

**REPORT
ON PROVISION
OF POWER SUPPLY SERVICES
TO
METROPOLITAN'S MEMBER AGENCIES**

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*files with
2-10 letter*

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BACKGROUND

The Metropolitan Water District of Southern California (Metropolitan) is recognized as the principal provider of treated and untreated water services to the urban and industrial areas in the southern coastal area of the state. It serves 27 member agencies encompassing 5,200 square miles and over 16 million people. Recently, Metropolitan was asked by some of its member agencies to consider the possibility of offering a new service -- power supply and related services -- to take advantage of opportunities for energy cost savings that may be available as a result of electric industry restructuring.

The restructuring of the electric utility industry is already a factor in the marketplace and the subject of much debate on the floor of many state legislatures and utility commissions, in the halls of Congress, and before the Federal Energy Regulatory Commission (FERC). These industry changes are dramatic, reshaping the ways in which electricity is marketed, priced, and delivered; and promise consumers many more options for acquiring power. The movement is also the driving force behind the growing interest in having Metropolitan provide power-related services to its member agencies.

The power requirements and energy end-uses of Metropolitan's 27 member agencies vary significantly. Of those member agencies, 14 are retail water agencies operated by municipalities, one is a county water authority, which itself is composed of 23 member agencies; and the remaining 12 members are municipal water districts. Ten of those municipal districts provide wholesale water service to approximately 120 sub-agencies. This report was prepared to assist Metropolitan in evaluating its future role as a potential provider of power supply-related services to its member agencies.

ELECTRIC INDUSTRY RESTRUCTURING

The structure, markets, products, and services of the electric industry are being completely redefined. One of the most fundamental changes is the entry of retail competition into the power generation market, a move which will ultimately enable all customers of the California investor-owned utilities to choose their own suppliers. While many states have initiated proceedings to establish retail electric competition, none are as far-reaching as the mandate established by the State of California through the legislature's passage of Assembly Bill 1890 (AB 1890) which was signed into law on September 23, 1996. AB 1890 largely confirmed the direction established in a December 1995 Preferred Policy Decision issued by the California Public Utilities Commission (CPUC). AB 1890 and the Preferred Policy Decision establish the framework under which the state's investor-owned utilities (IOUs) are

required to develop comprehensive plans for providing customer choice and competition in the California electric power marketplace.

On the federal level, Congress' passage of the National Energy Policy Act of 1992 established a mandate to open the nation's transmission grid to encourage wholesale electric competition. FERC responded by establishing rules for "open access" transmission rates and the recovery of "stranded" or uneconomic utility costs in a final order issued April 24, 1996. As a result of these state and federal actions, California's power industry is being transformed with significant potential implications for Metropolitan and its member agencies.

The costs of certain power generation assets, owned or under long-term contract by the nation's electric utilities, are above competitive market prices. One critical issue in the transition from the present regulatory structure, is the responsibility for the payment of these above-market costs. The uncertainty of responsibility between the utility and the customer for these "stranded" costs is one of the key issues facing large power users such as Metropolitan and the member agencies as the electric utility industry restructuring process evolves.

As power supply, transmission, and distribution services are "unbundled" and separately priced, and as the state and federal regulators' roles change to accommodate the new industry structure, costs may be shifted. These cost shifts could significantly affect the cost of power and transmission service provided under existing contracts to meet the pumping energy requirements of the Colorado River Aqueduct (CRA) system and the State Water Project (SWP). Metropolitan's principal objective is to protect the interests of the CRA and SWP.

At present, Metropolitan also receives retail power service from Southern California Edison (Edison), Los Angeles Department of Water & Power, and the city of Riverside to serve water treatment plants and other power loads located within the Los Angeles Basin. Member agencies and their sub-agencies take power from Edison, San Diego Gas & Electric (SDG&E), and a number of municipal utilities in the area. In a restructured industry, Metropolitan and the member agencies will have greater power supply choices in which they can (1) continue to purchase power from their current suppliers; (2) purchase power from other regulated utilities and/or independent power producers; or (3) obtain power supply through a third-party broker or marketer. Electric industry restructuring also presents Metropolitan with an opportunity to expand its traditional services to member agencies to include power supply and related energy services.

In evaluating the prospect of Metropolitan providing power supply-related services to its members, the following have been considered and are addressed in this report:

- ▶ consistency of such services with Metropolitan's CRA and SWP interests;

- ▶ the potential constraints of Metropolitan's enabling legislation, the Metropolitan Water District Act;
- ▶ the potential list of power supply-related services and level of services which Metropolitan could provide;
- ▶ a qualitative assessment of the risks and opportunities associated with providing various levels of service;
- ▶ a preliminary estimate of the total potential electrical loads of Metropolitan's filtration plants and in-system pumping operations, as well as the member agencies' pumping and water treatment electric loads;
- ▶ an assessment of Metropolitan's available power supply sources with which to provide targeted services to member agencies if a decision were made to do so; and,
- ▶ estimates of the incremental staffing and other resources Metropolitan may need to commit to provide energy services to member agencies.

OUTLINE OF THE REPORT

Section 1, as noted, provides a brief background on the report objectives and the circumstances surrounding the preparation of this report. Section 2 provides a brief summary of the CPUC restructuring proceedings, the schedule for implementation of restructuring in California, some of the issues of concern regarding impacts on the CRA and SWP supplies, and some of the related considerations that may affect power supply services to the member agencies. Section 3 examines whether the provision of power supply services would be consistent with Metropolitan's enabling legislation and planning objectives.

Section 4 outlines three progressive stages of assistance Metropolitan might provide to the member agencies. This section also addresses alternatives to Metropolitan-supplied energy services that are expected to be available in the restructured marketplace, and provides a brief description of potential risks associated with Metropolitan's provision of power supply services to member agencies.

Section 5 discusses the primary uses of power for supplying and treating water and presents estimates of the magnitude of the power requirements and costs of power to meet the requirements of Metropolitan and the member agencies. Section 6 discusses the sources of power supply services that are potentially available to Metropolitan and the member agencies. Finally, Section 7 presents the findings of this assessment.

SECTION 2 CPUC RESTRUCTURING PROCEEDINGS

On December 20, 1995, the CPUC culminated more than two years of public debate and consultation with a Preferred Policy Decision on restructuring the electric industry in California¹. That decision intended to implement several basic structural changes in the California electric utility industry by January 1, 1998. It also provided the framework under which California's investor owned utilities (IOUs) would develop comprehensive plans for providing customer choice in the selection of competitive power supply services.

The Preferred Policy Decision recognized the need for legislative affirmation of several policies, including direct access, collection of transition costs, and funding of public purpose programs. On September 23, 1996, Assembly Bill 1890 was signed into law, largely confirming the CPUC's proposals. AB 1890 also gave entities such as Metropolitan broader powers to participate in the restructured industry, as discussed in more detail below.

The CPUC's vision specified an aggressive schedule of regulatory filings by the IOUs, leading to an elaborate participatory program in which all stakeholders were encouraged to participate. The Preferred Policy Decision and a follow-up decision known as the Roadmap Decision² led to the formation of several work groups tasked with facilitating the decision-making process. Participants in each work group include representatives from the IOUs, the CPUC, and a wide range of stakeholders such as municipal utilities, large power users, public purpose program supporters, independent power producers, power marketers, and environmental interests.

ESSENTIAL ELEMENTS OF RESTRUCTURING

Two principal elements of AB 1890 and the CPUC's Preferred Policy Decision include:

- An Independent System Operator (ISO), with no financial interest in any generating resources or electric loads, would be established to provide open and nondiscriminatory access to the transmission system for all users. The IOUs would be required to transfer operating control of their integrated transmission facilities to the ISO, but would retain ownership of such facilities. The ISO would have primary responsibility for operating transmission facilities and scheduling generating resources. The ISO would also

¹ The proceeding was Order Instituting Rulemaking on the Commission's Proposed Policies Governing Restructuring California's Electric Services Industry and Reforming Regulation, R.94-04-031. See Decision 95-12-063 (December 20, 1995) as modified by D.96-01-009 (January 10, 1996).

² The Roadmap Decision is D.96-03-022 (March 13, 1996), and was updated after AB 1890 was passed by D.96-12-088 (December 20, 1996).

impartially manage the use of "congested" transmission facilities, with the objective of preserving reliability and achieving the lowest total cost for all users of the transmission system. All transmission users, including the IOUs, would be treated on a comparable basis.

- A Power Exchange (PX) would also be established to provide a transparent spot market for electricity, providing all power suppliers with the same opportunity to bid into the PX. The PX would have no financial interest in generation and would be separate from the ISO. The IOUs would initially be required to bid all their generation into the PX and procure all power supplies for retail service from the PX.

The IOUs submitted a "Phase 1" filing outlining the organization and operation of the ISO and PX on April 29, 1996. Many issues related to that proceeding represent significant risks to Metropolitan's CRA and SWP interests, and Metropolitan has filed comments with the CPUC, intervened at FERC, and actively participated in the "definitional teams" which were established to address concerns with the Phase 1 filing. These definitional teams participated in developing the details for the Phase 2 filing, which will be submitted to FERC on March 31, 1997.

With the appointment of an ISO/PX trustee by the CPUC, the restructuring process has taken an additional step in the implementation phase, taking direction from the ISO and PX Trust Advisory Committees - composed of stakeholders including the IOUs, municipal, and consumer interests. To date the Trustee has negotiated and entered into lease agreements for the ISO & PX primary and back-up sites; hired ISO & PX project managers, selected a communications vendor and is currently reviewing proposals for the PX bidding systems software development. The Trustee is also taking steps to organize the staff of the ISO. Metropolitan continues to closely monitor these activities.

Among the issues critical to Metropolitan's interests in the CRA and SWP are the treatment of existing contracts; the avoidance of cost shifting; the governance of the ISO and PX; the pricing of transmission service; the management of congested transmission facilities by the ISO; mitigation of market power problems that may impede the development of competitive markets; the treatment of "hydro spill" generation; the definition, pricing, and opportunity for self-provision of ancillary services (such as spinning reserves); and the provisions for expansion of the transmission grid. Metropolitan has necessarily been involved in the definitional teams and multiple other forums to protect these interests. These activities will continue, and intensify as the Phase 2 filing is completed, filed, and then reviewed. Metropolitan will continue to aggressively seek to protect the CRA and SWP interests as FERC establishes the foundation for final decisions on the ISO and PX structure and operation.

There continue to be uncertainties surrounding the impact of the ISO and PX on the abilities of entities such as Metropolitan to enter into long-term contracts for power. Based on the

IOU filings with FERC requesting authority to institute the ISO and PX, it appears the ISO will be expected to honor existing contracts for transmission interconnection, integration, exchange, transmission, and power sales and purchase agreements.³ However, until the FERC and CPUC restructuring proceedings are fully litigated and settled, the ultimate resolution of this important issue is uncertain.

Additionally, the IOUs have committed to meeting with all affected parties regarding existing contracts as they may relate to the implementation and operation of the ISO and PX. Neither the CPUC's Decision nor the IOU's filings at the CPUC and FERC indicate how this will be accomplished, except that discussions must be completed by the January 1, 1998 transition deadline. Metropolitan and Edison have initiated discussions regarding existing power arrangements and the impacts of the ISO and PX on those agreements.

As resources were available, Metropolitan has monitored other activities relevant to power supply services to the member agencies. Metropolitan participated in several work groups, including the Direct Access Work Group (DAWG); the Renewables Work Group; the Rates, Unbundling, and Performance-Based Ratemaking (PBR) Work Group; and the Competition Transition Charge (CTC) Work Group. These groups addressed several significant elements of the decision-making process:

- The DAWG focused on subjects ranging from special metering requirements to the phase-in of eligibility of individual entities to gain direct access to power service providers other than the local utility.
- The Renewables Work Group addressed issues concerning preferences and priorities associated with different types of generating facilities, and the "public purpose aspects" related to the continued existence and promotion of renewable sources of energy.
- The Rates, Unbundling, and PBR Work Group considered such issues as the "unbundling" of retail electric service into the component services, as well as the methods used to assign rates to these services.
- The CTC Work Group, an informal committee, examined issues related to utilities' proposed levels of transition costs, including those costs deemed to be uneconomic or "stranded."

