

ATTACHMENT 2

WATER YEAR 2008-2009

ANTICIPATED UNIT COSTS OF REPLENISHMENT WATER FOR THE SEASIDE BASIN ⁽⁹⁾

POTENTIAL SOURCE OF REPLACEMENT WATER	POTENTIAL DATE REPLACE- MENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) ⁽¹²⁾	LEVEL OF PROJECT DEVELOP- MENT	CONTINGENCY INCLUDED IN BASE UNIT COST ⁽¹¹⁾ (%)	BASE UNIT COST (\$/AF)	BASE UNIT COST YEAR	ADDITIONAL CONTINGENCY ADDED TO REFLECT LEVEL OF PROJECT DEVELOPMENT ⁽¹⁰⁾ (%)	UNIT COST INCLUDING ADDITIONAL CONTINGENCY (\$/AF)	UNIT COST INFLATED @ 3% FROM COST BASIS YEAR TO YEAR REPLACEMENT WATER COULD BECOME AVAILABLE	VOLUME- WEIGHTED AVG %	REPLENISH- MENT UNIT COST SHARE
Moss Landing Desalination Plant – Local Alternative	2015	10,430	Conceptual	25%	\$2,230	2007	25%	\$2,788	\$3,531	10.87%	\$383.91
Moss Landing Desalination Plant – Regional Alternative	2015	18,972	Conceptual	25%	\$1,690	2007	25%	\$2,113	\$2,676	19.78%	\$529.22
North Marina Desalination Plant – Local Alternative (brine disposal at MLPP) ⁽¹⁾	2015	10,430	Conceptual	10%	\$1,980	2005	40%	\$2,772	\$3,725	10.87%	\$405.02
North Marina Desalination Plant – Regional Alternative (brine disposal at MLPP) ⁽¹⁾	2015	18,972	Conceptual	10%	\$1,660	2005	40%	\$2,324	\$3,123	19.78%	\$617.66
MPWMD's 95-10 Desal Plant	2015	8,400	Conceptual	25%	\$2,920	2007	25%	\$3,650	\$4,624	8.76%	\$404.85
Sand City Water Supply Project ⁽²⁾	2009	300	Design	0%	\$3,600	2007	15%	\$4,140	\$4,392	0.31%	\$13.73
Salinas River Surface Water Treatment Plant ⁽⁶⁾	2012	7,500	Conceptual	30%	\$1,500	2008	20%	\$1,800	\$2,026	7.82%	\$158.38
Regional Desalination ⁽⁷⁾	2015	9,930	Conceptual	30%	\$1,791	2008	20%	\$2,149	\$2,643	10.35%	\$273.60
Regional Urban Water Augmentation Project	2011	3,000	Conceptual	5%	\$1,200	2006	45%	\$1,740	\$2,017	3.13%	\$63.08
Seaside Aquifer Storage and Recovery Project	2008	1,300	Design	25%	\$260	2005	-10%	\$234	\$256	1.36%	\$3.46
MRWPCA Groundwater Replenishment Project for the Seaside Basin	2012	6,700	Conceptual	30%	\$1,865	2006	20%	\$2,238	\$2,672	6.98%	\$186.63
Seawater Conversion Vessel ⁽⁵⁾	2018	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pacific Grove Stormwater Project ⁽³⁾	2010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Conservation ⁽⁴⁾	2009	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total Quantity of Replacement Water (AFY) Expected to Potentially be Available Within the Next 10 Years ⁽¹³⁾ = 95,934

Volume-Weighted Replacement Water Cost Per Acre-Foot = \$3,040

FOOTNOTES:

