

- **Board of Directors**
Engineering and Operations Committee
Water Planning, Quality and Resources Committee

November 8, 2005 Board Meeting

9-3

Subject

Scope and methodology for Integrated Area Studies in support of the System Overview Study Update

Description

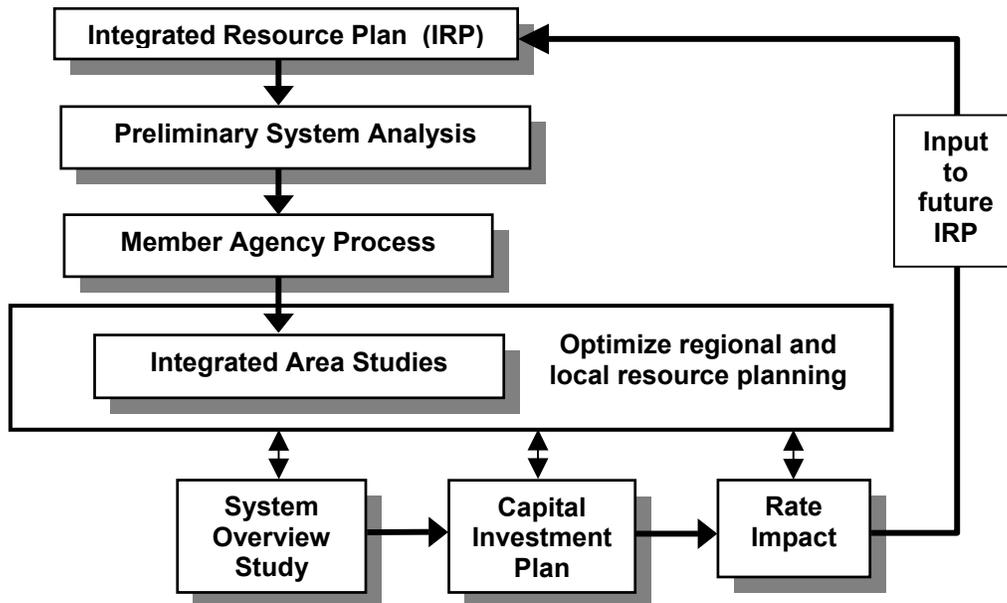
Background

The System Overview Study Update describes the size and timing of facility improvements required to meet imported water delivery needs through 2025. The report also provides the estimated cost of proposed facilities and potential rate impacts of a resultant long-term capital investment plan (CIP). This Update incorporates changes in water resource development and adjustments to resource targets identified in the Integrated Water Resources Plan (IRP) Update approved in July 2004. In February 2005, staff initiated workshops with member agencies to discuss the study's purpose, process, and preliminary findings. The workshops consisted of an informational presentation followed by an open forum to facilitate dialogue between Metropolitan and member agency staff. Metropolitan staff examined past policies and practices related to the planning and design of new facilities. In addition, staff evaluated the impact these policies and practices regarding potential future facilities have on resultant costs and rates. Findings from this evaluation were presented in a joint Engineering and Operations and Water Planning, Quality and Resources Committee meeting held in August 2005, as well as to the member agency managers on August 19, 2005. The member agencies commented that additional options should be considered in meeting identified capacity needs, including local facilities. These other options would be considered in cooperative studies, conducted jointly with the member agencies, and would be integrated into the System Overview Study Update. Staff intends to proceed with these studies over the next six months, and report to the Board on preliminary findings at the June 2006 board meeting.

The purpose of this board letter is to inform the Board of this integrated area study approach, and review the policy and practices that will be used to develop findings in both the Integrated Area Studies and the System Overview Study Update.

Integrated Area Study Methodology

Figure 1 illustrates staff's proposed planning process, which reflects input from the member agencies. Metropolitan staff and member agencies' staff would work together cooperatively to analyze how best to develop a facility plan for each area that would effectively meet member agency demands and minimize the impact on rates. Because this process may potentially impact the IRP resource targets, the results will be incorporated into future IRP studies. Staff will return to the Board in June 2006 with the preliminary results of the Integrated Area Studies.

Figure 1

Planning Policies and Practices

During the course of the member agency workshops, five issues relating to planning policies and practices were highlighted as key drivers in affecting the findings. The five issues were: (1) assumptions for local supplies, (2) peaking behavior, (3) facility timing, (4) system redundancy, and (5) point of delivery. Each of these policies and practices are defined and discussed below. Unless otherwise directed by the Board, staff will continue to plan according to existing policies and practices.

1. Assumptions for Local Supplies

The System Overview Study analyzes facility needs based on two local resource development scenarios. These supply alternatives affect both the size and timing of the proposed CIP. The IRP sets goals for local resource development. However, the resource targets are not always developed on the schedule set forth in the IRP due to permitting, financial considerations, changed conditions, or other factors. To address this implementation uncertainty, Metropolitan developed an additional supply scenario called the “Existing and Contracted” level of local supply. This scenario identifies local supplies produced through local projects that are currently in operation and projects that have executed agreements for implementation.