³ Pacific Gas And Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company, *Joint Application of Pacific Gas And Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company For Authorization To Convey Operation Control Of Designated Jurisdictional Facilities To An Independent System Operator*, application submitted to the Federal Energy Regulatory Commission on April 29, 1996, page 64.

CPUC'S PROPOSED SCHEDULE TO IMPLEMENT DIRECT ACCESS

Prior to the discussion that follows, the term "direct access" requires clarification. In the CPUC proceedings, the term "direct access" refers to access to any power service provider other than the local retail utility. *This report uses "direct access" to refer to the replacement of traditional "bundled" retail electric service from one, full-service retail utility, with a combination of (1) an alternative supplier of power supply and ancillary services, and (2) "unbundled" transmission and distribution services procured (at least in part, if not entirely) from the utility that formerly provided the bundled retail electric service.*

Other terms also require definition. AB 1890 provided special districts and public agencies with authority to become competitors in the marketing of power generated by others as (1) aggregators, (2) brokers, or (3) marketers of electrical power. These three terms are defined below.

- An aggregator is defined as "any marketer, broker, public agency, city, county or special district, that combines the loads of multiple end-use customers in facilitating the sale and purchase of electric energy, transmission, and other services on behalf of those customers." (AB 1890, section 331(a).)
- A broker is defined as "an entity that arranges the sale and purchase of electric energy, transmission, and other services between buyers and sellers, but does not take title to any of the power sold." (AB 1890, section 331 (b).)
- A marketer is defined as "any entity that buys electric energy, transmission, and other services from traditional utilities and other suppliers, and then resells those services at wholesale to an end-use customer." (AB 1890, section 331 (e).)

The restructuring process is expected to culminate on January 1, 1998, in a system providing some customers direct access to a range of power supply service providers. The CPUC outlined a staged process, specifying by year the amount of IOU load (expressed in megawatts) that must be opened up to direct access. The CPUC intended to make direct access available to all customers by January 1, 2003. Although AB 1890 did not directly address the phase-in schedule proposed by the CPUC, AB 1890 does require that direct access be universally available to the customers of the investor-owned utilities by January 1, 2002. The CPUC schedule must, therefore, be accelerated by one year.⁴

⁴ It should be noted that much of the water supply-related electric load of the member agencies is served by municipal utilities. Such loads may not have the opportunity for direct access. The municipal utilities are not required to allow direct access by their customers unless they intend to make direct access sales to other utilities' customers, or take advantage of the authority provided by AB 1890 to collect transition costs.

The schedule for direct access phase-in as contemplated in the Preferred Policy Decision is reproduced on Table 2-1 as a point of reference. As shown in Table 2-1, Pacific Gas & Electric Company (PG&E) and Southern California Edison (Edison) must each open 800 megawatts of their load to direct access in 1998. It is anticipated that this schedule will be revised in a February 1997 CPUC decision to accommodate the January 1, 2002 deadline.⁵

Year	PG&E/SCE	SDG&E
1998	800	200
1999	1,400	350
2000	2,200	550
2001	4,000	1,000
2002	8,000	2,000
2003	All remaining load	All remaining load

¹ This schedule must be revised to provide direct access to all IOU customers by January 1, 2002, in accordance with AB 1890.

On January 1, 1998, only large customers, aggregations of customers (i.e., eight MW or larger), or any customer that purchases at least 50 percent of their power from renewable resource providers, would initially be eligible for direct access. Direct access to other customers would be phased in. To accomplish this staged implementation, the CPUC ordered the IOUs to follow a specific schedule for the installation of required metering for customers other than those who are categorized within "Domestic," "GS-1," and "TC-1" customer groups. This schedule is reproduced on Table 2-2.

⁵ In a December 20, 1996 decision (D.96-12-088), the CPUC indicated that a decision would be issued in February 1997, to address certain direct access issues including the phase-in schedule necessary to accommodate the January 1, 2002 deadline. That decision was delayed, and is expected in March or April, 1997.

Table 2-2 Restructuring Schedule For Installation Of Metering Equipment	
Customer Maximum Demand Level That Qualifies Customer For Scheduled Metering Requirement	Schedule Requirement For Installation Of Metering Equipment
500 kilowatts	by 1998 when restructuring begins
400 kilowatts	one year after restructuring begins (at least by 1999)
300 kilowatts	two years after restructuring (at least by 2000)
200 kilowatts	three years after restructuring (at least by 2001)
100 kilowatts	four years after restructuring (at least by 2002)

Although the above schedule does not specifically address metered loads less than 100 kilowatts in magnitude, such smaller loads will be able to aggregate with other loads to achieve the minimum thresholds stated in the schedule. In other words, there is nothing in the CPUC's Preferred Policy Decision that necessarily limits customer participation. Moreover, the CPUC's acknowledgment of customer load aggregation provides opportunities to the full range of customer load size in each year of the transition and beyond.

As discussed more fully in Section 5 of this report, Metropolitan's peak demand in Fiscal Year (FY) 1994-95 was just under six megawatts -- excluding SWP and CRA electric demands which are served under separate wholesale and lower-cost power supply arrangements. With normal levels of water demand growth, and with the addition of power demands at the Eastside Reservoir, Metropolitan's combined electric power demands are expected to grow significantly and could qualify to participate prior to 2002.

COMPETITION TRANSITION CHARGE

Member agencies seeking to take advantage of direct access in the early years of the transition will need an indication of the relative cost of power and the additional costs they will face before and during the transition period. Of significance will be the estimated amount of "competition transition charge" (CTC) that each member agency will face under a contract for alternative power supplies (either in terms of a surcharge to their electric bill or in the form of an exit fee if they switch from their existing utility to another provider(s) of power supply services).

The CTC is a charge that will be assessed on all current retail customers of the California IOUs. (In efforts to compete against IOUs and other power supply service providers, some

municipal utilities will also institute CTCs that mirror the IOU charges.) The charge will only be applied during the transition from the current regulated market to a fully competitive market (January 1, 1998 through January 1, 2002).⁶

The CTC is intended to recover generation related investments in utility plant and other fiduciary obligations that would otherwise be "stranded" in a competitive market. Current IOU rates include costs associated with facilities constructed to serve the forecast demands of existing and future customers within a regulated environment. Above-market costs of generating facilities and "Qualifying Facilities" power purchase contracts will be recovered through the CTC. The CTC is a mechanism to protect utility owners (stockholders in the case of IOUs, and taxpayers and/or utility customers in the case of public utilities) from bearing the full burden of costs that were incurred under the current utility system, but that cannot be recovered under a competitive system. The exact formula for calculating the CTC is, as yet, unknown. However, in a recent decision in PG&E's request for an interim CTC, the CPUC adopted figures placing the interim CTC at roughly 39.2 percent of the utility's existing rates.

In order to conform to the requirements of AB 1890 the CPUC has modified its transition cost proceedings by separating the proceedings into two phases: Stage 1 is focused on issues relating to the definition of transition costs, cost categories, balancing account mechanisms, proxies for market value, and related matters; and Stage 2 will address the quantification of the 1998 CTC. A final decision on these proceedings is anticipated in October 1997.

It is against this electric utility industry restructuring backdrop that Metropolitan is considering the prospect of seeking alternative power supplies for its electric loads presently served at retail rates and the provision of power supply-related services to its member agencies.

⁶ Under AB 1890 most transition costs must be recovered prior to December 31, 2001, with exemptions granted for certain specific items, such as personnel related expenses for workers displaced because of deregulation.

SECTION 3 CONSISTENCY BETWEEN PROVISION OF POWER SUPPLY SERVICES AND OTHER METROPOLITAN ROLES AND OBJECTIVES

This section examines the consistency between Metropolitan's role as a power supply service provider to member agencies and Metropolitan's other roles and initiatives. The discussion centers on Metropolitan's current priorities, its water supply planning objectives, and its enabling legislation.

METROPOLITAN'S CURRENT DEREGULATION STRATEGY

Metropolitan is taking steps to ensure that policy decisions on restructuring and the final outcome of regulatory proceedings do not adversely affect its existing power arrangements. In doing so, Metropolitan has initiated a business strategy that focuses on:

- As a first priority, protect current power and transmission arrangements needed to supply the electric power requirements of pumping water for the CRA, and work with the Department of Water Resources to protect power supply arrangements associated with the SWP; and
- As a second priority, explore cost-saving opportunities that may evolve as restructuring reshapes the power industry's planning and operating environment and, in particular, new ways to lower the cost of power to meet Metropolitan's distribution and treatment plant electric loads now served by retail utilities.

Metropolitan's current strategy to protect power supply and delivery arrangements and to evaluate alternatives for lowering its overall power supply costs is consistent with a decision to provide power-related services to member agencies. Such services are considered only to the extent that they do not negatively impact Metropolitan's SWP and CRA interests.

METROPOLITAN'S PLANNING OBJECTIVES AND POLICIES

Metropolitan released its Integrated Water Resources Plan (IRP) in March 1996. Metropolitan's planning process sought to achieve the following:

- reliability;
- affordability;
- water quality;
- diversity of supply; and
- adaptability for the region, while recognizing the environmental, institutional, and political constraints to resource development.

Provision of power-related services to member agencies appears consistent with many of the planning objectives of the IRP. Affordability is one objective. A significant component of Metropolitan's operation and maintenance cost structure is the cost of energy required for pumping on the Colorado River Aqueduct and the State Water Project, with lesser expenses for water treatment. Thus, if Metropolitan can minimize power costs through direct access or other means without affecting its ability to meet other planning objectives, then such action appears to meet the planning objectives outlined in the IRP.

Another planning objective focuses on regional benefits. For example, Metropolitan operates the Seasonal Storage Program providing incentive rates to member agencies based on regional benefits. The incentive levels are determined in a manner that attempts to balance distribution of benefits within the region and among the member agencies. To the extent Metropolitan's provision of energy services to its member agencies makes any such participating agencies more cost-effective and improves upon the cost of delivered water to the ultimate customer, it enhances the ability of such member agencies to meet payments to Metropolitan for its system costs, retaining a solid financial foundation for Metropolitan's revenue. Any enhanced revenue stability creates regional benefits to all member agencies.

Metropolitan does not seek to violate the sovereignty of the member agencies by forcing policies or services upon those agencies. Electing to offer power supply services to member agencies would thereby be consistent with Metropolitan's regional goals providing subscription to such services be voluntary. Thus, a Metropolitan decision to provide member agencies with power supply assistance and related services would appear to be consistent with its IRP planning objectives insofar as such voluntary services do not increase the costs of non-participating member agencies, and result in the net reduction of cost of water service to the ultimate customer by either reducing energy use or reducing energy costs for member agency systems.

SOURCES OF METROPOLITAN'S AUTHORITY TO PROVIDE POWER SUPPLY SERVICES

The Metropolitan Water District Act (Act) provides Metropolitan with authority to provide certain of the power supply-related services as contemplated in this report based on the purpose and powers of a "metropolitan water district".

Under Stage 1, Metropolitan would provide information to member agencies regarding issues and opportunities for "direct access" power supplies to serve water supply-related electric loads under the new deregulated electric industry structure. Metropolitan's General Counsel has determined that Metropolitan has the authority pursuant to the Act to provide Stage 1 services. (The memo summarizing the General Counsel's conclusions is provided in Appendix A.)

Although the Act specifically gives Metropolitan the authority to enter into Joint Powers Agencies or into other agreements necessary to fulfill its purposes authorized under the Act, Metropolitan's General Counsel has determined that it does not specifically provide Metropolitan with authority to engage in power supply activities such as acting as an aggregator or as a power broker. However, Metropolitan's general Counsel has also concluded that Metropolitan does have authority to provide such services as those contemplated in Stage 3 pursuant to AB 1890, which specifically authorizes special districts, like Metropolitan, to engage in such activities, as explained in Section 2.

CONCLUSION

Power supply services to meet the water supply related electric loads of the member agencies appears to be consistent with Metropolitan's IRP objectives. In addition, a review of the Act indicates that Metropolitan does have authority to engage in informational activities directed at identifying how Metropolitan and the member agencies will obtain power in a deregulated electric utility environment, and to enter into JPAs or other agreements to provide or acquire services to fulfill its purposes under the Act. Finally, AB 1890 gives Metropolitan authority to engage in activities such as load aggregation, power brokering, and power marketing.

