

# Overview of Key Terms for a Water Purchase Agreement between the San Diego County Water Authority and Poseidon Resources



San Diego County Water Authority  
Special Board of Directors' Meeting  
September 20, 2012

**Draft WPA**  
**Assignment of Risk**  
**Between the Parties**



Desalination Plant

Agua Hedionda

Desal Conveyance Pipeline  
10-miles of new 54-inch pipe

Pipeline 3 Relining  
(27,100 feet)

TOVWTP  
Improvements

Aqueduct  
Connection  
Facilities

Vista

Lake San Marcos

Marcos

Data CSUMB SFML, CA OPC  
©2012 Google

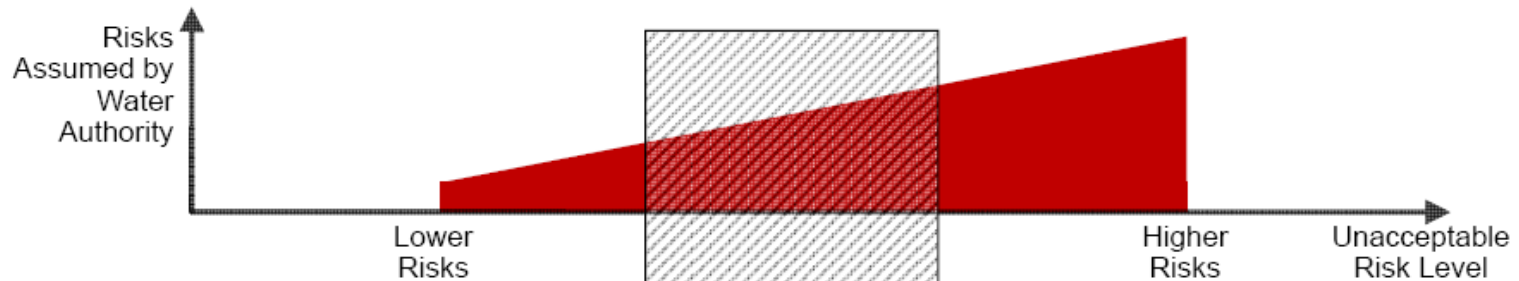
©2010 Google

# Balancing Price and Risk

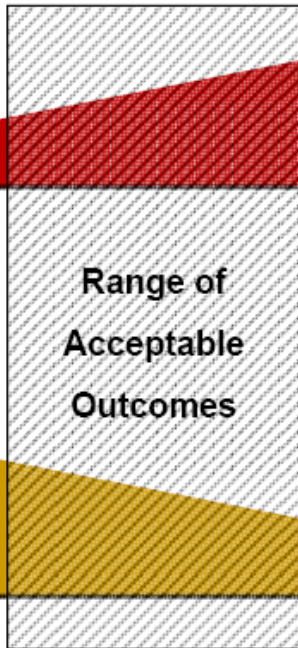
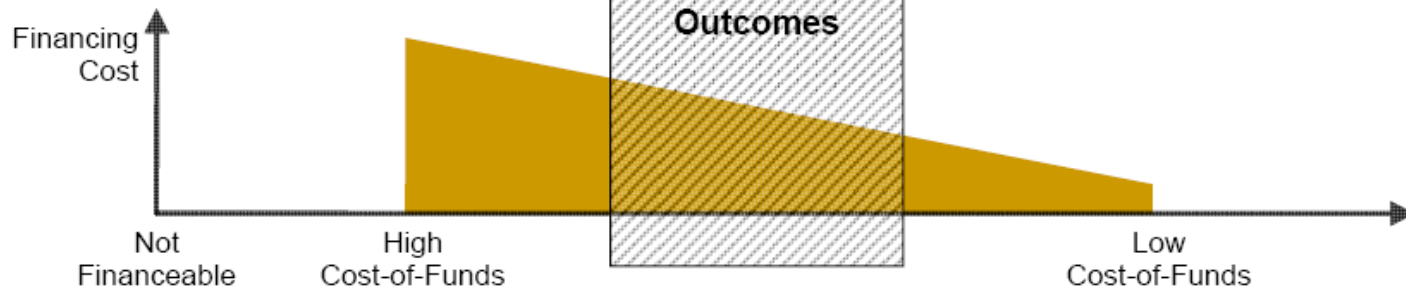
## Pursuing an Appropriate Risk/Reward Tradeoff

