

# **FINANCIAL PROJECTIONS FOR REVENUES FROM IID/SDCWA AGREEMENT**

*PREPARED FOR*

**IMPERIAL IRRIGATION DISTRICT  
333 EAST BARIONI BOULEVARD  
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## **INTRODUCTION**

Presented herein are financial projections prepared by *Stratecon Inc.* concerning the revenues the Imperial Irrigation District (“IID”) is anticipated to receive from the water conservation and transfer agreement IID has entered into with the San Diego County Water Authority (“IID/SDCWA Agreement”).

The District retained *Stratecon Inc.* beginning in 1996 to assist the District in structuring and negotiating the IID/SDCWA agreement and related agreements and to provide economic valuations and financial projections related to such agreements. *Stratecon Inc.* is a California corporation established in 1983, located in Upland, California that provides strategic planning and economic consulting services to the public and private sector regarding the economics, finance, law, politics and policy of western water, including water investments and water marketing.

The financial projections presented below reflect *Stratecon Inc.*’s professional economic opinion regarding the revenues IID may reasonably anticipate receiving under the terms of the IID/SDCWA Agreement. Although the projections presented below are believed to be reasonable in light of the economic issues considered IID during the negotiations of the underlying agreements and current information, the projections are based on assumptions about future events that may not prove accurate. No assurance can be given that the timing and amount of revenues would conform to these projections. To the extent that actual conditions differ from those assumed herein, the actual results may vary from the projections presented herein.

This report is organized as follows: (1) description of the relevant provisions of the IID/SDCWA Agreement; (2) statement of assumptions used in the preparation of the financial projections; and (3) presentation and discussion of financial projections. The figures and tables discussed in the text below are attached to the end of this report.

## **IID/SDCWA AGREEMENT**

The pricing provisions of the IID/SDCWA Agreement have three components: a base contract price, a shortage premium and price redetermination.

The base contract price is determined by a series of formulae providing that the base contract price equals actual rates and charges levied by the Metropolitan Water District of Southern California (“MWD”) for untreated full water service, less a defined “base wheeling rate”, subject to a declining discount. In general, all MWD rates and charges other than MWD treatment surcharge are included in the calculation. The formula for the “base wheeling rate” represents the amortized capital, operation and maintenance, and power costs of facilities used and necessary to convey water from MWD’s intake at Lake Havasu to a defined delivery point in San Diego County. The discount starts at twenty-five percent (25%) for the first year of deliveries (2003), declining steadily to fifteen percent (15%) by the tenth year (2012), and reaching its long-term value of five percent (5%) by the seventeenth year (2019).

SDCWA is also required to make an additional “shortage premium” payment over the base contract price when there are significant shortfalls in California water supplies. The payment is made when any combination of three conditions are triggered:

(i) Secretary of the Interior declares a shortage in the Lower Colorado River Basin (less than 7.5 million acre-feet available in any year for consumptive uses in Arizona, California, and Nevada); (ii) Northern California experiences critically dry conditions; or (iii) SDCWA imposes mandatory rationing or conservation. If SDCWA does not impose mandatory rationing or conservation, then SDCWA would pay a shortage premium of twenty-five percent (25%) for a declared shortage in the Lower Basin, five percent (5%) if Northern California experiences critically dry conditions, or thirty percent (30%) if both conditions prevail. If SDCWA does impose mandatory rationing or conservation, then SDCWA pays the maximum of the amount stated above and a premium varying between ten percent (10%) and one hundred percent (100%) depending on whether the SDCWA mandatory rationing or conservation ranges between ten percent (10%) and thirty percent (30%). Pursuant to the terms of the 4<sup>th</sup> Amendment to the IID/SDCWA Agreement, SDCWA's obligation to pay the shortage premium is suspended through the year 2017.