Based on the provisions of the Act and AB 1890, Metropolitan appears to have the necessary authority to provide all services contemplated in all three stages of power supply services to member agencies.

SECTION 4

ALTERNATE APPROACHES TO METROPOLITAN-PROVIDED SERVICES

Before undertaking the role of provider of power supply-related services to member agencies, *Metropolitan would need to confirm that suitably priced power supply sources to support such services are likely to be available. Moreover, such power supplies need to be available for delivery to member agencies on a basis which avoids undue cost and delivery risk to Metropolitan and the member agencies.* Metropolitan can choose from a wide range of alternatives for providing power supply services to member agencies. Regardless of the level of service provided, Metropolitan will be positioned to pursue direct access to secure power supply arrangements to meet its own power requirements. The levels of power supply-related services to member agencies are described below.

STAGED ASSISTANCE BY METROPOLITAN

The inherent risks and opportunities of industry restructuring will become better defined as the process unfolds and the specific details are clarified. As a result, *a staged approach will allow Metropolitan to provide power supply-related services to member agencies without taking on an unreasonable amount of risk up front.*

Employing a staged approach could be composed of three distinguishable phases:

- **Stage 1 (Information)** - *Provide member agencies with information regarding risks and opportunities of restructuring by providing workshops or other information; and conduct a preliminary survey of member agencies' water supply-related electric loads, and level of interest in Metropolitan supplied services.*
- **Stage 2 (Assistance)** - *Assist member agencies in developing power supply strategies, evaluating specific power supply options, and in negotiating power supply arrangements to reduce costs.*
- **Stage 3 (Full Power Supply Services)** - *Actively assist member agencies in soliciting power supplies, progressing to proactive marketing of power supply services to member agencies.*

STAGE 1 - INFORMATIONAL ASSISTANCE

At this first and fundamental level, Metropolitan would provide information to member agencies on techniques for evaluating the risks and opportunities of alternative power supply arrangements. Metropolitan would assist the member agencies in:

- defining the size, location, and cost of water supply-related electric loads;

- identifying required unbundled power supply-related services;
- understanding the workings of the competition transition charge; and
- understanding metering requirements, the schedule for eligibility for direct access and the benefits and risks of direct access.

A valuable first step will be assessing interest in power supply services by Metropolitan and the collection of information on the water supply-related electric loads associated with the member agencies' operations. A preliminary survey of these loads will be conducted as part of Stage 1, and Appendix B provides a summary of the data that would be collected from the member agencies. The design of the questionnaire and the collection and analysis of data provided by the member agencies are included in the Stage 1 cost estimate.

Metropolitan could host or sponsor workshops and planning sessions to explain basic workings of the direct access proposals, the ISO and PX, the competition transition charge, and other major elements of restructuring that would have a direct impact on the member agencies. *It is assumed that the cost of providing Stage 1 assistance would be included in the Planning and Resources Division budget, and that no separate fees would be assessed against member agencies who benefit from Stage 1 informational services.*

STAGE 2 - POWER SUPPLY STRATEGIES/CONTRACT NEGOTIATIONS

At this next level of service, Metropolitan would assist member agencies in understanding the essential generic steps involved in analyzing loads, identifying resource requirements and resource options, evaluating those options, and contracting for alternate power supplies. Metropolitan might actively participate in evaluating the member agencies' existing power supply arrangements and negotiating new arrangements to reduce costs. Such assistance would include informational services as discussed in Stage 1 as well as task-specific support including:

- sponsoring workshops in which member agencies would be encouraged to share data on their power requirements and Metropolitan would help members analyze the economics of direct access;
- providing and applying a clear process for analysis of power resource alternatives based on the individual member agency's particular circumstances; and
- assisting the member agencies in identifying and selecting metering equipment and other infrastructure needed to participate in the emerging power markets.

The marketing strategy used to initiate Stage 2 services might include an initial workshop to refine and focus data on member agency loads collected in Stage 1. The data would then be compiled and analyzed.

To the extent that Metropolitan chooses to provide Stage 2 services to member agencies, such services could eventually be provided for a fee designed to recover the costs of providing the services. Stage 2 services cannot be provided by Metropolitan without adding additional staff or engaging the services of outside consultants. Hence sufficient cost justification would exist for assessing fees for the provision of Stage 2 services, as discussed further in the next section.

Stage 2 would apply a specific process through which data gathered in the initial survey would be further focused to (1) analyze the specific size, location, profile, and cost of serving each existing load; (2) define required investments in metering and other facilities; (3) identify and evaluate power supply options; and (4) prepare a report according to a generic format, with data specific to the unique circumstances of the individual member agency.

While Stage 2 services would be provided for a fee, Metropolitan would not in any way be assuming responsibility or liability for decisions made pursuant to the Stage 2 assistance. Stage 2 services would be informational and advisory. Hence, while such information or advice would be valuable, it is not a service that should entail liability and risk for Metropolitan. However, review of any liability implications of Stage 2 service by Metropolitan's General Counsel would be advisable prior to implementing Stage 2.

STAGE 3 - POWER SUPPLY SERVICES

Under Stage 3, Metropolitan would assume a hands-on role by assisting member agencies in making arrangements for electric service, and would establish itself as being available to be a full-service power provider to member agencies. Metropolitan would actively market its services in competition with other power supply and energy service providers, including the local utility provider of each member agency, and enter into contractual arrangements with member agencies for the purpose of:

- arranging their power supplies, transmission, distribution, and/or ancillary services;
- preparing and issuing requests for proposals (RFPs) to solicit bids for various power supply services that member agencies require;
- evaluating bids and selecting suppliers of power supply services;
- developing the form and substance of power supply service contracts; and
- performing scheduling, billing and settlement activities required to serve their retail power needs including the installation of metering and other equipment.

In Stage 3, Metropolitan could develop such standard materials as RFPs and *pro forma* contract language for use by member agencies, to the extent member agencies express an interest in such materials. Providing such services to multiple member agencies (as well as

for Metropolitan's own electric loads presently served at higher retail rates) would create economies of scale. Metropolitan could also aggregate the retail electric loads of individual member agencies or groups of member agencies or, alternatively, make arrangements to serve the power demands of individual member agencies as a provider of retail electric service. Stage 3 services would be provided under a set of rates and fees designed to recover the costs of providing such services, plus a margin to Metropolitan to provide a net positive revenue stream for lowering water rates.

STAFFING AND FINANCIAL REQUIREMENTS

It is most likely that Metropolitan would first decide to serve its own electric loads presently served at higher retail rates before opting to provide power supply-related services to its member agencies. Therefore, even if power supply services do not progress beyond Stage 1, continued involvement by Metropolitan will be required in tracking the restructuring of the electric utility industry and assessing opportunities for Metropolitan to protect or reduce its power supply costs in this rapidly-evolving market.

Table 4-1 summarizes the staffing and expenses projected under each stage of service. Recognizing that the timing and nature of Metropolitan's service under each stage is subject to some uncertainty, two alternate projections are considered: a base case and an aggressive service case. The aggressive service case is distinguished by an accelerated schedule for Stage 2, and by both an accelerated schedule and an increased staffing projection for Stage 3. Appendix C provides the details supporting the estimates in Table 4-1.

TABLE 4-1 MEMBER AGENCY POWER SUPPLY SERVICES SUMMARY OF COSTS ¹						
	BASE CASE			AGGRESSIVE SERVICE CASE		
	First Year	Incremental Staffing Requirements (FTE)	First Year Cost in Water Rates ¹	First Year	Incremental Staffing Requirements (FTE)	First Year Cost in Water Rates ¹
STAGE 1 INFORMATION ²	1997	.5	\$186,000	1997	.5	\$186,000
STAGE 2 ASSISTANCE ³	1999	1	\$309,000	1998	1	\$305,000
STAGE 3 FULL POWER SUPPLY SERVICES	2002	4	\$0	1999	8	\$0

¹ In both cases, a start-up cost of \$50,000 in Stage 2 and \$150,000 in Stage 3 are assumed. The annual cost for each stage is incremental—Stage 1 activities are assumed to continue after Stage 2 is initiated, and Stage 2 activity continues after Stage 3 is initiated. After the first year of Stage 2 all costs are assumed to be recovered through fees.

² One half FTE engineer is estimated at \$56,000 in 1997 including fringe benefits and overhead, plus four quarterly reports at \$20,000 each, plus the preliminary survey estimated at \$50,000, totals to \$186,000.

³ For the Base Case one full FTE engineer at \$119,000 in 1999, including fringe benefits and overhead, plus \$50,000 start-up, plus \$140,000 in consulting assistance totals \$309,000.

In Stage 1, it does not appear that Metropolitan would require dedication of a full time staff person to coordinate and execute informational and support services. Since Stage 1 services are essentially informational services, it is estimated that one-half of a full time equivalent (FTE) at the engineer level, together with a modest consulting budget, would be sufficient to provide Stage 1 services. At the current rate of evolution in the electric energy market, the member agencies could be kept fully informed with quarterly reports or workshops in 1997 and 1998. In 1999 through 2001 the rate of evolution will slow as restructuring is phased-in and as the industry settles into a mode of implementing and monitoring the process. Semi-annual reports would probably suffice to keep member agencies informed. It is estimated that each report would take three person weeks of effort to develop, or roughly \$20,000 per report in consultant and Metropolitan staff expenditures.

For Stage 2 services to cover the focused development and analysis of individual member agencies' load profiles, costs, and options, it is estimated that Metropolitan would need to add the equivalent of one additional full-time staff person (i.e., a cumulative total of 1.5 FTE to provide Stage 1 and Stage 2 services) to its Power Resources Branch. Additional consulting services may be required to provide assistance in follow-up on load data collection and analysis, and in designing, pricing, and delivering Stage 2 services. A Stage 2 start-up cost of \$50,000, together with an annual cost of \$140,000 is estimated.

Metropolitan should seek to recover all Stage 2 costs after 1999, including staff and outside consulting assistance, through Stage 2 fees. In designing the fees, one approach would be to develop a framework for preparing a report that presents conclusions regarding the required steps and economics of an alternative power supply, and to price that report on a lump sum basis. In addition to providing a framework for recovering costs, this approach might provide Metropolitan with a basis for evaluating whether to provide Stage 2 services - unless a sufficient number of member agencies indicate a willingness to defray the cost of providing Stage 2 services, Metropolitan might conclude that Stage 2 services should not be pursued.

If Metropolitan elects to provide only the Stage 1 and 2 services, these services would likely be offered for a limited period of time, until all member agencies have achieved adequate exposure to the issues and significance of restructuring. This would limit the duration over which Metropolitan would need staff qualified to perform this service, unless a subsequent decision was made to go on to Stage 3. A balance of in-house staff resources and outside consulting assistance will be sought in recognition of the potentially short duration of such services.

Since restructuring is expected to be phased-in over the 1998 to 2001 time period, it is probably reasonable to expect that Stage 2 services would transition into Stage 3 services no later than 2002, if Stage 3 services are ever to be provided. In Stage 3, Metropolitan would likely require one additional staff person to be in a position to respond to member agency requests. Such a person would be a senior level employee with expertise in the

development and negotiation of power supply-related service agreements. The individual could be expected to direct Stages 1 and 2, but would not eliminate the need for additional staff support or consulting services required in those early stages.

The level of additional staffing to serve Stage 3 requirements is dependent upon member agency response. Metropolitan would likely use a combination of staff and out-sourced services, bringing on incremental staff as the level of support services required reaches various "plateaus." A total number of four or five incremental full-time staff may be sufficient to provide Stage 3 services, but as many as eight or ten additional staff might be required. In Stage 3, it is assumed that all costs, including both staff and outside consulting assistance would be fully recovered from charges to those member agencies being provided power supply services. As a result, only as many staff as the competitive market can support would be added in Stage 3.

The capabilities of staff added under Stage 3 would include several disciplines, including staff experienced in the procurement and delivery of power supply and related services and in the development and negotiation of power supply and purchase agreements. Additional skills would be required in developing and implementing Metropolitan's marketing plan, with additional support staff and operating personnel employed depending on the depth and breadth of services required by member agencies. Metropolitan may also require an additional management-level position in Stage 3, depending upon the type and level of service provided to the member agencies.

