A & N Technical Services, Inc.

Memorandum

To: Lisa Marie Harris, Director of Finance
Dan Hentschke, General Counsel

From: Thomas W. Chesnutt, Ph.D., CAP®

Date: March 2, 2015

Re: **Review of Proposed SDCWA - *Supply Reliability Charge***

Purpose

A & N Technical Services, Inc. has been retained by the San Diego County Water Authority to independently review and provide a professional opinion of whether the proposed *Supply Reliability Charge* as described later in this memorandum is consistent with recognized cost-of-service based rate setting principles, that the amount expected to be generated by the charge is no more than necessary to cover the reasonably anticipated revenue requirement ("costs") for governmental services or products for which the charge is imposed, and that the manner in which the costs are generally allocated by the charge bears a fair or reasonable relationship to the payor's burdens on or benefits received from the governmental services or products.[1]

Findings

The proposed *Supply Reliability Charge* comports with water industry cost-of-service-based rate-setting principles. By design, it cannot recover more than the costs allocated to the supply functional costs, since it is computed as a portion of those functional supply costs. Further, it constitutes a reasonable allocation of functional supply costs in that it better aligns the fixed incremental supply costs taken on by the Water Authority to make highly reliable potable water supplies available to its member agencies within the County of San Diego with the benefits available to all water customers connected to the SDCWA integrated water system.

The proposal addresses fairness by allowing for predictability of charge incidence (based on a rolling five year average of historical deliveries) and adjustments to future charge incidence if demand requirements of member agencies change in the future due to local supply

[1] This analysis is limited to a review of the proposed charge in the context of the Water Authority rates structure. It does not include allocation of individual costs to functional rate categories. That aspect of the cost-of-service study for the determination and setting of the amount of the charge will be performed by others.

development or demand management. This reviewer approves of the stated intention to re-examine the *Supply Reliability Charge* in five years and to embed it as a fixed charge in fiscal procedures and policies intended to assure the SDCWA's fiscal sustainability objectives[2].

Description of the Supply Reliability Charge

The proposed *Supply Reliability Charge* will create a new fixed charge for the functional incremental supply costs[3] allocated to enhanced supply reliability. Under the proposed methodology the charge would be set annually. First the difference between the combined Desalination and IID Water Transfer Costs and a like amount of water purchased at the MWD Tier 1 Full Service Untreated Rate is determined. The calculated difference is then multiplied by 25% to determine the calendar year *Supply Reliability Charge*. A detailed calculation methodology is shown below:

[2] See GASB (2011) Preliminary Views on Economic Condition Reporting.

[3] Functional incremental supply costs for this purpose are understood to be associated with the two highly reliable supplies available to the San Diego County Water Authority that constitute the new and forward-looking supplies—i.e., the supply costs incidental to IID Transfer water supply and the Carlsbad Desalination plant; these are a subset of SDCWA's overall functional supply costs. The overall supply costs for the Water Authority, include the Tier 1 full service water rate payments made to MWD for purchase of MWD water (currently the total of MWD's Tier 1 supply rate, system access rate, system power rate, and water stewardship charge), the cost of payments made to IID for transferred water under the IID/SDCWA Agreement for Transfer of Conserved Water plus the payments made to MWD for transportation of that water to the Water Authority service territory under the Exchange Agreement , the payments made for desalinated water under the Water Authority/Poseidon Water Purchase Agreement, and certain other costs of water. Because the Water Authority provides both treated and untreated water, its functional supply costs, by definition, exclude other functional costs such as the functional cost of treatment. The Water Authority's functional cost categories are currently described in Water Authority Administrative Code section 5.00.050 and Water Authority Ordinance No. 2014-01.

$$\textbf{Supply Reliaility Charge} = [(Desalination\ Water\ Cost + IID\ Water\ Transfer\ Cost) - MWD\ Tier\ 1\ Equivalent\ Cost] \times 25\%$$

$$\textbf{Desalination Water Cost} = (Water\ Purchase\ Agreement\ Contract\ Price^{4} - Melded\ Treatment\ Rate) \times Desalination\ Deliveries$$

IID Water Transfer Cost

$$= (IID\ Water\ Contract\ Price + MWD\ Transportation\ Rate) \times IID\ Water\ Deliveries$$

$$\textbf{MWD Tier 1 Equivalent Cost} = (MWD\ Tier\ 1\ Full\ Service\ Untreated\ Rate \times Total\ Reliability\ Deliveries)$$

$$\textbf{Total Reliability Deliveries} = Desalination\ Deliveries + IID\ Water\ Transfer\ Deliveries.$$

As used in this formula, *Desalination Deliveries* are 42,000 AF/Y and *IID Water Transfer Deliveries* are 100,000 AF/Y in 2016 and ramp up to 200,000 AF/Y according to the transfer schedule in the Transfer Agreement.

