The Metropolitan Water District of Southern California

Tuesday, March 28, 2023 Meeting Schedule 09:00 a.m. Audits 09:00 a.m. PWSCRC 11:00 a.m. LTRPPBM

01:00 p.m. Break

01:30 p.m. Exec

03:00 p.m. LC Wksp

Agenda

The mission of the Metropolitan Water District of Southern California is 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.

PWSCRC Committee A. Chacon, Chair J. Morris, Vice Chair D. Alvarez M. Camacho A. Fellow L. Fong-Sakai

R. Lefevre

J. Mc Millan G. Peterson

K. Seckel

M. Luna

Subcommittee on Pure Water Southern California and Regional Conveyance -Final

Meeting with Board of Directors *

March 28, 2023

9:00 a.m.

Agendas, live streaming, meeting schedules, and other materials are available here: https://mwdh2o.legistar.com/Calendar.aspx. A listen-only phone line is available at 1-877-853-5257; enter meeting ID: 873 4767 0235. Members of the public may present their comments to the Committee on matters within their jurisdiction via in-person or teleconference. To participate via teleconference 833-548-0276 and enter meeting ID: 876 9484 9772.

MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012

* The Metropolitan Water District's meeting of this Committee is noticed as a joint committee meeting with the Board of Directors for the purpose of compliance with the Brown Act. Members of the Board who are not assigned to this Committee may participate as members of the Board, whether or not a quorum of the Board is present. In order to preserve the function of the committee as advisory to the Board, members of the Board who are not assigned to this Committee.

1. Opportunity for members of the public to address the committee on matters within the committee's jurisdiction (As required by Gov. Code Section 54954.3(a))

** CONSENT CALENDAR ITEMS -- ACTION **

2. CONSENT CALENDAR ITEMS - ACTION

NONE

** END OF CONSENT CALENDAR ITEMS**

3. SUBCOMMITTEE ITEMS

a. State Water Project Dependent Areas Drought Mitigation Actions

<u>21-2039</u>

Attachments: 03282023 PWSCRC 3a Report 03282023 PWSCRC 3a Presentation b. Pure Water Southern California Quarterly Report

<u>21-2040</u>

Attachments: 03282023 PWSCRC 3b Presentation

4. FOLLOW-UP ITEMS

NONE

5. FUTURE AGENDA ITEMS

6. ADJOURNMENT

NOTE: This committee reviews items and makes a recommendation for final action to the full Board of Directors. Final action will be taken by the Board of Directors. Committee agendas may be obtained on Metropolitan's Web site https://mwdh2o.legistar.com/Calendar.aspx. This committee will not take any final action that is binding on the Board, even when a quorum of the Board is present.

Writings relating to open session agenda items distributed to Directors less than 72 hours prior to a regular meeting are available for public inspection at Metropolitan's Headquarters Building and on Metropolitan's Web site https://mwdh2o.legistar.com/Calendar.aspx.

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THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

State Water Project-Dependent Areas Drought Mitigation Actions

Executive Summary

A multi-year drought has resulted in consecutive years of low allocation on the State Water Project (SWP). The limited SWP supplies have significantly impacted member agencies that rely heavily on these supplies to meet service area demands. In response, Metropolitan has undertaken a series of actions to increase the overall conveyance, distribution and supply reliability to these impacted portions of the service area. In 2022, a series of collaborative workshops with all member agencies were conducted to identify potential measures that could be taken to provide improved water supply reliability to the SWP-dependent areas. The workshops resulted in a portfolio of recommended projects to address the immediate need to improve the flexibility of Metropolitan's conveyance and distribution system to ensure better access to Metropolitan's supplies from the Colorado River and Diamond Valley Lake by all member agencies. The workshop efforts will continue as staff analyzes potential options to provide reliability to the western SWP-dependent areas. As a result of the workshop process, a series of near-term actions were authorized by the Board to be included in the Capital Investment Plan. These projects are now either in design or construction phases of implementation on both the east and west sides of Metropolitan's distribution system. The workshop process also identified longer term system improvements that would further increase the flexibility of Metropolitan's system, and these projects will require more study before design can be initiated. Towards the overall objective of regional reliability, a series of additional studies are now underway to assess a wide range of potential projects to address the long-term supply and storage needs. These studies on supply and storage will be integrated into the One Water Implementation Plan. The goal of these projects is to create a more flexible and resilient system for Metropolitan and its member agencies.

Details

Background

Water years 2020 and 2021 were the driest consecutive years in California for statewide precipitation, resulting in a 20 percent and five percent allocation from the SWP. Water year 2022 saw the driest January and February on record, resulting in a second consecutive five percent allocation. Accordingly, years 2020 to 2022 saw the lowest deliveries in the history of the SWP. The low SWP allocations have resulted in a disproportionate impact on a select number of member agencies that are highly dependent on supplies from the SWP. Within the distribution system, there is an eastern SWP-dependent area that receives water from the California Aqueduct East Branch and a western SWP-dependent area that receives water from the California Aqueduct West Branch. Member agencies within the eastern SWP dependent area include Inland Empire Utilities Agency, Three Valleys Municipal Water District, and Upper San Gabriel Water District. Member agencies within the western SWP-dependent area are the Calleguas Municipal Water District, the City of Los Angeles, and the Las Virgenes Municipal Water District. It should be noted that two additional agencies, Eastern MWD and Western MWD, have portions of their service area in a normally SWP-Dependent area. The area fed by the Mills water treatment plant is wholly supplied by SWP deliveries. However, MWD was able to make system improvements and operational changes that, for the first time in history, pumped water from Diamond Valley Lake to the Mills treatment plant, thus removing these agencies from the SWP-Dependent area. By delivering Diamond Valley Lake water to the Mills water treatment plant, this action allowed an equivalent amount of SWP supply to be available for the other SWP-Dependent areas.

