



May 26, 1998

**To:** Board of Directors (Water Planning and Resources Committee--Information)  
(Budget and Finance Committee--Information)

**From:** *for* General Manager

**Submitted by:** Debra C. Man, Chief  
Planning and Resources

*Timothy Z...*  
\_\_\_\_\_  
*Debra C. Man*  
\_\_\_\_\_

**Subject:** Phase 1—Resources Procurement Process for Colorado River Resources

### **RECOMMENDATION**

---

For information only.

### **EXECUTIVE SUMMARY**

---

In November 1997, Metropolitan established a process to secure supplemental water supplies and regional storage through the development and execution of cost-effective transactions with both public and private-sector organizations. This process has allowed Metropolitan to respond in a timely and entrepreneurial manner to the opportunities and challenges to develop water transfers and groundwater storage agreements between willing buyers and sellers for Colorado River resources. This resources procurement process has been organized into two distinct phases: Phase 1—Evaluation of Existing Proposals, and Phase 2—Solicitation of New Proposals.

Metropolitan has received a range of unsolicited proposals within recent years, varying in scope, feasibility, and expected cost. As of February 1998, 14 proposals related to Colorado River resources have been identified. These proposals present opportunities for groundwater storage programs, dry-year transfers, and desalination. The resources procurement process, developed under the direction of the Integrated Resources Plan Steering Committee, addresses these proposals through a procurement procedure: (1) demonstration of regional need and economic value; (2) evaluation of financial, legal and regulatory feasibility; (3) selection of qualified providers and proposals; and (4) timely closure and implementation.

Based on this Phase 1 procurement procedure, three programs have demonstrated feasibility and significant potential benefits for Metropolitan; thus meriting further consideration by the Board to proceed with environmental documentation and final negotiations. These three programs are: (1) Cadiz Groundwater Storage and Dry-year Supply Program; (2) Hayfield/Chuckwalla Valleys Groundwater Storage Programs; and (3) Desert/Coachella Water Transfer and Groundwater Storage Program. Critical environmental documentation, engineering studies, and final design must be completed before these programs can be implemented.

While Phase 1 is being completed, Phase 2 of the resources procurement process will proceed with the implementation of a public outreach program designed to assess interest in and solicit future proposals for additional projects related to Colorado River resources.

## **DETAILED REPORT**

---

### **Background**

One of the fundamental premises of Metropolitan's integrated resources planning process is that regional water supply reliability will be achieved through the implementation of a diverse portfolio of resources investments and conservation measures. The guidelines presented in the Integrated Resources Plan (IRP) established broad resource targets for each of the major supply, storage, and conservation options that are available to the region.

The interest in a diversified approach to water supply reliability has prompted the identification and development of many innovative proposals from public- and private-sector organizations. In many cases, these proposals seek to engage Metropolitan as a participant in transactions that provide either new sources of supply and/or storage in exchange for long-term contractual commitments by Metropolitan. They confirm one of the basic assumptions of the IRP, that voluntary transactions between willing buyers and sellers can meet a substantial portion of the region's growing need for water supply and infrastructure.

While each of the resource targets presented in the IRP offers opportunities for innovative procurement approaches, the focus of the initial effort has been directed at the accomplishment of IRP targets for Colorado River resources. The procurement process developed under the direction of the IRP Steering Committee proceeds in four primary steps: (1) demonstration of regional need and economic value; (2) evaluation of financial, legal and regulatory feasibility; (3) selection of qualified providers and proposals; and (4) timely closure and implementation. Further, this initial effort on the Colorado River resources has been organized into two distinct phases: the Phase 1—Evaluation of Existing Proposals, and the Phase 2—Solicitation of New Proposals. These processes are shown in the attached Figure 1.

### **Phase 1 Resources Procurement Process**

Metropolitan has received a range of unsolicited proposals over several years, varying significantly in scope, feasibility, and expected costs. As of February 1998, 14 existing proposals related to Colorado River resources have been identified. These proposals can be categorized in three broad areas: (1) groundwater storage programs (seven proposals); (2) dry-year transfers (five proposals); and (3) desalination programs (two proposals).

As the IRP Steering Committee worked with staff to define the resources procurement process, it was concluded that existing proposals deserved a response from Metropolitan regarding their feasibility and structure in an expeditious manner. The reasons for this decision include the significant investment of time and effort already expended by several project proponents and the need to ensure that potentially beneficial opportunities for resources development are not lost.

