

**Proposed Interim Mayor & City Council Response to San Diego County Grand Jury
Report:
Reduce Dependence on Imported Water**

Pursuant to California Penal Code Section §933 (c), the City of San Diego provides the following responses to the findings and recommendations included in the above referenced Grand Jury Report. Background information and clarifications to some facts presented in the Grand Jury Report are included in this response.

Background

The City of San Diego (City) provides drinking water to more than 1.3 million City of San Diego residents. The Public Utilities Department (Department) manages a water system that extends over 404 square miles with water deliveries averaging 200 million gallons per day (mgd). By the year 2035, the City's population and economic growth is projected to increase water demands by 26% compared to 2010 levels. With the City importing 85% of its water, it is continually examining the reliability associated with imported water, and with its own local supplies. In addition, the Department operates and manages the region's wastewater system that serves 2.2 million residents in San Diego County. The Department also operates two recycled water treatment plants, and a distribution system that extends over 80 miles, delivering an annual average of seven million gallons a day (mgd) within the City and four mgd to three wholesale customers.

Long-Term Water Resources Strategy

The Department prepared a Strategic Plan for Water Supply in 1997 that included a water resources strategy to meet future water demands through 2015 evaluating increased levels of conservation and infrastructure improvements. Several years later, a changing water situation prompted the Department to initiate an update to the Strategic Plan. In 2002, the Department prepared the Long-Range Water Resources Plan (LRWRP), which provided direction for the City to pursue additional conservation, recycled water, and groundwater; with consideration for implementing potential water transfers, marine transport, and ocean desalination options if warranted. In the last ten years various changed conditions has compelled the Department to revisit its water resources strategy and update the 2002 LRWRP.

The 2012 LRWRP is complete, and is scheduled to be reviewed and approved by then Mayor Filner and City Council in July and September 2013. The Department worked with an 11 member stakeholder committee to develop the 2012 LRWRP over a two-year process. The 2012 LRWRP reviewed and re-assessed the planning objectives and stakeholder values from the 2002 Plan, discussed and evaluated emerging issues, and used the most recent information available to update the long-term water resources strategy for the City. The 2012 LRWRP presents a comprehensive water supply strategy along with a flexible adaptive decision process to achieve a balanced water supply plan.

New Water Supply Options Considered

The 2012 LRWRP considered 17 representative “new” water supply and conservation options coming from a variety of sources including the City’s 2010 Urban Water Management Plan (UWMP), 2012 Recycled Water Study (RWS) and 2010 Recycled Water Master Plan (RWMP). Some of the new water supply options considered were conservation, groundwater, non-potable reuse, potable reuse, rainwater harvesting, and ocean desalination. The recommended water supply options in the 2012 LRWRP were based on their ability to meet the City’s eleven objectives, and an engineering review that examined implementation, feasibility, cost and other factors.

A Balanced Approach for San Diego’s Future Water Supply Reliability

While the City and the Water Authority have each aggressively pursued water supply diversification strategies, it is important to note that neither agency considers it prudent at this time to abandon imported water supplies from the Metropolitan Water District of Southern California (MWD) in favor of complete regional independence.

San Diego has no water supply “silver bullet”. All water supply options must be considered and evaluated based on the most current information available. As described above, the City’s 2012 Long-Range Water Resources Plan (LRWRP) promotes a diversified portfolio approach to San Diego’s water supplies that includes imported water. Imported water offers our region many benefits. It is currently one of the least expensive water supply options available to the region. Also, it offers the Public Utilities Department significant financial flexibility since the Department has the option to purchase less imported water when water sales are low.

Just as financial advisors promote diversifying a financial portfolio, San Diego benefits by investments in multiple water supply sources and strategies. The City’s 2012 Long-Range Water Resources Plan provides specific goals for a balanced approach for assuring San Diego’s future water supply reliability.

Clarifications Related to Grand Jury Report Comments

The City of San Diego appreciates the opportunity to review the San Diego County Grand Jury’s report, “Reduce Dependence on Imported Water.” The Grand Jury’s report refers to the City’s Demonstration Project which evaluated the feasibility of indirect potable reuse through reservoir augmentation. The City offers the additional following clarifications relative to the Demonstration Project:

1. Page 6, regarding the term “indirect.” The concept that the City has evaluated includes purifying non-potable recycled water to the point that it meets all regulatory standards for potable reuse, conveying it to the San Vicente Reservoir, and subsequently treating it

at the City's Alvarado Water Treatment Plant before it re-enters the potable distribution system. The City has *not* considered providing the purified water directly to the potable distribution system. Rather, the City will consider an alternative of providing purified water directly to a water treatment plant as part of the City's potable reuse implementation strategy.