The low allocations required that Metropolitan and member agencies adjust operations to preserve water for areas in the system that are solely dependent on supplies from the SWP. In November 2021, Metropolitan adopted a resolution declaring a regional drought emergency. The resolution called for mandatory conservation by member

agencies who rely solely on Metropolitan's SWP supplies or who receive deliveries by Metropolitan of previously stored SWP supplies. Other member agencies were strongly encouraged to adopt voluntary water conservation measures. The resolution also directed the General Manager to:

- Identify and implement measures to ensure all portions of the service area attain a high level of reliability against multi-year, severe droughts, such as system improvements, local water supply development, new water storage opportunities, and water efficiency gains.
- Seek state funding and other resources for the region to accelerate conservation and supply programs.

In April 2022, Metropolitan's Board adopted a resolution declaring a water shortage emergency condition in the SWP-dependent area. The resolution also adopted a framework for an emergency water conservation program to reduce non-essential water use and preserve available supply for the greatest public benefit in the SWP-dependent area. The framework included two paths for affected member agencies to reduce the use of Metropolitan's SWP supplies and achieve compliance with the program. Non-compliant member agencies faced volumetric monetary penalties if they exceeded their monthly allocation limits.

In August 2022, Metropolitan's Board adopted a resolution affirming Metropolitan's call to action and commitment to regional reliability for all member agencies. With respect to the latter, the resolution noted that with its existing infrastructure Metropolitan cannot provide member agencies in the SWP-dependent area with full access to water supply and storage assets during severe droughts. To address this problem, the Board committed to the following actions:

- Metropolitan will reconfigure and expand: (1) its existing infrastructure portfolio to provide sufficient access to the integrated system of water sources, conveyance and distribution, storage; and (2) programs to achieve equivalent levels of reliability to all member agencies.
- Identify a portfolio of projects and programs, in coordination with the member agencies, to address the problem statement in this resolution. The selected portfolio must include infrastructure improvements to deliver available water supplies to the SWP-dependent areas. The portfolio must also be balanced through new storage and supply programs and local supply development and management.

The disparity of impacts from the recent drought was the result of limitations in the current system that restrict the movement of Colorado River water and stored SWP supplies within Diamond Valley Lake and other storage facilities from reaching the SWP-dependent areas. The Board resolution directs staff to implement actions that will eliminate these restrictions and provide access to these supplies.

State Water Project Dependent Area Principals Meetings and Drought Mitigation Workshops

In response to the impacts to the SWP-dependent areas from the drought, two collaborative efforts were initiated to address water infrastructure connectivity limitations within Metropolitan's system. The first effort, SWP Principals Meetings, included member agency managers only from the SWP-dependent areas. The meetings focused on the overall strategy of mitigating the immediate impacts of the drought and the need for better connectivity to CRA and stored supplies from Diamond Valley Lake.

The second effort, the Drought Mitigation Workshops, began in April 2022 and focused on drought solutions to prevent a recurrence of the disproportionate effects of the low SWP allocations. Although the focus was on the SWP-dependent area, workshops were open to all member agencies. These workshops consisted of seven sessions over the course of ten months. The primary goal of the workshops was to identify viable portfolios of actions/projects for the Metropolitan Board's consideration to improve reliability within the SWP-dependent area through investments in new supplies, storage or programs, and improved access to Metropolitan's existing regional water supply portfolio via system flexibility enhancements.

Through the workshop process, participants developed a common understanding of the problem, established workshop goals, determined desired outcomes, brainstormed and documented ideas, discussed criteria to evaluate ideas, and reviewed proposed action/project portfolios. Over 200 ideas were evaluated and screened during the workshop process. Select projects that passed the initial screening were vetted to determine which projects were feasible and could provide improvement in reliability for the dependent areas. An initial series of potential

portfolios of actionable items were presented to the Board in September 2022. The collaborative process resulted in portfolios of two categories of system flexibility projects to improve access of the SWP-dependent areas to existing and potential future supply and storage: 1) Projects for Immediate Implementation and 2) Projects for Further Development. The workshops also identified supply and storage projects that can improve SWPdependent areas reliability as well as to the region: Supply and Storage Improvements Projects for Comprehensive Studies.

The Flexibility Projects for Immediate Implementation were analyzed for their effectiveness using the 2020 Integrated Resources Plan (IRP) Needs Assessment as the base case. Projects Under Further Development will require additional study before staff can make a recommendation for implementation. The Supply and Storage Improvements Projects will be addressed as part of One Water Implementation. These project portfolios are described in detail below.

The Principals Meetings and the Drought Mitigation Workshops are currently ongoing. These efforts will continue as staff analyzes potential options to provide additional reliability to the western SWP-dependent areas within the Projects Under Further Development.

