, there were minor unforeseen conditions that required additional work outside of the original scope of work. Change orders were issued to Diede Construction for an additional cost of $2,500 to bring the total contract price to $65,087.14. The total project cost is $126,232.52 with the following cost break down: Capitalized Interest = $2,611.74; Contractor cost (Diede Construction, Pacific Engineering Group, Kleinfelder) = $72,762.92; Labor Cost = $26,388.21; Permitting = $3,077.40; Overhead = $19,878.13.

20204- Purchase land, drill, develop and equip new well (Work Papers)
This project is currently in process and should not be disallowed. This project is an advice letter project that has a sunset date of January 1, 2014. Cal Water requests an extension
of the sunset date past January 1, 2014. Please see global rebuttal on this issue. Cal Water has had difficulty locating and purchasing land that meets the minimum environmental and anticipated water quality requirements necessary to drill and develop a new well. Cal Water has recently identified a property that meets the requirements and is in negotiations to purchase it. The property is located in the northeast portion of the system, has passed two phases of environmental assessments and we are currently in negotiation with the property owner. It is anticipated that the property purchase will be completed by the end of 2013. Permitting (Conditional Use, CEQA, NPDES, CDPH), well drilling and development will start in late 2013 or early 2014, to be completed by the end of 2014. In 2015, we will complete site improvements design, apply for appropriate permits (building, CDPH), send out to bid, complete construction and perform well startup by the end of 2015.

48948- New Customer Service Center - Phase 2 (Work Papers)

This project is currently in process and should not be disallowed. This Phase 2 project was created to incorporate additional design needs discovered during the demolition stages of the original project. The scope of this project relates to the design changes associated with sustainability standards, LEED certification and overall construction requirements. Cost overruns to the project were a result of the following: redesign to meet Cal Water standardizations for employee work spaces; ergonomic work stations; environmentally friendly H.V.A.C. system; costs associated with the discovery of hazardous material during demolition phase; and incorporation of interior demountable wall and structural stabilization system. Total project cost to date is $1,995,385.20 with the following cost breakdown: Capitalized Interest = $88,619.37; Contractor Cost = $1,591,001.20; Overhead = $315,764.69 Occupancy of the new Customer Service Center building is scheduled for May 6, 2013. Remaining contractor costs associated with the project as well as retention amounts will be finalized after this date.

Attachment- STK_48948_Attach1_New Customer Service Center Phase 2.xlsx
Attachment- STK_48948_Attach2_Purchase Order.pdf
Attachment- STK_48948_Attach3_Work Order Charges report.pdf

56708- Replace Pump, Motor, Column: STK 36-01(Work Papers)

The project was created based on need to convert to product lubrication because an iron and manganese treatment plant is being constructed at the station and the treatment media is incompatible with oil lube pumps, which was the case of the old pump column. If oil were to be
pumped into the media, it is extremely costly to clean it and service disruptions can take place. Note that this project has not closed because it is not in service as it waits for the treatment construction to complete and the well pump can be put in service. Total project cost to date is $87,536. Budgeted cost was $64,075. The reason for cost overrun is that interest and overheads continue to accrue because the project is not yet closed and in service. This project should be allowed for an anticipated cost of 90,000.

72533- Ergonomic Work Stations (Work Papers)
This project is currently in progress and should not be disallowed. Project 72533 – Ergonomic Work will update the work areas of the Stockton District Storekeeper and Operations Clerk to current California Water Service Company’s standards. This project is important to provide appropriate ergonomic workspaces, maintain consistent workspace furnishings and promote healthy work conditions.

74973- Replace Pump and Motor: STK 83-A (Work Papers)
The existing 15 HP pump boosts water from the 300,000 gallon elevated tank into the distribution system. The pump was designed to pump 1,000 gpm when it was installed in 1996, but has been producing approximately 500 gpm. Water stored in the elevated tank is inadequately circulated by this pump and poses water quality issues. A different pump and motor was installed to help turn over water in the elevated tank. The project allotted $11,000 for contractor material and labor but actual contractor costs equated to $17,092. Other factors leading to cost overrun include additional labor, increased overhead and capitalized interest that was not budgeted. This project is still open because additional coordination is needed in order to discharge the old tank water to waste. Current project charges to date are $27,195. This project should be allowed because the pump will soon be in-service and will prevent water quality issues and increase reliability.

76973- South Stockton Sidewalks – Relocation of Facilities (Work Papers)
This Non-Specific pipeline relocation project is complete, in use, and useful. This relocation project was a result of a San Joaquin County street reconstruction project that required Cal Water to relocate 2,250 feet of 6” water main, replace sixty-nine water services, and install eleven pipe offsets to avoid conflicts. Estimating the cost of this project was challenging as the new pipeline, services, and pipe offsets were installed at “over-depths” because Cal Water’s work had to be completed before the existing streets were excavated. The
project cost ended up overrunning the estimated amount (please see project justification previously provided).

78733- Gate Valve replacement (Work Papers)

This is a non-specific project that was not closed to utility plant at the end of 2012. This project was not anticipated in the 2009 GRC and Cal Water contends that this project will be beneficial to customers once in service. The project is under $20,000 total cost, and Cal Water believes it is considered controversial by DRA simply because of the timing of the project.

43950, 56409, 57728, 70835, 72074, 72833, 73113, 73893, 74095, 75553, 77876 (Work Papers)

These non-specific carryover projects are now in service, are in use and are useful and should not be disallowed or adjusted.

22.4 ATTACHMENTS

The attachments listed below are located in Book 5.

Attachment A- STK_63050_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63096_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63156_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63218_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63257_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63318_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63326_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63406_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63416_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63453 Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63475_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63481_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63655_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63715_Attach 1_Funding Project Estimate Details.pdf
Attachment A- STK_63795_Attach 1_Funding Project Estimate Details.pdf
Attachment A-STK_63801 Attach 1_Funding Project Estimate Details.pdf
CHAPTER 23 VISALIA PLANT ADDITIONS

23.1 INTRODUCTION

23.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

Advanced Capital Budget Non-Specifics
68902 - Field 2-way radios (Pg 7-17 Ln 3)
54989 - Install PVC C.P. test tube
79994 - RAMCAP Vulnerability Assessments
51768 – Paint station 59 Tank 3(Pg 7-16 Ln 16)

23.2 ADVANCE CAPITAL BUDGET SPECIFIC PROJECTS

16782 (carryover) and 19730 (ACB) - New Well and 1 MG Tank-Mill Creek Site (Pg 7-6 Ln 17 & Pg 7-8 Ln 14)

Cal Water requests authorization for a new well and 1-MG capacity tank at Mill Creek. These projects are needed to alleviate pressure issues in the northeast area of Visalia. This tank will provide additional supply reliability and improve flows, as the system currently experiences pressures less than 40 psi during summer demand. This well project was authorized in the 2009 GRC as an advice letter status project. Cal Water proposes the tank project in this case. Call Water holds to its original position for the proposed well need and in addition a 1–MG storage tank in northeast area of Visalia.

While Cal Water agrees with the Division of Rate Payer Advocate’s (DRA) conclusion that the Visalia system’s source of supply capacity meets the requirements of Title 22 Section 64554 (a), Cal Water disagrees with the following DRA inferences that it is adequate to meet maximum day demand (MDD):

1. The use of 48.1 million gallons per day (MGD) as the appropriate MDD value to evaluate the system source of supply requirements and the basis for computing the peak hour demand (PHD) requirement.
2. The source of supply capacity that DRA utilizes in assessing the system’s ability to meet MDD and PHD.
3. DRA’s conclusion that Cal Water believes that PHD should be met by source of supply alone.