2. Page 7, regarding when work on the project began: The City approved a Demonstration Project in October 2007, but actual work on the project did not begin until 2009. Following the October 2007 action, the City Council approved a temporary water rate increase to fund the Demonstration Project in November 2008. The rate increase was in effect from January 1, 2009 thru September 1, 2010. The project results were presented to City Council on April 23, 2013 in the Water Purification Demonstration Project Report.
3. Page 7, regarding the Demonstration Project's location: One of the key components of the demonstration project was to construct a test facility capable of producing one mgd of purified water. This advanced water purification facility (AWPF) is located at the North City Water Reclamation Plant (North City). Tertiary-treated recycled water from North City is used as the feed water to the AWPF.
4. Page 8, regarding wetlands above San Vicente Reservoir: The City's demonstration project did not study nor propose to convey the purified water to wetlands above San Vicente Reservoir. If a reservoir augmentation project at San Vicente Reservoir is approved, the purified water would be released at an inlet structure and into the San Vicente Reservoir itself (i.e. into the upper layer of the reservoir). The inlet structure would enable purified water to be released from the conveyance pipeline into San Vicente Reservoir. The inlet structure would be positioned at an elevation that would always remain above the surface of the water in the reservoir, and it would include a spillway.

The use of wetlands for pollutant removal was evaluated as part of the City's Water Reuse Study (2006). The Study can be found online at:

<http://www.sandiego.gov/water/waterreuse/waterreustudy/news/fd2006.shtml>. Natural wetlands are not typically effective at pollutant removal due to low retention times.

Constructed wetlands can treat large volumes and remove pollutants down to low levels, but they do not appear to be effective at removing pharmaceuticals. Further, with respect to water treated by reverse osmosis, organic carbon and salts could actually *increase* as it moves through wetlands.

5. Page 8, regarding the augmentation period of at least 12 months: With respect to the noted 12-month augmentation period, there is no time requirement for purified water to be held in the reservoir as there are currently no regulations for a reservoir augmentation project in California. The Demonstration Project concluded that a combination of both

retention time and blending would constitute a substantial environmental barrier, sufficient to meet regulatory requirements.

A reservoir augmentation project at San Vicente Reservoir (San Vicente) would require approval by the California Department of Public Health (CDPH) and the Regional Water Quality Control Board (Regional Board). The City received concept approval from CDPH and a letter from the Regional Board concurring with the City's recommended regulatory pathway. The City's proposals and regulators' responses are in the Water Purification Demonstration Project Report. Therefore, from a regulatory perspective a reservoir augmentation project at San Vicente is feasible and conceptually approved.

6. Page 8, regarding the statement that direct potable reuse (DPR) is cheaper. There are, as yet, no conclusive studies comparing the cost of direct potable reuse to indirect potable reuse (IPR). It is not necessarily the case that DPR is less costly than IPR. This matter is being studied as part of the combined Demonstration Project and Recycled Water Study follow-on work. Note, the City will evaluate DPR options for providing the purified water to water treatment plants without first being retained in an environmental buffer; options to provide it directly to the potable distribution system will *not* be evaluated.
7. Page 8 regarding the San Vicente Reservoir Study: the City conducted the Study, not the San Diego County Water Authority as indicated.
8. Page 8, regarding the portion of the City's total water demand that could be met by 15 mgd of potable reuse: It is approximately 6 percent, not 3-4 percent as the Grand Jury's report states. This is based on the City's current average water deliveries, as reported in the 2010 Urban Water Management Plan which can be found online at: <http://www.sandiego.gov/water/pdf/110519uwmp.pdf>.

Responses to Findings and Recommendations

Finding 01: *Reclaimed water is a viable resource and its use should be expanded as part of a long-term water strategy.*

Response: **The City agrees with the finding.**

Reclaimed water, whether non-potable reuse or potable reuse, will continue to be an integral part and a viable resource for the City and its long-term water supply strategy. As noted above, the 2012 LRWRP considered new water supply options of which reclaimed water, both non-potable and potable reuse were included.

Finding 02: *It is important to keep the public informed about both the feasibility of water reclamation and its importance in San Diego's water supply strategy.*

Response: The City agrees with the finding.

Potable Reuse comes with an inherent “yuck factor” that eases with consistent and continuous education and outreach. A proactive outreach plan that outlines specific strategies and tactics is the guiding force behind on-going outreach efforts that include Speaker’s Bureau presentations, tours of the Advanced Water Purification Facility, participating in community events, and communicating with stakeholders and community leaders. The primary goal of public outreach is to increase awareness and understanding, encourage involvement, and present information in a manner that is understandable and accessible by the public.

