San Diego County Water Authority

4677 Overland Avenue
San Diego, California 92123

SPECIAL BOARD OF DIRECTORS' MEETING

Board Room

August 9, 2012

1:30 p.m.

1. Call to order.

2. Roll call – Determination of a quorum.
   A. Report on proxies received.

3. Public comment.

4. Workshop on issues related to the Carlsbad Desalination Project.
   4-A Overview of the key terms and conditions in a Draft Water Purchase Agreement with Poseidon Resources (Channelside) for desalinated seawater from the Carlsbad Desalination Project. (Information)

5. Adjournment.

Doria F. Lore
Clerk of the Board

NOTE: All public documents provided to the Board for this meeting including materials related to an item on this agenda and submitted to the Board of Directors within 72 hours prior to this meeting may be reviewed at the San Diego County Water Authority headquarters located at 4677 Overland Avenue, San Diego, CA 92123 at the reception desk during normal business hours.

San Diego County Water Authority

August 6, 2012

Attention: Water Planning Committee

Overview of the key terms and conditions in a Draft Water Purchase Agreement with Poseidon Resources (Channelside) for desalinated seawater from the Carlsbad Desalination Project. (Information)

Purpose

Prior to release of the draft agreement, provide an overview of the key commercial and economic terms contained in the Draft Water Purchase Agreement with Poseidon Resources consistent with the Board approved July 22, 2010 Term Sheet.

Background

The Carlsbad Desalination Project (Project) is a fully-permitted seawater desalination plant and conveyance pipeline currently being developed by Poseidon Resources (Poseidon), a private investor owned company that develops water and wastewater infrastructure. The Project has been in development since 1998 and was incorporated into the 2003 Water Facilities Master Plan and the Water Authority's 2005 and 2010 updates of the Urban Water Management Plan. The Project has obtained all required permits and environmental clearances and, when completed, will provide a highly reliable local supply of up to 56,000 acre-feet (AF) per year for the region. In 2020, the Project would account for approximately eight percent of the total projected regional supply and 30% of all locally generated water in San Diego County. If the project becomes operational in 2016, it will more than double the amount of local supplies developed in the region since 1991.

On July 22, 2010, the Board approved a Term Sheet between the Water Authority and Poseidon Resources that outlined the key terms and conditions that would be detailed and incorporated in a comprehensive Water Purchase Agreement (WPA). Among the commercial and financial terms addressed in the Term Sheet, there were conditions precedent to be satisfied prior to face to face negotiation of a WPA and conditions precedent to Board consideration of a WPA.

The conditions to be satisfied prior to negotiating a draft WPA included Poseidon obtaining a definitive executed commitment from equity investors sufficient to meet requirements to fully finance the project. Because it is a private project, the amount of the project cost not funded by bonded indebtedness will be funded with cash equity provided by one or more private infrastructure investors. In July 2011, Stonepeak Capital, formerly of the Blackstone investment group, provided the Water Authority an equity commitment letter on customary terms, committing up to $150 million in equity contributions towards the Project. In addition to the Equity Commitment, conditions precedent to negotiating and finalizing an agreement included: the termination of all existing confidentiality agreements between the Water Authority and Poseidon and a waiver and release from any claims related to those agreements; execution of an acknowledgement by Poseidon and the nine Desal Partner member agencies requesting the Water Authority enter into negotiations and a waiver of all claims related to their existing agreements. With the September 2011 approval by the Board and the City of Carlsbad of a Framework Agreement for Cooperation, the final condition precedent to negotiation was satisfied.

Since October 2011 and under the direction of the Board's Carlsbad Desalination Project Advisory Group, staff has been developing a draft WPA consistent with the terms and conditions in the July 22, 2010 Board approved Term Sheet. Concurrent with negotiation and development of a draft WPA, staff has also been conducting an intensive due diligence effort to satisfy the conditions precedent to Board consideration of entering into a WPA with Poseidon.