### Why a Water Purchase Agreement?

*Project Risks Assumed by the Water Authority*



*Financial Feasibility of the Project*



# Parties

---

- Water Authority
- Project Company: Poseidon
- EPC Contractor: Kiewit-Shea Joint Venture
- Process Engineering and Equipment: IDE
- Operating Services Provider: IDE

# Project Structure

- **Developer/Owner of the Plant**

- Poseidon Resources (Channelside)
- Poseidon to finance through a combination of debt and equity
  - Debt to be provided through tax-exempt Private Activity Bonds (PAB's)
  - Equity to be provided by Stonepeak

- **Construction/Operation of the Plant**

- Contractor – Joint venture of Kiewit Infrastructure West and J.F. Shea Construction
- IDE Technologies is process technology provider
- Plant Operations and Maintenance also to be provided by IDE

# Project Structure (continued)

- **Owner of the Conveyance Pipeline**

- Water Authority will own and maintain the Conveyance Pipeline
  - Not subject to franchise fees or possessory interest taxes
- Finance using municipal purpose bonds issued by California Pollution Control Financing Authority (CPCFA)
  - Bonds maintain risk transfer to Poseidon by insulating the Water Authority from financial responsibility in the event Poseidon is unable to perform
  - Exempt from AMT – Lower interest rate

- **Construction of the Conveyance Pipeline**

- Design Build agreement between the Water Authority and Poseidon
- Contractor – Kiewit/Shea Joint Venture

- **Construction of the P<sub>3</sub> Relining and TOVWTP Improvements**

- Water Authority will be responsible to finance and complete these improvements

# Poseidon Responsibilities

---

- Permit, Design and Build the Desal Plant (WPA)
- Permit, Design and Build the Product Water Pipeline (Design-Build Agreement)
- Operate and Maintain the Desal Plant
- Supply Product Water

# Water Authority Responsibilities

---

- “Take or Pay” for Product Water if it meets specifications
- Timely Construction of TOVWTP Improvements and Pipeline 3 Rehabilitation
- Physically be able to receive Product Water
- Operate and Maintain the Product Water Pipeline, the TOVWTP Improvements and Pipeline 3

# Performance Guarantees

---

- Product Water Quality Guarantee
- Enhanced Standards, Beyond Applicable Law
- Minimum Product Water Delivery Guarantee
- Water Ordering Rights
- Law Compliance

# Risks Transferred to Poseidon

- Construction Cost Overruns
- Operating Cost Overruns
- Subcontractor Performance
- Disputes Among Contractors
- Timely Project Completion (No water purchase payments until acceptance)
- Efficiency of the Technology

# Risks Transferred to Poseidon (continued)

---

- Permitting
- Regulated or Differing Site Conditions
- Capital Maintenance, Repair and Replacement
- Labor Supply and Relations
- Electricity Consumption
- Insurable Force Majeure Events

# Risks Retained by Water Authority

- Changes in Law that affect all water treatment plant operators or wastewater dischargers
- Cost of Encina Improvements Due to Expected Power Station Closure, Up to \$20 Million Capital and \$2.5 Million Annual Operating Costs (a change in law)
- Uninsurable Force Majeure Events
- Unusual Raw Seawater Water Parameters (no additional compensation)
- Retained risks are “uncontrollable circumstances”

# Risks Retained by Water Authority (continued)

---

- Bond Financing Interest Rates
- General Price Inflation
- General Electricity Rates

# Mechanism for Handling Retained Risks

- Unit Price is increased (Capital and Operating Costs)
- Poseidon must finance necessary Capital Costs
- Financing is based on Water Authority commitment to pay increased Unit Price
- Water Authority can terminate for financing unavailability
- Water Authority has option to finance additional Capital Costs itself