Research studies conducted in recent years have found an increasing percentage of San Diegans are coming to embrace potable reuse as a potential source of drinking water for San Diego. The most recent Rea & Parker Research public opinion poll found that favorability for adding purified water to the drinking water supply increased from 26% in 2004 to 73% in 2012. The outreach team will continue the above mentioned outreach activities and will also seek new outreach opportunities in order to further propel the positive public attitude towards potable reuse.

Recommendation 13-61: *By October 31, 2013 complete their study, review and evaluation of the results of the Advanced Water Purification Pilot Study at the North City Water Reclamation Plant (North City).*

Response: This recommendation has been implemented.

The City Council unanimously adopted the Water Purification Demonstration Project (Demonstration Project) Report on April 23, 2013. The objectives of the Demonstration Project were to:

1. Demonstrate the ability of the treatment process to reliably produce water that meets all regulatory standards pertaining to public water supplies.
2. Demonstrate that continuous and daily monitoring of each treatment process can assure the integrity of the process and that only safe water is produced.

Tests for 342 different constituents and parameters showed the purified water met all regulatory limits and had concentrations similar to distilled water. The testing results showed that only safe water was produced. The Demonstration Project reports can be found on the City’s website: <http://www.sandiego.gov/water/waterreuse/demo/projectreports/index.shtml>

Recommendation 13-62: *By November 30, 2013 make a positive decision and vigorously pursue the approval process for construction of a full scale AWP plant next to the NCWRP and supporting infrastructure to utilize the lessons learned in the AWP demonstration pilot study.*

Response: See response to recommendation 13-65.

Recommendation 13-63: *By January 31, 2014, initiate construction of a full-scale version of the AWP facility modeled upon the technology utilized in the AWP Pilot Study at the NCWRP.*

Response: See response to recommendation 13-65.

Recommendation 13-64: *By January 31, 2014, decide whether to immediately use the AWP purified water and place it into the aqueduct system and the potable water supply, or, initiate construction of a pipeline from a new AWP facility to a San Vicente wetlands project.*

Response: See response to recommendation 13-65.

Recommendation 13-65: *By January 31, 2014, make a positive decision for construction of a full-scale AWP plant next to the South Bay Wastewater Reclamation Plant (SBWRP) and infrastructure to utilize the lessons learned in the AWP demonstration pilot study.*

Response: The recommendation requires further analysis.

Recommendations 13-62 through 13-65 cannot be implemented within the timeframes stated. Although the City Council unanimously adopted the Water Purification Demonstration Project report, further analysis is required to support a decision to proceed with full-scale water purification facilities, to what extent, and with what timing. The Interim Mayor and City Council have directed staff to further study options for full-scale potable reuse implementation and to recommend an implementation strategy that considers both direct and indirect potable reuse (IPR). Many of the topics to be further studied coincide with options contained in the Recycled Water Study (Study) adopted by the City Council in July 2012; this Study is online at:

<http://www.sandiego.gov/water/pdf/waterreuse/2012/recycledfinaldraft120510.pdf> .

While the Demonstration Project solely focused on a 15-mgd potable reuse concept, the Recycled Water Study identified alternatives for maximizing City-wide reuse, with the objective of minimizing wastewater flows to the Point Loma Wastewater Treatment Plant (Point Loma). The Study's alternatives provide for an estimated 101 mgd of reuse (83 mgd of potable reuse and 18 mgd of non-potable reuse). The City is currently preparing a work plan to complete the follow-on work from both studies and ultimately develop an implementation strategy for the full 83 mgd of potable reuse. Key tasks include:

- Perform additional reservoir computer modeling to determine the maximum feasible amount of IPR through reservoir augmentation at the City's San Vicente and Otay Reservoirs. Purified water placed in Otay Reservoir would be produced at a future advanced water purification facility located at the City's South Bay Water Reclamation Facility.

- Refine the alignment of the pipeline to San Vicente Reservoir; alternatives for the most costly portion (within 7,000 feet of the reservoir) will be investigated.
- Determine the allocation of costs between local water and wastewater funding sources for a full-scale facility.

Relative to direct potable reuse (DPR), the California Department of Public Health (CDPH) has not determined the feasibility of establishing regulations, and is not required by law to do so until December 31, 2016. Thus, the decision described in the Grand Jury's Recommendation 13-64 would be premature as the regulatory requirements would not be defined until sometime after CDPH's feasibility finding in 2016. However, the Interim Mayor and City Council are highly interested in the option of DPR and potential cost savings compared to IPR and have directed staff to join the statewide DPR Initiative led by the WaterReuse Association. The DPR Initiative's focus is on supporting CDPH in their efforts to make a feasibility determination, and they have initiated multiple research projects to develop the necessary data and analyses. The City itself has partnered with WaterReuse Association to obtain state grants for such research projects.