Finally, the IID/SDCWA Agreement contains a price redetermination process to provide for the adjustment of the base contract price and shortage premium to assure that the pricing provisions adequately reflect the market value of District water. The adjustments are to be based on financial valuations of other transactions that meet a defined set of eligibility criteria. The first price redetermination would occur no sooner than the year 2012, provided that there are at least ten transactions meeting the eligibility criteria and the volume of water transferred in California under qualifying transactions exceeds a defined threshold. Thereafter, price redeterminations generally occur no sooner than every ten years.

The pricing provisions of the agreement would be adjusted only if a financial valuation of the existing pricing provisions were not consistent with the estimated market value of IID conserved water. The IID/SDCWA Agreement includes defined quantitative criterion for making this determination. If an adjustment were warranted, the new contract price provisions would be a weighted average of the existing provisions and the market valuation of IID conserved water. IID does not currently anticipate that a price redetermination is likely to occur for the foreseeable future.

For the first five years of the agreement (2003-2007), the prices were set initially by a "deemed price schedule" specified in the 4<sup>th</sup> Amendment to the IID/SDCWA Agreement: \$258/acre-foot in 2003, \$267/acre-foot in 2004, \$276/acre-foot in 2005, \$286/acre-foot in 2006, \$296/acre-foot in 2007, continuing to increase thereafter annually at an approximate rate of 3.5% reaching a price of \$420/acre-foot by the year 2017. After the year 2007, however, either party may elect to switch from the deemed price schedule to the original pricing provisions of the IID/SDCWA Agreement. By agreeing to use the deemed price for the first five years, IID and SDCWA deferred a dispute uncovered during negotiations in 2002 concerning how the definition of the base contract price was affected by the financial restructuring by the Metropolitan Water District of Southern California.

SDCWA provided notice to IID in 2007 that it was electing to switch from the deemed price schedule to the pricing provisions of the 1998 agreement as described above. The parties are currently engaged in a binding arbitration. Pending the outcome of arbitration, SDCWA paid IID \$301/AF for water made available in 2008, \$347/AF for

water made available from January through June, 2009, and \$353/AF for water made available for the remainder of the calendar year 2009. Upon final resolution of the dispute through binding arbitration, SDCWA shall pay to IID, or IID shall credit to SDCWA, as appropriate, the difference between the payments actually made by SDCWA since January 1, 2008 and the price it would have paid if the price was as finally determined by the dispute resolution process, plus interest.

**ASSUMPTIONS**

The financial projections presented below are based on the contractual provisions described above, supplemented by information obtained by *Stratecon Inc* from IID staff and other advisors. The discussion below starts with a general discussion of the factors affecting projected revenues, and then provides a summary of specific assumptions.

*Quantities of Water Transferred.* The quantities of water transferred are specified in the underlying agreements. Provided that the IID/SDCWA Agreement is not suspended or terminated due to in the unlikely event that current litigation yields an adverse decision versus IID, the quantities of water actually conserved and transferred by the District will equal the quantities specified in Table 1.

*Prices for Water Transferred to SDCWA.* The actual price paid by SDCWA under the other pricing provisions of the IID/SDCWA Agreement depends on the actual values of the various components of the formula defining the base contract price (MWD water rates and charges, base wheeling rate, and discount, see below) and any shortage premium.

$\text{Base Contract Price} = (\text{MWD Full Water Rate} - \text{Base Wheeling Rate}) \bullet (1 - \text{discount})$
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Each element is discussed below.

