2009 IRP Update
Metropolitan Involvement in Water Resources Development
July 16, 2009

This issue paper provides background on existing policies guiding Metropolitan's water supplies, water resource development to meet water needs of the service area, the outcomes of the 1996 Integrated Water Resources Plan (IRP) and 2004 Updates, and different approaches to meeting future supply reliability for the region.

Background

In 1928, the California State Legislature passed into law the Metropolitan Water District Act (Act). Metropolitan was formed under the auspices of the Act and its governing Board of Directors has operated within the boundaries of the Act to develop and deliver water to its member public agencies for over 80 years.

> *"...Metropolitan water districts may be organized for the purpose of developing, storing, and distributing water for domestic and municipal purposes and may provide, generate, and deliver electric power within or without the state for the purpose of developing, storing, and distributing water for such district..." (Section 25. Metropolitan Water District Act)*

Throughout its history, the Board has developed and adopted policies to help achieve its mission and overarching policies on water supplies and meeting water demands. These policies can be found in a variety of documents including specific policy statements, the Administrative Code (Code), board meeting minutes, and board letters. Described herein are the key board policies on water supplies and meeting water demands of its member agencies.

In December 1952, the Board adopted the policy commonly known as the Laguna Declaration, which links water resources development and delivery to water needs of the service area.

> *"The District is prepared, with its existing governmental powers and its present and projected distribution facilities, to provide its service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. When and as additional water resources are required to meet increasing needs for domestic, industrial and municipal water, the District will be prepared to deliver such supplies." (Section 4202 (a). MWD Administrative Code)*

More recently, the Board adopted Metropolitan's mission statement in January 1992 as a result of its strategic planning effort.

> *"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." (Section 4201. MWD Administrative Code)*

1996 IRP Process and Outcome

In the late 1980's and early 1990's, Metropolitan faced growing water demands due to rapid economic and population growth in California. At the same time, California also went through its six-year drought period (1987-1992), listing of the winter run Chinook Salmon as an endangered species by the National Marine Fisheries Service, federal and state listing of Delta smelt as threaten species, and increasing competition for existing water supplies from both the Colorado River and California Bay-Delta.

With this realization, Metropolitan and its member agencies embarked on a two and a half year Integrated Water Resource Planning (IRP) process. The IRP process asked several basic questions:

- What level of reliability does the region require?

- What is the preferred means of achieving the level of reliability, given the range of potential water supply options?
- Can the region afford the desired level of reliability? and,
- What needs to happen in order to implement the preferred resource strategy?

The Board also established six objectives for the IRP: reliability, affordability, water quality, diversity, flexibility, and environmental and institutional constraints.

The process was designed to include a wide range of resource options that are practical and cost-effective in the development of a strategy for meeting regional supply goals. Development of some of these water resources required partnerships with entities beyond Metropolitan's member agencies. To realize the benefits of these resource options, a high level of consensus and cooperation had to be achieved among Metropolitan, its member agencies, groundwater basin agencies, other resource agencies, and the public. Thus, the IRP process needed to be open and participatory.

The process included three regional assemblies attended by Board of Directors, member agency managers and senior management to discuss strategic direction and regional water solutions. Metropolitan and member agency staff, local retail agency managers, and groundwater basin managers met as the IRP Workgroup to review and conduct technical analysis. In addition, six public forums were held to facilitate broader public input from over 450 people representing business, environmental, community, agricultural, and water interests from throughout the state.

The Board adopted the IRP in January 1996. This IRP included a regional reliability goal for the region:

> *Through the implementation of the Integrated Resources Plan, Metropolitan and its member agencies will have the full capability to meet full-service demands at the retail level under all "foreseeable hydrologic conditions" through 2020.*

The reliability goal allowed for intermittent interruptions of non-firm discounted rate supplies sold for groundwater replenishment and the Interim Agricultural Water Program. For the purpose of analysis, "foreseeable hydrologic conditions" was understood to mean based on historical hydrology and then existing regulations. At the time of the 1996 IRP, the recorded historical hydrology spanned from 1922 through 1991.