Regional Need. The regional needs for off-stream storage and dry-year transfers have been evaluated according to the proposed California 4.4 Plan. One of the objectives of the California 4.4 Plan is to maintain a full Colorado River Aqueduct. In order to meet this objective, the Plan calls for core transfers, criteria for surplus water and river re-operations, off-stream storage, and dry-year transfers. Based on the California 4.4 Plan and the analyses of 80 hydrologic scenarios, the following resource procurement needs have been identified.

- Total storage capacity = 3.0 million acre-feet
  - Put capacity = 300,000 acre-feet per year
  - Take capacity = 300,000 acre-feet per year
- Dry-year transfer capability = 200,000 acre-feet per year

Feasibility Evaluation. Metropolitan staff has worked with the IRP Steering Committee to develop evaluation criteria. The evaluation criteria would serve as the basis for: (1) initial screening for qualified proposals; (2) determining the technical feasibility and costs of the qualified proposals; (3) selecting qualified proposals for environmental and technical assessment; and (4) assessing the relative performance of existing proposals (Phase 1) and potential proposals (Phase 2) on a consistent basis.

The evaluation criteria address four broad areas of analysis: (1) facilities requirements and technical feasibility; (2) costs; (3) implementation and legal issues; and (4) the project proponent's financial capabilities. All project proponents were notified and offered an opportunity to review the procurement process, evaluation criteria, and schedule with Metropolitan staff.

Selection of Qualified Programs. Throughout the Phase 1 process, care has been taken to recognize the "developmental" nature of the storage, dry-year transfer, and desalination proposals that are available to Metropolitan. No proponent is prepared or able to act immediately to implement their respective proposals. Critical environmental documentation and final engineering studies and designs must be completed before implementation can occur. For these reasons, the overall objective of the evaluation process has been the selection of a "portfolio" of technically feasible, cost-effective proposals, which would justify additional Metropolitan investment and support during the required environmental process.

Based on this evaluation process, three programs have demonstrated feasibility and significant potential benefits for Metropolitan; thus meriting further consideration by your Board to proceed with environmental documentation and final negotiations. These programs are shown in the attached Figure 2 and summarized as follows:

1. Cadiz Groundwater Storage and Dry-year Supply Program. This program would provide Metropolitan with both off-stream storage and a dry-year supply. The Cadiz Valley site is located in an area between the Marble and Ship mountains at the confluence of Fenner Valley and the northeastern margin of the Cadiz Valley. This site is approximately 35 miles north of Metropolitan's Iron Mountain Pumping Plant. Estimates of total groundwater storage in the Cadiz Basin are between 12 and 22 million acre-feet (maf). High quality groundwater flows from Fenner Valley into Cadiz Valley. Approximately 500,000 to 1,000,000 maf of storage

capacity is available in this groundwater basin for Metropolitan to bank Colorado River deliveries. Feasibility investigations indicate that approximately 100,000 acre-feet of water can be recharged to the basin on an annual basis. In addition, a minimum of 1,100,000 acre-feet of indigenous groundwater from the Cadiz Valley groundwater basin would be available as a dry-year supply for Metropolitan. The estimated withdrawal of either banked Colorado River deliveries or dry-year supply is 100,000 acre-feet per year.