# Managing The “Pipeline To Nowhere” Risk

## Before Commercial Operation:

- If the Pipeline completion is delayed Poseidon will pay Contracted Shortfall Payments equal to the pipeline debt service
- If Poseidon fails to complete either the Pipeline or the Plant by certain specified dates, Poseidon will be obligated for the outstanding amount of the Pipeline Bonds
  - Water Authority will not be obligated to make any debt service payments on the Pipeline Bonds if Poseidon does not complete the project or pass acceptance testing

## After Commercial Operation:

- Poseidon will pay Contracted Shortfall Payments equal to a share of the debt service if it fails to meet the minimum product water delivery requirement
  - Water Authority only pays debt service if water is delivered
  - No recourse to the Water Authority from Bond Holders
  - Estimated \$27 Million Present Value Savings based on Water Authority ownership

# Security for Contract Performance

---

- Equity Investment
- Project Financing: Non-Performance Risk  
Incentivizes Bondholders to Cure Breaches
- Letter of Credit

# Other Water Authority Protections

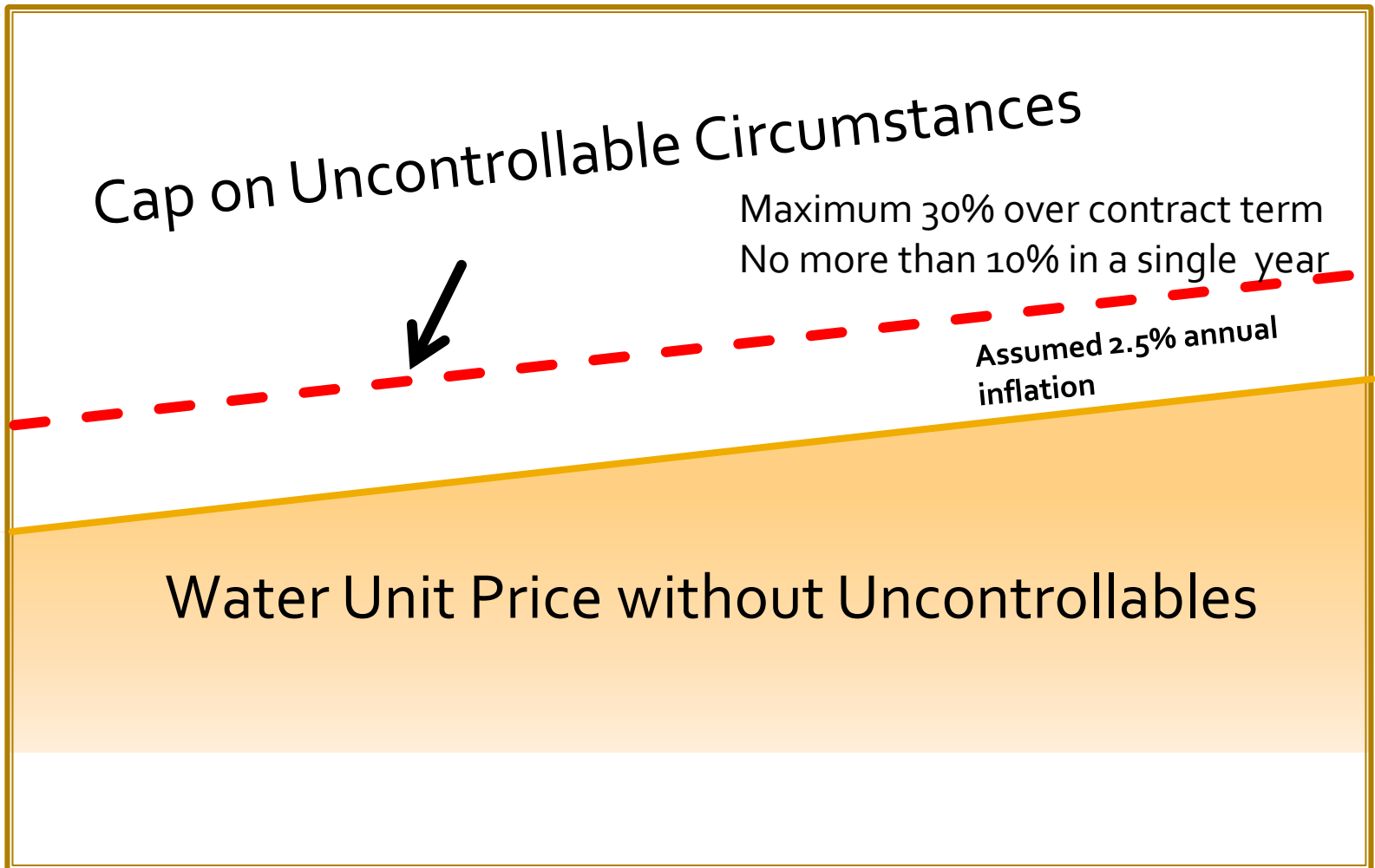
---

- Step-in rights if public health is jeopardized
- Water Authority right to direct an expansion and other modifications
- Poseidon covenant not to develop another desalination plant

# Water Authority Project Purchase Options

- After 10 years following acceptance (convenience termination; debt, equity & breakage)
- Financing unavailability (debt, equity & breakage)
- Project company default (debt)
- After 30-year expiration (\$1)

# Cumulative Cap on Adjustment to the Price of Water



**QUESTIONS?**

# Draft WPA

## Overview of Technical Appendices

# Overview of Water Purchase Agreement Technical Appendices



Special Board of Directors Meeting  
September 20, 2012

# Water Purchase Agreement

## Technical Appendices Overview

---

- **WPA will include 18 technical appendices**

### **Key topics that will be covered include:**

- Documentation supporting construction and operation of the Plant
- Specific Water Authority requirements for equipment and operation connected to operation of the aqueduct system
- Specific standards for completion, performance testing and operation of the Plant
- Details regarding electricity charge and water purchase payment calculations
- Project condition at end of term

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 1 – Description of the Plant Site**
  - Maps, legal descriptions and subsurface conditions of the real property leased to Poseidon for the Plant
- **Appendix 2 – Governmental Approvals**
  - Existing and expected governmental approvals that are required for construction and operation of the Plant