The revenue generated from this charge will only be applied to the supply revenue requirement prior to determining the volumetric Melded Supply Rate. This charge will be allocated to member agencies based on a five year rolling average of applicable historical water deliveries[5]. This charge will be zero when MWD's Tier 1 costs are equal or greater than the combined Desalination and IID Water Transfer Costs.

Criteria for Evaluation of the Supply Reliability Charge

This independent review will use the CUWA Public Investment Principles in its analysis of the *Supply Reliability Charge*. These principles were the product of a multiple agency working group at the California Urban Water Agencies and includes the following principles for publicly financed water projects:[6]

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[4] The desalinated water contract price includes the following components:
WPA Article 17.4 Capital Charges
(Debt Service Charge + Equity Return Charge)
WPA Article 17.5 Operating Charge
(Fixed Operating Charge + Variable Operating Charge)
WPA Article 17.6 Electricity Charge
(Fixed Electricity Charge + Variable Electricity Charge)
WPA Article 8.14 Poseidon Management Fee
(Annual Management Fee)

[5] A & N Technical Services has been informed by Water Authority staff that discussions regarding the future of the Transitional Special Agricultural Water Rate (TSAWR) are ongoing and may impact the allocation of the charge to member agencies.

[6] See the CUWA Public Investment White Papers found at http://www.cuwa.org.

1. *Inclusive* of all beneficiaries
2. A *clear nexus* between charges and benefits received
3. *Specificity*, based on defined projects and costs
4. *Transparency* of benefit and cost allocation decisions, *understandable* to beneficiaries funding the efforts
5. Strict *dedication* of funds
6. Reasonable *assurances* that benefits will be delivered

AWWA Manual M1. *On Rate Making Objectives*: Accurate attribution of costs of service is not the only objective of water utility ratemaking. Derived from Bonbright et al. (1961, 1988) the *Principles of Water Rates, Fees, and Charges, AWWA Manual M1, Sixth Edition* (2012, p. 4) provides a more complete list of typical ratemaking objectives:

- Effectiveness in yielding total revenue requirements (full cost recovery)
- Revenue stability and predictability
- Stability and predictability of the rates themselves from unexpected or adverse changes
- Promotion of efficient resource use (conservation and efficient use)
- Fairness in the appointment of total costs of service among the different ratepayers
- Avoidance of undue discrimination (subsidies) within the rates
- Dynamic efficiency in responding to changing supply and demand patterns
- Freedom from controversies as to proper interpretation of the rates
- Simple and easy to understand
- Simple to administer
- Legal and defendable

Analysis

The *Supply Reliability Charge* reasonably comports with the CUWA principles cited above. The charge is *inclusive* of all customers that have recently taken SDCWA deliveries and could reasonably be expected to benefit from highly reliable incremental water supplies. There is a *clear nexus* between this fixed charge and the benefits of highly reliable incremental supplies received by SDCWA customers. The charge is quite *specific*, being based on two incremental water supplies (Carlsbad Desalination and IID Transfer) defined by contract and imported supplies from MWD (though currently non-contractual, these supply costs are specific.) The multiple year public process (Board hearings, Board Fiscal Sustainability Task Force, Member Agency Managers Workgroup, and public outreach) have provided *transparency* of benefit and cost allocation deliberation with ample opportunity to improve *understanding* to SDCWA member agencies and their customers (beneficiaries) about the funding of these highly reliable incremental water supplies. Funds collected from the charge are *dedicated* to recovering a

subset of functional supply costs and cannot be used for other purposes. The contracts for incremental supplies provide reasonable *assurances* that the benefits of highly reliable incremental supplies will be delivered.

The *Supply Reliability Charge* makes reasonable tradeoffs among cost-of-service-based ratemaking objectives cited above.

Precedence for Fixed Charges. The concept of levying fixed charges to recover the costs required for the capacity to deliver public service has a long history (Dupuit, 1844 and more recently Kahn, 1991) and is familiar to anyone who has paid access, standby, or "demand" capacity charges.

Bibliography

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