The IID/SDCWA agreement defines a MWD Full Water Rate to measure the level of MWD rates and charges as follows:

$$\begin{aligned} \text{MWD Full Water Rate} = & \text{MWD's rate for untreated noninterruptible water} \\ & \text{service} + \\ & \text{Per acre foot valuation of other MWD rates and charges} \\ & \text{that vary with the volume of water purchased} + \\ & \text{Other MWD rates and charges that do not vary with} \\ & \text{volume of water purchased} \div \text{4-year running average of} \\ & \text{SDCWA purchases from MWD and the District} \end{aligned}$$

Historically, MWD's water rates have increased substantially faster than inflation (see Figure 1 attached). Until MWD's financial restructuring in the mid-1990s, MWD's water rates are measured by the price for untreated noninterruptible water service. After the rate restructuring, MWD's water rates are measured by the price for untreated noninterruptible water service plus the aggregate Readiness-to-Serve ("RTS") obligation

per acre foot of full water service.<sup>1</sup> As shown in Figure 1, MWD’s water rates increased continually from 1960 through 1983, when they remained fixed in nominal terms for the following eight years. Thereafter, MWD’s water rate increased from \$200 per acre foot to \$344 per acre foot over the next five years. Since 1996, MWD’s rate for uninterrupted service remained essentially fixed for the next seven years at \$349 per acre foot. With the aforementioned rate restructuring at MWD in the mid-1990s, however, the RTS charges increased MWD’s water rate over \$400 per acre foot.

Despite the periods of fixed water rates, MWD’s water rates have increased substantially faster than inflation over the long term. In Figure 1 (attached), the solid lower line shows the level for MWD’s water rates if the water rate in 1960 simply increased by inflation.<sup>2</sup> Had MWD’s water rate only increased at the rate of inflation, MWD’s water rate would have only increased from \$15 per acre foot in 1960 to \$74 per acre foot by the year 2002. At almost \$400 per acre foot by the end of 2002, MWD’s actual water rate is 5.4 times greater. That is, the inflation-adjusted MWD water rate increased by more than five-fold over between 1960 and 2002.

MWD’s water rates have consistently increased substantially faster than inflation since 1960 (see table). For the entire period, MWD’s water rates increased at an annual rate of 8.1%. With inflation averaging 3.9% annually during 1960-2002, the annual increase in inflation-adjusted MWD water rates (“Real MWD Rates”) was 4.2%. The tendency for MWD’s water rates to increase faster than inflation occurs for both the earlier period (1960-1980) as well as the latter period (1981-2002).

**Annual Rate of Increases**

<i>Time Period</i>	<i>MWD Water Rates</i>	<i>Inflation</i>	<i>Real MWD Rates</i>
1960-2002	8.1%	3.9%	4.2%
1960-1980	9.4%	4.8%	4.5%
1981-2002	6.9%	2.7%	4.2%

In light of this historic record, *Stratecon Inc.* believes that, despite any periods when MWD water rates remain fixed, MWD’s water rates will increase faster than inflation over the long term. As indicated by the historic record, MWD’s water rates increase faster than inflation despite long periods of fixed water rates, such as during the past few years. Since the late 1990s, *Stratecon Inc.* has advised the District that MWD is due for another period of increased water rates and charges, partly due to the need for MWD to find replacement supplies for the significant volumes of Colorado River water no longer available to MWD as Arizona and Nevada have begun to fully utilize their Colorado River entitlements, and the fact that surplus water available under the Interim

<sup>1</sup> Data for MWD’s rate for noninterruptible water service compiled from MWD annual reports. Data for RTS obligation compiled from MWD staff memoranda on MWD rates and charges. Data for MWD’s annual sales of full water service compiled from MWD’s website reporting annual sales.

<sup>2</sup> Inflation measured by the Gross Domestic Product Implicit Price Deflator. Source: Economic Report of the President, 2004.

Surplus Guidelines is relatively small in size and unreliable. The recent increase in MWD's rates and charges is consistent with these expectations.

The projections of the other components of the base contract price follow their definitions in the IID /SDCWA Agreement. The base wheeling rate has three components: annualized capital cost of facilities, operation and maintenance costs, and power costs. The projections of these components is based on information IID has developed from what it believes is reliable sources. The projections of the discount factor in the definition of the base contract price are based on the schedule provided in the IID/SDCWA Agreement.