As detailed in the July 2010 Term Sheet, consideration by the Board of approval of the WPA will not occur until the sales price of the water is finalized and all project related costs, with the exception of those costs related to the interest rate on debt, were known. Specifically, all project related capital and operating agreements need to be executed and all draft financial documents need to be reviewed and accepted by the Water Authority. At this time, staff is in the final stages of preparing the Draft WPA for release and is nearing completion of its due diligence efforts related to the pricing and financial terms contained in the draft WPA. The purpose of this memorandum and the Special Meeting of the Board of Directors on August 9, 2012 are to provide an overview of those key terms and conditions prior to release of the Draft WPA.

Discussion

As previously reported to the Board, the Project has several cost and facility components. Although most aspects of the Project are the responsibility of Poseidon, there a several physical features that are under the control of the Water Authority. These include the relining and rehabilitation of Pipeline 3 to accept desalinated water under higher operating pressures and improvements at the Twin Oaks Valley Water Treatment Plant necessary to blend desalinated water with imported supplies for distribution to member agencies. Although it is contemplated that the new pipeline connecting the Desalination Plant in Carlsbad with the Water Authority's Second Aqueduct in San Marcos is to be owned and operated by the Water Authority, responsibility for design and construction will reside with Poseidon through a separate Design Build Agreement.

The focus of the Draft WPA is related to the commercial and financial terms between the Water Authority and Poseidon for the production and delivery of desalinated water to the Water Authority's facilities. At its center, the draft WPA represents a transfer of risk to the private sector for the design, construction and operation of the Desalination Plant and the design and construction of the new conveyance pipeline from the Plant to the Second Aqueduct. Because the Water Authority has no experience building and operating a seawater desalination plant and the use and value of the conveyance pipeline is directly tied to the successful operation of the Desalination Plant, a risk transfer through a water purchase agreement is deemed the most appropriate method of project execution.

As in any transfer of risk, there is a cost to the party transferring the risk and an opportunity for reward to the party taking on the risk. In this case, the risk premium being paid by the Water Authority is predominantly in the blended cost of capital used to finance the project. The cost of funds for the tax exempt Private Activity Bonds (PABs) to be used by Poseidon to finance approximately 85% of the project are at a higher interest rate than the Water Authority's AA+ credit rating could obtain. Additionally, the higher rate of return for the 15% of capital costs being placed by the equity investor reflects the fact that they are the party that takes on the highest level of risk, and are compensated accordingly. The cost of the risk transfer to the Water Authority is in the blended cost of capital between those two sources, the interest rate for the tax exempt PABs and the rate of return for the equity investor. The financing of the new conveyance pipeline is also being done in a manner that maintains the transfer of risk to Poseidon. Although the Water Authority will own the conveyance pipeline, it will be financed through municipal purpose bonds issued by the California Pollution Control Financing Authority (CPCFA). These bonds also have a higher interest rate than conventional Water Authority bonds, but contractually insulate the Water Authority from financial responsibility for debt service payments in the event Poseidon is unable to perform and deliver desalinated water that meets contract standards. In that instance, Poseidon is financially obligated to make the debt service payments, and there is no recourse for the bond holders to the Water Authority.

A priority objective of the Water Authority throughout negotiation of the Draft WPA has been to assign appropriate risk to the private developer at the minimum cost to the Water Authority. Consistent with the July 2010 Term Sheet, the draft WPA in large part details the assignment of risk from the Carlsbad Desalination Project between the Water Authority and Poseidon, including price risks. The following is a summary of the key terms and conditions and the assignment of project risk.

<u>Summary of Key Terms and Conditions</u>

Term of the Agreement

The term of the agreement will be for 30 years, once commercial operation begins, subject to early buyout provisions discussed below. The term can be extended up to three additional years due to force majeure events.

General Risk Allocation

The most essential element of risk assignment in the agreement is that the Water Authority would simply purchase water from the project at a pre-defined price and have no responsibility or liability for the design, permitting, financing, construction or operation of the Project. If Poseidon fails to perform its responsibilities to finance, construct and operate the Project within certain timeframes, the Water Authority would have no obligation to pay Project costs and Poseidon would be subject to liquidated damages or other remedies for default. The Water Authority would not have to begin paying for water until the Project passed the Water Authority's acceptance test requirements and, once operating, the Water Authority could reject water that did not meet specific water quality requirements as identified in the agreement. In such an instance, Poseidon would be subject to liquidated damages and other contract remedies. Also, if Poseidon was not capable of producing the required amount of water during a Stage 2 Drought Alert under the *Water Authority's Water Shortage and Drought Response Plan*, they would be subject to additional liquidated damages and other contract remedies in recognition that the Water Authority's supply reliability is damaged during such an occurrence. However, the Water Authority would commit to purchase at least 48,000 AF of desalinated water per year; as such commitment is critical to the financial viability of the Project. If Poseidon were able to deliver water to the Water Authority, meeting the stated water quality requirements, and the Water Authority did not accept delivery of the water, Poseidon would be paid a price equal to the fixed costs of the project.