Integration of Workshop Findings into Metropolitan's Long Term Reliability Strategy

The 2020 IRP was divided into two phases. Phase 1, Regional Needs Assessment, was completed and approved by the Board in April 2022. Phase 2, One Water Implementation, will focus on balancing Southern California's broad interests in managing finite water resources for both community and ecosystem needs. The 2020 IRP Needs Assessment developed four scenarios used to characterize different outcomes of imported supply stability and demand to address uncertainties in climate, regulation, and economy. The four scenarios were: A) Low Demand/Stable Imports; B) High Demand/Stable Imports; C) Low Demand/Reduced Imports; and D) High Demand/Reduced Imports. The risk to the SWP-dependent areas was identified in the IRP Needs Assessment, which found that the SWP-dependent areas could experience shortages more quickly and deeply as the SWP imported supply became constrained. The IRP included the following findings specific to the SWP-dependent areas:

- Vulnerabilities in the SWP-dependent areas are more severe given reduced reliability of SWP supplies and Metropolitan distribution system constraints. Actions identified in the implementation phase must prioritize addressing the SWP-dependent area's reliability challenge.
- Enhanced accessibility to core supplies and storage, both existing and new, will improve SWP-dependent area overall reliability. This includes improvements to Metropolitan's distribution system and capacity to deliver non-SWP supply and storage.

As the IRP was being developed, California again slipped into severe drought and, with the limitations of the system to provide the SWP-dependent areas access to non-SWP supplies, resulted in the November 2021 resolution requiring mandatory conservation within the SWP-dependent areas. The findings of the IRP Needs Assessment and the impacts to the SWP-dependent areas during the recent drought reinforce the need to address the system limitations and develop projects to modify the system to enhance access.

At the beginning of the portfolio development process, it was envisioned that the One Water Implementation Phase would consider the performance of any portfolio under the four IRP scenarios identified above. For example, improvements that resolve the constraints to the SWP-dependent areas would be considered when assessing supply and demand balance within One Water Implementation. Furthermore, and as explained in detail below, when evaluating the impact of the System Flexibility Projects for Immediate Implementation to the IRP model scenarios, it became clear that the improvements to the system do not negate the long-term supply and storage challenges that the region is facing. Therefore, staff separated the projects into two groupings (categories), with the first group including projects that improve system flexibility, and the second group including projects related to supply and storage. The intent of this approach was to address the system constraints separate from the supply issues.

The System Flexibility Projects for Immediate Implementation were analyzed for their effectiveness in improving reliability using the IRP needs assessment results. The analysis assumed implementation of the following projects: Diamond Valley Lake to Rialto pipeline interconnections, Sepulveda Feeder Pumping, Miramar Pumpback System Upgrades, and Service Connection B-5 to Service Connection B-5A Shift. These projects are described in later sections. These four projects improve Metropolitan's conveyance and distribution system flexibility by conveying up to 145 thousand acre-feet of water from the blended areas to the SWP-dependent areas. Since demands were met under all hydrological conditions for Scenario A in the 2020 IRP Needs Assessment, the near-term portfolio projects were only analyzed against Scenarios B, C, and D.

When measured against the IRP baseline results, implementation of the projects showed a reduction of the number of times Metropolitan would be required to enact water restrictions under each scenario. It also shows that, when there was a supply deficit, the magnitude of the deficit to the SWP-dependent area would be reduced. The results are in-line with the IRP Needs Assessment findings that improving the SWP-dependent area's access to Metropolitan's existing supply and storage portfolio will increase their overall reliability. However, the simulation found that by about 2040, under scenarios C and D, the benefits of these actions will be reduced due to uncertainty of the supply condition to meet the overall service area demand.

Due to their location within the system, the projects for immediate implementation also largely benefit the eastern SWP-dependent area. The projects benefiting the eastern SWP-dependent area can provide up to 108 TAF, while the projects benefiting the western SWP-dependent area can provide up to 47 TAF. The ability to provide additional system flexibility to the western SWP-dependent area in the near-term is limited by the pressures for which Metropolitan's system was originally designed. The projects for further development can benefit the western dependent area but will require additional analysis due to their complexities before a specific project can be identified for implementation. It is anticipated that the projects for further development will have a similar impact to the dependent areas while still needing to develop supply and storage for future demand.

Through this process, staff has developed an initial System Flexibility Portfolio to improve the reliability of the SWP-dependent areas by providing improved access to existing non-SWP supplies and storage. Two of the projects, DVL to Rialto and Sepulveda Feeder Pump Station Project Phase 1 have already been approved by the Board for inclusion into the CIP. DVL to Rialto is well into development with the first construction contract award being approved in January 2023. For the western SWP-dependent Area, the Sepulveda Feeder Pump Station Project Phase 1 will be advertised under an alternative-delivery method, which will shorten the time for implementation. Staff intends to return to the Board to recommend an action in relation to the System Flexibility Projects for Further Development to address the additional system flexibility needs for the western SWP-dependent area.

To address the gaps in future supply and storage identified in the Integrated Resource Plan, additional select projects have been proposed from the workshop collaboration process for study. The results of these studies will be incorporated into Metropolitan's long-term planning process, One Water Implementation.

Preliminary Action System Flexibility Portfolio

System Flexibility Projects for Immediate Implementation (near-term projects)

The Projects for Immediate Implementation have been sufficiently studied and are recommended for implementation based on their effectiveness for improving the reliability of the SWP-dependent areas for the next multi-year drought.