Table 2 (attached) provides a listing and commentary on the specific assumptions used for the financial projections reported herein. The reader should consult Table 2 to obtain a full understanding of the assumptions underlying the financial projections.

## FINANCIAL PROJECTIONS

Table 3 (attached) provides the projections of IID's anticipated revenues from the IID/SDCWA Agreement. There are many sources of variability in IID's annual revenues from the IID/SDCWA Agreement, including:

- Variability in the annual increases in MWD rates and charges during periods when MWD "breakouts" from its period of stable prices;
- Variability in SDCWA's water demands that impacts the applicability of Tier 1 versus Tier 2 pricing of IID conserved water under the IID/SDCWA Agreement
- Variability in the MWD power cost component in the definition of the Base Wheeling Rate due to the timing and volume of water moved through the Colorado River Aqueduct
- Applicability of shortage premium

Therefore, a focus solely on the expected level of revenues in any year obscures the variability in revenues. To address this issue, *Stratecon* decomposes the projected revenue stream into three components:

- Firm Base Contract Price Revenues: defined as the threshold level of revenues in any year where, given the variability in pricing under the IID/SDCWA Agreement, actual revenues in any year are projected to exceed the threshold two-thirds of the time
- Non-Firm Base Contract Price Revenues: defined as the difference between expected revenues from the Base Contract Price and firm revenues
- Expected Shortage Premium<sup>3</sup>

For the year 2010, for example, firm base contract revenues are projected to be \$27.5 million. Given the variability in pricing, however, actual revenues are expected to be greater by \$2.6 million (the amount of expected non-firm base contract revenues).

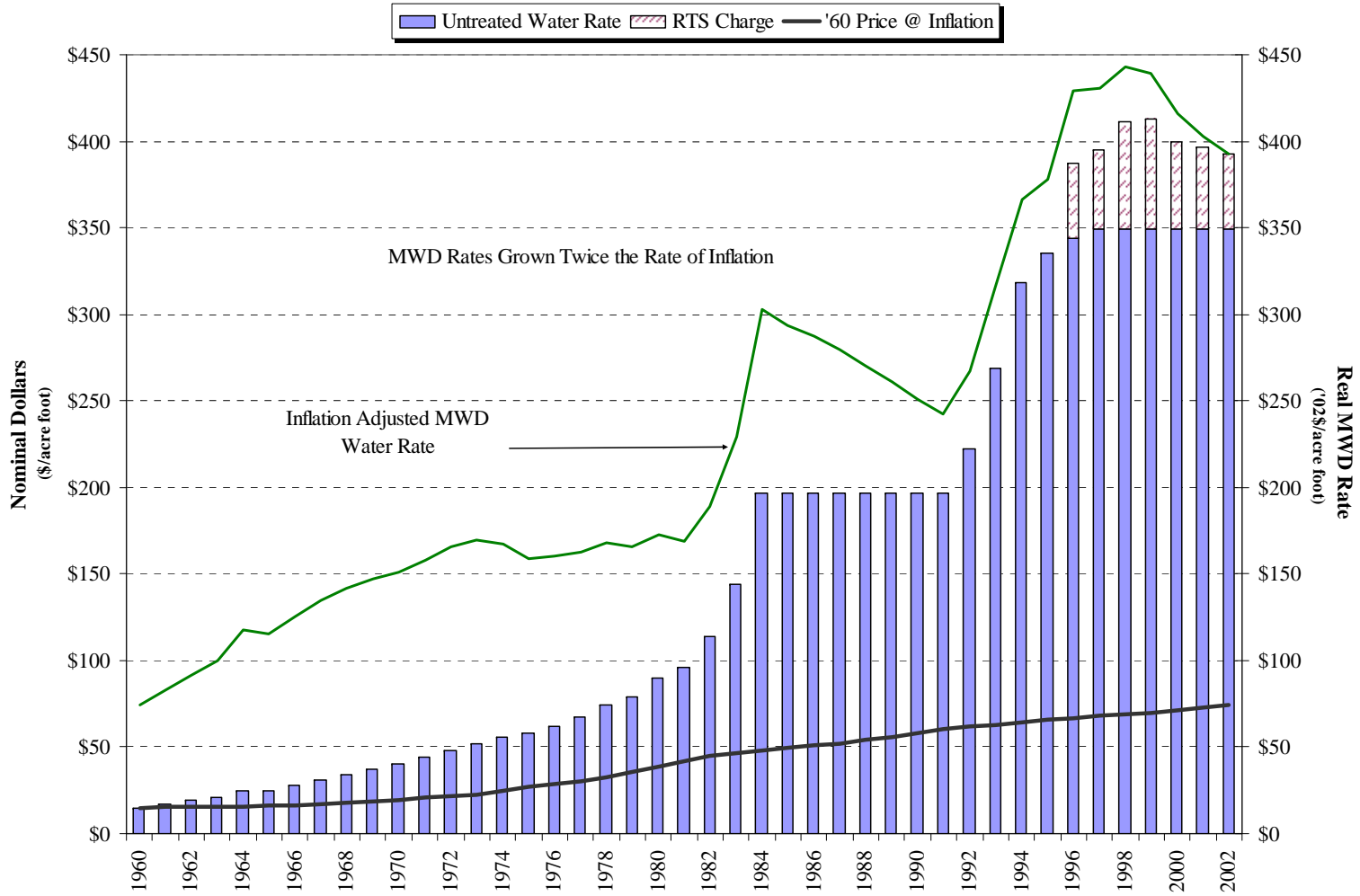
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<sup>3</sup> Given the periodic nature of the triggers for the shortage premium, all revenues from the shortage premium are non-firm.