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 3 – Project Design and Construction Work**
  - Water Authority review and comment on plant design
    - Conformance with Design Requirements (EPC Scope Book)
    - Poseidon retains full responsibility for design, construction and operation of the Plant
    - Supplemental Water Authority design requirements to address specific equipment requirements:
      - Plant Flow Meter
      - Pumping System and surge control design requirements
      - Fiber optic cable and hardware to connect Plant to Water Authority SCADA system
      - Water Authority preferred material and equipment providers for RO membranes, pressure vessels and product water pumps

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 3 – Project Design and Construction Work (continued)**
  - Construction observation and monitoring by the Water Authority
  - Construction progress documentation and reporting requirements by Poseidon
  - Poseidon construction Quality Management and safety requirements
  
- **Appendix 4 – Mechanical Completion Requirements**
  - Procedures, plans and reporting requirements to achieve a state of readiness to begin performance testing
    - Completion of Physical construction and equipment installation
    - “Dry” and “Wet” commissioning
  - Water Authority approval right

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 5 – Minimum Performance Criteria and Performance Testing**
  - Protocol, data collection and specific performance requirements for a consecutive 30 day period to verify the performance of the Plant
    - Product water quantity and quality
    - Power consumption
    - Chemical consumption
    - Pre-treatment filter performance
    - RO membrane performance
  - Provisions to compare actual performance against process design expected performance
  - 30 day test includes a 7 day period where the Plant will be required to produce volume based on maximum product water flow of 54 mgd

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 5 – Minimum Performance Criteria and Performance Testing (continued)**
  - Provisions to reduce Maximum Annual Supply Commitment if Product Water quantity requirements are not met during the test
  - Water Authority approval right
- **Appendix 6 – Operating and Maintenance Standards**
  - Specific Water Authority requirements for Plant operation
    - Product Water flow requirement immediately following a power outage
    - Minimum staffing at the Plant
    - Environmental compliance
    - Documentation and reporting of operations, maintenance, repair and replacement
    - RO membrane replacement schedule