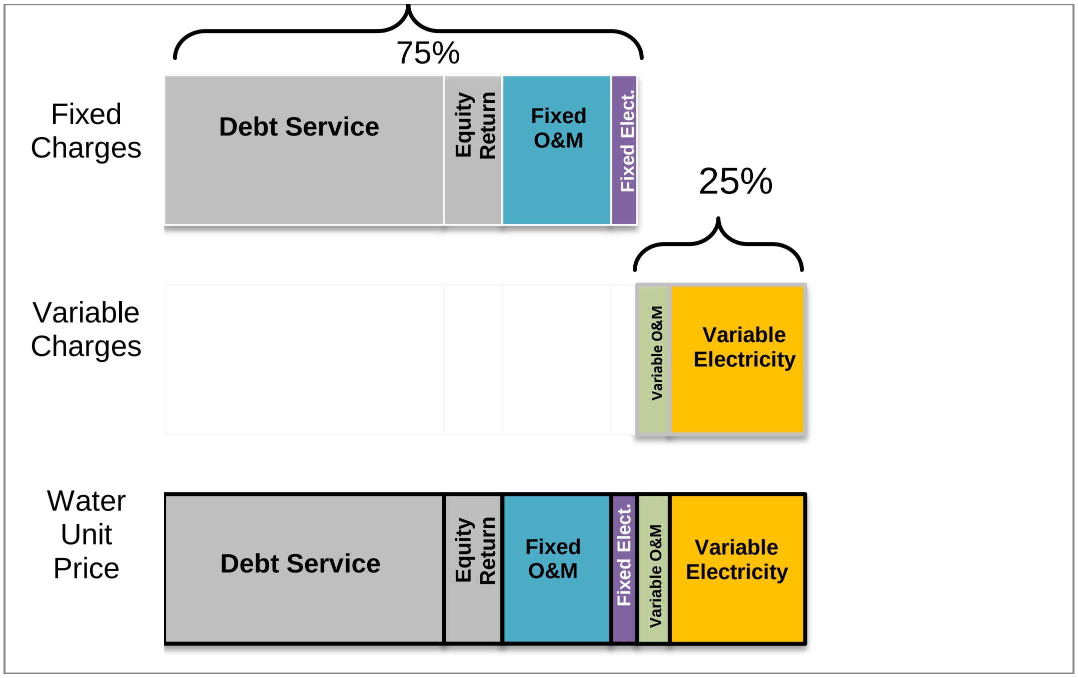
Other key elements of the draft WPA are:

Water Purchase Price
As reported to the Board at the June 14, 2012 Special Meeting, the cost of desalinated water delivered by Poseidon to the Water Authority's existing facilities is currently estimated to be between $1,955 and $2,159 per acre-foot; this is the cost that is associated with the Water Authority's contractual obligations under the terms of the draft WPA. It is important to note that additional costs related to the Carlsbad Desalination project will be incurred by the Water Authority outside the terms and conditions of the draft WPA. These include the relining and rehabilitation of Pipeline 3, physical improvements at the Twin Oaks Water Treatment Plant and additional cost resulting from lower production at Twin Oaks as a result of desalinated water production. Although not associated with the WPA, these costs add an additional $107-$170 per acre-foot to the total unit price of desalinated water. Final prices for desalinated water, with the exception of the interest rate on debt, will be provided to the Board at the release of the Draft WPA.

Water purchase payments will be made monthly, based on actual acre-foot deliveries and at the then-current Water Unit Price. In each Contract Year, the first 48,000 AF of Product Water will be purchased at a price that amortizes both the fixed costs of the Project and the variable costs of water production. Water in excess of 48,000 AF will be purchased at a unit price reflecting only the variable costs of incremental water production.