4. The source of supply capacity used in DRA’s computations relative to required storage volume.

5. That 100% of the existing storage is available for use and should be fully exhausted to meet PHD.

Cal Water’s position on these issues:

1. DRA utilizes 2010 MDD 48.1 MGD as the basis for its assessment as to the adequacy of source of supply capacity and computation of PHD.

Title 22 Section 64554 (b) (1) states:

If daily water usage data are available, identify the day with the highest usage during the past ten years to obtain MDD …

The highest reported usage during the last ten years occurred in 2008. As such, based on Title 22 Section (b) (1), 50.376 MGD, as reported in Cal Water’s response to Data Request JAU-008, should be used to evaluate source of supply requirements under Title 22 Section 64554 Sections (a) and (c) and computation of PHD demand under Section (a) (1). The resulting PHD is:

\[ \text{PHD} = 50.376 \text{ MGD} \times 1.77 = 89.166 \text{ MGD} \text{ or } 61,921 \text{ gallons per minute (GPM)} \]

2. DRA utilized 71.5 MGD as the source of supply capacity which was extracted from an exhibit provided by Cal Water in response to DRA data request JAU-008.

Title 22 Section 64554 (c) states:

… The system shall be capable of meeting MDD with the highest-capacity source off line.

Cal Water contends that Title 22’s reliability requirement stated above should be considered a minimum. Section 3.2.2.1 of the American Water Works Association’s (AWWA) Water Distribution Systems Handbook states:

It is also good practice to consider standby capability in the source of supply. If the system has been designed so the entire capacity of the supply is required to meet the maximum demand, any portion of the supply that is placed out of service due to malfunction or maintenance will result in a deficient supply. For example, a community that relies primarily on
groundwater for its supply should, at a minimum, be able to meet its maximum day demand (MDD) with at least one of its largest wells out of service.

As such, Cal Water defines firm groundwater pumping capacity as the total active well capacity minus the capacity of the two most critical wells, or ninety percent (90%) of the total active well capacity, whichever is less. And, firm pumping capacity for booster pump facilities is defined by Cal Water as the total station capacity minus the capacity of the largest pump. If there are multiple pump stations serving the same service zone, only one pump is considered to be out of service for all the stations combined. This supply reliability criterion is consistent with numerous industry guidelines and recommendations.

Cal Water’s well supply criterion was also formulated based on Cal Water’s historical operating experience in systems like Salinas, Marysville, and Dixon, where water quality has rapidly deteriorated creating the need to take wells out-of-service, or to swiftly deploy water treatment systems that have notable capital and operating costs.

Utilizing Cal Water’s firm groundwater pumping capacity criteria for the Visalia system yields:

\[ FPC = 0.9 \times 71.5 \text{ MGD} = 64.35 \text{ MGD or 44,687 GPM} \]

3. DRA states on page 7-9 that,

CWS concluded that since the total system capacity is less than the PHD, the system needs additional source of supply and storage to provide enough pressure. In other words, CWS believes that its water system’s peak hour demand should be met by source of supply alone.

The conclusion and belief DRA asserts Cal Water made, is incorrect. In the opening paragraph of the justification section of the documentation relative to the project, Cal Water states,”…district supply will still be challenged to meet peak hour demand with its current supply levels including the existing and proposed pumped storage facilities.”

As noted, Cal Water determined that its existing supply and storage facilities are insufficient to meet PHD. The exhibits included with the project documentation illustrate the gap between the system’s source of supply capacity and PHD which must be met by storage, additional source capacity, or a combination of storage and supply capacity.

Thus the intent of CWS’s proposal is to follow the requirements of Title 22 Section 64554 (a) (1) by utilizing storage in conjunction with the district’s well sources to meet PHD.

4. On page 7-10 of its report DRA stated:
With a MDD of 33,403 GPM and a PHD peaking factor of 1.77, the calculated PHD of 
the system is 59,123 GPM. Of that total, 46,650 GPM of the PHD is met with the capacity from 
the wells and the difference of 9,470 GPM can be met by storage capacity;

$59,123 \text{ GPM} - 46,650 \text{ GPM} = 12,473 \text{ GPM}$, not 9,470 GPM.

Cal Water assumes that in addition to utilizing the 2010 MDD value, DRA made a 
repeated typographical error, indicating 46,650 GPM instead of 49,653 GPM. The later is the 
equivalent of 71.5 MGD in GPM and the difference between 59,123 GPM and what DRA claims 
is the capacity to be met by storage, 9,470 GPM.

Utilizing the highest MDD in the past 10 years and Visalia’s groundwater FPC, the 
additional capacity required to meet PHD is as follows:

\[
\text{Needed capacity} = \text{PHD} - \text{FPC} = 61,921 \text{ GPM} - 44,687 \text{ GPM} = 17,234 \text{ GPM}
\]

Thus, the storage volume reserved to meet PHD for the required 4 hour period equals:

$17,234 \text{ GPM} \times 60 \text{ min/hr} \times 4 \text{ hrs} = 4.1 \text{ MG}$

DRA states: "...the storage tanks in the system need to have the capacity to provide for 
four hours of 9,470 GPM, which is 2.27 MG. There is an existing storage capacity of 2.6 
MG in the system. Therefore, there is enough capacity to meet the required 4 hours of 
PHD."

By stating this, DRA is indicating that nearly every gallon of storage needs to be 
exhausted from the system’s tanks during each PHD period. This is impractical from an 
operations standpoint and there is insufficient booster capacity to accomplish this.

Recent pump efficiency tests for the booster at Station 12 indicate that the pump can 
produce 537 GPM. Therefore, over the 4 hour PHD period, only 128,880 gallons of the tank’s 
300,000 gallons can be delivered to the system. Station 59’s booster can produce 600 GPM 
yielding 144,000 gallons available from the station’s tank.

Supply from the wells at Station’s 95 and 96 are delivered to the tank at each site prior to 
being boosted to the distribution system. The capacities of these wells contribute to meeting 
PHD. As such, 2000 GPM of each stations booster capacity is reserved to deliver supply from 
the wells to the system at peak hour leaving only 1000 GPM for withdrawals from the tank. 
Therefore only 240,000 gallons can be realized at each location in support of meeting PHD.
Based on the above, the total supply available from the district’s existing storage to meet PHD is 752,880 gallons. Therefore, an additional 3.35 MG of usable storage volume is required to meet the requirements of Title 22 Section 64554 (a) (1) in Visalia.

On page 7-13 DRA uses text provided by the CDPH’s Inspection Report For Visalia Water System that states using all active sources, including stand by sources as well as storage to provide approximately 87.6 MGD. Cal Water considers it is not prudent to consider standby sources as available to meet customer demand on a regular basis. These sources are placed on standby due to the existence of a contaminant. Use of these sources would require public notification of their use. How the notification would be made will depend on the individual source and relative contaminant.

Cal Water maintains the need for a new well and 1-MG storage tank.

**20605 - 5 Hydrant Replacement Upgrade Program**

This project is in use and useful and should not be disallowed. The cost overrun is due to the addition of one more hydrant than originally anticipated. A total of six were replaced.

**20998 - Install 4,000 feet of 8” PVC in order to remove mains and 75 services from customers backyards to the public right of way (Pg 7-15, Ln 14)**

Cal Water maintains its original cost estimate for this project. Cal Water holds to 3% per year price escalation for all projects.