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 6 – Operating and Maintenance Standards (continued)**
  - Preparation of Operating Protocol
    - Procedures for start-up and shutdown of Product Water flow from the Plant
    - Procedures for operator communication between Water Authority and Plant operator
    - Pump operation procedures to avoid hydraulic transients
  - Operating Mode Change Performance Test
    - Confirm water quality consistency when Plant operating mode changes
- **Appendix 7 – Insurance Requirements**
  - Poseidon insurance requirements during construction and operation

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 8 – Supplemental Performance Guarantee Requirements**
  - Specific Requirements of Product Water Quality Guarantee
    - Compliance with all federal and state drinking water regulations
      - Pathogens, disinfection byproducts
    - Additional standards for specific water quality parameters including:
      - TDS, Turbidity, Chloride, Bromide, Boron, Temperature, pH, Calcium, Iron, Manganese, Alkalinity.
      - Procedures for sampling, sampling frequency and location
    - Provisions for determining the volumes of any Off-specification and Unacceptable Water
  - Product water chlorine and ammonia range requirement at discharge of Product Water pump station

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 8 – Supplemental Performance Guarantee Requirements (continued)**
  - Specific raw seawater quality parameters
    - Raw seawater outside these parameters would be an “Uncontrollable Circumstance”

# Water Purchase Agreement

## Technical Appendices Overview

- **Appendix 9 – Electricity Charge**

**Electricity Charge is determined using:**

1. Project Company guaranteed energy consumption
  - *Based on actual water flow rates (MGD), water temperature (°C), and water quality (TDS)*
2. SDG&E Rates & Charges
  - *Then-current SDG&E rates and charges are applied to the guaranteed energy consumption in order to calculate the electricity charges*

**Electricity Charge Components:**

1. Fixed Electricity Charge
  - Electricity costs incurred in a standby (non-production) mode
  - Based on 48,000 AF per year (updated for tariff rates changes)
2. Variable Electricity Charge
  - Electricity costs incurred when producing water
  - Based on actual water delivered each month and current SDG&E tariff rates

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 9 – Electricity Charge (continued)**

Adjustment to Guaranteed Energy Consumption:

- Calculated at the end of the fourth full year of operations
- If actual energy consumption is less than 90% of guaranteed energy consumption in that fourth year of operations, guaranteed energy consumption will be adjusted downward
- For example, if actual consumption is 85% of guaranteed consumption, guaranteed energy consumption will be adjusted downward by 5%
- The adjusted guaranteed energy consumption is then applicable for the remainder of the contract term

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 10 – Schedules Relating To Monthly Water Purchase Payments**
  - Tabular summaries of the various charges that make up the Water Unit Price
  - Examples of monthly payment calculations
  - Examples of annual true-ups and account tracking
  - Financing of future intake improvements

# Water Unit Price

## 3. The Electricity Charge is driven by:

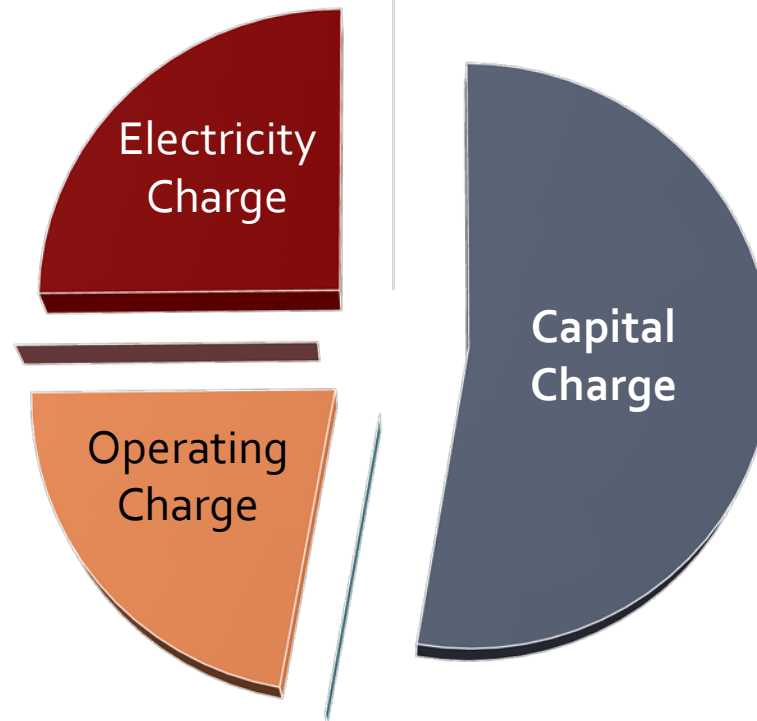
- Terms of Poseidon's O&M Agreement with IDE
- SDG&E Rates
- Water Authority's option to select supplier