- (1) Contingency percentage included in Base Unit Cost was not stated. Assume 10%.
- (2) Contingency percentage included in Base Unit Cost was not stated. Assume 0%. Although the level of Project Development for this water source is shown as "Design," the project is well into construction with start-up expected in early 2009.
- (3) This Project was not included because the costs were not known. A feasibility study for the Pacific Grove Stormwater Project was just recently completed, and it is unknown whether preliminary costs were developed.
- (4) This Project was not included because the costs were not known. The cost for conservation will be realized through rebates and are unknown at this time.
- (5) This Project was not included because there is no apparent project sponsor for it.
- (6) Project has a proposed range of supply of 5,000 to 10,000 AFY. For this analysis assume 7,500 AFY.
- (7) Project has a proposed range of supply of 7,430 to 12,430 AFY. For this analysis assume 9,930 AFY.
- (8) Project has a proposed range of supply of 5,000 to 10,000 AFY. For this analysis assumed 7,500 AFY.
- (9) The data used in this table was taken from the Basin Management Action Plan, Section 3, titled "Supplemental Water Supplies."
- (10) The following contingency percentages were considered reasonable for the indicated levels of project development: Conceptual Level - 50%, Project Report Level - 30%, and Design Level - 15%. The sum of the values in the columns titled "Contingency Included in Base Unit Cost" and "Additional Contingency Added to Reflect Level of Project Development" equals the Contingency appropriate for the project's level of development.
- (11) This percentage of Contingency was included in the Base Unit Cost.
- (12) This is the total production for this water source, not just the amount of production committed to the Seaside Basin.
- (13) This value is the cumulative production capacity of all of the Potential Sources of Replacement Water that were evaluated, and is used only to determine the "Valued-Weighted Average." It is not the amount of water that is expected to be available to the Seaside Basin

ATTACHMENT 1

Replenishment Assessments

What is the Replenishment Assessment?

The Amended Decision filed with the Court February 9, 2007 contains the following statements and/or requirements pertaining to the Replenishment Assessment on pages 32 and 33:

Each Water Year, the Watermaster will determine a Replenishment Assessment for Artificial Replenishment of the Seaside Basin necessary to offset the cumulative Basin Over-Production (as defined in Section III.A. 21), and levy a Replenishment Assessment. Replenishment Assessments based on Over-Production and on Operating Yield Over-Production shall be assessed within 60 days of the end of each Water Year on a per acre-foot basis on each acre-foot, or portion of an acre-foot, of Over-Production, and payment shall be due no later than January 15th of the following year. The per acre-foot amount of the Replenishment Assessments shall be determined and declared by Watermaster in October of each Water Year in order to provide Parties with advance knowledge of the cost of Over-Production in that Water Year.

Section III.A.21 of the Order defines Over-Production to mean, with regard to all Production from the Seaside Basin, "...that quantity of Production which exceeds an initially assumed Natural Safe Yield of 3,000 AFY." With regard to each Producer, Over-Production means "...that quantity of Water Produced in any Water Year in excess of that Producer's Base Water Right, as applied to an assumed Natural Safe Yield of 3,000 AFY."

There are **two** components to the Replenishment Assessment:

1. The **Artificial Replenishment Assessment** is a fee that is charged proportionately against the cumulative amount that all Producers pump over the (assumed) 3,000 AFY Natural Safe Yield of the basin. However, the Order provides that for Alternative Producers there is no fee charged if the Alternative Producer does not pump any water in excess of the fixed amount allocated to it in Table 2 of the Order, and
2. The **Operating Yield Over-Production Assessment** is a fee that is charged against each Standard Producer for the amount of water the Standard Producer pumps in excess of its Base Water Right, as determined using the Allocation percentages in Table 1 of the Order, and against each Alternative Producer that pumps in excess of its allocation in Table 2 of the Order.

The actual calculation of each of these Assessment components gets complex and will therefore not be discussed or explained in this paper. The purpose of this paper is to describe the Replenishment Assessments and what the monies collected through these Assessments is intended to be used for.

The first component of the Replenishment Assessment collects monies from all of the Standard Producers (and Alternative Producers if they exceed their allocations) in proportion to the amount that they have cumulatively pumped in excess of the Natural Safe Yield of 3,000 AFY. So even if a Standard Producer pumps no water in excess of its Allocation, if cumulative pumping has exceeded the Natural Safe Yield, this Standard Producer will still have to pay a fee under this first component in proportion to its contributing toward the over-pumping of the Basin in excess of the Natural Safe Yield.