Even if Metropolitan became highly active in power supply-related services, and there was substantial member agency response to the service, Metropolitan's services would likely only require the addition of a handful of professionals and support staff for Stage 3 services. Member agencies would still have their distribution and likely their metering services provided by the electric distribution utility, as it is unlikely that Metropolitan could cost effectively provide services such as meter reading. Metropolitan would provide power market evaluation, load aggregation, power accounting, and power supply procurement services for the loads that are "signed up" with Metropolitan. As with the Stage 2 services, Metropolitan can combine in-house staff additions with out-sourced services to ramp-up its staffing levels as service obligations stabilize.

Stage 3 services, particularly services such as load aggregation, enters Metropolitan into an arena wherein Metropolitan may be required to meet certain standards established by the CPUC. The CPUC and the California Legislature (in AB 1890) have indicated that aggregators and others will be subject to regulation to ensure a minimum level of fiscal responsibility and reliability. Hence, Stage 3 services could entail additional liability to Metropolitan. It may be appropriate for Metropolitan to establish a separate entity for providing Stage 3 services. Not only would this allow Metropolitan to limit its liability, but such a distinction might be useful for marketing purposes since the mission of this new

subsidiary would be to provide power supply services. Review by Metropolitan's general counsel of the framework for providing Stage 3 services will be necessary in any event.

The staffing requirements, expenses, and schedule for progression to Stages 2 and 3 are estimates. The final cost and timing will depend upon the ongoing resolution of regulatory issues, the relative advantages of competitors providing power supply services, and the detailed strategy for implementation that Metropolitan develops through its experience in providing Stage 1 services. Recognizing these uncertainties, Table 4-2 provides an estimate of the staffing and annual cost for the base case.

	1997	1998	1999	2000	2001	2002
Level of Service	Stage 1	Stage 1	Stage 2	Stage 2	Stage 2	Stage 3
Total Additional Staff	.5	.5	1.5	1.5	1.5	5.5
Annual Cost ¹	186,000	138,000	408,000	363,000	369,000	1,144,000
Cumulative Cost	186,000	324,000	732,000	1,095,000	1,464,000	2,608,000
¹ All costs after 1999 (the first year of Stage 2) are planned to be recovered in fees for power supply services.						

ADVANTAGES OF METROPOLITAN POWER-RELATED SERVICES

Metropolitan's election to provide power supply-related services may offer member agencies many advantages when compared to other service providers. First, Metropolitan is unique in that it combines many years of water supply service experience with many years of acquiring, negotiating, and contracting for power supply services.

Metropolitan staff has a basic understanding of its member agencies' system operations, and Metropolitan is generally familiar with their water operations. When compared to other power service providers competing in the greater Los Angeles market, this fact differentiates Metropolitan from the potential competition.

Metropolitan also has the intrinsic advantage of being able to schedule both water and power deliveries to member agencies on a day-ahead basis. Metropolitan and its member agencies could arrange protocols or algorithms that link water scheduling directly to power scheduling. *At the same time, it may be possible to coordinate water storage and delivery*

schedules with power costs to minimize power costs subject to a set of water delivery constraints, something few other power market entrants could do.

DISADVANTAGES OF METROPOLITAN POWER-RELATED SERVICES

The retail power utilities that currently serve Metropolitan's member agencies may have significant knowledge of their customers' facilities, having, in some cases, examined and helped to modify those facilities to conserve energy or reduce peak demand. *Hence, in some cases, continued service by the local retail utility may be advantageous to member agencies.*

Moreover, several of Metropolitan's member agencies and sub-agencies have municipal electric utility operations which provide their own retail electric services to meet water-supply-related electric loads. Such agencies are not necessarily required to allow direct access to the retail electric loads they serve. In addition, some of the member agencies who have their own municipal electric utility operations may well target serving the energy requirements of other member agency water systems who do not have their own municipal electric utility operations. *Metropolitan's entry into the power supply industry could create potential conflicts, unless Metropolitan chooses not to serve those member agencies which operate electric utilities, except at a member's request.*

Metropolitan has significant power supply contracting experience, but load aggregation and power brokering is not its main line of business. Within this context, some third-party service providers may have an initial advantage over Metropolitan. These third-parties may have the ability to bundle services, such as energy conservation, into their portfolio of services, a service Metropolitan may not wish to provide.

The power supply business could have wide swings in revenue stream over the course of a year. In some months, providers will lose money; in other months such losses will, of course, be recouped. Member agencies may not want Metropolitan engaging in a business with potentially volatile revenue streams. Much of this risk, which would arise in Stage 3, can be mitigated through appropriate contract terms.

ALTERNATIVES TO METROPOLITAN-PROVIDED SERVICES

In a restructured environment, member agencies will have access to a full range of power supply-related services from multiple providers.

CONTINUED SERVICE FROM LOCAL RETAIL UTILITY

All retail customers will have the choice of continuing to take retail service from the local utility as full or partial requirements customers. Under the CPUC's Preferred Policy Decision, local distribution utilities will continue to offer retail customers the option of receiving a full set of power supply services on a bundled basis. That means any member agency can choose to continue to purchase power from Edison or San Diego Gas & Electric

rather than deal with a new supplier of energy services. Of course, local retail utilities will need to be cost competitive with other power supply service providers or rely on some other product or service to distinguish themselves from the competition.

OTHER POWER SUPPLY SERVICE PROVIDERS

Power supply services will be available from multiple providers upon inception of the CPUC's transition period on January 1, 1998. At that time, many retail electric customers will have direct access to competitive providers of power supply services. *As new players enter the market, Metropolitan must consider its relative position in that competitive marketplace.*

Table 4-3 identifies some of the types of products and services that may be available from different market participants, and provides a perspective on the likely nature of competition in providing power supply services to member agencies. Metropolitan and the member agencies will all have ample opportunity to consider offers of power supply-related services from multiple providers as identified in Table 4-3. The number of alternatives will continue to be further segmented and better defined as the details of the CPUC's implementation are carried out between now and January 1, 1998, and throughout the four-year transition period as the competitive market and regulatory structure is established.

Service	Service Providers in Electric Power Market							
	Independent System Operator	Power Exchange	Power Suppliers ¹	Power Marketers	Aggregators	Transmission Owners	Utility Distribution Companies	Energy Venture Company ²
Power Supply		X	X	X	X			X
Transmission ³	X					X	X	X
Distribution						X	X	X
Spinning Reserves	X	X	X	X	X			X
Non-Spinning Reserves	X	X	X	X	X			X
Regulation and Frequency Response	X	X	X					X
Loss Compensation	X	X	X	X	X			X
Reactive Power/Voltage Control	X					X		
Scheduling and/or Dispatch	X					X		
Meter Reading and Billing			X	X	X		X	X

¹ Electric Wholesale Generators, Qualifying Facilities, in-state non-jurisdictional utilities, out-of-state utilities, supply management firms, and behind-the-fence generators.
² Energy venture companies would be contracted to manage all aspects of power supply and management.
³ Many companies own or control interests in both transmission and distribution facilities; as well, nothing in the CPUC's December 1995 precludes such situations.

ASSOCIATION OF CALIFORNIA WATER AGENCY'S JOINT POWERS AGENCY

Metropolitan's member agencies may also have the option of acquiring power-supply-related services from a new association established by the Association of California Water Agencies (ACWA). ACWA has formed a joint powers agency (JPA), called ACWA-USA, to serve as an umbrella organization for providing power supply-related services. ACWA-USA would "pool" the electric demands of the JPA members -- water utilities -- and act as a wholesale buyer and seller of power on behalf of the membership. ACWA has signed up 74 water utilities to participate in ACWA-USA as of December 1996. Metropolitan joined ACWA-USA in 1996.

ACWA has also established a JPA Governing Body comprised of one representative from each member. The Governing Body, or Commission, held an initial meeting on May 20, 1996 and further meetings are scheduled. ACWA is just now beginning to collect data to determine constituent agency needs for power services, having already launched an effort to identify members' natural gas and telecommunication service requirements.

ACWA-USA released a request for proposals for electricity services in October 1996, and proposals were submitted in December 1996. ACWA-USA expects to finalize a contract in March 1997 with the selected bidder. The JPA's ultimate goal is to be prepared to begin operations at the time the CPUC implements direct access on January 1, 1998 for a limited group of retail customers. Thus, ACWA-USA offers one option for Metropolitan's member agencies.

As of this writing, seven member agencies and thirteen sub-agencies have signed up with ACWA-USA. Signees include the following agencies:

- Member Agencies
 1. Calleguas Municipal Water District
 2. Eastern Municipal Water District
 3. Las Virgenes Municipal Water District
 4. Orange County Municipal Water District
 5. Santa Ana Watershed Project
 6. Three Valleys Municipal Water District
 7. Western Municipal Water District

- Sub-agencies
 1. Camrosa Water District
 2. Crescenta Valley County Water District
 3. El Toro Water District
 4. Elsinore Valley Municipal Water District
 5. Fallbrook Public Utility District
 6. Irvine Ranch Water District
 7. Olivenhain Municipal Water District
 8. Padre Dam Municipal Water District
 9. Rancho California Water District
 10. Vallecitos Water District
 11. Valley Center Municipal Water District
 12. Walnut Valley Water District
 13. Yuima Municipal Water District

REGULATORY, POLITICAL, AND FINANCIAL UNCERTAINTIES AND RISKS

Providing power supply services does entail risks, particularly in view of the uncertainties surrounding the outcome of the industry's deregulation process.

POTENTIAL FOR METROPOLITAN BECOMING SUBJECT TO ADDITIONAL REGULATION

Metropolitan could face additional levels of regulation if it were to enter into power supply agreements.

CPUC Regulation. The CPUC will establish technical and financial criteria for market participants who seek to provide power supply services to retail electric loads. It is not yet clear whether or how such criteria would apply to Metropolitan if Metropolitan ultimately seeks to serve the water-supply-related electric loads of member agencies.

FERC Proceedings Establishing the ISO and PX. Pursuant to the Preferred Policy Decision and AB 1890, California's IOUs have a proposal pending at FERC that would transfer operational control of facilities to the ISO. This proposal outlines the method for instituting access charges that utilities and others would pay to gain access to the transmission system. The proposal loosely defines two terms -- self-sufficient transmission owner and dependent transmission owner -- the difference is the former has sufficient generation and/or transmission import capability within its service area to meet its own loads. Self-sufficient transmission owners could potentially pay a lower access fee than dependent transmission owners.

Metropolitan is expected to qualify as being self sufficient in transmission, yet the definition of "service area" in Metropolitan's case is unknown at present. *The risk, ultimately, is that Metropolitan might be forced to pay higher access charges by taking on responsibility for member agency loads.* The definition of "service area" that would apply to Metropolitan requires clarification before this risk can be quantitatively assessed or eliminated. In any event, Metropolitan's status as a "sufficient" transmission owner must not be threatened by assuming responsibility for member agency loads. No service will be proposed to be undertaken that would put Metropolitan at risk of being subject to an increased access charge.

Evolution of Restructuring Process. Burdens related to stranded costs and competition transition charges (CTC) are yet to be fully delineated. Clearly, the member agencies will be subject to the CTC whether or not they depart from an IOU's service to take power services from Metropolitan. The CPUC has made clear that the CTC, at whatever cost level is ultimately adopted, will be non-bypassable, meaning all existing retail customers are subject to the CTC. *The responsibility for paying the CTC will fall on individual retail customers. The absolute level of the CTC is being developed through proceedings at the CPUC.*

Reciprocity. If Metropolitan is to serve the member agency electric loads now served by other utilities, Metropolitan may be required to make its transmission system available for use by those same utilities. The magnitude of this risk and its implications will depend on the nature of service Metropolitan ultimately provides and the power and transmission service on which it relies.

INSTITUTIONAL RISKS RELATED TO MEMBER AGENCIES AND SUB-AGENCIES

Metropolitan's member agencies and sub-agencies face several institutional risks. First, Stage 3 power supply services must not be subsidized by water sales. There likely would be serious ramifications of any subsidization. Second, if Metropolitan provides power service assistance, it should result in power cost savings for the participants. The allocation of savings could prove to be contentious. *Even using appropriate cost-of-service techniques and load shape characteristics, pricing the services and apportioning the power cost savings among member agencies could be a difficult institutional issue.* This situation would be most acute when benefits arise largely from diversity among member agency peak demands. Allocating benefits would be less of a problem in situations wherein Metropolitan merely buys and resells services, or acts as a conduit passing services on at cost.