*The Electricity Charge will vary with electricity prices*

## 2. The Operating Charge is driven by:

- Terms of Poseidon's O&M Agreement with IDE
- Other operating expenses

*The Operating Charge is indexed to CPI*



## 1. The Capital Charge is driven by:

- Poseidon's Capital Budget
- Bond Issuance
- Negotiated Equity Return/Developer Fee
- Development period costs

*The Capital Charge is fixed at a pre-established escalation rate*

# Appendix 10: Maximum and Minimum Commitments

Maximum Annual Supply Commitment..... 56,000.0

Minimum Annual Demand Commitment..... 48,000.0

## Illustrative Monthly Scheduling - Example A

Month	Maximum Monthly Supply Commitment	Minimum Monthly Demand Commitment
July	4,700.0	4,700.0
August	4,700.0	4,700.0
September	4,700.0	4,500.0
October	4,700.0	4,000.0
November	4,700.0	4,000.0
December	4,700.0	3,500.0
January	4,700.0	3,000.0
February	4,300.0	3,000.0
March	4,700.0	3,000.0
April	4,700.0	4,200.0
May	4,700.0	4,700.0
June	4,700.0	4,700.0
Total	56,000.0	48,000.0

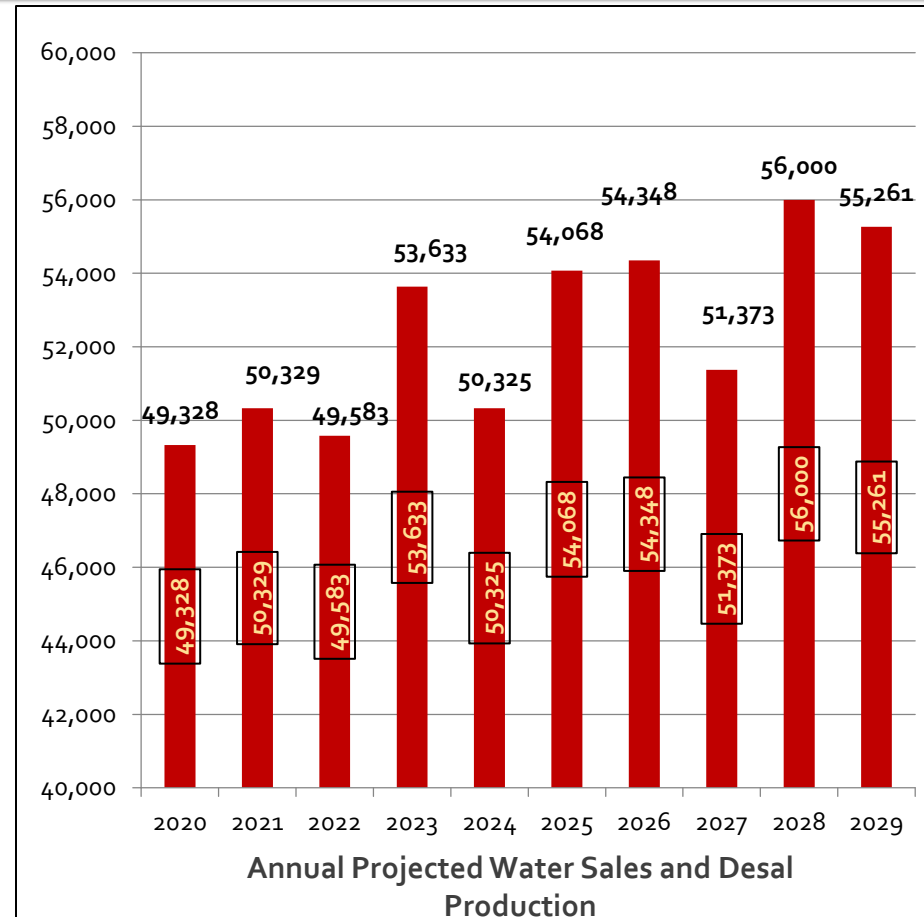
# Appendix 10: Demand Shortfalls

Month	Maximum	Minimum	Monthly	Monthly Demand		Adjusted
	Monthly	Monthly	Product	Shortfall Units		Monthly
	Supply	Demand	Water	Excused	Unexcused	Supply
	Commitment	Commitment	Orders			Commitment
July	4,700.0	4,700.0	4,800.0	-	-	4,700.0
August	4,700.0	4,700.0	4,600.0	100.0	-	4,600.0
September	4,700.0	4,500.0	4,300.0	-	200.0	4,300.0
October	4,700.0	4,000.0	4,800.0	-	-	4,700.0
November	4,700.0	4,000.0	4,500.0	-	-	4,500.0
December	4,700.0	3,500.0	4,500.0	-	-	4,500.0
January	4,700.0	3,000.0	4,500.0	-	-	4,500.0
February	4,300.0	3,000.0	4,500.0	-	-	4,300.0
March	4,700.0	3,000.0	4,500.0	-	-	4,500.0
April	4,700.0	4,200.0	4,600.0	-	-	4,600.0
May	4,700.0	4,700.0	4,700.0	-	-	4,700.0
June	4,700.0	4,700.0	4,600.0	-	100.0	4,600.0
<b>Total</b>	<b>56,000.0</b>	<b>48,000.0</b>	<b>54,900.0</b>	<b>100.0</b>	<b>300.0</b>	<b>54,500.0</b>

Adjusted Annual Supply Commitment..... 54,500.0

# Monthly Payments

- Base Product Water Deliveries
  - First 48,000 Acre feet
  - Paid at Fixed and variable price
- Additional Product Water Deliveries
  - Next 8,000 acre feet
  - Paid at variable unit price
- Excess Product Water Deliveries
  - Water above 56,000 acre feet
  - Paid at variable unit price plus incentive bonus



# Annual True-Up

---

- Fixed Costs are paid on first 48,000 acre feet
