

August 9, 2023

The Honorable City Council
City of Los Angeles
Room 395, City Hall
Mail Stop 160

Attention: Councilmember Katy Yaroslavsky, Chairperson – Energy and
Environment Committee:

Subject: Response to Council File No. 23-0309 – Imported Water/Los Angeles Aqueduct/State
Water Project/Colorado River/Metropolitan Water District/Green New Deal/Local
Water Supply/Infrastructure and Conservation Projects

In response to the above referenced Council Motion, the Los Angeles Department of Water and Power (LADWP) is providing an update to its long-term water supply strategy, conservation programs, and collaboration with the Metropolitan Water District of Southern California (Metropolitan) and other City of Los Angeles (City) Departments.

Enclosed are reports and presentations from LADWP, City of Los Angeles Department of Public Works – Bureau of Sanitation (LASAN), and Metropolitan that provide a review of current sources of potable water, expected local water supply sources, and resilience of LADWP and Metropolitan's water systems.

If you have any questions or require further information, please contact me at (213) 367-1338, or have a member of your staff contact Mr. Anselmo G. Collins, Senior Assistant General Manager – Water System, at (213) 367-1022.

Sincerely,



Martin L. Adams
General Manager and Chief Engineer

ST:Ij

Enclosures

c: Deputy Mayor of Energy and Sustainability, Nancy H. Sutley
Councilmember Eunisses Hernandez, Council District 1
Councilmember Paul Krekorian, Council District 2
Councilmember Bob Blumenfield, Council District 3
Councilmember Nithya Raman, Council District 4

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Councilmember Katy Yaroslavsky, Council District 5
Councilmember Monica Rodriguez, Council District 7
Councilmember Marqueece Harris-Dawson, Council District 8
Councilmember Curren D. Price, Jr., Council District 9
Councilmember Heather Hutt, Council District 10
Councilmember Traci Park, Council District 11
Councilmember John Lee, Council District 12
Councilmember Hugo Soto-Martinez, Council District 13
Councilmember Kevin de León, Council District 14
Councilmember Tim McOsker, Council District 15
Ms. Sharon Tso, Chief Legislative Analyst
Mr. Anselmo G. Collins
Mr. Matthew A. Hale

LADWP's Report for LA City Council's Imported Water Motion (C.F. 23-0309)

The Los Angeles Department of Water and Power (LADWP) was established by City Charter in 1925, taking over the City's municipal water system and responsibility for the use, sale, and distribution of water, potable and recycled, in the City. Today, LADWP is the nation's largest municipal utility and serves approximately 448 million gallons of water (drinking water and recycled water) to 4 million people every day. LADWP ensures water supply reliability, resiliency, and sustainability through investment in a diverse portfolio of water supplies for the City, in the face of climate change, earthquake risks, and other major disruptions. Our water supply strategy includes investing in conservation, water use efficiency, water recycling, stormwater capture, and local groundwater development and remediation, while also protecting our imported water supplies.

In particular, LADWP made significant accomplishments in stormwater capture and groundwater remediation to maximize groundwater production. By 2024, LADWP will complete several San Fernando Basin Remediation projects to restore access to the basin. LADWP's investments in spreading ground improvements includes the recently completed expansion of Tujunga Spreading Grounds, doubling its stormwater capture capacity. We are currently partnering with Los Angeles County Flood Control District to expand similar spreading grounds in the San Fernando Valley and partnering with the City's Department of Public Works and Department of Recreation and Parks to build additional stormwater capture facilities which will capture stormwater runoff as well as Los Angeles Aqueduct supplies during wet years and advanced treated recycled water in the future.

LADWP is at the forefront of water reuse, having started our Recycled Water Program in the 1970s. Our current efforts include the Groundwater Replenishment Project, which aims to replenish the San Fernando Groundwater Basin with highly purified recycled water, creating an additional source of local drinking water for the City. We are also focusing on developing the Operation NEXT Water Supply Program in partnership with City of LA Department of Public Works – Bureau of Sanitation (LASAN) to maximize water reuse from the Hyperion Water Reclamation Plant within the City. We are exploring partnerships with Metropolitan to further maximize beneficial reuse in the Southern California region through integration with Metropolitan's Pure Water Southern California (PWSC).