Recommendation 13-66: *Expand ratepayer education and outreach on water policy leading to a positive public attitude toward future large-scale water storage and supply projects.*

Response: The recommendation will not be implemented because it is not warranted .

The Department recognizes the importance of ratepayer education and outreach, and strives to improve internal and external communication. The Department's efforts are focused on educating the public to increase their understanding of water supply and delivery, continued conservation of potable water, and wastewater collection, treatment and disposal. While we agree with expanding ratepayer education and outreach on local supply projects, we do not agree with the recommendation , on increasing ratepayer education on future large-scale water storage projects.

The City of San Diego Public Utilities Department (PUD) has committed to increasing spending in FY 2014 for public outreach efforts on the continued expansion of potable water conservation - which has been shown practical in reducing local consumption and is the most effective and lowest cost approach to increasing the local water supply. As mentioned previously, the PUD has spent significant time informing the public about the AWPf and benefits associated with recycled water. Public outreach initiatives include tours of the AWPf facility, conducting presentations on water purification throughout the City, and hosting information booths at community events, among other public outreach initiatives. This outreach has proven effective in changing the local perception of purified water, increasing the community's favorable opinion of purified water from 26% in 2004 to 73% in 2012. Community outreach and education will also include discussions among the Interim

Mayor, City Council, business groups, and general public regarding the possible implementation, size, scope, etc., associated with the construction of a full scale AWWP.

Council Policy 400-04¹ states that the City must maintain emergency reserve storage levels equal to six tenths of the annual demands (7.2 months) within the City of San Diego and its contractees. Additionally, the San Diego County Water Authority's Emergency Storage Program (ESP) provides the region with up to six months' of emergency storage in the case of a partial outage north of SDCWA's connection with the Metropolitan Water District of Southern California (MWD). In case of a complete loss of imported water supplies, SDCWA's ESP would provide a rolling two month average of consumptive demand. The City of San Diego represents approximately 40% of the weighted vote at SDCWA, and as such, would expect to receive approximately 40% of SDCWA's emergency water supplies in the case of a regional shortage.

SDCWA's ESP was envisioned in 1998, when the San Diego region received up to 90% of its water supplies from MWD. The ESP was intended to safeguard the San Diego region against a potential seismic event² resulting in a complete or partial disruption of MWD's imported water supplies. As local water supply projects are added, such as seawater desalination and potable reuse, the risk associated with being cut off from MWD is reduced. SDCWA has also increasingly diversified their water supply through conservation and alternate suppliers since the ESP was developed. SDCWA relied on MWD for 45% of total supply in 2012.

Prior to 1998, SDCWA undertook extensive studies to determine preferred emergency storage levels. The studies evaluated all significant aspects of appropriate regional emergency storage such as costs, economic impacts, environmental impacts, engineering aspects and operational efficiencies. Based on these studies, the current regional policy was selected and the required infrastructure needed to support it is now nearing the end of construction.

The City of San Diego's Public Utilities Department will pay SDCWA \$25.25 million in fixed charges in 2013 to pay for investments in regional storage programs. This amount is expected to increase in subsequent years. This is not a trivial cost – it represents approximately 10 percent of Public Utilities Department's total cost of the water it purchases from SDCWA, and this cost is increasing.

Finally, it should be noted that MWD made investments in emergency storage at Diamond Valley Lake in Hemet in the late 1990s that San Diego's ratepayers have contributed towards and benefit from. This \$1.9 billion storage program was completed in 1999 and has storage capacity of 800,000 gallons, half of which is dedicated to emergency storage.

¹ Council Policy 400-15 references and upholds Council Policy 400-04.

² MWD's conveyance system crosses over three major earthquake fault lines: the San Andreas, San Jacinto and Elsinore.

The Public Utilities Department believes that the City has sufficient water stored, either in its own reservoirs or in regional reservoirs, to weather a variety of potential emergency situations. Significant investments have been made over the past two decades to augment regional emergency storage systems without negatively impacting the ability of local reservoirs to capture rain and runoff.

The Public Utilities Department is also exploring the feasibility of injecting purified water or imported, treated water into groundwater basins throughout San Diego. This option, in addition to a number of potential supply options, is detailed in the *City of San Diego Public Utilities Department 2012 Long-Range Water Resources Plan (Plan)*. The Plan has been presented by the Public Utilities Department to local stakeholders in addition to City Council. Additionally, this potential for groundwater injection into groundwater basins and other options for storage and supply outlined in the Plan would require further public presentation and input if the projects were to be implemented.

For these reasons outlined, we do not believe it is necessary to currently expand local storage and consequently do not believe it is necessary to currently increase outreach for storage projects. If groundwater injection were to be foreseen in future years as a necessary step to increase local storage and supply, outreach to ratepayers would be undertaken at that time.