As noted in Figure 1 below, the fixed portion of the Water Unit Price will include the capital charge (debt and equity components) and the fixed portions of the operating charge and electricity charge. The variable portion of the Water Unit Price will include the variable operating charge and the variable electricity charge. The Water Unit Price will include a production bonus for water the Water Authority requests above 56,000 AF/year, if any. At the end of each Contract Year, Poseidon will be paid an annual management fee of between $5 and $10 per AF, with the amount determined by the Water Authority based on Poseidon's performance as supplier. If the Water Authority fails to purchase at least 48,000 AF in a Contract Year, it will pay for the shortfall at a unit price reflecting the fixed costs of the Project, unless the Water Authority's failure results from an excused event such as force majeure.

Figure 1
The Water Unit Price



If Poseidon fails to deliver Product Water in satisfaction of its base supply obligation (up to 48,000 AF/year, as demanded by the Water Authority), it will fail to collect fixed charges from the Water Authority in an amount proportionate to its underperformance. In other words, if Poseidon delivers only 95% of its supply obligation in a Contract Year, it will receive only 95% recovery of its annualized fixed charges for the year. An annual true-up calculation will be performed at the end of each Contract Year to quantify Poseidon's actual supply obligation for the year and to measure its satisfaction thereof.

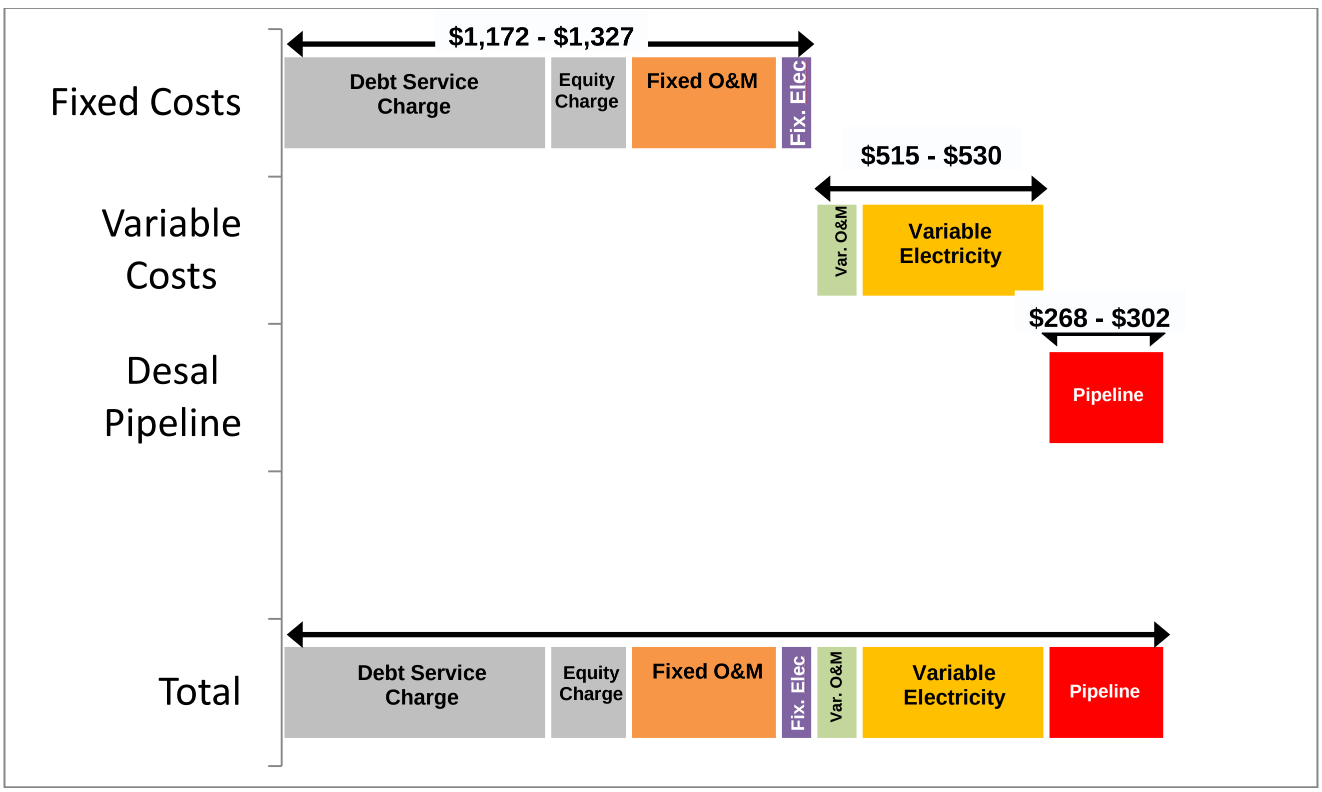
Pipeline debt service will be paid directly by the Water Authority as discussed in the following section. The all-in cost of water delivered to the Water Authority's aqueduct is the sum of (i) water purchase payments made to Poseidon and (ii) debt service payments on the Pipeline Bonds (as reduced by Contracted Shortfall Payment).