It is also possible that some member agencies will view any Metropolitan-provided power supply services as a means of accessing inexpensive Hoover and Parker power supplies. Metropolitan should emphasize from the outset that Hoover and Parker power supplies are committed to the Colorado River Aqueduct. *Member agencies should look to Metropolitan's activities only to more cost-effectively access other power supplies to serve member agencies.*

Further, some of Metropolitan's member agencies and sub-agencies pose special institutional risks and considerations. Member agencies fall into three categories with different electric resources and power supply scenarios. These include:

- agencies, primarily municipal utilities, that sell power and water;
- agencies that sell only water and which have hydroelectric generation facilities, the output of which is sold to a local utility; and
- agencies that sell only water and which have no electric generation.

There are inherent risks in the first two categories, as discussed below, which Metropolitan will need to respond to appropriately.

Agencies with water and electric utilities can have several interests that Metropolitan would need to address. First, these agencies have retail electric facilities and are in a position to take advantage of any low cost power supplied by Metropolitan. On the other hand, they may also have high cost resources that could become "stranded investment" in such an

environment -- a potentially serious concern. *Metropolitan, therefore, should not directly compete with those agencies in the market for serving water supply-related electric loads.* Further, Metropolitan may consider establishing a policy on competition that would reflect its low-cost services to member agencies rather than any desire to expand market share and compete head-to-head with member agencies. That is, member agencies who have municipal electric utilities may seek to serve the very same water supply-related electric loads of other member agencies as part of those municipal electric utilities' efforts to compete in the restructured electric utility industry. Metropolitan will need to address such potential conflicts as they arise.

SECTION 5

POWER REQUIREMENTS

Unlike an electric utility that must serve all customer loads, the electric loads of member agencies that may be served by Metropolitan are only those related to the supply and treatment of water. This section of the report provides an overview of the types of electric loads that Metropolitan might serve, and provides a preliminary estimate of the range in the cumulative size of such electric loads.

PRIMARY USES OF POWER

Water utilities require power primarily for the purpose of:

- water pumping
- water treatment
- water reclamation/desalting
- building/office usage

WATER PUMPING

Electric pumping power costs can appear in each of several functional areas in a water utility's cost structure:

- **Source of supply:** Power is used for pumping from wells and often to lift water out of a surface source, such as the Colorado River, and into the water pipelines. The source of supply may or may not include groundwater storage programs which can involve pumping costs to deliver surface water to a point of groundwater recharge, and then subsequent pumping from groundwater storage back into a pipeline system for delivery.
- **Transmission:** Power is used in aqueducts or water transmission pipelines for moving water over mountain ranges or for moving water from a source at one elevation to the end-users at another elevation.
- **Distribution:** Power is used to move water from sources or water transmission pipelines to end-users at higher elevations, and to move water into and out of in-system storage tanks or reservoirs.
- **Storage:** Power is used to move water into storage facilities. The storage may be aboveground or groundwater storage, each with its own unique pumping energy costs.

WATER TREATMENT

Water treatment requires power for pumping and for other processes. Standard technologies for water treatment involve either the physical removal of suspended materials through sedimentation and filtration; and chemical disinfection, usually with chlorine. In such facilities, pumping represents roughly 80 percent of the power requirements.

WATER RECLAMATION/DESALTING

Metropolitan has historically supported, through its Local Projects Program, the development of reliable and cost-effective water reclamation projects that reduce demands for imported water supplies. Numerous local water and groundwater reclamation projects participate in that program, and significant electric loads are associated with these projects. Metropolitan also operates seawater distillation and groundwater reclamation facilities, and other desalination projects may be developed in the future using a new and more cost-effective multi-effect distillation process. Water reclamation and desalting facilities represent potentially significant loads that might be economically served by alternate power supplies.

BUILDING/OFFICE USAGE

Water utilities use power in office buildings, shops, warehouses, and other buildings. Research performed by the Association of California Water Agencies indicates such usage is approximately 30 percent of total power usage of water agencies.

The above four categories of electrical power end-use represent the types of power requirements that Metropolitan might seek to serve.

EXISTING AND PROJECTED WATER SUPPLY RELATED ELECTRIC LOADS

Water-related electric loads within the Metropolitan service area can be segregated into loads under the control of Metropolitan, and loads under the control of member agencies and sub-agencies.

Metropolitan Electric Loads. Metropolitan's major uses of electricity in the future are expected to be as follows:

- pumping on the Colorado River Aqueduct (CRA);
- pumping at four planned groundwater banking projects in the Los Angeles basin (in-basin);
- pumping at two in-basin pumping facilities;
- water treatment at five major water treatment facilities; and,
- pumping at the proposed Eastside Reservoir.

These uses of electricity are discussed in this subsection of the report. Fiscal year (FY) 1994-95 data are provided for each major use of electricity.

The CRA's power requirements are served through Hoover and Parker generation, and through the Service and Interconnection Agreement with Edison. As discussed in previous sections of this report, *the major cornerstone of Metropolitan's deregulation strategy is to protect the current contracts and agreements that enable Metropolitan to provide economic power to the CRA.* An underlying assumption of this study is that there will be no change in either the loads or the power supply sources associated with the CRA. Thus, CRA electric demand data are provided below for informational purposes, but the CRA is not included in later discussions of power demands and supply options.

Colorado River Aqueduct. The CRA has five major pumping facilities. These include the Intake, Gene, Iron Mountain, Eagle Mountain, and J. Hinds Pumping Plants. Metropolitan has nine pumps at each pumping plant. Each pump is designed for 225 cubic feet per second (cfs). The CRA is designed to run at capacity when eight pumps at each plant are in operation (1800 cfs).

The peak load on the CRA reaches 311 MW when Metropolitan operates nine pumps at the Intake and Gene Pumping Plants for reservoir control. Under minimum delivery conditions (626,000 acre-feet per year), the CRA energy requirements would be approximately 1,252 gigawatthours (GWh). Under maximum delivery conditions (1,300,000 acre-feet per year), the CRA energy requirements reach 2,600 GWh.⁷

In Fiscal Year (FY) 1995, the pumping plants required 2,603 GWh of energy and 297 megawatts (MW) of peak capacity.

Well-Field Pumping. Metropolitan is currently in the process of developing groundwater banking arrangements at in-basin locations. Projects are planned for the Chino Basin, Orange County, the LA Forebay, and for the Ramon Basin. The Chino Basin project is currently operating on a pilot basis.

These well fields are expected to be operated as emergency or peaking supplies. Each of the program's actual operating characteristics will depend upon the agreements that are signed with the implementing agencies. If these wells are operated annually as peaking supplies, they would potentially be used during time periods that are coincident with the peak electrical usage on the local utility grids. Such time periods are the periods in which energy prices are at their highest. Information on the potential capacity, energy requirements, and profile of such pumping loads should be compiled and evaluated before analysis of power supply alternatives is initiated.

⁷ Metropolitan Water District of Southern California, (Draft) *Integrated Resource Plan for Metropolitan's Colorado River Aqueduct Power Operations*, April 1994, pages 4 through 9.

In-Basin Pumping. Metropolitan has a pumping facility at Lake Perris that can be used to pump water through the Perris Bypass Pipeline, backwards through the Santa Ana Valley Pipeline, and through the Box Springs Feeder to the Mills Filtration Plant. Generally, such usage would be during an emergency or maintenance outage when Metropolitan needed to deliver CRA or Lake Perris water to the Mills plant because SWP water was unavailable. It was used in this manner during a recent drought when SWP water deliveries were cut.

Metropolitan also has a pumping facility in the Burbank area called the Greg Avenue Pressure Control Station. Metropolitan acquired this pumping plant when Metropolitan purchased the East Valley Feeder from the Calleguas Municipal Water District. Water currently moves through the feeder in a west to east direction whereas in its original usage, water moved east to west.

These pumps were not used during FY 1994-95 period discussed in this study. As with the well-field pumping loads, data on the projected use of the in-basin pumps should be collected to allow a more complete analysis of available power supply alternatives.

Water Treatment Plants. Metropolitan operates the following five water treatment facilities.

- The **Mills Filtration Plant** is a 505 cfs (325 million gallon per day, or MGD) treatment facility located in the city of Riverside's electric utility service territory. It takes service under a time-of-use (TOU) rate. The Mills Plant is located just east of the city of Riverside.
- The **Jensen Filtration Plant** is a 1,163 cfs (750 MGD) treatment facility located in the Los Angeles Department of Water and Power (LADWP) service territory. It takes service under LADWP's A3A TOU rate schedule. The Jensen plant is located in the San Fernando Valley area.
- The **R. A. Skinner Filtration Plant** is an 806 cfs (520 MGD) treatment facility located in Edison's service territory. It takes service under Edison's TOU-8 rate schedule. The Skinner plant is located near Lake Skinner.
- The **Weymouth Filtration Plant** is an 803 cfs (518 MGD) treatment facility located in Edison's service territory. It takes service under Edison's TOU-8 rate schedule. It is located in La Verne.
- The **Diemer Filtration Plant** is an 803 cfs (518 MGD) treatment facility located in Edison's service territory. Metropolitan takes service under Edison's TOU-8 rate schedule. The Diemer plant is located in Yorba Linda.

Current energy usage and peak demand characteristics are shown on Table 5-1 below.

The Mills plant peak demand and energy usage is considerably lower than the other facilities. The Jensen plant, despite having a treatment capacity one and a half times that of the other plants, has energy usage that is significantly less than Skinner and Weymouth. Relative capacity utilization and plant design explain this counter-intuitive result.

Name Of Plant	Energy (MWh)	On-Peak Demand (kW)	Power Cost (Dollars)
Jensen	4,712.0	1,280	\$ 406,105
Skinner	8,113.6	1,503	703,380
Diemer	3,289.3	795 ²	279,706
Weymouth	8,208.4	1,892	734,071
Mills	1,963.2	384	187,215
TOTAL	26,286.5	5,854	\$2,310,477
¹ Fiscal Year 1995 data. Data compiled from water reading dates most closely approximating a July 1, 1994 through June 30, 1995, period. ² The Diemer plant's highest demand reading occurred in an off-peak period. The highest reading was 828 kW. The peak reading (795 kW) occurred between June 8 and July 8, 1994.			

Eastside Reservoir Pumping. The Eastside Reservoir is an 800,000 acre-foot (AF) reservoir to be located in Edison's service territory. The reservoir is in the construction phase, with current projections indicating the initial filling of the reservoir could begin in calendar year 1999, and run through calendar year 2003.

WATER SUPPLY-RELATED LOADS OF MEMBER AGENCIES AND SUB-AGENCIES

Whereas data on energy requirements for Metropolitan's system were readily available to be computed and evaluated, similar data for the member agencies was not readily available. To accurately determine the available electric loads to be served, Metropolitan should design a questionnaire and survey the member agencies. (This survey is considered necessary in the start-up phase of Stage 1.)

Secondary Data Sources. ACWA collected data to investigate the feasibility of setting up its power supply services JPA. Using actual power billing information, ACWA had conducted two studies to identify the electric demand characteristics of water agencies in California. In one analysis, ACWA obtained data for several types of water agencies: a

primarily agricultural agency, a mixed urban/rural agency, a wholesale water purveyor, and an urban water district. In the other analysis, ACWA obtained one year's billing data for roughly 300 (primarily agricultural) ACWA members served by PG&E. The following highlight some of the studies' findings of interest.

- Base electrical demand for office buildings range from a low of 15 percent of total electric demand to a high of 42 percent, with the average about 30 percent of the water agencies' total electric demand.
- Typical load factors for urban water districts are 50 to 60 percent. Typical load factors for agricultural water districts are around 30 percent.
- Typical urban water districts have daily usage patterns that vary quite widely. This pattern can be explained by the twin facts that most water districts' major pumping and treatment load centers are on time-of-use rates, and most urban water districts have sufficient storage capability to defer pumping loads until the off-peak periods.