## CONCLUSION

The financial projections presented herein reflect *Stratecon Inc.*'s professional economic opinion regarding the revenues IID can reasonably anticipate receiving under the IID/SDCWA Agreement. While the projections presented herein are believed to be reasonable in light of the economic issues considered by IID during the negotiations of the underlying agreements and current information, the projections are based on assumptions about future events that may not prove accurate. No assurance can be given that the timing and amount of revenues would conform to these projections. To the extent that actual conditions differ from those assumed herein, the actual results may vary from the projections presented herein.

**Figure 1**  
**MWD Water Rate History**



**Table 1**  
**IID Delivery Obligation 2010-2047**

<i>Year</i>	<i>Acre Feet</i>
2010	70,000
2011	80,000
2012	90,000
2013	100,000
2014	100,000
2015	100,000
2016	100,000
2017	100,000
2018	130,000
2019	160,000
2020	190,000 <sup>(1)</sup>
2021	200,000 <sup>(1)</sup>
2022	200,000 <sup>(1)</sup>
2023	200,000
2024	200,000
2025	200,000
2026-47	200,000

- (1) Table 1 does not include a transfer of “Early Transfer Water” under the 4<sup>th</sup> Amendment to the IID/SDCWA Agreement which requires the transfer of an additional 2,500 acre feet to SDCWA in 2020, 5,000 acre feet in 2021, and 2,500 acre feet in 2022 at a price of \$125 per acre foot, adjusted by changes in a defined price index from January 1, 1999 to the year of delivery.