- Poseidon is obligated to deliver up to 8,000 acre feet of additional water
- The Annual True Up is a refund to the Water Authority
  - Poseidon failure to deliver additional water

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 11 – End of Term Project Condition Requirements**
  - Procedures and protocol to be followed at either:
    - Water Authority exercise of purchase option (after 10 years)
    - End of the 30 year term
  - Independent Evaluator to be employed to:
    - Evaluate functionality and Integrity of Project Structures
    - Inspect and test Project equipment
    - Evaluate Project performance
      - 6 months of data will be required to show project performance according to contract standards for quantity, quality and reliability
      - Repeat of 30 performance test required if 6 month evaluation does not pass
    - Identify corrective work necessary

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 11 – End of Term Project Condition Requirements (continued)**
  - Retainage to be held back by Water Authority consistent with the value of the corrective work required.
- **Appendix 12 – Project Assets and Liabilities**
  - Description and definitions of Project assets and liabilities to be used at purchase or end of term
- **Appendix 13 – Water Authority Improvements**
  - Description and delineation of P<sub>3</sub> and TOVWTP improvements

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 14 – Project Company and Project Contractors Information**
  - Information on the Project Company and Project Contractors
  - Identification of key Project individuals and their position
- **Appendix 15 – Public Communication**
  - Poseidon's outreach and communication methods during Project construction
  - Advance approval from Water Authority required for communications where Water Authority facts or quotes are to be used

# Water Purchase Agreement

## Technical Appendices Overview

---

- **Appendix 16 – Litigation**

- A listing of current litigation regarding the Project

- **Appendix 17 – Information Provided by the Project Company**

- A listing of documents provided by Poseidon that the Water Authority has relied upon as part of consideration of the Water Purchase Agreement

- **Appendix 18 – Water Authority’s Discrimination /Harassment Prohibition Policy**

- Poseidon and its contractors would be required to comply with this policy

**QUESTIONS?**