(The above-referenced ACWA data was the only identifiable secondary source of data relied upon to estimate member agency electric loads).

Preliminary Estimated Data. Estimates of total member agency energy consumption, peak demand, and power costs were based on member agency retail water demand and several simplifying assumptions considering:

- source of supply (Metropolitan or member agency-owned local production);
- estimated local production energy usage per acre-foot (derived from Orange County Water District and Water Replenishment District data)⁸; and
- estimation of average pumping lifts required.⁹

⁸ Assumes design of member agencies' water filtration facilities use primarily gravity flow, limiting pumping requirements for filtration. Energy cost for local water production assumed to include all production and treatment-related power.

⁹ Each member agency was assumed to have two pumping lifts, each using an average 177 kWh/AF per lift. The first lift is assumed to apply to 10 percent of total water delivered and the second lift to 5 percent of total deliveries.

The resulting estimates of power usage are presented on Table 5-2¹⁰. The estimates of member agency power requirements embody one key and major simplification: the demand of several member agencies is, in reality, the summation of the demand of a collection of sub-agencies. Metropolitan currently sells water to 27 member agencies. Some are strictly wholesale agencies with little power usage at the member agency level but with considerable usage at the sub-agency level. Thus, the estimated member agency power statistics presented are a composite of the power statistics of over 170 member agencies and sub-agencies.

It should be noted that the estimates provided in Table 5-2 are very preliminary and are provided only as an indication of potential loads. No member agency-specific data was available for use in this report, and the survey data recommended above would be valuable in refining these estimates.

Table 5-2 Estimated Power Usage Of Member Agencies For Water Supply-Related Loads Metropolitan Water District Of Southern California Fiscal Year 1994-95			
Type Of Pumping Demand	Energy Usage (MWh)	Peak Demand (MW)	Power cost (Dollars)
Local Production	976,000	223	\$ 95,530,000
Secondary Lift	60,000	14	5,872,000
Tertiary Lift	30,000	7	2,936,000
Other	457,000	104	44,731,000
TOTAL	1,523,000	348	\$149,069,000
Assumptions: 1) Underlying water use includes local production and direct deliveries, and excludes 68,079 A-F of replenishment deliveries. 2) Local production includes local groundwater production, surface diversions and the reclaimed water production and deliveries. 3) Energy cost for local production is based on average \$/AF cost of production used by the MWD of Orange County and the Water Replenishment District of Southern California to set Replenishment Assessment. 4) Energy cost for pumping to second and third pressure zones assumes a pumping rate of 1,000 gallons per minute being raised to a pumped pressure of 75 psi. 5) Total power cost includes local production plus costs associated with pumping 10 percent of total amount to a second higher pressure zone plus 5 percent of total amount being pumped to a third zone. 6) Energy is estimated from power cost data assuming an energy cost of \$0.09788 per kWh. 7) Peak demand is estimated using an assumed load factor of 50 percent.			

As can be seen from the table above, the total peak demand is nearly 350 MW while total energy consumption is 1.5 million MWh. To put this in perspective, the total energy usage

¹⁰ Energy and peaking demand information on Table 5-3 includes only water-supply related loads. It excludes non-water related electric loads served by the retail electric utilities owned by some member agencies and subagencies.

and power demand for water supply purposes, excluding Metropolitan's energy usage and power demand, exceeds that of the municipal utility in the city of Glendale.

TOTAL POWER REQUIREMENTS

The table below summarizes the energy usage and peak demand data presented earlier in this section. The data are FY 1994-95, the most recent year for which some relevant historical data are available. For consistency purposes, the Metropolitan filtration plant power data presented below are FY 1994-95 actual, and not the estimated power data at ultimate plant capacity. As can be seen from the estimated electrical loads, the power requirements of the member agencies are expected to be substantially larger than Metropolitan's filtration plant electric service requirements.

Category Of Demand	Energy Usage (MWh)	Peak Demand (MW)	Power Cost (Dollars)
Metropolitan Water Pumping	0	0.0	\$ 0
Metropolitan Water Filtration	26,287	5.8	2,310,000
Member Agency Water Pumping and Filtration	1,523,000	348.0	149,069,000 ²
TOTAL	1,549,000²	354.8	\$151,379,000
¹ Excluding Colorado River Aqueduct and State Water Project power demands.			
² Rounded.			

It should be emphasized that the power demand data provided herein for the member agencies has been estimated from water demand data. However, actual member agency (and sub-agency) energy use data should be acquired to analyze the economics of any proposed changes in agency power supply arrangements. This preliminary estimate, however, indicates that the electrical loads of the member agencies are, cumulatively, of a magnitude for which small percentage cost savings amount to several million dollars of savings annually.

SECTION 6

METROPOLITAN AND MEMBER AGENCY POWER SUPPLIES

There are numerous sources of power supply-related services that will be available to Metropolitan and the member agencies, as described in Section 4 of this report. As discussed in the balance of Section 6, Metropolitan and the member agencies have certain power supply resources that will continue to be valuable either to serve the respective owners' own loads, or for sale to other parties. While certain of these resources may be made available, there are practical and contractual limitations to accessing such output.

METROPOLITAN RESOURCES

Excluding power supplies dedicated to the CRA, Metropolitan's power generation consists of relatively small hydroelectric power generating facilities installed on Metropolitan's distribution pipelines. These 15 facilities are listed on Table 6-1 below. The power generated by these power recovery resources is currently sold "as available" to DWR, PG&E, and Edison, under power sales contracts.

Before this power can be used to serve Metropolitan or member agency requirements, contracts must either be renegotiated or terminated. Renegotiating means cancelling the existing rates, terms, and conditions and starting anew in order to sell the output of the Metropolitan hydroelectric resources to a party other than the current purchasing utility or to use some of the output of the small hydroelectric projects to serve the filtration plant or member agency loads.

Termination of any of Metropolitan's agreements for the sale of energy from small hydroelectric projects must be considered in light of Metropolitan's other interests. Metropolitan's total cost of delivered power could increase dramatically if contracts such as the Service and Interchange Agreement with Edison is abrogated or terminated early. Recognizing that Metropolitan's restructuring strategy supports the sanctity of contracts, it would be inconsistent for Metropolitan to argue that its power sales contracts should be terminated early while maintaining that other contracts should be held in force. Further, MWD averages approximately 40 mills/kWh payment under these marketing contracts. Since Edison estimates the average market clearing price for power for the next five years to be 23.5 mills/kWh, it is unlikely that early termination of these contracts would be economically attractive.

Table 6-1 Hydroelectric Power Recovery Plants¹ Metropolitan Water District Of Southern California		
Power Plant	Design Capacity (Megawatts)	Production (MWh)
Greg Avenue	1.0	484.8
Lake Mathews	4.9	36,972.0
Foothill Feeder	9.0	29,376.0
San Dimas	9.9	18,821.1
Yorba Linda	5.1	25,800.0
Sepulveda Canyon	8.6	6,792.0
Venice	10.1	2,187.0
Temescal	2.8	15,621.0
Corona	2.8	15,288.0
Perris	7.9	7,587.0
Rio Hondo	1.9	6,542.0
Coyote Creek	3.1	15,459.0
Red Mountain	5.9	20,082.0
Valley View	4.1	4,776.0
Etiwanda	23.9	16,695.0
TOTAL	101.0	222,482.9
¹ Fiscal Year 1994-95 data.		

MEMBER AGENCY RESOURCES

There is little revealed about member agency generation, absent the results of a direct survey of members for relevant data. However, ACWA reports that its members hold 19 Qualifying Facility (QF) contracts with Edison, representing roughly 50 MW.¹¹ QFs are those facilities that generate power using what would otherwise be waste heat or through some other renewable (i.e., hydroelectric) or by-product process that "qualifies" under rules first laid down by the Federal Public Utility Regulatory Policies Act (PURPA). In California, standard offer QF contracts were designed to provide a vehicle for small power producers to sell power at economically attractive rates, thereby allowing these producers to find

¹¹ Preliminary Assessment of the merits of an ACWA Energy Joint Powers Authority: Electricity, ACWA. February 17, 1995.

markets for power that might not have otherwise been generated. Standard offer contracts typically have terms of 30 years.

From Edison's filings in support of the California Energy Commission's 1994 *Electricity Report*, it is possible to identify roughly 6.4 MW of capacity under QF contracts with Edison. Almost all of this power is "as available," not "firm dependable." This makes these power supply resources somewhat questionable as a possible source of power for serving critical member agency electric loads such as pumping and water filtration.

MEMBER AGENCIES THAT PROVIDE RETAIL ELECTRIC SERVICE

As noted in Section 4 of this report, several of Metropolitan's member agencies and sub-agencies operate retail electric utilities. These utilities are listed on Table 6-2 along with a summary of their installed electric generation as of 1995. As can be seen, the member agencies providing retail electric service within Metropolitan's service area had a total projected 1995 demand of 9,606 MW and a committed and existing resource base totalling approximately 9,870 MW.

<p align="center">Table 6-2 Member Agencies And Sub-Agencies With Retail Electric Service¹</p>		
Utility	Non-Coincident Peak Demand (MW) ²	Resources (MW) ³
City Of Anaheim	674	505
City Of Riverside	562	339
City Of Vernon	212	164 ⁴
City Of Azusa	66	62
Los Angeles Department Of Water & Power	7,029	7,628
City Of Burbank	331	389
City Of Glendale	337	391
City Of Pasadena	364	361
Southern California Water	31	31 ⁵
TOTAL	9,606	9,870

¹ Forecasted 1995 data taken from the 1994 *Electricity Report: Appendices*.
² Capacity Requirements including losses, export, and reserve requirements. Reserve requirements, as a planning target, can be expected to change in the future, but how and how much is speculation at this time.
³ Existing and committed resources, including imports.
⁴ Includes 60 MW of uncommitted resources related to Vernon's share of the California-Oregon Transmission Project.
⁵ While Southern California Water serves electric loads no data were available in the cited report. Resources were assumed to be equal to power demand for purposes of this table.

The member agencies with electric utility systems listed in Table 6-2 have balanced their loads and power supply resources over their respective planning horizons. Therefore, most of these member agency power supply resources will be available to Metropolitan only on an as-available (non-firm) basis. The potential use of these resources, as one source of Metropolitan-provided power supply-related services, is discussed further in the balance of this section.

THE RELEVANT MARKET FOR METROPOLITAN-PROVIDED POWER SUPPLY SERVICES

Most of Metropolitan's member agencies and sub-agencies receive retail electric service from Edison and other local utilities at the present time. With a combined total of about 170 member agencies and sub-agencies, only nine provide retail electric service.

As discussed earlier, the CPUC selected a dividing line of eight MW as the size of load that can qualify to seek power supplies beginning in 1998. AB 1890 did not specifically revise the schedule that the CPUC established, but did accelerate the final deadline for direct access eligibility of all customers from January 1, 2003 to January 1, 2002. The CPUC plans to issue a decision on direct access phase-in by February 1997.

Due to their individually small electrical loads, in most cases, few of Metropolitan's 160 non-utility members or sub-agencies ("NUMA," for short) would immediately qualify, assuming that the PUC does not revise the eight MW criterion in its upcoming decision. Using the calculation procedures outlined in the footnotes on Table 5-3, but applying the formula to individual member agency water production data, less than half of the 27 member agencies would initially qualify to be served using "direct access" power supplies during the 1998 to 2002 period. If the analysis could be further refined to divide power usage between member agencies and their component sub-agencies, the number of agencies that meet the eight MW threshold falls further. Hence, the vast majority of the 160 or so NUMAs will comprise the market for Metropolitan power supply assistance. That is, without aggregation of their loads, most would not qualify, creating a service Metropolitan can provide through such load aggregation.¹²

However, several other parties are likely to market services to aggregate the NUMA loads. These include traditional power suppliers and emerging suppliers such as (but not limited to) Edison, PG&E, SDG&E, Enron, Louis Dreyfus Power Marketing, as well as Metropolitan member agencies and sub-agencies with significant power supply facilities, entitlements to regional transmission facilities, and the staffing to deliver the attendant power supply-related services to the NUMA markets. Therefore, Metropolitan must first determine which,

¹² Such limits on the timing of direct access availability to the NUMAs may be revised by the CPUC's anticipated decision on direct access phase-in in February 1997. It is possible that the upcoming decision will accelerate the schedule under which the NUMAs would be eligible for direct access.

if any, NUMA loads it can economically serve during and after the transition to a competitive electric industry market.