Water Authority Conveyance Pipeline Ownership

One of the opportunities for reducing the price of water that was identified in the July 2010 Term Sheet was for the Water Authority to own and operate the conveyance pipeline from the fence line of the Encina Power Station property to the Second Aqueduct in San Marcos. By owning the pipeline from project inception, the Water Authority can both obtain lower tax exempt debt though Alternative Minimum Tax (AMT) exempt municipal purpose bonds while maintaining the risk transfer to Poseidon if the Desalination Plant fails to operate as contractually required. Water Authority ownership will result in an interest rate savings of 0.5% - 1.0%. Additionally, as a public agency, the Water Authority is not subject to franchise fees or possessory interest taxes that Poseidon, as a private entity, must pay. It is estimated that Water Authority ownership will save ratepayers $27 million on a present value basis.

Because of the use of limited-recourse tax exempt municipal purpose bonds issued for the Water Authority by the CPCFA, the risk transfer to Poseidon and its cost responsibility for the conveyance pipeline in the event they fail to deliver desalinated water is maintained. The mechanism for maintaining the risk transfer to Poseidon is through what the draft WPA terms a Contracted Shortfall Payment. When the Water Authority takes delivery of desalinated water that meets the contractual requirements, the Water Authority will pay the pipeline debt service as part of the price of water. Figure 2 shows the current estimated cost of desalinated water including the debt service and O&M on the desalination project pipeline.

Figure 2
Water Unit Price with Conveyance



However, the amount the Water Authority is obligated to pay in each year is reduced by Contracted Shortfall Payments, if any, due from Poseidon. Contracted Shortfall Payments result from any failure by Poseidon to meet its supply obligations, and are proportionate to Poseidon's underperformance. In the event that Poseidon is unable to deliver water or the water does not meet contractual specifications, Poseidon will be responsible for making the debt service payment through a Contractual Shortfall Payment to the Water Authority. If Poseidon is unable to make a Contractual Shortfall Payment, they run the risk of entering into default. Because of the limited-recourse nature of the Pipeline Bonds, there is no financial responsibility of the Water Authority to pay the bond holders if the plant is not producing water – this risk lies with Poseidon and its equity investors. The only instance where the Water Authority is responsible for the debt service payment for the new pipeline is in the event of a force majeure event, e.g.; earthquake, which damages the pipeline while the Desalination Plant is still capable of delivering water. Staff believes that is a remote risk, and the significant cost savings realized by Water Authority ownership of the desalination project pipeline far outweighs the risk.

After five years, when the Plant has established a record of successful operations, the Water Authority would have the option to refund the limited-recourse Pipeline Bonds with even lower cost capital through conventional Water Authority full-recourse financing while maintaining the Contractual Shortfall Payment structure as part of the Water Authority's internal risk management.

Uncontrollable Circumstances
Although Poseidon will carry comprehensive builders risk and other insurance typical for projects of this nature, events that affect either the delivery of water by Poseidon or the acceptance of that water by the Water Authority and are not reasonably under the control of either party are subject to relief from obligations under the agreement. Under these circumstances, Poseidon is relieved of its obligation to meet its requirement to deliver water for the duration of the event. The Water Authority will not pay Poseidon for any water that could not be delivered because of the uncontrollable circumstance. For its part, if the Water Authority had an emergency situation declared by the Board and was unable to operate the Aqueduct system to take delivery of desalinated water from Poseidon, the Water Authority would not be required to pay for any water during such an event affecting the Water Authority's ability to perform.