Eastern SWP-Dependent Area Projects

Diamond Valley Lake (DVL) to Rialto Pipeline Interconnection – This series of projects was first added to the CIP by the Board in December 2021 and consists of four projects that will enable Metropolitan to deliver up to 87 TAF of previously stored SWP supplies in DVL to the Rialto Pipeline utilizing the existing Wadsworth Pump Station and San Bernardino Valley Municipal Water District's Foothill Pump Station. The projects would also enable Metropolitan to deliver Colorado River supplies to the area if necessary. The projects include a new bypass pipeline at DVL's Wadsworth Facility, a surge protection system on the Inland Feeder, a new intertie

between the Inland Feeder and the Rialto Pipeline, and a new connection between the Foothill Pump Station and the Inland Feeder. In January 2023, the Board awarded the construction contract for the first project, the Wadsworth Bypass.

Three Valleys Municipal Water District (TVMWD) Miramar Pumpback System Upgrades – The TVMWD Miramar system normally takes water from the Rialto Pipeline and treats it at its Miramar Water Treatment Plant before delivery into its distribution system. The Miramar Pumpback system can take treated water from the F. E. Weymouth Water Treatment Plant (Weymouth plant) and deliver those supplies to the Miramar system through a series of pumps, offsetting the need for SWP deliveries from the Rialto Pipeline. The Miramar Pumpback System Upgrades project would increase the capacity of the existing system from 15 cfs to 30 cfs. Under this project, TVMWD would shift the operation to the Miramar pumpback system when supplies are constrained on the SWP. Metropolitan and TVMWD are evaluating potential grants to offset the implementation cost of the project.

Western SWP Dependent Area Projects

Sepulveda Feeder Pumping Project – This project was added to the CIP by the Board in February 2022 and installs two pump stations on the Sepulveda Feeder to allow for delivery of water from the Common Pool into the western SWP-dependent area. The pump stations would be sized to deliver 30 cubic feet per second (cfs) of water; however, the actual state water project savings would be approximately 60 cfs due to the savings of normal operational flows into the Common Pool from the Sepulveda Feeder to maintain water quality. The pump stations would also be designed for potential future expansion. A progressive design-build process will be used to construct the project, which is expected to shorten the project implementation time. Estimated on-line date for the Phase 1 facilities is early 2026.

Service Connection B-5 to Service Connection B-5A Shift Project – During normal operation, Burbank Water and Power (Burbank) receives SWP supplies from the Joseph Jensen Water Treatment Plant. The water is then delivered to Burbank's Valley Blending Facility to mix with local groundwater. When SWP supplies are constrained, Burbank takes water that is treated at the Weymouth plant through the B-5 service connection located on the discharge side of the Greg Avenue Pump Station. This project would construct a pump station at the Valley Blending Facility to enable Burbank to blend water from the supply side of the Greg Avenue Pump Station called the B-5A connection. The shift from the B5 to B5A connection would enable Metropolitan to: (1) deliver additional water from the Colorado River that is treated at the Weymouth plant to the West Branch SWPDA from Greg Ave Pump Station; and (2) would avoid Burbank from having to take water from SWP-dependent only areas. Burbank could rely on Colorado River water year-round if SWP supplies were constrained. Staff is working with Burbank to explore funding opportunities, including a joint grant application to support the implementation of the project. Some policy issues are being investigated regarding the funding and implementation of this project.

System Flexibility Projects for Further Development

These projects require additional study before a recommended action is identified.

Antelope Valley East Kern (AVEK) High Desert Water Bank to West Branch – The AVEK High Desert Water Bank (HDWB) is a Metropolitan funded project that allows for the storage and recovery of up to 70 thousand acre-feet (TAF) of water in a single year with a maximum storage capacity of up to 280 TAF in the Antelope Valley Groundwater Basin. The HDWB is in construction with an expected completion in 2025. As currently designed, the HDWB would recover stored SWP supplies from the Antelope Valley Groundwater Basin and return those supplies to the California Aqueduct East Branch where it can serve the eastern portion of the SWP-dependent areas on the Rialto Pipeline. Importantly, the HDWB was included in the 2020 IRP modeling and the recent simulations. With the planned ability to move stored supplies from DVL to the Rialto Pipeline, the HDWB stored water would provide additional benefit if it can be conveyed to the western SWP-dependent areas. Options to deliver HDWB supplies to the West Branch are currently being evaluated along with options to increase the amount of storage beyond 280 TAF and the recovery beyond 70 TAF per year. Deliveries of this water to the West Branch would have direct and immediate benefits to the west side SWP-dependent agencies.

East-West Conveyance – The east-west conveyance studies will develop and evaluate multiple options to improve access to Metropolitan's supply and storage capabilities for the western portion of the SWP-dependent area. This would include improved access to regional sources of water (existing and future) that currently are inaccessible due to system infrastructure limitations. These regional sources include the Colorado River Aqueduct, Pure Water Southern California, and major storage facilities such as DVL. The east-west conveyance studies will build upon the near-term actions that are discussed above. Options for improved east-west conveyance may include expansion of the Sepulveda and Venice Pump Stations, expansion of the Greg Avenue Pump Station, new conveyance pipelines, improvements to the existing pipelines or a combination of multiple projects. A preliminary investigation is underway to create an inventory of available options. A range of capacities from 160 cfs and above are being considered by the study.