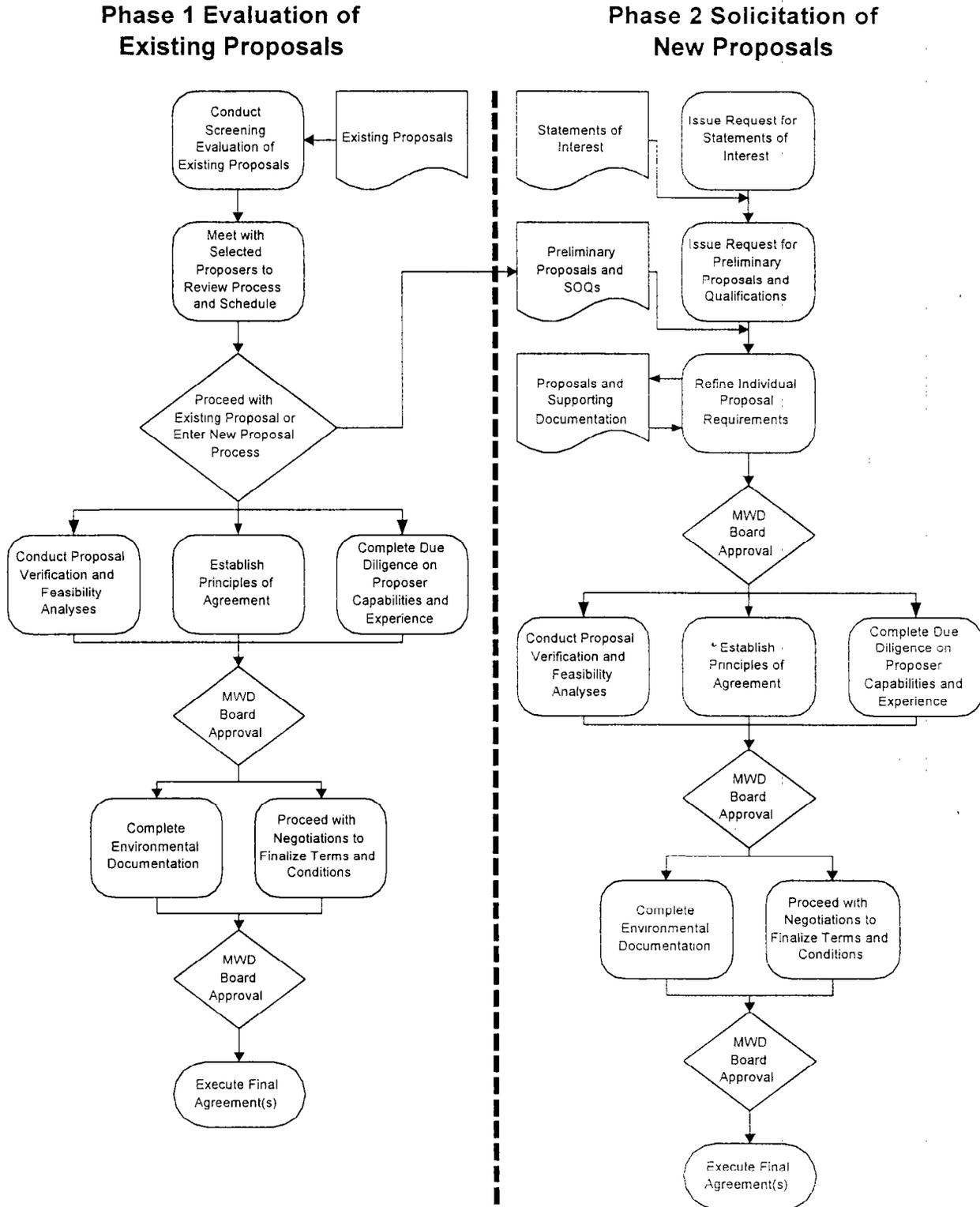
2. Hayfield/Chuckwalla Groundwater Storage Program. The Colorado River Aqueduct traverses the Hayfield/Chuckwalla groundwater basins. The Hayfield and Chuckwalla valleys offer two of the best hydrogeological conditions for long-term groundwater storage of Colorado River deliveries. The bedrock surrounding the Hayfield Basin confines groundwater flow to an easterly gradient before it spills into Chuckwalla valley through a narrow gap. The Chuckwalla Basin appears to be a confined aquifer. The current estimate of total groundwater storage in the Hayfield/Chuckwalla Basins is three to five maf. The available storage capacity within the unsaturated portions of the basins, in which Metropolitan could bank Colorado River deliveries, is 1,100,000 to 1,500,000 acre-feet. The recharge capacity is estimated to be 200,000 acre-feet per year and withdrawal capacity is estimated to be 150,000 to 200,000 acre-feet per year.
3. Desert/Coachella Water Transfer and Groundwater Storage Program. The Desert Water Agency (Desert), Coachella Valley Water District (Coachella), and Metropolitan are pursuing participation in a water management program that involves the transfer of a portion of Metropolitan's State Water Project (SWP) entitlement to Desert and Coachella; and a groundwater storage program in basins underlying Coachella. This program has been divided into two separate phases. Phase 1 consists of an agreement with Desert and Coachella and an amendment to Metropolitan's SWP contract with the Department of Water Resources to transfer 100,000 acre-feet per year of SWP water during wet years. In addition, under the current Exchange Agreement, Metropolitan will expand its groundwater storage capabilities in the Upper Coachella Basin to store Colorado River Aqueduct water that would later be withdrawn during dry years. These dry-year deliveries to Metropolitan would be made through Coachella's waiver of its rights to Imperial Irrigation District 1 water. Phase 2 involves a groundwater conjunctive-use program in the Lower Coachella Basin which is under detailed study.

DCM:CL

Attachments

o:\cluster 10\mmshared\board\phase1.dcm

Figure 1.  
**Colorado River Resource Procurement  
 Proposed Implementation Process Diagram**



**Off-Stream Storage:**

- Storage Capacity of 2.0 - 3.0 MAF
- Withdrawal Capability of 300,000 AFY

**Dry-Year Transfers:**

- Dry-Year Yield of 100,000 AFY