Cal Water holds to 10% contingency for all projects. This is a conservative industry standard, and is reasonable given the size, scope and duration of the projects.

Regarding Capitalized Interest and ECOS escalation, please see Global Rebuttal section.

**62592, 62612, 62653, 63392, 63399 - Equipment Purchase (Pg 7-18, Ln 1)**

Cal Water requests the following capital projects be approved:

- 62592 - Portable Calibration Flowmeter, $9,564 in year 2013
- 62612 - Portable Welder and Trailer, $5,859 in year 2013
- 62653 - Chemical Dosing Pumps, $7,454 in year 2013
- 63392 - 4 Air Condition Unit, $27,202 in year 2013
- 63399 - Copy Machine, $14,545 in year 2013

DRA recommends use of non-specific funding to address these projects, citing historical non-specific purchases made by the company of related items. Cal Water does not agree with moving these equipment purchases to non-specific. Non-specific purchases should be reserved
for those purchases that are more emergency, immediate, or not foreseeable at the time of a
rate case filing. The equipment purchases requested are planned capital purchases. In some
cases in the past, some of the referenced equipment purchases have been made as non-
specific, but these were due to urgent needs that had to be addressed immediately. DRA has
not objected to these projects, DRA only where they should be charged to. Cal Water does not
seek to increase the non-specific budget for planned capital purchases.

**VIS0900 - Meter Replacement Program (Pg 7-18, Ln 10)**

Cal Water requests that the Commission approve its three-year specific 0900 meter
replacement program at the original proposed costs of $97,200, $114,100 and $120,600 for
years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled
meter replacements was $119,487. In Visalia, DRA recommends a reduced budget of $61,600,
$63,000 and $64,300 for years 2013, 2014 and 2015, respectively. Cal Water disagrees with
DRA’s recommendation to set an arbitrary budget for this program, as the budget for this
program is determined by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program
as outlined in its Visalia GRC capital budget for 2013-2015 for the following reasons:

- PUC General Order 103-A mandates meters be tested or replaced based on age.
- It is more cost-effective to replace rather than test and repair (This is elaborated in Cal Water’s
  response to DR PR-004).

Meters meeting the age criteria to be replaced are made of traditional bronze and were
installed prior to the CA legislation requiring meters to have a weighted-average lead content of
not more than 0.25%. New replacement meters have a weighted average lead content less
than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of
meters to be replaced, for each district are determined by the number of meters meeting the
following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
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<tbody>
<tr>
<td>5/8&quot;</td>
<td>20</td>
</tr>
<tr>
<td>1&quot;</td>
<td>15</td>
</tr>
<tr>
<td>1.5&quot;</td>
<td>10</td>
</tr>
<tr>
<td>2&quot;</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order
to provide level quantities of meters of each size to be replaced in each year. Although the
number of meters of each size meeting the age criteria for replacement in previous years can be
an indication of how many meters of each size may meet the age criteria in future years, it is not
always the case; significant differences do occur, primarily due to variance in housing
improvements/developments taking place within the water service area. In Summary,
replacement of meters meeting the age criteria to be replaced in Visalia in years 2013-2015
requires the level of funding submitted for approval, or the district will fall behind in meeting the
requirements of General Order 103-A.

63613, 63635- Replace panelboard at Stations 3 and 7 (Pg 7-14, Ln 10)
Cal Water proposes three panelboard replacement projects for Visalia in its 2014 and
2015 budgets. DRA recommends approval for one of the projects (63639), but recommends
disallowance of Projects 63613 and 63635 on the grounds that the panelboards were housed in
structures and appeared well kept, the company has not received any notice of violations and
the company did not keep historical safety records of issues related to the panels. Cal Water
disagrees with DRA’s recommendations, as outlined below, and requests the Commission
approve all three panelboard replacement projects for Visalia.

DRA’s report states that the electrical equipment at stations 3 and 7 in Visalia appeared
“well kept” during the facilities tour and since Cal Water has not received any violations from the
city or fire department there must be no reason to replace the electrical equipment at this
station. Neither the City of Visalia building department nor the fire department inspects
unoccupied pumping facilities after they are constructed unless there has been a major disaster
such as a workplace accident or fire. It cannot be expected of Cal Water to wait for a workplace
accident or fire to receive a safety violation and citation from the City or fire department before
taking precaution and implementing preventative measures. Regarding DRA’s statement on the
appearance of the outside of the electrical equipment, Cal Water appreciates DRA noticing Cal
Water’s good housekeeping practices at these stations, but notes that none of the electrical
equipment was exposed during the tour, so it is impossible for DRA to make an accurate
assessment of the condition of the equipment based solely on the outside appearance of the
electrical gear and the photos supplied with the project justification. This equipment is more
than 60 years old and it is simply not practical to repair the equipment in place using parts
equivalent to those designed in the 1950s.

Cal Water has put into place a company-wide plan to replace existing panelboards.
Many panels are several decades old and are in need of major repairs or replacement parts. It
is the intent of the company to replace these panelboards before failure occurs in order to
maintain continuous service at all active stations. DRA states that the available maintenance records indicate that Cal Water was able to address any safety related issues but they also recognize that there is a lack of historical maintenance and safety records of the facility. As Cal Water transitioned from a paper system to a computerized system, historical records were not scanned into the new computerized system. Regardless of the lack of maintenance documentation, it should still be taken into account that any electrical equipment that is more than 60 years old will require significant maintenance work to maintain its performance into the future.

23.3 CARRYOVER PROJECTS

23.3.1 Advice Letter Projects

16782 - Drill, Develop and Equip New Well at Mill Creek (Pg 7-6, Ln 7)
Please see above for rebuttal for Project 16782 with Project 19730.

21140 - 2012 Flat-to-Meter Conversions (Pg 7-8, Ln 11)
Cal Water requests $1,606,915 for its 2012 flat-to-meter project. DRA recommended removal of the dollars associated with this project citing the funding should come from an advice letter. Cal Water did in fact file Advice Letter 2068 to recover amounts for this project. However, the beginning plant balance for the current GRC is December 31, 2011. This means that any project completed after this date, whether in rates or authorized for advice letter recovery, is required to be included as a plant addition in order to be accounted for in the rates that will be ultimately adopted by the Commission. Therefore, Cal Water requests the cost of this completed project be included in rates.

72516 – Vehicle for additional complement (workpapers)
Cal Water requests $36,138 for a vehicle associated with an additional meter reader that was hired as a result of the conversion of flat services to metered services. The costs for this vehicle was recovered in the same advice letter filing as Project 21140, and for the same reasons as noted in the company’s discussion of 21140 above, the dollars need to be included in the company’s plant additions.

23.3.2 Non-Specific Carryover Projects
The following include non-specific projects that were not closed to utility plant at the end of 2012. These projects were not anticipated in the 2009 GRC and Cal Water contends that these projects will be beneficial to customers when in service.

54708 – VIS 9-01: Replace Pump Equipment (Carryover, Non-Specific, Open)

This project involves replacing pumping equipment due to pump failure. The floor foundation and concrete pump pedestal were severely cracked and potentially could have been a water quality issue. The decision was made to replace the pumping equipment rather than destroy the well because of growth in the area. There is also a possibility that the district may lose another source in the area (14-01) due to a DTSC investigation for PCE. This project is 95% complete with current charges totaling $123,000.