Supply and Storage Improvements Projects for Comprehensive Studies

To address the gaps in future supply and storage identified in the Integrated Resource Plan, select projects have been proposed from the workshop collaboration process for additional study. The results of these studies will be incorporated into Metropolitan's long-term planning process, One Water Implementation. These projects, listed below, can potentially provide significant regional benefits and will require comprehensive studies to confirm their feasibility, sustainability, and cost effectiveness.

Desalination – The desalination study will identify the potential for development of additional potable water supplies through both brackish and seawater desalination. The study will also assess the opportunity for integration in adjacent water distribution systems and regional water systems. Project implementation options, including alternative project delivery methods and partnerships for design, construction, and operation, will be reviewed as part of the study. Staff is collaborating with member agencies to develop the scope and approach of this study.

Surface Storage – The surface storage study will assess opportunities to develop new storage to benefit the SWPdependent area. Storage options may include new reservoirs and expansion of existing reservoirs. Evaluation of potential sites will consider the storage benefits for member agencies and consider spatial distribution of Metropolitan's major storage assets. An initial investigation is underway to create an inventory of available sites for preliminary screening based on key attributes.

Inland Empire Utilities Agency (IEUA) Local Supply Projects – IEUA submitted a list of local projects as part of the near-term drought action projects to be developed. Projects include new wells, well rehabilitation, wellhead treatment, transmission pipelines, and water treatment plant expansion. Since September 2022, Metropolitan has been working with IEUA to identify potential projects to participate in the Local Resources Program (LRP). Staff continues to work together with IEUA to discuss options to accelerate the delivery of these water supply projects.

Chino Basin Expansion – Metropolitan is currently working with IEUA to participate in the Chino Basin Program (CBP). The CBP is a water exchange and reliability program, in which advanced treated recycled water stored in the Chino Basin would be exchanged for an equivalent amount of SWP supply. The exchanged SWP supply would provide additional flow to improve fisheries in the Feather River. As IEUA is not a SWP contractor, IEUA has requested Metropolitan's participation in the CBP as its facilitating SWP contractor. As such, Metropolitan would agree to facilitate the exchange of an equivalent portion of its SWP Table A allocation for stored Chino Basin groundwater in certain years.

The CBP would improve regional reliability and system flexibility in Metropolitan's service area. The new distribution infrastructure would provide an option for developing additional supplies for the SWP-dependent areas of Metropolitan's system. This operational flexibility could also benefit Metropolitan and its member agencies during shutdowns and maintenance projects. The CBP includes an emergency use provision for up to 50 TAF that may be used in extended periods of drought and in emergency conditions.

Additionally, Metropolitan and IEUA are currently exploring a potential storage and recovery program, known as CBP Augmentation. As the current dry year yield program is set to expire in 2028, the CBP Augmentation could

provide storage and leverage CBP infrastructure. A co-funded study between IEUA and Metropolitan is currently underway and evaluates varying storage amounts of 100 TAF, 200 TAF, and 300 TAF.

Pure Water Southern California – Opportunities exist to enhance the potential for the Pure Water Southern California (PWSC) program to benefit the SWP-dependent areas. Staff is actively working with the Los Angeles Department of Water and Power to explore opportunities to integrate their reuse program Operation NEXT with Metropolitan's PWSC program. Such integration has the potential to expand the availability of of purified water from both of these two sources to SWP-dependent areas.

Solicitation of Grant Funding

In accordance with the November 2021 resolution, Metropolitan staff has actively pursued opportunities for grant funding to accelerate the implementation of supply reliability projects. Recently, Metropolitan was awarded \$50 million in reimbursable funding from the state of California through the Department of Water Resources. Metropolitan's Board approved a resolution in December 2022 to authorize the receipt of the grant funding. The funding will support activities related to the Sepulveda Feeder Pumping and DVL to Rialto Projects. Additionally, Metropolitan is actively supporting member agencies in their efforts to obtain grant funding for supply reliability projects. Specifically, staff has provided a letter supporting the TVMWD Miramar Pumpback Project in their efforts to obtain grant funding and is working with Burbank to identify grant opportunities for the Service Connection B-5A shift project.

Next Steps in the Commitment to Equitable Supply Reliability

Over the last year staff, working in collaboration with member agencies, has developed a preliminary system flexibility portfolio with recommendations for immediate implementation of projects that can supply the SWP-dependent areas up to 145 TAF of Colorado River and DVL supplies when SWP supplies are constrained. These projects total over \$100 million in investment in increased reliability for the SWP-dependent areas. Construction of the first phase of the HDWB storage and recovery facilities are also underway at an estimated cost of \$210 million. Spreading facilities should be on later this year in time to capture surplus supplies available from the SWP in calendar year 2023.

Staff will continue to work collaboratively with member agencies to evaluate the projects for further development under various demand and supply scenarios to identify high potential options. Additionally, Metropolitan is committed to continue identifying supply and storage projects that resolve challenges identified in the IRP process through the One Water Implementation Plan. Climate adaptation considerations are also an essential component to the overall One Water Implementation Plan and will be considered in evaluating all these projects.