Changes in Law
The cost associated with unanticipated changes in law or regulation is typically passed on as a price adjustment to the purchaser of a commodity. In the Draft WPA, changes in law or regulation that generally apply industry wide to water treatment facilities and wastewater dischargers would be an included change in law that would allow Poseidon to increase its price of water. However, that increase is capped such that the cumulative increase in the water unit price from all such "uncontrollable events" cannot exceed a specified percentage. Requirements for the Encina Power Station to upgrade its intake or additional requirements placed on Poseidon to operate on a standalone basis once the Power Plant is no longer using seawater for cooling purposes are examples of excluded changes in law. Changes in law that are excluded will not result in price increases to the Water Authority.

When the Encina Power Station is no longer using seawater for cooling purposes, Poseidon is required to upgrade the existing intake under their coastal permit and continue lagoon dredging operations. The Water Authority's financial obligation for intake improvements and additional operating costs is contractually capped at $20 million in capital costs in 2010 dollars index linked and $2.5 million index linked to CPI in annual operating expenses. The capped costs associated with the intake improvements are in the project budget and the projected annual future water unit price. Anything above those amounts are Poseidon's cost responsibility.

Water Authority Plant Purchase Option

In order to provide maximum financial flexibility to the Water Authority, ensure the Project is operated appropriately, and to protect the ratepayers' interests, there will be an early option, not an obligation, to buy the Plant beginning 10 years after the date of commercial operation. The price would be equal to the amount of outstanding debt, the present value of the remaining equity return and other remaining contractor costs and break costs. In the event of a Poseidon default, the Water Authority will have the option, not the obligation, to purchase the project for the outstanding bond debt only, with no payments to the equity investor.

At the end of the term, the Water Authority will have the right to purchase the Plant for $1. Poseidon will be required to demonstrate that the Plant is in good operating condition and capable of continuing to produce water that meets contract standards. This will provide for public ownership of the plant, intake and discharge facilities as well as the right to the long term lease with the power plant owner, NRG. Public ownership of the plant at the end of contract term will ensure continued price certainty for the production of water and will eliminate the risk of potential monopolistic pricing by the private owner when the contract expires. The ratepayers will have paid off the capital cost through the purchase of water over the contract term, and there is minimal risk to operating the plant. In that way, the rate payers would benefit in the long term from their past investment in the construction and operation of the plant.

Construction of the Plant and Pipeline and acceptance by the Water Authority

Although the Desalination Plant will be owned and financed by Poseidon, the Water Authority has a vested interest in ensuring it is built to industry standards and the quality reflects the price being paid by the Water Authority for water. The Plant must be capable of producing drinking water that meets all state and federal standards and do so in a safe and reliable manner that the Water Authority and the region can depend upon for almost 10% of its water supply. In addition, because the Water Authority has the option to take over ownership at the end of the contract term or after 10 years of commercial operation, there is a need to ensure that the facilities are designed and built to expected quality standards. As part of the pre WPA due diligence process, Water Authority staff and consultants worked with Poseidon and its EPC contractor, Kiewit Infrastructure, on setting the required performance standards and design requirements for the Plant. The Draft WPA provides the Water Authority the right to review and comment during the design and construction of the Desalination Plant and Product Water Pump Station to ensure that it is being built to the required contractual standards.

Since the Water Authority will be owner of the desalination project pipeline from the plant to the Second Aqueduct, the construction will be executed through a Water Authority Design Build Agreement with Poseidon. The joint venture of Kiewit-Shea Desal will be the sub-contractor to Poseidon for pipeline construction. The Design Build agreement will ensure the pipeline is built to Water Authority standards and performance requirements and provide all the review, comment and inspection rights the Water Authority typically has under a design build agreement while transferring the construction, schedule and desalinated water delivery risk to Poseidon. There will be an additional cost to the Water Authority related to construction oversight and for ongoing administration of the contract. A budget for these staffing costs will be presented to the Board prior to consideration of the WPA.