69250 - Replace Main on Kaweah, Noyes & Myrtle (Carryover, Non-Specific, In-service)

This project is in use and useful and should not be disallowed or adjusted. A justification for this project was prepared in response to DR PPM-004. During the flat-to-meter program, it was discovered that a main was leaking and had the potential for catastrophic failure. Roughly 1,800 ft of main of 8” main, 55 - 1” services and 4 hydrants were relocated for a total project cost of $303,508.

70209 - Kelsey Main Line (Carryover, Non-specific, In-Service)

As noted in response to DR PPM-004, this project is in use and useful with charges totaling $77,724 and should not be disallowed or adjusted.

73433 - Plaza Drive Interchange (Carryover, Non-Specific, In-service)

This project is in use and useful and should not be disallowed or adjusted. A justification for this project was prepared in response to DR PPM-004. The City began a capital improvement project to install storm drains and widen the Plaza Drive Interchange. Cal Water was required to relocate facilities without the opportunity to put the project in a rate case for approval. Roughly 250 ft of 12” main, 6 - 1” services and 3 hydrants were relocated for a total project cost of $250,751.
73653 - Tulare Ave. Car Wash  (Carryover, Non-Specific, In-service).
This project is in use and useful and should not be disallowed or adjusted. Total cost for this project is $33,084.

74813 - Replace pump and motor at station 68-01
This project is in use and useful and should not be disallowed or adjusted. Total cost for this project is $5,627.

23.3.3 Specific Carryover Projects

29730 - Update of VIS Water Supply and Facility Master Plan  (Pg 7-7, Ln 23)
Cal Water was approved for $588,500 in the prior GRC to update its Water Supply and Facilities Master Plan. More specifically the work entailed an examination of additional surface supply from an adjacent water district and reservoir, and construction of a Hydraulic Model of the system. In its application, Cal Water updated the cost to be $1,000,000.
DRA recommends reducing the cost of the project to the level approved in the prior GRC stating, “no justification for the substantial cost increase” was provided by Cal Water for the Visalia Master Plan in response to data request PPM-004. Cal Water did respond to DR JAU-010 regarding the Visalia Master Plant and included all data and support materials. The supporting documentation, the contract with West Yost, and all invoices associated with this project, have been included with this response. Cal Water maintains the need for the full costs associated with this project. This project is now in use and useful with a total cost of $986,925 and should not be disallowed or adjusted.

16934 - New storage tank & site improvements for station VIS 301. (Pg 7-7, Ln 12)
This project is delayed due to the delay with WO 16938 (New Well Project, VIS 301-01).
The contract with the drilling company was terminated as result of the contractor’s inability to complete the signed contract. Cal Water is in the process of hiring a new contractor to complete the well. Construction of the tank will be completed in April, 2013 and the well project will re-start after the tank is complete. Both projects are planned to be completed and in service by the end of 2013.
There have been problems with the contractor for this project, but Cal Water contends that the need for the well remains and requests the Commission to continue authorization of this project.

The contract with the drilling company was terminated as a result of the contractor's inability to complete the contract. Cal Water is in the process of hiring a new contractor to complete the well. The project will continue in April/May 2013 and Cal Water anticipates the well will be in service by the end of 2013. Additional funds ($207,000) are needed to complete the project as a result of this experience. The funds will be used to mobilize a new drilling company and cover costs for a well consultant and field management. Please see attached cost breakdown.

Cal Water is still reviewing possible legal action against the original contractor. Throughout the contract, the contractor did not have the financial resources to complete the project, and thus was consistently requesting upfront payment for work that had not been completed. Because of the financial trouble, it is unclear if Cal Water could collect any monies from the contractor for delays or other costs due to hiring another contractor. The mechanic's lien placed on Cal Water's property due to the contractor's failure to pay its material supplier has lapsed. For this reason, the lien is no longer a liability for Cal Water. The lien had been a major consideration in Cal Water pursuing legal action against the contractor.

Attachment A - VIS - 16938 1 (Cost Breakdown)

This project was authorized for $345,000 in the prior GRC. DRA recommended approval of the project in their report for the previously approved cost. Cal Water requests approval for additional costs resulting in a revised total cost of $439,294. The cost overruns on this project were due to the following reasons:

This project needed to be installed in two phases. Cal Water attempted to work with the City of Visalia to coordinate a pavement replacement project and a sewer line project that they had to install. Due to miscommunication within City Departments, their paving project was installed before the sewer project and Cal Water was asked by the City to delay a section of our project to a later date (see letter from the City). This in turn caused Cal Water’s contractor to have an additional move on and move off at the construction site.

The contractor encountered sandy soil during construction. This caused a need to widen the trench and shore it in several areas to insure the safety of the crews working. Also,
backfill material was added to the cost as well as additional paving and labor. This condition was unknown to us at the time the project was estimated. This project is now in service and is considered used and useful.

Attachment - VIS - 20971 1 (COV delay request letter)

62221 & 62235 - Replace pump, motor, and column because existing oil-lubed pump poses water quality risk at Stations 18-01 & 50-01 (Pg 7-15, Ln 4)

Cal Water requests $77,586, $80,706 in its 2014 and 2015 budgets for Projects 62221, 62235, respectively, to replace pumping equipment at two of its well sites in Visalia. DRA recommends disallowance of the equipment replacement as it is not convinced of the potential for water quality problems resulting from use of oil-lube pumps. Cal Water maintains its position that these projects are prudent and necessary.

AWWA publication finding is that food grade oil used in oil-lubed pumps is a food source for bacteria, causing high levels of HPC readings, which is a public health and safety violation (AWWA journal article is attached). Due to DPH restrictions, alternatives such as pouring chlorine down the well to reduce bacteriological issues are prohibited.

Well maintenance is very costly. Once a water quality issue arises, it may cost $100,000-$150,000 to rehabilitate the well due to stringent discharge requirements. Additionally oil can contribute to additional costs to clean storage tanks.

Because of the above risks associated with operating oil-lubed pumps in wells, Cal Water has adopted a company standard to convert its oil-lubed pumps to water-lubed pumps on an expedited basis to mitigate this risk. The Commission should support Cal Water in eliminating this threat to public health and safety from Cal Water’s systems. Cal Water prioritizes pump replacements based on several factors including serviceability, historical repair frequency, motor loading, efficiency, etc. When a pump is off-line for a prolonged period for repair, it disrupts daily operations and water services.

Replacing this pump with a newer, properly sized pump will improve efficiency and reliability to customers. If not allowed to replace the entire pump, Cal Water proposes replacing the motor and the column, so we have adjusted the estimate accordingly. The column unit price used reflects a recent quote for 8-inch column from a local dealer at $80/ft.

Attachment - VIS - 62221, 62235 1 (AWWA Journal Article)
Attachment - VIS - 62221, 62235 2 (Revised Cost Estimate)
The total cost including the land purchase for W.O. 58212 was originally estimated at $385,000. The actual cost for the land purchase was $294,163.50. Cal Water was required to abandon two existing wells on the purchased property at a total cost of 39,068.96. Consultant costs of $82,510.00 were necessary to complete the conditional use permit process as well as negotiating the property purchase.

Cal Water contends that the well retirement is an appropriate charge to be booked to the property purchase. The Uniform System of Accounts (“USOA”) states, “If property is acquired in the purchase of an operating unit or system is in such physical condition when acquired that it is necessary substantially to rehabilitate it in order to bring the property up to the standards of the utility, the cost of such work, except replacements, shall be account for as a part of the purchase price of the property (Pg 39, Instructions-Utility Plant Accounts).

23.4 ATTACHMENTS

The attachments listed below are located in Book 5.