**Table 2**  
**Assumptions of Financial Projections**

ITEM	ASSUMPTION	COMMENT
<b>Components of Base Contract Price</b>		
MWD Full Water Rate		
MWD Full Service Untreated Rates	<ul style="list-style-type: none"> <li>• Actual rates in 2010, increasing 160 basis points faster than inflation through 2018 with variability in annual increases consistent with MWD’s historic record , increasing at rate of inflation thereafter</li> <li>• Premium of Tier 2 price over Tier 1 price declining from 23% in 2010 to 15% by 2025</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent with MWD historic record of periods of break out in water rates since 1960</li> <li>• Assumes that cost of new MWD supplies does not increase as fast as cost of firming up MWD’s existing supplies</li> </ul>
SDCWA Readiness to Serve Obligation	<ul style="list-style-type: none"> <li>• Total MWD Obligation, actual in 2010 increasing at inflation (2.5%) thereafter</li> <li>• SDCWA share: estimated share in 2010 declining by one-third by 2027</li> </ul>	<ul style="list-style-type: none"> <li>• Conservative relative to MWD historic record of price increases</li> <li>• Reflects SDCWA’s policy of reducing dependence on MWD</li> </ul>
Capacity Charge	<ul style="list-style-type: none"> <li>• Actual in 2010 increasing at inflation thereafter</li> </ul>	<ul style="list-style-type: none"> <li>• Conservative relative to MWD historic record of price increases</li> </ul>
4-Year Running Average of SDCWA Purchases from MWD and IID	<ul style="list-style-type: none"> <li>• Based on trend growth and variability in SDCWA water demands</li> <li>• Adjusted by anticipated increase in local water supplies including local desalination project</li> </ul>	<ul style="list-style-type: none"> <li>• Statistical study of SDCWA water demands</li> <li>• Schedule of increased supplies per SDCWA urban water management plan</li> </ul>

**Table 2 (continued)**

<b>ITEM</b>	<b>ASSUMPTION</b>	<b>COMMENT</b>
Base Wheeling Rate		
Capital Component	<ul style="list-style-type: none"> <li>• Per IID analysis of MWD assets and terms of 1998 agreement for 2008</li> </ul>	<ul style="list-style-type: none"> <li>• Projections ignore declining trend in calculation per definition in 1998 agreement</li> </ul>
O&M Component	<ul style="list-style-type: none"> <li>• Per IID analysis of MWD budgets for 2008, increasing at inflation thereafter</li> </ul>	
Power Component	<ul style="list-style-type: none"> <li>• Per IID analysis of MWD power costs on CRA</li> </ul>	
Discount Rate	<ul style="list-style-type: none"> <li>• 17.22% in 2010 decreasing to 5% in 2019</li> </ul>	<ul style="list-style-type: none"> <li>• Per 1998 agreement</li> </ul>
Applicability of Tier 1 and Tier 2 Rates	<ul style="list-style-type: none"> <li>• Per IID interpretation of 1998 agreement</li> </ul>	<ul style="list-style-type: none"> <li>• Actual mix of IID conserved water priced at Tier 1 versus Tier 2 rates varies with variability in SDCWA's annual water demands</li> </ul>
<b>Shortage Premium</b>	<ul style="list-style-type: none"> <li>• Suspended through 2017</li> <li>• Frequency of Colorado River Trigger/SDCWA shortage declaration: 1/8 years</li> <li>• Frequency of Northern California trigger in 1998 Agreement: 1/6 years</li> </ul>	<ul style="list-style-type: none"> <li>• Per Revised Fourth Amendment</li> <li>• Per IID analysis of long-term water supply conditions</li> <li>• Per historical record of Sacramento River Index</li> </ul>
<b>Inflation</b>	<ul style="list-style-type: none"> <li>• 2.5%</li> </ul>	<ul style="list-style-type: none"> <li>• Consistent historic record of inflation since 1982</li> </ul>