Staff intends to return to the Board in December 2023 to provide recommendations for an updated conveyance and distribution flexibility portfolio. These recommendations will be focused on the portfolio of projects that have been identified in this letter for further development. A primary focus of that recommendation will be the presentation of alternatives for enhanced conveyance flexibility from the eastern portion of Metropolitan's system to the SWP-dependent areas in the western portion of the system. Staff will provide regular updates to the Board on the progress of the work to refine the components of the storage and supply regional portfolio. A key outcome of this process would be inclusion of these projects in the Board's approval of the Capital Improvement Program as part of the Spring 2023 action on the biennial budget. Below are specific actions identified by staff to accomplish the steps described above.

Flexibility Projects for Immediate Implementation

Eastern SWP-Dependent Area

• DVL to Rialto Projects – for these projects, the Wadsworth bypass is currently in construction with an anticipated completion date of December 2024. Staff will return to the Board in mid-2023 to award two construction contracts for the Inland Feeder/Rialto Pipeline Intertie and the Badlands Tunnel Surge Protection. The fourth component, the Foothill Pump Station Intertie, will be brought to the Board to award a construction contract once real property and permitting issues are resolved.

• TVMWD Miramar Pumpback Upgrades – Continue discussions with member agency to develops terms and identify funding options for project implementation.

Western SWP-Dependent Area

- Sepulveda Feeder Pumping Project Phase 1 A Request for Qualifications will be issued in March and the recommendation will be brought to the Board in summer-2023 to select the design-build contractor for design and construction.
- Burbank B-5 to B-5A Shift Continue discussions with member agency to develops terms and identify funding options for project implementation.

Flexibility Projects for further Development

- AVEK High Desert Water Bank to West Branch Staff will return to the Board in mid-2023 to authorize a feasibility study for this project.
- East-West Conveyance Staff will continue working with the western SWP-dependent agencies and will return to the Board in April 2023 to amend a consulting agreement so that the feasibility study on this project can be expanded to include the multiple alternatives developed through the ongoing workshops.

Supply and Storage Improvement Projects

- Regional Desalination Study Staff will return to the Board in mid-2023 to authorize a professional services agreement to conduct the study.
- Surface Storage Study Staff will return to the Board in mid-2023 to authorize a professional services agreement to further study the potential sites identified in the preliminary surface storage study currently underway.
- IEUA local supply/storage projects staff will continue to work with IEUA to identify projects for inclusion in the Local Resources Program (LRP) by mid-2023.
- Chino Basin Program Augmentation Staff will make a recommendation on Metropolitan's potential participation once an agreement is reached with the participating agencies.

Collaboration with Member Agencies

- SWP Dependent Area Principals Meetings Continue to hold these meetings as a way for staff to receive input on the strategic approach and potential policy changes.
- Drought Mitigation workshops Workshops to be scheduled in May and July 2023 to update the progress of implementations and studies and seek feedback. These workshops are open to all member agencies.
- East-West Conveyance Study Collaboration Continue workshops with western SWP-dependent area agencies. Workshops currently scheduled for April, June, August and September 2023.

Pure Water Southern California

• Workshops and planning activities are currently underway with LADWP to explore opportunities to integrate Operation Next into Metropolitan's PWSC program to expand the availability of water from this program to SWP-dependent agencies.

Policy

By Minute Item 52481, dated August 17, 2021, the Board adopted a resolution which declared a "Condition 2 -Water Supply Alert."

By Minute Item 52581, dated November 9, 2021, the Board adopted a resolution which declared specified emergency conditions within the Metropolitan service area.

By Minute Item 52626, dated December 14, 2021, the Board amended the CIP to include water supply reliability improvements in the Rialto Pipeline service area.

By Minute Item 52703 dated February 8, 2022, the Board amended the CIP to include water supply reliability for the western service area.

By Minute Item 52802, dated April 12, 2022, the Board declared a Water Shortage Emergency Condition, adopted an Emergency Water Conservation Program, and expressed support for the Governor's Executive Order N-7-22.

By Minute Item 52946, dated August 16, 2022, the Board adopted a resolution committing to regional reliability for all member agencies.

Fiscal Impact

None



Subcommittee on Pure Water Southern California and Regional Conveyance

State Water Project Dependent Areas Drought Mitigation Actions

Item 3a March 28, 2023

Presentation Outline

- Background
- SWP-Dependent Areas Workshops
- Project Portfolios
 - Flexibility Projects
 - Supply Storage Projects
- Next Steps

Background

- Risk to SWP-dependent areas identified in the 2020 IRP Needs Assessment
- Multi-year drought lowest three-year deliveries in SWP history
- System limitations in the current distribution system restrict the movement of certain supplies from reaching the SWP-dependent areas
- Metropolitan committed to system improvements to enhance flexibility to address lack of connectivity in existing system

Actions Taken after the 2014-15 Drought





Greg Ave. PS Refurbishment



PC-1/Lakeview Intertie



Key Board Actions Impacting SWP-Dependent Areas



March 28, 2023

State Water Project Dependent Areas Drought Mitigation Workshops



March 28, 2023



Projects for Immediate Implementation



March 28, 2023

System Flexibility Projects for Immediate Implementation: Eastern Area Portfolio

1a

Project	Capacity	Estimated Cost	Planned Board Action	Anticipated Completion Schedule	Status
Wadsworth Bypass	Up to 120 cfs 87 TAF	\$23 M	Jan-23	Dec-24	On schedule – in Construction
Inland Feeder-Rialto Pipeline Intertie		\$17 M	Mid 2023	Dec-24	On schedule – in design
Badlands Tunnel Surge Tank		\$18 M	Mid 2023	Dec-24	On schedule – in design
Foothill Pump Station		\$26 M	Mid 2023	Dec-24	On schedule – in design, resolving environmental challenges
TVMWD Miramar Pump Station Upgrades	Up to 30 cfs 21 TAF	TBD (Member Agency Project)	TBD	TBD	Feasibility Study Completed