A key feature of the Draft WPA is that the Water Authority makes no payments to Poseidon until water is delivered. If water is never delivered and the project is unable to pass acceptance testing, then the Water Authority has no cost responsibility to Poseidon or its contractors. The Water Authority will not begin making payments until the parties agree that the plant is performing to contract standards and all of the performance tests are satisfactorily met. Under the Draft WPA and Poseidon's contract with Kiewit-Shea, Acceptance Testing is a two step process. *Mechanical Completion* occurs first whereby each piece of key equipment must meet specific performance standards before the 30 day acceptance testing can begin. Once mechanical completion has been achieved, the Plant will operate continuously for 30 days at near full capacity, including a lengthy period at full capacity, meeting all water quality and quantity requirements. During the same time period, the pipeline, the interconnection with Water Authority facilities, the relined Pipeline 3 and the TOVWTP improvements will be tested as well to ensure that the entire system operates as expected and water quality requirements are met for delivery to member agencies. The Water Authority will be involved throughout the testing period and will review and approve the final test results. The Water Authority will not begin payment for water until the acceptance test is met.

Plant Operation, Management and Maintenance
Because the Plant will be an essential component of the region's drinking water supply, the Water Authority will have certain contractual rights to ensure that the Plant is operated in a safe and efficient manner in accordance with industry standards. This includes setting employment standards for key operating personnel, reporting and record keeping requirements, and documentation of security and emergency plans to be reviewed by the Water Authority annually. The Water Authority will also have access to the Plant upon reasonable notice to conduct inspections and to observe and provide input into remedying operational and water quality issues. The Water authority also has contractual rights to arrange educational tours for the public and others of the facility. Poseidon is required to provide admistrative space at the Plant for Water Authority staff or a designated representative to observe plant operation and review data and technical reports. Under extreme circumstances of non-performance, the Water Authority has the right to step-in and resolve operational issues effecting delivery of water or meeting water quality requirements.

The smooth day to day coordination activities between the plant operations staff and the Water Authority operations staff are key to successful integration of the Carlsbad Desalination supply into the Water Authority's aqueduct system. If the relationship between the plant's Chief Operator and Water Authority operations staff is unworkable and communications are non-responsive, the draft WPA provides a process whereby the Water Authority can have the Chief Operator replaced. Although this is an extreme remedy and not anticipated to be utilized, the working relationship between Water Authority staff and the plant operators is critical to the success of the project.

Because the Desalination Plant is a source of municipal drinking water and it is an asset that the Water Authority may acquire in the future, the Draft WPA requires Poseidon to maintain the plant in an appropriate manner and in conformance with industry standards. This means Poseidon must repair and replace equipment according to a detailed maintenance plan and keep the plant in good working order at no additional cost to the Water Authority. The Water Authority has the right to conduct annual inspections as needed, and there will be full scale biennial inspections to ensure the plant is being maintained and operated as required.

Capital Modifications

Under the terms of the draft WPA, Poseidon may make capital modifications to the Plant of up to $10 million after review and comment by the Water Authority. Capital modifications greater than $10 million that materially alter the original design of the plant require Water Authority approval. These capital improvements to the plant do not affect the price of water paid by the Water Authority, and are typically done to replace or upgrade equipment to newer or more efficient technology. The Water Authority has the right under the draft WPA to direct Poseidon to make a capital modification. The Water Authority may want to make physical improvements at the Plant that it deems necessary or more efficient. Water Authority directed modifications are subject to an adjustment in the price of water and may be financed by the Water Authority at its option.

Events of Default

The Draft WPA specifies conditions where Poseidon will be considered to be in default of its contractual obligations and the Water Authority has the option to terminate the agreement. These include failure to pass acceptance testing by the agreed upon Commercial Operations Date; Poseidon bankruptcy or abandonment of the project, repeated violations of primary drinking water standards, multiple notices of violation or special orders issued by a regulatory agency; deliveries of less than 75% of the contract year amounts, and failure to make Contracted Shortfall Payments for the conveyance pipeline debt service.

The Water Authority is considered in default if it does not pay any undisputed amount owed Poseidon within 45 days of the due date for payment.

Prepared and Reviewed by: Ken Weinberg, Director of Water Resources
Reviewed by: Maureen A. Stapleton, General Manager