**Table 3**  
**Projected Revenues from IID/SDCWA Agreement**

<i>Year</i>	<i>Expected Base Contract Revenues</i>		<i>Expected Shortage Premium Revenues</i>	<i>Expected Total Revenues</i>
	<i>Firm*</i>	<i>Non-Firm**</i>		
2010	\$27,480,338	\$2,624,547	\$0	\$30,104,885
2011	\$33,511,760	\$2,811,281	\$0	\$36,323,041
2012	\$39,783,314	\$2,982,221	\$0	\$42,765,534
2013	\$46,667,448	\$3,234,368	\$0	\$49,901,816
2014	\$49,670,583	\$3,304,581	\$0	\$52,975,164
2015	\$50,965,015	\$3,073,152	\$0	\$54,038,167
2016	\$54,274,758	\$3,189,555	\$0	\$57,464,313
2017	\$57,628,918	\$3,412,129	\$0	\$61,041,048
2018	\$78,079,936	\$4,302,446	\$4,073,657	\$86,456,039
2019	\$99,006,064	\$5,052,092	\$4,957,683	\$109,015,839
2020	\$119,550,868	\$5,643,491	\$5,750,949	\$130,945,308
2021	\$128,866,107	\$5,940,091	\$6,176,118	\$140,982,316
2022	\$132,338,111	\$5,972,752	\$6,313,587	\$144,624,449
2023	\$135,750,863	\$6,073,428	\$6,487,789	\$148,312,080
2024	\$139,334,660	\$6,207,195	\$6,650,019	\$152,191,874
2025	\$143,228,427	\$6,286,626	\$6,842,240	\$156,357,294
2026	\$147,053,470	\$6,603,780	\$7,021,748	\$160,678,999
2027	\$151,176,661	\$6,713,139	\$7,241,572	\$165,131,371
2028	\$155,650,228	\$6,856,544	\$7,437,718	\$169,944,491
2029	\$160,250,095	\$7,045,830	\$7,635,026	\$174,930,951
2030	\$165,163,167	\$6,939,994	\$7,870,781	\$179,973,943
2031	\$170,206,550	\$6,935,424	\$8,107,140	\$185,249,114

**Table 3 (continued)**

<i>Year</i>	<i>Base Contract</i>		<i>Revenues</i>	<i>Expected Shortage Premium Revenues</i>	<i>Expected Total Revenues</i>
	<i>Firm</i> <sup>*</sup>	<i>Non-Firm</i> <sup>**</sup>			
2032	\$175,142,787	\$7,166,542	\$182,309,329	\$8,360,549	\$190,669,878
2033	\$180,558,208	\$6,861,834	\$187,420,042	\$8,578,680	\$195,998,722
2034	\$185,976,502	\$6,914,677	\$192,891,180	\$8,856,786	\$201,747,966
2035	\$191,141,275	\$7,304,661	\$198,445,937	\$9,102,716	\$207,548,653
2036	\$197,021,080	\$7,034,324	\$204,055,404	\$9,349,947	\$213,405,351
2037	\$202,669,893	\$7,090,224	\$209,760,118	\$9,586,143	\$219,346,261
2038	\$208,787,133	\$7,025,882	\$215,813,015	\$9,889,510	\$225,702,525
2039	\$215,107,425	\$6,749,707	\$221,857,132	\$10,138,949	\$231,996,081
2040	\$220,870,828	\$7,099,175	\$227,970,003	\$10,428,032	\$238,398,035
2041	\$227,163,803	\$7,023,345	\$234,187,148	\$10,716,115	\$244,903,263
2042	\$233,547,314	\$7,189,535	\$240,736,849	\$11,040,076	\$251,776,925
2043	\$240,085,890	\$7,242,901	\$247,328,791	\$11,266,755	\$258,595,546
2044	\$247,038,138	\$7,126,086	\$254,164,223	\$11,620,937	\$265,785,161
2045	\$253,488,723	\$7,506,950	\$260,995,673	\$11,929,928	\$272,925,601
2046	\$260,386,345	\$7,498,174	\$267,884,519	\$12,265,768	\$280,150,287
2047	\$267,773,206	\$7,279,838	\$275,053,044	\$12,585,326	\$287,638,371

\* Firm revenues defined as the threshold level of revenues in any year where, given the variability in pricing under the IID/SDCWA Agreement, actual revenues in any year are projected to exceed the threshold two-thirds of the time

\*\* Non-firm revenues defined as the difference between expected revenues from the Base Contract Price and firm revenues