Attachment A - VIS - 16938 1 (Cost Breakdown)
Attachment - VIS - 20971 1 (COV delay request letter)
Attachment - VIS - 62221, 62235 1 (AWWA Journal Article)
Attachment - VIS - 62221, 62235 2 (Revised Cost Estimate)
CHAPTER 24 WESTLAKE PLANT ADDITIONS

24.1 INTRODUCTION

24.1.1 Global Responses

The rebuttal responses for the following capital projects can be found in chapter 2 of this book, global plant:

- 123-NON-SP Advanced Capital Budget Non-Specifics (Section 2.7)
- 27089 - Paint Exterior Complete Sta. 9 (Section 2.2.1)
- 68904 - Field 2-way radios (Section 2.6)
- 79967 - RAMCAP Vulnerability Assessments (Section 2.4)

24.2 ADVANCE CAPITAL BUDGET SPECIFIC PROJECTS

64053, 64102 and 64107 - Emergency connections with the City of Thousand Oaks – various locations (Pg 7-6, Ln 1)

Cal Water requests that the Commission approve all three emergency connections with the City of Thousand Oaks. Project 64053 involves installation of an emergency connection with the City of Thousand Oaks at Hillcrest and Duesenberg Drive and is composed of 150 ft of 8” pipeline, flow meter, and portable booster connections. Project 64102 involves installation of an emergency connection with the City of Thousand Oaks at Westlake Blvd and Allyson Court (Zone III) and is composed of 600 ft of 8” pipeline, flow meter, and portable booster connections. Project 64107 involves installation of an emergency connection with the City of Thousand Oaks at Hampshire and Foothill Drive (Zone I) and involves 80 ft of 8” pipeline, flow meter, and portable booster connections.

As detailed below, Cal Water requests approval of these interconnections with the City of Thousand Oaks due to the following:

- The need for supply reliability addressed in Cal Water’s Water Supply and Facilities Master Plan (“WSFMP”) because the entire supply for the Westlake system is water purchased from the Calleguas Municipal Water District (“CMWD”), 75% of which is from turnouts on one feeder main.

The interconnections will be able to provide water to the following locations:

64053 - An area normally supplied from Cal Water’s Station 10, which is a single pump station that supplies about 60% of the Westlake customers, should Station 10 go off-line for maintenance or repair.
The northern section of the Westlake system that is normally supplied from three separate turnouts with CMWD. However, these three turnouts are all on the same feeder line from the CMWD. Each turnout supplies a separate Westlake pump station: Stations 2, 3, and 5.

In the event of a failure of the 20-inch and 12-inch pipelines that are the sole pipelines that convey supply from the CMWD sources north of the 101 freeway to supply the south half of the system.

The interconnection is a relatively low-cost project that will provide a significant portion of the Westlake system with an emergency supply.

Although an agreement has not been finalized with the City of Thousand Oaks, this interconnection is one of the three proposed that were developed in consultation with the City. Letters of support from the City and the CMWD regarding the installation of the emergency interconnection are attached.

Lack of supply reliability was one of the key concerns identified in the WSFMP for the Westlake water system. 100% of the supply is purchased from CMWD, and 75% of Westlake’s turnouts are off their Lindero Feeder, a non-looped, dead-end transmission main built in 1967, which is inaccessible for repair in several areas. Although a separate reliability study was not prepared (as indicated by the DRA), Sections 4 and 5 of the WSFMP evaluate supply reliability and support the need for the interconnections proposed in this GRC. As indicated on Page 4-15 of the WSFMP, interconnections with the City of Thousand Oaks would help supply the Westlake system during short-term localized emergencies or shutdowns. Although the City of Thousand Oaks is also 100% reliant on CMWD, it is served from a looped, and therefore more reliable, section of the CMWD system.

The interconnection requested under Project 64503 will be located so that it would provide emergency supply from the City in the event of a failure at Westlake’s Station 10, a single pump station supplying 60% of the Westlake system, or to the 1-mile transmission main from the turnout to the pump station. It can also be utilized to supplement the supply to the northern end of the district (via portable boosters) should CMWD’s Lindero feeder be taken offline for service or repair.

The interconnection requested under Project 64102 will be located along the northern end of the system to supplement supplies should CMWD’s Lindero feeder be taken offline for service or repair, or in the event of a failure at Station 2, 3 or 5, which are also the location of the turnouts with CMWD, which serve the northern portions of the system.

The interconnection requested under Project 64107 will be located such that it would provide emergency supply from the City in the event of a failure of the 20-inch and 12-inch pipelines that
are the sole pipelines that convey supply from our sources north of the 101 freeway to supply the south half of the system. It can also be utilized to supplement supplies to the northern end of the district (via portable boosters) should CMWD’s Lindero feeder be taken offline for service or repair.

DRA contends the requested interconnections are not necessary, noting that two emergency connections are already in place with the Las Virgines Water District (LVWD). These two interconnections do indeed exist and were considered in the reliability analysis completed as part of the WSFMP. Since the timing and extent of a supply outage or emergency is unknown, the WSFMP recommends the interconnections with the City of Thousand Oaks in addition to those that already exist. The interconnections are relatively low-cost projects that will provide the Westlake system multiple supply alternatives in the event of an emergency and ensure uninterrupted supply to customers.

DRA further notes that Cal Water did not provide an agreement with the City of Thousand Oaks that defines the interconnection terms and the quantities available to each party. Although such an agreement does not currently exist, Cal Water has interfaced with the City of Thousand Oaks on this project. As noted on page 4-15 of the WSFMP, the locations of the three proposed interconnections were developed in consultation with the City. Attached is a letter from the City indicating their continued support and noting that the City is also pursuing a similar interconnection with the water purveyor abutting its western edge that will further increase reliability. Also attached is support from CMWD. As noted, CMWD acknowledges the limited redundancy within their system and encourages agency interconnections to improve reliability and facilitate maintenance and repair activities.

Attachment - WLK - 64053, 64102 and 64107 1 (Thousand Oaks Letter)
Attachment - WLK - 64053, 64102 and 64107 2 (Calleguas Letter)

WLK0900 - WLK0900 Meter Replacement Program (Pg 7-10, Ln 22)
Cal Water requests that the Commission approve its three-year specific 0900 meter replacement program at the original proposed costs of $137,900, $143,900 and $148,200 for years 2013, 2014 and 2015, respectively. Cal Water’s recorded cost for its 2012 scheduled meter replacements was $55,419, and was not contested by DRA. For Westlake, DRA recommends a reduced budget of $57,082, $58,794, and $60,558 for years 2013, 2014 and 2015, respectively, based on recorded 2012 dollars and escalated for future years. Cal Water disagrees with DRA’s recommendation to use historical dollars in determining future budgets for
this program, as the budget for this program is determined not by historical spending, but by need for replacement. Cal Water’s methodology is described below.

Cal Water is requesting approval of its requested three-year meter replacement program as outlined in its Westlake GRC capital budget for 2013-2015 for the following reasons:

- PUC General Order 103-A mandates meters be tested or replaced based on age.
- It is more cost-effective to replace rather than test and repair (This elaborated in Cal Water’s response to DR PR-004).
- Meters meeting the age criteria to be replaced are made of traditional bronze and were installed prior to the CA legislation requiring meters to have a weighted-average lead content of not more than 0.25%. New replacement meters have a weighted average lead content less than 0.25%.