POWER SUPPLY-RELATED SERVICES

Metropolitan and all of the member agencies and sub-agencies will have the choice of either staying with their traditional supplier of bundled power supply services or, in the alternative, seeking one or a number of new suppliers of one or a number of the services required to produce, transmit, and deliver electric services to end-uses within their respective water-supply service territories.

As restructuring continues, the number and type of competitive suppliers of power supply-related services will increase. However, and regardless of the number and type of suppliers, there will remain a basic set of power supply-related services required to deliver the final product to end-users. Many parties, including state and federal regulators, recognize that many of these basic services will be re-characterized, re-packaged, and marketed to meet specific end-user desires. These services are identified and described in the following text.

Power Supply Services - These services are generally provided by the "producers" within the electric industry. Examples of power suppliers are electric utilities, exempt wholesale generators, qualifying facilities, and the like (i.e, electric generators). Providers of power supply services are uniquely situated inasmuch as they can provide many of the other services described below.

Transmission Services - Once electricity is produced, it is usually transmitted over extra-high voltage lines. This transmission service usually involves facilities such as towers, lines, and substations with voltage ratings that range from 60 kilovolts (kV) to 500 kV. Unit costs for transmission are a function of the voltage and the age of the facilities. Generally speaking, the unit rate for transmission is lower for higher voltage lines since higher voltage lines can carry more electricity, thereby lowering the average cost of electricity transmitted. In addition, the older a transmission facility is the lower the average cost is for that facility due to depreciation. Examples of these types of providers are electric utilities, transmission companies, and the emerging independent system operator (ISO).

Distribution Services - Electricity that has been transmitted over the transmission system at high voltages must then be delivered over local lines to customers. These local lines, usually under 60 kV, are known as distribution facilities. These facilities transport the electric from the bulk power grid (transmission system) to the end-use customer. Examples of these providers are electric utilities and some irrigation districts.

Customer Services -Once electricity is delivered, or to facilitate receipt of service, providers must work with customers to help them understand and use the service. Services such as billing, meter reading, energy conservation assistance, informational assistance, and customer service are known as "Customer Services".

Ancillary Services - The electricity provider furnishes other services which are known as "ancillary services". These services are usually required for operational reasons such as system reliability and stability. Briefly, ancillary services fall into the following categories:

System Protection - These services are energy reserves which protect the system from unexpected outages. Examples of such services include: "spinning reserves", "non-spinning reserves", and "replacement reserves."

Load Following - These services are required when providing electricity because customer loads can change constantly while most electric sales are monitored on an hourly basis. These services provide for the production of energy to change with the changes in load during each hour.

Reactive Power/Voltage Control - These services are required to help the system maintain its target for voltage and for reactive power (usually through the operation of special facilities such as capacitors and compensators).

Loss Compensation - When electricity flows through wires, some percentage of the electricity is lost (as a function of temperature, loading, etc.). This service is required to make-up for the lost electricity.

Scheduling and Dispatch - These services are required as part of the monitoring of the system, the dynamic operating of the system's resources, and the accounting for electric power transactions.

Among the above list of electric utility-related services, *Metropolitan's power-related services would likely focus on power supply services.* It is likely that transmission, distribution and, customer service would continue to be supplied by the local distribution company (primarily Edison and SDG&E in the case of the member agencies Metropolitan is most likely to serve). However, it is possible Metropolitan could provide or arrange for supply of some or all of the ancillary services described above as well.

SERVING NON-UTILITY MEMBER AGENCIES WITH VARYING LEVELS OF RESOURCE COMMITMENTS

For the transition period and for the first several years of the competitive market's operation, the degrees of uncertainty and risk will be high. This high degree of risk and uncertainty will stem primarily from (1) the number and type of power supply-related service providers that enter and exit the competitive market, (2) the dynamic relationships that will exist between service providers and their customers, and (3) the unknown mechanisms and details of the market under the ISO and PX.

As to the latter component of risk and uncertainty, it will only be revealed with time. As to the first and second components, the number of players and the dynamics will be driven by innovation in the market and the re-packaging of the basic power supply-related services listed above. As customers become familiar with new competitive suppliers, and new offers of innovative services, they will likely track the suppliers and their offered services as pressure increases to decrease producer prices (i.e., the market is only competitive to the extent that there are multiple suppliers of power supply-related services; in turn, competitors will seek to "package" the lowest cost and highest value services to the market). This pressure to continually lower prices and add value to power supply-related services will have the affect of decreasing the operating margins (or profitability for private companies) of competitive suppliers. *Using the gas industry as an indicator, only strong companies capable of being low-cost suppliers and able to suffer the diminished margins will be capable of surviving in the long term.*

Based on the evaluation of the status of the electric utility industry restructuring, Metropolitan's interests and policies, expressed interests of several member agencies, and the opportunities available for Metropolitan in providing power supply-related services, the preliminary evaluation presented in this report supports the following findings:

1. ***Any action considered by Metropolitan in response to electric utility restructuring should avoid jeopardizing the continued availability of favorably-priced power supplies for the CRA and SWP.***

The pumping energy requirements of the CRA and SWP are far greater in economic importance to Metropolitan than the potential energy cost savings that might be achieved through direct service to Metropolitan's filtration facilities or the water supply-related electric loads of the member agencies. It is, therefore, important for Metropolitan to maintain a primary focus on retaining low cost pumping energy during electric industry restructuring.

2. ***Metropolitan has authority to directly contract with electric utilities and other power suppliers to meet Metropolitan's power requirements.***

The Metropolitan Water District Act (the Act) provides Metropolitan with the authority to carry out all power supply activities that are necessary for developing and distributing water. Several sections of the Act specify that Metropolitan may contract for services or construct any facilities which are necessary to provide for Metropolitan's power needs. This means Metropolitan could obtain power supplies for its water treatment plants and other facilities that are presently served at the retail level by local utilities.

3. ***Metropolitan appears to have authority to provide power supply services to member agencies.***

Metropolitan's General Counsel has determined that Metropolitan has broad authority for the purpose of securing power supplies necessary to deliver and distribute water. Under Metropolitan's enabling legislation, Metropolitan has sufficient authority to engage in activities tending to inform and educate the member agencies with regard to options, market changes, and available services, as contemplated under Stage 1 and Stage 2. The General Counsel's Office further concluded that, under AB 1890, special districts and public agencies are explicitly granted authority to provide power supply services. Therefore, Metropolitan may provide power supply services to the water supply-related loads of the member agencies, as contemplated under Stage 3.

4. *Metropolitan's filtration and Eastside Reservoir pumping loads are sufficient to justify consideration of alternate power supplies.*

Metropolitan has approximately 6 megawatts of electrical load at its filtration plants which is presently served at retail electric rates. The addition of the Eastside Reservoir will further increase Metropolitan electric loads, and may also be served at retail rates. With the expected addition of new pumping and other energy requirements on the Metropolitan system, there is sufficient electric energy demand served at retail rates to warrant Metropolitan's consideration of alternative power supplies.

5. *Metropolitan would likely need to decide to obtain the power supply for its own system water filtration plants, presently served with electricity purchased at retail rates, from alternative power supplies available under the restructured market before it would determine to provide power-related services to its member agencies.*

If Metropolitan decided to continue obtaining its filtration plant electric energy supply at standard retail service and rates, then it is unlikely that the necessary staff and other in-house resources required to provide power supply services to member agencies could be justified. Metropolitan's administrative costs might be reduced due to the economies of scale resulting from provision of power supply services to both Metropolitan's filtration plants and member agency loads.

6. *Offering at least education and facilitation services ("Stage 1") to assist Metropolitan's member agencies in electric utility restructuring is consistent with Metropolitan's adopted integrated resource planning (IRP) objectives and other Metropolitan objectives.*

Metropolitan's integrated resource plan (IRP) calls for Metropolitan to plan and operate its system to provide water at the lowest possible cost to the region. Given Metropolitan's knowledge of the power industry, Metropolitan may be better positioned than some member agencies to effectively deal with electric industry restructuring to minimize cost of water delivered to the ultimate customer. Providing assistance, if only at informational levels, is consistent with (1) helping member agencies minimize water costs, (2) Metropolitan's IRP objectives, and (3) the General Manager's initiative to offer technical services to the member agencies.

As explained later, providing informational assistance to member agencies as contemplated in Stage I would require the addition of one-half of a full time equivalent (FTE) at the engineer level and some amount of consulting assistance. As an alternative to adding staff for Stage 1, informational assistance could be provided using outside consultants exclusively with minor impacts on the workload of existing Metropolitan staff. Metropolitan's role in Stage 1 should be structured to limit Metropolitan's liability.

7. *To limit liability, Metropolitan should provide sequentially higher levels of power supply service to member agencies in a staged progression as regulatory and market uncertainties are resolved.*

Metropolitan will face few risks as a result of providing Stage 1 informational assistance to member agencies. Stage 1 assistance would include relatively low cost services limited to defining and explaining the regulatory and competitive environments for power supply services, how they impact member agencies, what the member agencies' options are, and how to generically assess such options. A preliminary survey of the water supply-related electric loads of the member agencies would also be conducted in Stage 1.

Metropolitan could use the member agency response to Stage 1 services as a gauge of the demand for Stage 2 and 3 service offerings. If member agencies show limited interest in Stage 1 assistance, Metropolitan may conclude that power supply services should be terminated. Alternatively, a high level of interest could justify additional service offerings. By progressing to Stage 2, Metropolitan could offer more intensive and focused assistance without an appreciable increase in risk.

Beginning with Stage 3 Metropolitan would be exposed to both financial and regulatory risks. Stage 3 service offerings would place Metropolitan squarely in the business of procuring and arranging for power supplies and power supply services for member agencies on an ongoing basis. These services will be regulated at some level by California Public Utilities Commission, in the form of requirements to assure that market entrants fulfill the obligations they are paid to fulfill. Metropolitan would not undertake the risks and obligations of Stage 3 unless it were justified by Stage 2 experience.

While there may be meaningful benefits in Metropolitan pursuing the more active roles contemplated in Stage 3, a decision by Metropolitan is not needed on such a role to pursue Stages 1 and 2. *Moreover, in the coming months, the regulatory structure should become more clear enabling better determination of the risks and benefits of Metropolitan undertaking the more extensive roles in Stage 2 or 3.*

8. *Metropolitan's member agencies have several power supply related service options available.*

The Association of California Water Agencies (ACWA) plans to provide all ACWA members, including Metropolitan and the member agencies, with an alternative to continued service from local retail utilities in the coming months.¹³ As electric

¹³ As of early December 1996, a total of 74 water agencies were listed as members of "ACWA-USA," including seven member agencies and thirteen sub-agencies. Metropolitan also joined ACWA-USA in 1996.

restructuring evolves in California, member agencies will continue to receive numerous offers for power supply services by entities such as "aggregators," independent power producers, power marketers, and even non-local retail utilities. Electric industry restructuring will open a range of options to the member agencies, with any Metropolitan-offered power supply service being one of many options from which the member agencies would have the opportunity to choose. Metropolitan should stay abreast of the market and understand the kinds and types of services that are available and being offered to the member agencies by competing service providers.

Metropolitan may offer member agencies benefits in power supply related services not available from its competitors. Such unique benefits could include, but not be limited to:

- linking water scheduling directly to power scheduling.
- coordinating water storage and delivery schedules while considering power costs explicitly in optimizing the operation of the distribution system.
- helping to plan future member agency storage and distribution facilities to minimize electric service costs consistent with water delivery alternatives available from Metropolitan.