The second component of the Replenishment Assessment collects monies only from those Standard Producers who pumped amounts of Native Water in excess of their Standard Production Allocations, again as calculated using the percentages in Table 1 of the Order. Alternative Producers are only subject to the second component of the Replenishment Assessment if they pump amounts in excess of

their fixed allocations in Table 2 of the Order. So if a Standard Producer does not pump amount of water in excess of its Allocation, it will not have to pay a fee under the second component.

What Are the Monies Collected Through the Replenishment Assessments to be Used for?

Per page 33 of the Order, funds generated through the Artificial Replenishment Assessments “...are to be used solely for replenishment of the Basin Groundwater supply with Non-Native water.” Non-native water is defined in the Order to mean “...all water that would not otherwise add to the Groundwater supply through natural means or from return flows from surface applications other than intentional Spreading.”

Also per page 33 of the Order, funds generated through the Operating Yield Over-Production Assessments “...shall be utilized by the Watermaster to engage in or contract for Replenishment of the Operating Yield Over-Production occurring in the Preceding Water Year as expeditiously as possible.”

On Page 34 of the Order it states that “...All proceeds of Replenishment Assessments shall be used to procure Non-Native water, including, if appropriate, substitute reclaimed water.”

Although there is some variation in language between these sections of the Order, it is clear that the monies collected through the Replenishment Assessments are intended to be used to obtain water to recharge the Basin to the extent necessary to reduce the net water production taken from the Basin to a level at or below the Natural Safe Yield of 3,000 AFY. The recharge water could be such things as water imported from another water supply outside the Basin, recycled water used to reduce pumping for landscape irrigation, or recycled water used for recharge through direct injection or spreading.

How is the Per Acre-Foot Cost of the Replenishment Assessments to be Determined?

Per page 33 of the Order, “The per acre-foot amount of the Replenishment Assessments shall be determined and declared by Watermaster in October of each Water Year in order to provide Parties with advance knowledge of the cost of Over-Production in that Water Year.” Thus, the per acre-foot amount determined by the Board in October of 2007 will be used to calculate Replenishment Assessments for pumping that occurs during the Water Year which begins on October 1, 2007 and ends on September 30, 2008.

On pages 9 and 10 (Section 6.5) of the Watermaster Rules and Regulations, there is a discussion of how the Replenishment Assessment per acre-foot costs are to be calculated. It states that “The per acre-foot cost of Replenishment Assessments for Production in excess of Natural Safe Yield shall be based on the anticipated cost of Artificial Replenishment, including the cost to construct, operate, and maintain facilities necessary for replenishment of the Basin. Replenishment Assessment may only be used for Artificial Replenishment.” The Order defines Artificial Replenishment to mean the act of engaging in or contracting for Non-Native Water to be added to the Groundwater Basin through spreading or direct injection to offset the cumulative Over-Production from the Basin in any particular Water Year. It can also include programs in which Producers agree to refrain from exercising their rights to pump their full Production Allocations where the intent is to cause the replenishment of the Basin through forbearance in lieu of the injection or spreading of Non-Native Water.

So the per acre-foot cost used to determine the Replenishment Assessments should be the cost that would have to be paid, per acre-foot, to obtain water to recharge the Basin to the extent necessary to offset the cumulative over-production above the Natural Safe Yield, during a given Water Year.

From work done to date in calculating the per acre-foot cost, it is apparent that there are ongoing changes in projected costs of recharge water and in the timing of the projects which will provide that

water. Hence, the per acre-foot cost needs to be recalculated each year using updated cost projections and implementation schedules for these recharge projects.

If recharge water is not available to be purchased in a given Water Year to offset the cumulative over-production that occurred in that year, then the monies collected through the Replenishment Assessments in that Water Year may be accumulated for multiple Water Years until they can be used to purchase recharge water.

It is to be expected that the costs of the recharge projects will increase with inflation, among other things. Therefore, the unspent Replenishment Assessment monies should be invested in interest-earning accounts that will offset these inflation increases, until such time as the recharge projects come on-line and the needed water can then be purchased.

As long as the unit costs of water from the various potential recharge projects is forecast by the agencies sponsoring the recharge projects to the dates at which the projects will come on-line, there should be no need to inflate those unit costs when the per acre-foot cost used to determine the Replenishment Assessments is calculated.