The Specific 0900 Meter Replacement Program budget amounts, as well as quantities of meters to be replaced, for each district are determined by the number of meters meeting the following meter age criteria over the next five-year period:

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Years</th>
</tr>
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<tbody>
<tr>
<td>5/8”</td>
<td>20</td>
</tr>
<tr>
<td>1”</td>
<td>15</td>
</tr>
<tr>
<td>1.5”</td>
<td>10</td>
</tr>
<tr>
<td>2”</td>
<td>10</td>
</tr>
</tbody>
</table>

The quantity of meters of each size meeting these criteria is then divided by five in order to provide level quantities of meters of each size to be replaced in each year.

Although the number of meters of each size meeting the age criteria for replacement in previous years can be an indication of how many meters of each size may meet the age criteria in future years, it is not always the case; significant differences do occur, primarily due to variance in housing improvements/developments taking place within the water service area.

In Summary, replacement of meters meeting the age criteria to be replaced in Westlake in years 2013-2015 requires the level of funding submitted for approval, or the district will fall behind in meeting the requirements of General Order 103-A.

**64175 - Install 16” Pipeline (Pg 7-9, Ln 19)**

Cal Water requests $2,886,247 in its 2014 budget for Project 64175 to install 6,500 LF of 16-inch transmission pipeline under the 101 Freeway along Hampshire Rd. As indicated in the project justification provided with the filing, this project is critical to increase the supply reliability to approximately half of Westlake District customers. As noted, 100% of the water system’s
supply sources are located north of the 101 Freeway. This supply is transmitted to customers south of the freeway via two existing pipelines: a 20-inch and 12-inch main. As detailed below, the need for the project is clear, the scope is well-defined and the estimated costs are accurate. Cal Water maintains strong support for the project and requests approval.

The 20-inch primary supply line was installed in 1969 and its condition has been confirmed to be poor based on a leak repair conducted in 2007. Access for repair and maintenance is also extremely impaired as the 20-inch main runs directly under the 101 Freeway. Hydraulic model analysis indicates that failure of the 20-inch main would result in a loss of supply in the higher elevation areas of the portion south of the freeway (1340 zone) in as short as five to fourteen hours based upon the levels in the storage reservoirs at that time.

DRA does not dispute the need for the project but notes that the project estimate is speculative. As such, the DRA is recommending the project should be deferred to the next GRC after additional design is conducted and the estimate is refined. This is based on the fact that several cost elements were included in the estimate (casing and offsets) without a solid basis for their need at this time.

Given its scope and uniqueness, the cost estimate for this project was developed based on a budgetary bid prepared by Cal Water’s master pipeline contractor for the Westlake District after a field review of the project alignment. This is a far superior estimate class than is typical in the planning phases of a project, where pricing for similar projects are often used to develop the cost. In addition, rather than accounting for all unforeseen costs in contingency, several potential costs were identified separately (casing and offsets) and the contingency was reduced accordingly to 5%. The total cost of the offset and casing items is $65,500, or about 3% of the total cost. The total project cost would have been higher if the offset/casing items were removed and Cal Water’s standard contingency of 10% (vs. 5%) was utilized.

Given that the majority of the estimate was not speculative in nature, that the items in question by DRA are a fraction of the entire project cost (roughly 3%), and that contingency was reduced to account for separate inclusion of such items, Cal Water maintains that the cost estimate for this project is accurate. Further, Cal Water’s contractor has had additional discussions with Cal Trans representatives who have confirmed the need for casings at freeway crossings. A copy of the email confirmation is included as Attachment 1 herein. Therefore, Cal Water is requesting that this project be approved for its 2014 capital budget within this GRC.

Attachment - WLK - 64175 1 (Casing Confirmation Email)
Cal Water requests $1,137,015 in its 2014 budget to upgrade the Cravitz Pump Station (Station 10) with the following improvements:

- Install four - 2000 gpm vertical turbine pumps with 150hp motors.
- Upgrade panel board and metering panel.
- Replace pump foundation and discharge piping (aboveground only).
- Construct 14ft x 36ft block building to house pumps and panel board.

Install permanent backup emergency generator (to run four pumps).

These improvements are needed for the following reasons:

- Station 10 is the single source to over 60% of the Westlake system.
- Maximum Day Demand (“MDD”) is 5,200 gpm currently, and 5,800 gpm projected at build-out. Although the current capacity with all four pumps operational is 5,900 gpm, if the largest pump is out of service, the capacity drops to 4,300 gpm.
- There is an existing deficit in the pumping capacity required to meet the MDD and Peak Hour Demand (“PHD”) based upon Title 22 and AWWA.
- Pump foundations are exhibiting severe cracking and spalling of concrete, corrosion is evident in several components.

DRA questions use of the firm pumping capacity concept, where the single largest source is taken off-line, noting that such a criteria is not required by regulatory or industry standard. Cal Water maintains that such a concept has both regulatory and industry support:

**Regulatory Basis:** Title 22, CA Code of Regulations, Section 64554(a) states that “At all times, a public water system’s water source(s) shall have the capacity to meet the system’s maximum day demand (MDD)” and that “Both the MDD and PHD requirements shall be met in the system as a whole and in each individual pressure zone.” The regulation goes on to note (section c) that “The system shall be capable of meeting MDD with the highest-capacity source off line” (see Attachment 2). As noted in the project justification, Station 10 is the single supply source to Zone I, II-C and D, as it pumps water purchased from Cal Water’s wholesaler.

Therefore, the station’s capacity should be evaluated with the highest capacity source (pump) off-line.

**Industry Standard:** Section 3.2.2.1 of the American Water Works Association’s (AWWA) Water Distribution Systems Handbook (Attachment 1) states: “It is also good practice to consider standby capability in the source of supply. If the system has been designed so the entire capacity of the supply is required to meet the maximum demand, any portion of the
supply that is placed out of service due to malfunction or maintenance will result in a deficient supply. For example, a community that relies primarily on groundwater for its supply should, at a minimum, be able to meet its maximum day demand (MDD) with at least one of its largest wells out of service," and Section 18.2.1.6 of the same text states “… more than one pump usually is placed in each pumping station. The usual rule for the number of pump units is that the station must be able to meet design flows when the largest unit is out of service.”

Therefore, Cal Water maintains that the firm pumping capacity criteria utilized is appropriate.

DRA further contends that the capacity proposed is excessive given that total annual sales have shown a decline in the Westlake system from 2007 to 2011 (DRA report Figure 7-A). Although Cal Water agrees that sales have declined, such a reduction does not necessarily translate into a reduction in the MDD and PHDs, the demands for which pumping facilities are sized. MDD and PHD are typically driven by hot weather and resulting irrigation by customers. This is supported by the scenario that was provided by Cal Water in the original justification on 8/7/2011. Per sales records, 2011 sales/average demands were at an all-time low. However, the resulting MDD experienced on 8/7/2011 was so significant that it nearly depleted the Johnson Reservoir after one of the four pumps at Station 10 failed to start (illustrating the capacity deficit is real). Lastly, history shows that water use is cyclical and follows dry and wet year patterns (see 2010 Westlake Urban Water Management Plan, Figure 3.2.3, Attachment 3). The short-term reduction in sales/demand experienced will ultimately rebound (already occurring in 2012) to some extent, and Cal Water needs to be prepared to continue to serve its customers reliably.

DRA also notes that Cal Water did not mention that Zone II can supply Zone I via an interconnection of the two zones. This was indicated in the justification, but was not considered as a source because the availability of supply from zone II is unreliable as it is tied with demand conditions in zone II. Prolonged use of this source will impact Zone II, and therefore, it was not considered.