As LADWP develops its own local supplies, we now recognize the need to also have access to supplemental water supplies from Metropolitan, which the City has invested in. The most recent drought revealed this lack of access which resulted in Metropolitan's inability to deliver available surface and stored supplies to six Member Agencies. In 2022, Los Angeles was one of six Metropolitan Member Agencies that were vulnerable to State Water Project (SWP) shortages due to Metropolitan's inability to deliver its available stored supplies to these six agencies. Based on this lack of conveyance infrastructure, these six agencies were forced to rely on human health and safety supplies borrowed from the State of California.

It is imperative that Metropolitan address the deficiencies in its conveyance infrastructure to provide the City with full direct access to regional supplies from the Colorado River Aqueduct, storage in Diamond Valley Lake, and future regional recycled water supplies from PWSC. Regional connectivity is essential so that all Metropolitan Member Agencies, including the City, achieve equitable reliability and are able to access the regional resources that they have invested in.

LASAN's Report for LA City Council's Imported Water Motion (C.F. 23-0309)

LA Sanitation and Environment (LASAN) operates four water reclamation plants in Los Angeles with a combined design capacity of 580 million gallons per day (mgd). Due to water conservation, the average flow to these four facilities has declined from 364 mgd in 2010/2011 to 302 mgd in 2020/2021, but has now stabilized. Production of recycled water increased from 34 to 47 mgd over the same period, the majority being secondary effluent from the Hyperion Water Reclamation Plant as a source for recycled water for the West Basin Municipal Water District. LASAN's goal is to maximize the production of recycled water from wastewater by transforming its facilities to advanced water purification facilities, and we will continue to partner with LADWP on developing this new supply as a future drinking water source for the City. Recycled water is a local source of water, readily available, not impacted by droughts and, therefore, a priority for all four facilities:

- **Terminal Island Water Reclamation Plant (TIWRP):** As the first facility in Los Angeles, the TIWRP became 100% recycled water in 2017 after completing two phases of construction of advanced water purification processes. The TIWRP has a capacity of producing 12 mgd of recycled water (13,440 acre-feet per year) for indirect potable reuse. End uses include the Dominguez Gap Seawater Intrusion Barrier and various industrial customers in the harbor area.
- **Los Angeles-Glendale Water Reclamation Plant (LAGWRP):** The LAGWRP currently provides 4.4 mgd of its tertiary effluent as recycled water for non-potable reuse, primarily for irrigation in Los Angeles and Glendale. The rest of the effluent is discharged to support the recreational and environmental beneficial uses of Los Angeles River. LASAN is in the early planning stage with the LA Urban Waterway and Water Technology Center. It will be a demonstration facility of advanced water purification processes including those for direct potable reuse.
- **Donald C. Tillman Water Reclamation Plant (DCTWRP):** DCTWRP receives an average daily flow of 55 mgd from approximately three hundred thousand residents and businesses in the East San Fernando Valley. Approximately 2.9 mgd is currently recycled for irrigation and cooling towers; the rest of the effluent supports recreational and environmental beneficial uses of the Japanese Garden, the Balboa & Wildlife Lakes, and Los Angeles River. LASAN and LADWP are collaborating on an advanced water purification facility at DCTWRP with a design capacity of about 20 mgd (21,000 acre-feet per year). This project is in the design phase, it will be constructed towards the end of 2027, and the water produced by this facility will augment groundwater basins in the San Fernando Valley.
- **Hyperion Water Reclamation Plant (HWRP):** HWRP currently receives about 260 mgd of wastewater, or over 80% of the City's wastewater flow, making the HWRP a key priority for the City's recycled water goals. The goal of the Hyperion 2035 Program is to maximize the production of safe and reliable recycled water for potable reuse: with a projected wastewater flow of 272 mgd, HWRP can produce up

to 230 mgd (257,000 acre-feet per year) of recycled water, or about 50% of the City's potable water demand. LASAN is currently developing the Hyperion 2035 Program Implementation Plan, which is the roadmap for design and construction of the full-scale transformation of the HWRP to 100% water recycling. This roadmap will be available by the spring of 2024, but preliminary results are already provided to LADWP to inform their Master Plan development process because coordination between the departments is important. In parallel, the Hyperion Advanced Water Purification Facility and the Membrane Bioreactor Pilot Facility are at 98% construction completion: the remaining work is pending obtaining the final permits for facility operation. These two pilot and demonstration projects will provide regulatory approval of and design criteria for the full-scale conversion.