The current CIP is based on an existing and contracted level of local resource development. If local supplies are developed to the IRP goal level, some CIP expenditures could be deferred.

2. Peaking Behavior

The capacity and timing for new facilities depend on the level of peak water service that Metropolitan plans to deliver to its member agencies. Once a peaking criterion is selected, peaking factors are calculated from historical service-connection-flow data for each treatment plant load area. Although the peaking criterion is consistently applied, the peaking factors can vary significantly among the treatment plant load areas. This variation can be attributed to differences in local demands, local climate, and available local resources. Selection of a peaking criterion is based on board-adopted policy and past practices. It is currently Metropolitan’s practice to use maximum-day demand as its peaking criterion. The member agencies suggested that staff analyze a peak-week criterion. In general, Metropolitan would

pay a higher share of costs if it continues to design to meet maximum-day demands. If Metropolitan were to begin to design to meet peak-week demands the member agencies' cost would increase. Overall regional costs are estimated to be very close when comparing the two approaches.

3. Facility Timing

Facility timing involves determining when facilities should be brought on line to avoid shortages to the member agencies, while at the same time avoiding stranded assets (i.e., early implementation vs. just-in-time completion of facilities to meet demand). Existing practice has been to develop and bring facilities on line in time to meet demands.

With a just-in-time approach, Metropolitan would develop a method to track local supply development, demands, and capital facility needs in a report similar to the IRP Implementation Report (IRP Report Card) on an annual basis. This report would be completed and reported to the Board in advance of any change in project timing. Alternatively, Metropolitan could elect to implement projects in advance of need by some fixed time frame. This would ensure that facilities would be brought on line in time to meet demand, but could result in stranded assets and unnecessary rate increases if projected demands did not materialize.

4. Component Reliability

Component reliability is related to developing redundant components for key parts of the system. This would prevent the failure of the system if a key component fails. This is common in many industries, such as aircraft construction, where safety is of concern. Metropolitan also deals with the safety of the public, but because of the size, cost and scope of the components, it is not economical or practical to build, for example, a backup dam or treatment facility. With a truly redundant system, if Metropolitan experienced an outage of one of its treatment plants or distribution pipelines, it could maintain deliveries to all of its member agencies.

Metropolitan has not clearly established a policy with regard to component reliability. Historically, Metropolitan has never designed facilities purely to act as a redundant component of the system. There are areas within Metropolitan's system that have the ability to receive water from more than one facility as a result of augmentation, transverse capacity and location within Metropolitan's service area, and not by specific design.

5. Point of Delivery

Point of delivery relates to that point where Metropolitan delivers water to a member agency. The Statement of Policy of The Metropolitan Water District of Southern California, adopted January 9, 1931, paragraph (4) states: *The Metropolitan Water District will deliver water, either directly or indirectly, through a system provided by the District, to each of the eleven original member cities, and to those cities whose application for admission prior to March 1, 1931, have been approved, at or near the boundary of each, this point of delivery to be determined by the considerations of economy and convenience with respect to the general engineering plans adopted by the District, and to such other points as the Directors may determine.*

It is Metropolitan's practice to build pipelines that are necessary to deliver a reliable supply of supplementary water to each member agency. When the member agency is remote from the source, the point of delivery is at a convenient place designated by the Board at or near the boundary of the member agency. Whenever a pipeline passes through a member agency, Metropolitan's practice is to permit connections to its pipeline by the member agency, to the extent sufficient transverse capacity is available.

The Board could maintain its current, flexible policy of selecting delivery points at or near the boundary of its member agencies, and to such other points as the Directors may determine, as set forth in the 1931

Statement of Policy, or the Board could consider adopting a policy of only constructing a facility to a member agency boundary. Staff's intent is to follow existing policy and practice.

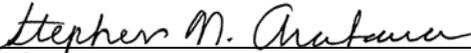
Next Steps

Staff has completed a treatment and conveyance needs analysis and will now initiate an "Integrated Area Study" with the member agencies to define potential alternatives to best meet projected demands. The anticipated near-term schedule for the Integrated Area Study is shown below:

| Milestones | Completion Date |
|---|--------------------------|
| Member Agency Managers Meeting -Outline the planning process | October 2005 |
| Member Agency Managers/Staff Meeting -Prepare detailed work plan | November 2005 |
| Member Agency Managers/Staff Meeting -Facilitated workshops -Team meetings -Summarize facility options | December 2005 – May 2006 |
| Member Agency Managers/Staff Meeting -Summarize analyses with member agency staff | May 2006 |
| Member Agency Managers Meeting -Presentation to summarize analyses | May 2006 |
| Board Oral Presentation -Oral report to MWD Board on integrated planning efforts | June 2006 |

Policy

By Minute Item 45828, dated July 13, 2004, the Board adopted the Integrated Water Resources Plan Update report.


 Stephen N. Arakawa
 Manager, Water Resource Management

10/19/2005
 Date


 Dennis B. Underwood
 CEO/General Manager

10/24/2005
 Date