System Flexibility Projects for Immediate Implementation: Western Area Portfolio

Project	Capacity	Estimated Cost	Planned Board Action	Scheduled Completion	Status
Sepulveda Feeder Pumping Project - Phase 1	up to 60 cfs* 42 TAF	\$90 M	Mid 2023	Mar-26	Alternative Project Delivery - RFQ Issued March 2023
Shift of Burbank B-5 Supply to B-5A	up to 7 cfs 5 TAF	\$7 M	TBD	TBD	Feasibility Study Completed

*Capacity includes 30 cfs pump station capacity and 30 cfs water savings that would otherwise be delivered into the common pool to maintain water quality



Projects for Immediate Implementation Tested using the IRP Needs Assessment

The System **Flexibility Projects** for Immediate Implementation were analyzed for their effectiveness in improving reliability using the IRP needs assessment results



Key Takeaways

- There is a benefit from the implementation of the SWP-dependent areas flexibility projects
 - Increased likelihood of meeting all member agency demands
 - Magnitude of the shortage is reduced
- Future water supplies may be a limiting factor for regional reliability

Impact of System Improvements on Member Agencies in 2022





System Flexibility Projects for Future Development: Eastern Area Portfolio

Project	Capacity	Action	Planned Board Action	Anticipated Completion Schedule	Status
PC-1 Pump Station*	> 150 cfs	Study	TBD	TBD	Feasibility Study



* Can potentially benefit the Westside member agencies

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System Flexibility Projects for Further Development Western Area Portfolio

Project	Capacity	Action	Scheduled Completion	Status
AVEK HDWB to Supply Westside Agencies	Max 125 cfs Max 70 TAFY	Study	Dec - 23	Consulting MAs & evaluating alignments
East-West Conveyance System	Minimum 160 cfs	Study	Dec-23	Study Ongoing



2b



Storage and Supply Regional Portfolio For Incorporation into One Water Implementation

Project	Action	Scheduled Completion	Status
Surface Storage Options	Study – Phase 1	Oct-23	On schedule – in progress
Desalination Reconnaissance Study	Study – initial findings	Dec-23	RFP – in advertisement
IEUA Local Resource Development	Benefit Assessment	May-23*	Collaborating with MA to apply for available programs
Chino Basin Program Expansion	Study	May-23*	Evaluating preliminary study commissioned by MA
Pure Water Southern California Enhancements	Study	Dec-23	Study Ongoing

* Delayed from previous forecasts

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Next Steps

- Projects for Immediate Implementation
 - DVL to Rialto Board action for two construction contracts (mid 2023)
 - TVMWD Miramar Pump Station Upgrades Identify funding options, develop terms for design, construction, operation
 - Sepulveda Feeder PS Phase 1 Board action for design-build contract (mid 2023)
 - Burbank B-5 to B-5A Shift Identify funding options, develop terms for design, construction, operation
- Flexibility Projects for Further Development
 - East/West Conveyance Board action to amend agreement and expand feasibility study (April 2023)
 - AVEK to West Branch Board action for feasibility study (mid 2023)

Next Steps – Continued

- Supply and Storage Improvements
 - Desalination Board action for study (mid 2023)
 - Surface Storage Board action for Phase 2 study (mid 2023)
 - IEUA Local Supply/Storage Projects Identify potential projects for inclusion into LRP (mid 2023)
 - Chino Basin Program Augmentation provide recommendation on potential participation (TBD)
- Collaboration with Member Agencies
 - Drought Mitigation Workshops –workshops in May & July 2023
 - East/West Conveyance Workshops scheduled for April
- Pure Water Southern California continue workshops to explore opportunities for potential integration with OpNext in the future

Scheduled 2023 Collaboration Workshops with Member Agencies

- 4/18: E-W Conveyance Study Workshop #2
- 4/24: LA Operation NEXT/Pure Water SoCal Integration Workshop #3
- 5/19: SWP-Dependent Areas Drought Mitigation Planning Workshop #8
- 6/07: E-W Conveyance Study Workshop #3
- 7/28: SWP-Dependent Areas Drought Mitigation Planning Workshop #9
- 8/17: E-W Conveyance Study Workshop #4
- 9/19: E-W Conveyance Study Workshop #5





Subcommittee on Pure Water Southern California and Regional Conveyance

Pure Water Southern California Quarterly Report

Item 3b March 28, 2023 Pure Water Southern California Quarterly Report



Outline for Program Report

- Program Overview & Recent Activities
- Demonstration Plant & Regulatory Activities
- Outreach Activities
- Environmental Review
- Funding
- Schedule
- Next Steps

Program Overview

Pure Water Southern California Quarterly Report



March 28, 2023

Pure Water Southern California Quarterly Report

Recent Board Authorizations

- Dec 2022 Accepted use of \$80M state funds
- Jan 2023 AECOM + Brown & Caldwell agreement for program management support
- Mar 2023 two consultant agreements for preliminary design of first two pipeline reaches
- March 2023 support for USBR grant application for Large Scale Reuse Feasibility Study