The adopted IRP also include a preferred resource mix that embraces the concept of interdependency and recognizing regional water supply reliability cannot be achieved by Metropolitan's effort alone. Investments, responsibilities for water supplies, and risks must be shared by Metropolitan, its member agencies, and local water agencies partnering with other water management entities such as wastewater treatment/recycled water agencies, groundwater management and producers and non-governmental organizations. Consequently, Metropolitan and its member agencies implemented mechanisms to incentivize water conservation through the Conservation Credits Program, water recycling and groundwater water recovery through the Local Resources Program, and local groundwater storage through a contractual Dry Year Conjunctive Use Program.

The most important outcome of the IRP process was a regional planning framework for making future decisions about resource development. This framework supports the ability of the Metropolitan service area to plan for reduced risk through diversification of resources, and remain flexible in response to uncertain future demands. Included in the IRP planning approach is that it would be reviewed and updated periodically to incorporate changing conditions.

2004 IRP Update

In November 2001, after Metropolitan's Strategic Plan, Rate Restructuring, and review of IRP implementation, the Board adopted a specific scope and action plan to update the IRP.

In addition to extending the planning horizon from 2020 to 2025, the three major objectives for the Update include:

1. To review of the resource development goals and achievements of the 1996 IRP
2. To identify significant changed conditions for water resource development, and
3. To update the resource targets through 2025

In keeping with the open, participatory process established with the 1996 IRP, the Update process relied upon input from a diverse group of stakeholders through a number of public meetings primarily hosted by member agencies.

The results of the IRP Update analysis concluded that the resource targets of the 1996 IRP, factoring in changed conditions, would continue to provide a means for meeting the reliability goal of 100 percent full-service demands at the retail level through the year 2025. Hence resource targets were not modified. However, the 2004 IRP Update also recognizes uncertainties in water quality regulations and risks surrounding resource development and implementation. Therefore, the 2004 Update established a planning buffer of up to 10 percent of regional demands to manage uncertainties in resources development. The planning buffer calls for Metropolitan to plan for 500,000 acre-feet of supplies in addition to the resources targets by 2025. Development of the buffer is equally split between local and imported sources. Partial or full implementation of the supply buffer is dependent on the progress in developing planned projects, and ongoing decisions by the Board of Directors.

Based on the IRP strategy adopted in 1996 and continued in 2004, Metropolitan involvement in the development of the various resource areas is summarized in Table 1.

Table 1. Metropolitan's Involvement in Resource Development

Resource	Current Metropolitan Involvement
Conservation	Metropolitan and the member agencies sponsor numerous conservation programs in the region that involve research and development, incentives, and consumer behavior modification. Conservation is achieved both through active installation of water saving devices and enactment of statutes and standards for water use efficiency.
Local Resources (Recycling, Groundwater Recovery, Seawater Desalination)	Metropolitan offers financial incentives to local and member agencies through Local Resources Program (LRP) for recycled water, groundwater recovery and seawater desalination.
Stormwater	Metropolitan actively participates in regional planning and research efforts with local agencies to develop groundwater replenishment projects that use stormwater.
Graywater	No graywater programs.
Central Valley Storage & Transfers	Central Valley storage programs consist of agreements with Central Valley water districts to allow Metropolitan to store SWP in wet years for return in dry years. Metropolitan's Central Valley transfer programs consist of partnerships with CVP and SWP settlement contractors to allow Metropolitan to purchase water in drier years.
In-Region Groundwater Storage	Develop contractual conjunctive use programs and encourage storage of imported supplies by groundwater agencies at discounted water rates when surplus water is available
In-Region Surface Water Storage	Metropolitan reservoirs (Diamond Valley Lake, Lake Mathews, Lake Skinner) and designated storage capacities in DWR reservoirs (Castaic Lake, Lake Perris).
Colorado River Aqueduct	Metropolitan holds a basic apportionment of Colorado River water and has priority for an additional amount depending on availability of surplus supplies. Also, basic apportionments are supplemented by water management programs, including purchases of transfer water.
State Water Project	Metropolitan receives water delivered under State Water Contract provisions, including Table A contract supplies, use of carryover storage in San Luis Reservoir, and Article 21 interruptible supplies.