Additionally, the project will address the poor physical condition of the station. The concrete foundation supporting the pumps is heavily cracked and spalling. This can lead to settling and pump misalignment that can cause failure or reduce the life of the pumps. Several pump components are also showing heavy corrosion as illustrated in photos provided with the original justification.

Lastly, this project is proposed to improve water quality in Zone I. The station’s current marginal capacity requires that it operate continuously during high-demand periods. Pumping
Station 10 continuously to meet demands keeps the Notter Reservoir full and prevents it from being cycled to prevent nitrification. Increasing the station’s capacity will allow pumping to take place for shorter times; therefore, allow the level in the Notter Reservoir the opportunity to cycle.

64495 - Pressure Regulating Station (Pg 7-8, Ln 10)

Cal Water requests $111,918 in its 2014 budget to install a pressure regulating station between Zone III and Zone II-A at Country Valley Road and Meadow Grove Lane consisting of parallel 8” and 2” PRV’s set in a vault, a 4” relief valve and 25 feet of 8” main.

Cal Water is requesting approval of this project for the following reasons:

- Pressures in the affected zone are in the mid- to high-30s psi during Peak Hour Demand (PHD) and affect a 300-unit townhouse development; work proposed will increase pressures to above 40 psi during PHD.
- Connecting with an adjacent zone will improve the supply reliability to this pressure zone.

This project is proposed to alleviate low pressure during high demand periods along the southeast extreme of Zone II-A (1315) within a 300 +/- unit townhome (3-story) development along Via Colinas Drive.

In its original justification, Cal Water noted that the pressures experienced in this area range from 25 to 40 psi, according to the WSFMP Figure 5-2. After further investigation, Cal Water has determined that the pressures in this area range from the mid to upper 30s. Although this pressure exceeds General Order 103-A requirement of 30 psi for PHD, Cal Water maintains strong support for the project as the level of service provided to its customers in this area is substandard given the makeup of the development. The Via Colinas area consists of 300, 2- to 3-story townhomes. The resulting pressure at the upper levels of each unit range from 20 to 25 psi, before taking into account any loss through backflow devices (5 to 10psi), or any other friction losses due to flow in the private plumbing, resulting in a net pressure of less than 15 to 20psi. This is not the level of service that Cal Water customers expect to receive.
District operations experience and customer complaints support the need to address this low pressure.

DRA states that the number of complaints “does not appear to be substantial.” The low pressure issue in this zone has been an ongoing issue. Cal Water superintendents report that they regularly receive low pressure complaints from customers in this area. Given their frequent occurrence, crews are dispatched only on occasion and when they suspect there may be a problem above and beyond the norm. For these instances, and these instances only, documentation is developed. Therefore, although Cal Water agrees with DRA’s general assessment of the number of complaints, Cal Water believes that not all low pressure complaints have been documented. The project proposes an interconnection with an adjacent and higher pressure zone (Zone III) that will lessen the pressure sags currently experienced during high demand periods.

A second and equally compelling justification for the project relates to supply reliability. The area of Via Colinas is part of Zone II-A, which receives its supply from Station 2 and the Harper Reservoir, both located over 3 miles from this demand area. Transmitting the supply to the Via Colinas area is a single 16-inch transmission main (highlighted in Cal Water’s response to DR SN-18). The WSFMP identifies a supply reliability concern in the southeastern portion of Zone II-A given that a single, non-looped, 3-mile transmission pipeline is the sole source of supply to the area. The interconnection with Zone III, proposed as part of this project, will address the low pressure issue and provide an alternate means by which to supply the area to increase supply reliability should the 16-inch transmission main fail.

Adding the interconnection/PRV proposed as part of this project will also increase fire flow capacity. As noted above, the sole supply source to the area currently is a single, non-looped transmission main. The interconnection/PRV will add a second supply feed of higher pressure (from Zone III) to supplement during fire flows. This will minimize areas of low pressure currently experienced at the high points along the 16-inch during fire flow demands, as simulated by field fire flow tests.

Attachment - WLK - 64495 1 (Figure 5-2)
Attachment - WLK - 64495 2 (WSFMP Pg 5-20)

65407 - VEHICLE REPLACEMENT (Pg 7-13, Ln 1)
This project was originally approved for $40,800 and funded to replace another vehicle (V205062), which was ultimately retired and replaced by another funding project. Cal Water is
now requesting Project 65407 be used to replace V208070, a 2008 pickup that had 146,452 miles as of December 31, 2012.

Attachment - WLK - 65407 1 (V208070 Projected Mileage)

67092, 67169 and 67475 - SCADA Related Projects (Pg 7-12, Ln 11)

Cal Water requested $59,633 in its 2015 budget to replace a Data Acquisition Radio System (Project 67092), $21,046 in its 2015 budget to install Hand-Off-Auto Sensors (“HOA”) at multiple SCADA RTUs (Project 67169) and $135,476 in its 2015 budget for seven power meters at various stations (Project 67475). DRA recommended disallowance of these projects. In its report, DRA discusses SCADA generally then observes: However, although CWS has implemented a SCADA system in all of its districts, DRA has yet to see any tangible benefits for ratepayers. In fact, if there were no SCADA system the Westlake district would have to add three pump operators to maintain the same level of customer service.

Cal Water disagrees with DRA’s recommendation. The data acquisition radio system is a critical component for the SCADA system and has been providing tangible benefits for the rate payers for the last ten years. Project 67092 will replace the outdated radio equipment, allowing Cal Water to improve the existing SCADA communications system and continue to contain growth in operating costs. The HOA upgrade is an important component for the SCADA system that has been providing tangible benefits for the rate payers. The purpose of the project is to monitor the current state of the electrical controls for each pump to determine its capability of running automatically. By monitoring the state of each pump’s controls, Cal Water will make more efficient use of its operations staff and have a more predictable control system which will continue to contain the increase in the cost of operations and improve the reliability of the SCADA system. Regarding Project 67475, please see Global Rebuttal section.

24.3 CARRYOVERS

24.3.1 Advice Letter Projects

Not applicable

24.3.2 Non-Specific Carryover Projects

Not applicable

24.3.3 Specific Carryover Projects
This project involves relocation of existing mains (20-inch CL&C and 12-inch DI) located within a creek adjacent to the 101 Freeway. (+/-175LF 20 inch and +/- 200LF of 12inch) and was approved for $384,192 in the 2009 GRC. In its report, DRA revised the cost of the project downwards to $332,000. This adjustment reflects a reduction in contingency and removal of capitalized interest.

Cal Water holds to 10% contingency for all projects. This is a conservative industry standard, and is reasonable given the size, scope and duration of the projects. A reduced contingency is not appropriate for this project as suggested by DRA even though costs were based on a contractors bid. The project involves the installation of large diameter pipeline within a creek and therefore actual conditions may vary and increase costs. In addition, portions of the pipeline may require easements over private property, at additional costs, further supporting the need for the standard contingency.

Regarding Capitalized Interest, please see Global Rebuttal section.

Cal Water maintains the cost of the project to be $384,192.

24. 4 ATTACHMENTS

The attachments listed below are located in Book 5.