The Hyperion 2035 Program is a huge undertaking estimated at a construction cost of about \$4.8 billion (2022 dollars). This does not include the cost of infrastructure needs for recycled water conveyance, injection and extraction from groundwater basins, and the integration of recycled water in the potable water distribution system. As the funding needs are very significant and as they can likely not be supported within existing wastewater and water revenues, the availability of funding will likely determine the schedule of implementing the Hyperion 2035 Program.

Implementation of Hyperion 2035 with the full-scale conversion from wastewater treatment to advanced water purification will require several phases of construction in order to keep the HWRP 100% operational during the transformation. We currently envision implementation in three phases. Hyperion 2035 Phase 1 will produce 50 mgd (56,000 acre-feet per year) of recycled water for indirect potable reuse, and can be operational by 2033 if funding is available. Phase 2 increases the capacity to 90 mgd (101,000 acre-feet per year) and is tentatively scheduled for 2038. Phase 3 is the last phase to increase the capacity to 230 mgd (258,000 acre-feet per year) by 2046. Close coordination with LADWP is essential to ensure that the Hyperion 2035 implementation schedule matches the schedule of conveyance structure construction.

Metropolitan's Report for LA City Council's Imported Water Motion (C.F. 23-0309)

The Los Angeles City Council's Energy and Environment Committee requested that the Metropolitan Water District of Southern California provide input to the Los Angeles Department of Water and Power and the Los Angeles Bureau of Sanitation "on the transition to reducing purchased or imported water and increasing our local water supply, including all planned and existing efforts, as well as infrastructure and conservation projects in the planning and/or development stages."

The text below expands on three topics identified in the Motion:

- (1) Metropolitan's support of local resources
- (2) Opportunities to integrate recycled water projects
- (3) Metropolitan's seismic resilience strategy

Metropolitan supports local resources across the region

Metropolitan's new Climate Adaptation Master Plan for Water is developing a decision-making framework incorporating water resource, financial, and climate adaptation planning. Outcomes of this planning process will guide Metropolitan's direction in the face of significant climate-change effects. The information below describes part of Metropolitan's current approach to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Metropolitan draws supply from the Colorado River; from Northern California via participation in the State Water Project; and from storage agreements, exchanges, and transfer arrangements with other agencies both in California and in other western states. Demands on Metropolitan are managed through conservation and local resource programs. An increasing percentage of Southern California's water supply comes from conservation, water recycling, and recovered groundwater.

Regional conservation and local resource development approaches are cost-effective and beneficial for all Metropolitan member agencies. These programs increase water supply reliability, reduce the region's reliance on imported water supplies, and help adapt to the impacts of climate change. Metropolitan also funds many member agencies in implementing conservation programs benefitting their respective service areas.

Finally, Metropolitan advances the development of new water resources for the region, such as stormwater storage, and applied research projects that remove barriers to implementing new technologies.

Opportunities to Integrate with Pure Water Southern California

Metropolitan is investing in a potential water recycling program to reuse treated wastewater now sent to the ocean. Pure Water Southern California will take cleaned wastewater and further purify it to produce a new, sustainable source of high-quality water for Southern California. This partnership with the Los Angeles County Sanitation

Districts would produce up to 150 million gallons of water daily when completed and provide purified water for up to 15 million people, making it one of the largest water reuse programs in the world. The regional distribution of purified water allows the region to integrate multiple water recycling projects. Metropolitan is partnering with LADWP to explore ways to interconnect Pure Water Southern California with Operation Next.

Metropolitan's Multifaceted Seismic Resilience Strategies

Over the last several decades, Metropolitan has proactively improved the seismic resilience of individual facilities and the entire conveyance system through a multifaceted approach comprising the following components: planning, risk assessment and mitigation, emergency responses, and partnerships with other agencies. Two notable accomplishments are that Metropolitan has invested \$250 M over 20 years to mitigate seismic risks. Further, Metropolitan increased its emergency water storage reserves by 20 percent in 2019. This 750,000 acre-feet storage is not tapped in dry years and is intended solely for catastrophes such as an earthquake on the San Andreas fault that severs all imported supply sources.