Different Approaches to Regional Supply Reliability

As discussed in this Board report, Metropolitan's policies on reliability have evolved in order to keep current with emerging regional and statewide conditions. Because our region faces escalating water supply uncertainties due to climate change, energy costs, increasing environmental and water quality regulations, and financial constraints, it is appropriate at this juncture to take a look at different approaches and roles that Metropolitan could play in ensuring regional water supply reliability. While there is a full spectrum of possibilities, these broad possibilities are provided to stimulate thoughts and discussions. These alternatives are not intended to address all models, but rather only provide a description of the bounds of Metropolitan's role.

Maximize Existing Metropolitan Assets (Import Focus)

The focus of this approach would be for Metropolitan to seek ways to maximize its existing imported water assets limited to the Colorado River Aqueduct and State Water Project Contract.

Metropolitan would focus on developing new imported water supplies that utilize existing and new import facilities and contract rights. Metropolitan would no longer fund additional local resources development and water conservation efforts. Instead, Metropolitan would focus its efforts on improving the reliability of SWP supplies by addressing delta issues, financing conveyance improvements and acquiring water transfer. Similarly, Metropolitan would secure Colorado River supplies through water transfers and storage agreements. This approach limits Metropolitan's role, but allows it to focus on imported water reliability and water rates. Responsibility for all future local water supply development would transfer fully to local member agencies. While this may be preferred by some, those member agencies without access to local water supplies or lacking the resources to acquire new water could be more vulnerable to droughts and imported water disruptions due to seismic events or other emergency outages.

Current Approach (Interdependency)

The current approach to achieving regional water supply reliability is based on the principles of interdependency established by the 1996 IRP. Under these principles, new water supplies are developed based on a regional evaluation of supply, cost, water quality and other factors. Metropolitan bears responsibility for developing and managing imported water supplies, such as improvements and augmentations to the Bay-Delta and Colorado River, including in-basin storage, and water transfers and banking programs. Most member agencies focus on more localized sources, such as groundwater, recycled water and desalination. Some member agencies also acquire water transfers that are exchanged or wheeled through Metropolitan's system. Responsibility for water conservation is shared, with member agencies developing programs tailored to local needs and demographics and Metropolitan providing financial and technical support. Metropolitan also provides financial incentives to help member agencies implement local water supplies through the Local Resources Program. This approach enables the development of both regional resources (Diamond Valley Lake, Semitropic and Arvin-Edison Groundwater Banks, water transfers and in-basin groundwater conjunctive use programs) and local resources (conservation programs, recycled water and brackish desalination facilities).

Expanded Regional Reliability (Interdependency Plus)

In many ways, this approach mirrors the policy direction of the Laguna declaration, positioning Metropolitan as the regional supplemental supplier, a role it is capable to filling due to its history, technical abilities, and financial capability. Based on the region's needs for cost effective imported and local water supplies, Metropolitan would develop regional projects, both imported and local supplies. Under this approach, Metropolitan would not only include maintain our existing imported water supply allocations, but also build and operate large-scale projects such as seawater desalination or regional recycled water projects within or adjacent to Metropolitan's service area. This approach provides opportunities to take advantage of: (1) economy of scale of facilities; (2) expedited ability to deliver, resulting from Metropolitan's capacity to readily secure financing due to its strong financial standing; (3)

greater permitting ease, as it may be simpler to address regulatory requirements for a single large project with a single project sponsor, rather than numerous projects spread over multiple geographic locations; and (4) technical resources to implement the project, as Metropolitan has technical expertise readily available to conduct the planning and environmental studies, and perform the engineering design. One issue with this approach is the need to establish procedures to avoid development of redundant new water supplies across the region. This can be addressed with regular re-assessments of future water supply requirements, with Metropolitan working jointly with the member agencies. Member agencies could continue to develop and implement conservation, local suppliers, and water transfer program to supplement the regional measures.

As indicated above, there is a full range of approaches that Metropolitan and the region can take to ensure water supply reliability, and the preferred approach might in fact be a combination of approaches presented or approaches that have not been discussed. This short description is intended to be a starting point, not a conclusion.