Attachment - WLK - 64053, 64102 and 64107 1 (Thousand Oaks Letter)
Attachment - WLK - 64053, 64102 and 64107 2 (Calleguas Letter)
Attachment - WLK - 64175 1 (Casing Confirmation Email)
Attachment - WLK - 64254 1 (Water Distribution Systems Handbook Excerpt)
Attachment - WLK - 64254 2 (Title 22, CA Code of Regulations, Section 64554(C))
Attachment - WLK - 64254 3 (2010 Westlake Urban Water Management Plan, Figure 3.2.3)
Attachment - WLK - 64495 1 (Figure 5-2)
Attachment - WLK - 64495 2 (WSFMP Pg 5-20)
Attachment - WLK - 65407 1 (V208070 Projected Mileage)
CHAPTER 25 WILLOWS PLANT ADDITIONS

25.1 INTRODUCTION

25.1.1 Global Responses

The rebuttal responses for the following capital projects are located in chapter 2 of this book, global expense/global plant.

- 68905 – Field 2-way radios (Section 2.6)
- 80003 – RAMCAP Vulnerability Assessments (Section 2.4)
- 55288 – Install PVC C.P. test tubes (Section 2.16)

25.2 SPECIFIC PROJECTS

62175 – S. Plumas Street Main Replacement (Pg 7-8 Ln14)

The DRA does not disagree this 6” Cast Iron main with 5 recorded leaks needs to be replaced; however they do disagree with the percentage of contingency factored in of 10%. This is the normal percentage in the northern districts that has been factored in. There were 2 additional services calculated in the estimate that should not be included and will be removed. Regarding capitalized interest, please see Global Rebuttal Section. Cal Water holds to 10% contingency for all projects. This is a conservative industry standard, and is reasonable given the size, scope, and duration of the project.

61673 – S. Shasta main replacement (Pg 7-9, Ln 12)

The proposed project is to replace 960 feet of leaking cast iron main on Shasta Street between Ash and Oak Streets. The installation date is unknown but the main is believed to be at least 84 years old. There are 25 services, 2 hydrants and 1 fire service connected to the main. Replacing this aged main will also eliminate manifolds (considered existing substandard where multiple service lines are plumbed to a single corp connection at the main). Continual “patching” of the city street asphalt after a leak repair is not a welcomed practice by Cal Water, city officials or most importantly Cal Water’s consumers. Additionally there is a negative impact to customers when there is an unplanned interruption of service which typically occurs when making an emergency repair. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal Section.
65650 - N. Culver Street Main Replacement (Pg 7-9, Ln 17)

The proposed project is to replace 360 feet of AC main with an install date of 1972 and a small section of 2" Cast Iron installed in 1947. The main is located in the Utility Easement which also is in a lawn area under customers’ driveways. The last recorded leak (shown in the photos attached) resulted in an insurance claim. At the time of the incident the owner claimed the water had caused a “shift” to her foundation of the garage. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal section.

Attachment – WIL 65650 1 327 N. Culver.jpg
Attachment – WIL 65650 2 327 N. Culver.jpg

65669-400 Block N. Plumas Main Replacement (Pg 7-10, Ln 1)

The proposed project is to replace 460 feet of leaking cast iron main in the 400 block of N. Plumas Street. Installation date is prior to 1927: exact date is unknown. A hydrant run and head will be upgraded and a new hydrant added to the system. Current existing distance between hydrants is approximately 800 feet, therefore reducing the distance to approximately 400 feet. See attached map as there are 10-3/4” services to be replaced with 1” services. The potential for damage from water erosion to both person and property is high as shown in recent leak photos attached. Continual “patching” of the City street asphalt after a leak repair is not a welcomed practice by Cal Water, city officials or most importantly our consumers. Additionally there is a negative impact to our customers when there is an unplanned interruption of service which typically occurs when making an emergency repair. Regarding Conditional Based Assessment (CBA) or lack of leaks on pipelines, please see Global Rebuttal Section.

Attachment - WIL_65669 – 1 Plumas hyd addition
Attachment - WIL_65669 – 2 Main Leak Vine & Plumas

62341 Pump Replacement (Pg 7-10, Ln 10)

Cal Water informed DRA/CPUC that the pump, motor, and column were replaced due to emergency circumstances in 2012 as non-specific projects and asked DRA/CPUC to remove this project from its request in this GRC.

62774 - Customer Center color copier/printer/scanner/fax machine (Pg 7-10 Ln 15)

Current copy machine was purchased in 2007 and the industry standard is a 5 year life expectancy. This machine has no color capabilities and some Cal Water reports are due in color. Technology has improved dramatically since then and this machine will be 7 years old by
purchase date. A new copy machine has already been ordered due to constant in-house repairs or resetting for proper operation before DRA report of denial. Final costs are expected to be less than budgeted request. Cal Water does not agree with moving these equipment purchases to non-specific. Non-specific purchases should be reserved for those purchases that are more emergency or immediate in nature and unanticipated. This equipment purchase request is a planned capital purchases. In some cases in the past, some of the referenced equipment purchases have been made as non-specific, but these were due to urgent needs that had to be addressed immediately. Cal Water does not seek to increase the non-specific budget for planned capital purchases. Cal Water recommendation should be for the approval to purchase a new machine.

64612, 64629, 64711 Flat to Meter Conversion (Pg 7-11, Ln 1)
Based on average unit cost of flat to meter conversions, the DRA calculated amount to convert is acceptable to Cal Water.

25.3 CARRYOVER PROJECTS

25.3.1 Advice Letter Projects

15436 – Construct a new 750,000 gallon storage tank (Pg 7-5, Ln 7)
This project was filed with advice letter 2069 on 4/30/2012 and has been put into rates. Because this project was filed after 12/31/11, it is not in the beginning plant balance and needs to be allowed for 2012. A description of the costs was also provided with Data Request PPM-04 for carryover project. This project is in use and useful and should not be disallowed or adjusted.

20953 Zone Test Repair Sta. 6-01 (Pg 7-5, Ln 7)
Cal Water continues to request advice letter status for this project, but requests an extension of sunset past 2013. As per the response in Data Request JMI-014, this project was initially delayed due to the delay of the zone test on the well. The zone test was not successful the first time and had to be delayed until the summer when the demand was sufficient for the test. This repair project is now currently on hold until the summer of 2013. In the summer of 2013 (approximately July), the Department of Public Health (DPH) will put out the draft Maximum Contaminant Level (MCL) for Hexavalent Chromium (Chrome 6). Depending on the level of Chrome 6, Cal Water will then decide if this project should be pursued, or cancelled. If
the Chromium 6 level is low enough, the contaminant problem in the Willows district will no
longer be the nitrates we are trying to address in this project, but rather Chromium 6. Given the
costs involved with treating Chrome 6, and the potential need to cluster treatment, it will no
longer make sense to treat this well for nitrates, as Cal Water will be potentially treating it for
Chrome 6. Additionally, though not finalized at this point, some Chrome 6 treatments can also
treat nitrates. If the Chrome 6 level is high enough to not affect the Willows district, then Cal
Water believe it logical to continue this project, seeking completion in 2014.

25.3.2 Non-Specific Carryover Projects

Not applicable.

25.3.3 Specific Carryover Projects

17388 - Colusa St. main replacement
There was a 320 feet section of main that was to be upgraded on an unpaved street.
Before work could be completed, the street was paved. The funds for this project, $70,991 were
moved to non specific in order to replace a 340’ section of leaking 8” AC main on Green Street
(work is now complete). PID 17388 has been cancelled. This is one way Cal Water manages
to keep the non-specific funds from being overused.

25.4 ATTACHMENTS

The attachments listed below are located in Book 5.

Attachment – WIL 65650 1 327 N. Culver.jpg
Attachment – WIL 65650 2 327 N. Culver.jpg
Attachment – WIL 65669 1 Plumas hyd addition
Attachment – WIL 65669 2 Main Leak Vine & Plumas