Pure Water Southern California Quarterly Report



Preliminary Site Layout

Recent Project Team Activities

- Finishing sMBR demo plant testing
- Engaging in CA DPR regulatory development
- Developing DPR testing strategy
- Continuing environmental studies & developing draft PEIR document
- Outlining Early Start/Early Delivery Alternatives
- Refining conveyance pipeline alignment
- Coordinating Program Manager work
- Discussing agency contributions



THE METROPOLITAN WATER DISTRICT Program Partners



Metropolitan Member Agencies



Groundwater Basin Managers

Colorado River Partners

SOUTHERN NEVADA



Other Key Partners





MainSanGabrielBasin WATERMASTER

> US Army Corps of Engineers



Energy for What's Ahead™







Demonstration Facility



March 28, 2023

Demonstration Update



Replacement of membranes

Demonstration Plant Activities

- Completed Tertiary MBR testing (Nov 2021)
 - Easily achieved required pathogen removal levels
 - Report being finalized; anticipate submitting to regulators in summer 2023
- Secondary MBR startup & testing (April 2022-present)
 - Biological acclimation & microbial method development
 - Replacement of MBR & RO membranes
- South Coast AQMD source sampling (spring 2023)
- Regulatory engagement meeting & Independent Science Advisory Panel Workshop (March 2023)

Nitrogen Management Process Selection

- LACSD investigating alternative nitrogen management processes
- Nitrogen concentrations limited by basin plans & DPR
- Evaluation of several treatment processes for nitrogen removal



Nitrogen Management Process Selection



Membrane element closeup during challenge testing

Completing sMBR baseline testing

- Phased tMBR approach is currently favored
 - tMBR is reliable & meets water quality goals for early phases
- Developing tMBR optimization testing plan
 - Refining tMBR feasibility & costs
 - Finalizing design criteria
- Evaluating plant modifications to enable additional testing based on LACSD pilot testing

CA DPR Planning & Regulatory Development



Proposed CA DPR Regulation

- Engagement and technical exchange on developing framework for CA Direct Potable Reuse
- Expecting proposed regulation release ~ mid 2023 & to be finalized by end of 2023

Direct Potable Reuse (DPR) Approach

- Identify viable alternative process trains
- Develop test plans and conduct studies to test alternative process trains
 - Engage DDW on Metropolitan's technical approach
- Seek ISAP review and approval of alternative process trains



Panel Members

ISAP Workshop No. 6

March 22 & 23, 2023



- Reviewed Secondary MBR results to-date & received feedback on
 - Adequate pathogen removal through MBR
 - Water quality suitable for groundwater recharge
 - Suitability of RO concentrate for ocean discharge
- Obtained feedback on nitrogen management with focus on Tertiary MBR optimization
- Presented approach for Direct Potable Reuse
 - Raw Water Augmentation
 - Future demonstration testing
- ISAP report on workshop feedback expected ~ May
- Ongoing regulatory engagement with DDW & Regional Boards

Demonstration Plant Testing Schedule



PWSC Industry Outreach & Collaboration



Industry Outreach Activities

- Four peer-reviewed journal publications in preparation
- WateReuse CA & Annual Symposium presentations
- 2023 WEFTEC MBR Workshop
- MetWorks Industry & Networking Day
- United Contractors Public Works
 Summit presentations
- USBR Desalination & Water Purification Research Project









Outreach Highlights

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Program Overview – Phase 1



March 28, 2023

Program Overview – Phase 2



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Environmental Planning Activities

PEIR/EIR revised schedule

- 6 months added
- Flow changes Phase 1
 - 115 MGD
 - DPR 25 MGD
- Pipeline alignment modifications
- Revisions to technical studies and surveys



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Initial Program Funding





State

- \$80M direct earmark funding for Metropolitan's PWSC
- Used for design only/no construction
- Funding anticipated to be received in April 2023

Federal

- USBR WaterSMART grant submitted February 28, 2023
 - \$5M grant with a 75 percent match (State funds)
 - Obtaining Letters of Support from Partners
 - Notification this summer/funding in October 2023
- \$450M funding for large-scale water recycling (LSWR) in Infrastructure bill
 - 1st LSWR grants expected Spring 2023

Phase 1 - Program Schedule





Cost of Service

Inflation, supply chain issues & DPR resulting in cost increases

Project Costs & Rate Update

- Last published costs (2018) are being updated for inflation & changes to the Program
- White Paper No. 2 (October 2020)
 - Discussed benefits & potential rate/payment options
 - Addendum WP No. 2, in-progress
- Consultant performing a study for a Cost-of-Service analysis
 - Analysis will form the basis to discuss recommendations for the rates/structure

Next Steps Pure Water Southern California

Demonstration Plant

- Complete Demo Plant sMBR testing & confirm DPR testing approach
- Conduct nitrogen management/tMBR optimization
 Program Activities
- Prepare Conceptual Facilities Plans
- Continue Early Start/Delivery project preliminary designs
- Coordinate power supply requirements
- Continue outreach & prepare draft PEIR

Future PWSC update to address

- Status of State & Federal grant/opportunities
- Cost of Service analysis & Partner contributions
- Development of Term Sheets for agency demands