9. *Member agencies could benefit from participation in a load aggregation network.* The CPUC's Preferred Policy Decision stated that only customers or combined customer loads with maximum peak demands of at least eight megawatts (MW) should be eligible to contract for alternative supply arrangements beginning in 1998 (smaller electrical loads would have access to choice for power supply service later). Due to the small electrical loads of many member agencies, the CPUC's plan would likely require more than half of the member agencies to participate in a load aggregation network in order to gain access to alternative (i.e., non-utility or non-local retail utility) power supply arrangements before the year 2002 if this plan is adopted at the 8 MW demand threshold.¹⁴

Absent more detailed evaluation of individual member agency electrical energy requirements, it is difficult to generalize the relative economic benefit of Metropolitan facilitating or providing power supply service over such services by other

¹⁴ The final phase-in of direct access must be completed by January 1, 2002, in accordance with AB 1890, but the CPUC is not expected to issue a decision amending its original schedule for phase-in until March or April 1997. That decision may adjust the 8 MW criterion.

prospective suppliers. However, similar to the unique advantages available to Metropolitan summarized in finding #8, above, Metropolitan may offer unique benefits in aggregating the electric loads of member agencies with loads less than 8 MW. Such load aggregation service may enable the member agencies to participate in accessing alternative power supplies before the proposed January 1, 2002 deadline contemplated in AB 1890.¹⁵

Metropolitan should position itself to be a source of information as the member agencies contemplate early participation in seeking alternative power suppliers. This role will assure that Metropolitan is appropriately positioned if and to the extent it is determined that progression from one stage of service to the next is warranted.

10. *If Metropolitan chooses to progress into Stage 3 service to member agencies, Metropolitan will need to equitably allocate the benefits and costs of power supply related services to participating member agencies.*

If Metropolitan ultimately decides to provide load aggregation and power supply services to member agencies, careful planning will be required to keep separate the existing low-cost power supply for CRA and SWP system pumping energy requirements from other energy obtained and provided to meet separate member agency electric energy requirements. Furthermore, special care will be needed to match the obligations of individual member agencies served by Metropolitan to the costs or risk associated with services provided by Metropolitan. Safeguards will be needed to prevent non-participating member agencies from facing any potential liabilities associated with Metropolitan's provision of power supply services to other member agencies.

11. *Metropolitan may be viewed as competing against some of its own member agencies who operate their own electric utility systems.*

Several of Metropolitan's municipal member agencies also operate electric utilities and these electric utilities may also seek to provide power supply related services to other member agencies. The conflicts which could arise if Metropolitan sought to offer power supply related services to its member agencies can be substantially avoided if Metropolitan does not seek to provide, except at the member agencies' request, power supply related services to those member agencies which operate electric utilities.

¹⁵ It should be noted that much of the water supply-related electric load of the member agencies is served by municipal utilities. Such loads may not have the opportunity for direct access. The municipal utilities are not required to allow direct access by their customers unless they intend to make direct access sales to other utilities' customers, or take advantage of the authority provided by AB 1890 to collect transition costs.

12. *If Metropolitan is to provide informational assistance on electric utility restructuring to its member agencies, such services would need to be started in the near future to be of value.*

To help the member agencies understand and take advantage of electric utility restructuring, Metropolitan should immediately begin to provide informational assistance to member agencies, as described under the following section on near term actions. Other providers of power supply related services are already contacting some of the member agencies, and this trend will accelerate as restructuring in California proceeds.

13. *Metropolitan should use information developed through the provision of Stage 1 power supply services to evaluate the business of increased levels of service to the member agencies.*

Metropolitan will have the opportunity to gather a significant amount of information through its Stage 1 activities regarding the demand for Metropolitan's power supply services. This information, which includes both member agency feedback on Stage 1 informational services, as well as the results of the preliminary survey conducted in Stage 1, will be valuable in assessing the viability of Metropolitan expanding such a business through Stages 2 and 3.

Based on existing information, Table 7-1 provides a summary of the benefits and risks for each stage of power supply services.

TABLE 7-1 MEMBER AGENCY POWER SUPPLY SERVICES SUMMARY OF RISKS AND BENEFITS		
Stage - Description	Benefits	Risks
<u>1 Information</u> - Help member agencies understand risks and opportunities	<p>Provides member agencies with a source of objective information regarding the impacts and opportunities of restructuring.</p> <p>Provides Metropolitan with valuable information regarding the interests and energy demands of the member agencies which can be used in assessing the business decision of providing service under Stages 2 and 3.</p>	Member agencies with no interest in Metropolitan's power supply services may consider even informational services as beyond Metropolitan's appropriate role.
<u>2 Assistance</u> - Help member agencies develop power supply strategies and evaluate power supply arrangements	<p>Provides the member agencies with objective analysis of alternative power supply arrangements, and assistance in securing arrangements which best fit each member agency's needs.</p> <p>Provides Metropolitan with additional information and opportunity to further assess demand for Stage 3 services.</p>	Metropolitan may incur liability by providing specific recommendations regarding power supply arrangements (such risk could likely be fully mitigated by appropriate participation of the General Counsel's office in defining Stage 2 services).
<u>3 Full Power Supply Services</u> - Actively market power supply service to member agencies	<p>Provides member agencies with a competitive option for aggregating water supply-related electric loads and securing low-cost alternative power supplies.</p> <p>Broadens the scope of Metropolitan's service to its member agencies to fully include power supply services, a significant component of the final delivered cost of water to the member agencies' customers.</p>	Metropolitan would take on some level of obligation for providing power supply services, including capacity and energy, transmission and ancillary services, meter reading, billing, and payment. Tariffs and agreements would need to be structured to avoid imposing costs or risks on member agencies who do not elect to take power supply service from Metropolitan.

Table 7-2 summarizes the estimated duration and the approximate staffing requirements and costs based on these three progressive stages of assistance. (Appendix C to the full report provides supporting detail.)

	BASE CASE			AGGRESSIVE SERVICE CASE		
	First Year	Incremental Staffing Requirements (FTE)	First Year Cost in Water Rates ¹	First Year	Incremental Staffing Requirements (FTE)	First Year Cost in Water Rates ¹
STAGE 1 INFORMATION	1997	.5	\$186,000	1997	.5	\$186,000
STAGE 2 ASSISTANCE	1999	1	\$309,000	1998	1	\$305,000
STAGE 3 FULL POWER SUPPLY SERVICES	2002	4	\$0	1999	8	\$0

¹ The annual cost for each stage is incremental—Stage 1 activities are assumed to continue after Stage 2 is initiated, and Stage 2 activity continues after Stage 3 is initiated. After the first year of Stage 2 all costs are assumed to be recovered through fees.

The staffing requirements and schedule for progression to Stages 2 and 3 are estimates. The final cost and timing will depend upon the ongoing resolution of regulatory issues, the relative advantages of competitors providing power supply services, and the detailed strategy for implementation that Metropolitan develops through its experience in providing Stage 1 services. Recognizing these uncertainties, Table 7-3 provides an estimate of the staffing and annual cost for the base case.

	1997	1998	1999	2000	2001	2002
Level of Service	Stage 1	Stage 1	Stage 2	Stage 2	Stage 2	Stage 3
Total Additional Staff	.5	.5	1.5	1.5	1.5	5.5
Annual Cost ¹	186,000	138,000	408,000	363,000	369,000	1,144,000
Cumulative Cost	186,000	324,000	732,000	1,095,000	1,464,000	2,608,000

¹ All costs after 1999 (the first year of Stage 2) are planned to be recovered in fees for power supply services.

NEAR-TERM ACTIONS FOR CONSIDERATION BY METROPOLITAN.

Even if Metropolitan ultimately elects to undertake the power supply services contemplated in Stage 2 or 3, Metropolitan would first need to better ascertain the electric energy needs

of its individual member agencies, and work with those agencies to better determine the extent of their interest in receiving power supply services from Metropolitan. Therefore, Metropolitan would need to first perform Stage 1 services before member agency interest in Stage 2 or Stage 3 services could be determined. Given the expressions of interest to date from some member agencies, and the potential joint benefits to Metropolitan and its member agencies, it is reasonable to undertake initial efforts toward Stage 1, without committing at this time to any long term role or service obligations. Initial actions which would be required before a decision to embark on any more extensive role would include information gathering and exchange activities with the member agencies, including but not limited to:

- Conduct a preliminary survey of the nature and current power costs of the water supply-related electric loads of the member agencies to better determine the potential benefits of power supply services by Metropolitan.
- Host workshops or conferences to ensure that member agencies are up-to-date on electric industry restructuring and the threats and opportunities presented by restructuring in it's current stage of evolution.
- Provide member agency staff and management with periodic briefings and updates on developing technical issues and alternatives that may affect their power supply planning decisions.
- Explain to member agencies who have expressed interest in power supply related services from Metropolitan the range of services which may be considered, depending upon member agency interest. In addition, clarify the constraints which restrict use of low-cost power supply used for CRA and SWP pumping energy requirements from being applied to member agency electrical loads.

Based on the results of these informational sessions and the preliminary survey, member agency interests can be better defined, and a common understanding of the status of industry restructuring and opportunity for reduced energy costs can be developed. Such informational activities will provide a foundation for evaluating the broader services contemplated under Stages 2 and 3.

**APPENDIX A GENERAL COUNSEL'S ASSESSMENT
OF METROPOLITAN'S AUTHORITY
TO PROVIDE POWER SUPPLY SERVICES
TO THE MEMBER AGENCIES**

This Appendix A represents the opinion of the General Counsel's Office regarding the Metropolitan's authority to undertake each of the progressive stages of power supply services to the member agencies contemplated in this report.



MWD

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

February 19, 1997

To: General Counsel

From: Deputy General Counsel Seta Schlang

Subject: Provision of Power Supply Services to Metropolitan Member Agencies

Facts

The electric utility industry is currently being restructured at both the federal and state levels to encourage competition in wholesale electric markets and increase electric service choices available to retail customers. At the wholesale level, the nation's transmission grid is to be opened to all wholesale buyers and sellers under rules established by the Federal Energy Regulatory Commission. Pursuant to California Assembly Bill (AB)1890 an Independent System Operator (ISO), with no financial interests in any generating resources or electric loads, is to be established in California to provide open and nondiscriminatory access to the power transmission system for all users. A Power Exchange is also to be established to provide a competitive market for purchase of electrical power. The Power Exchange is to have no financial interest in power generation, and is to be separate from the ISO. AB 1890 passed unanimously in both houses of the legislature, and was signed into law by the Governor on September 23, 1996.

In response to the restructuring of the electric utility industry, Metropolitan's Planning and Resources Division has been developing strategies to afford protection for Metropolitan's resources and to favorably position itself in the new competitive environment. Also, in a January 1997 report (hereinafter referred to as "the report"), the potential of Metropolitan providing assistance to its member agencies to lower their energy costs was analyzed by this division.¹ This report explored the possibility of providing three different levels of energy-related services to member agencies. The levels represent increased involvement of Metropolitan in the energy needs of member agencies, and were identified as:

¹ See "Report on Provision of Power Supply Services to Metropolitan's Member Agencies" by Metropolitan's Planning and Resources Division, January 1997.

Stage 1- (Information) Provide member agencies with information regarding risks and opportunities of restructuring by providing workshops, reports, and other similar assistance.

Stage 2- (Assistance) Assist member agencies in developing power supply energy service strategies and negotiating alternative energy service arrangements.

Stage 3- (Full Power Supply Services) - Provide power supply services, and Metropolitan actively market services in competition with other power supply and energy efficiency service providers. Services provided could include administration of requests for proposals to solicit bids for various power supply services; bid evaluation; contract negotiation; and the scheduling, billing and settlement activities required to serve retail power requirements.

The report also noted that the services might be provided through various means, including a separate organization or joint powers agreement, and that the business vehicle selected would depend upon what was best suited to the particular business situation presented.

Questions

Does Metropolitan have authority to provide power supply services to its member agencies? If so, do any limitations apply to its authority to provide these services?

Conclusions

Metropolitan has authority to provide all three stages of power supply services to its member agencies. The first two stages involve informational, educational and assistance activities concerning common problems facing Metropolitan and its member agencies in obtaining power to serve water to the public, and is clearly authorized as a reasonably implied power of Metropolitan. Metropolitan can also engage in these activities under its authority to disseminate information about Metropolitan and Metropolitan's rights and properties.

AB 1890 provides Metropolitan with authority to provide the power supply services to member agencies under the third stage. Under this legislation, Metropolitan, as a special district and public agency, can become one of the participants in the marketing of power generated by others. It may provide these services on its own, through a Metropolitan entity separately created for this purpose, or through a joint powers agreement. The method selected for providing the services will depend upon which means is best suited for the particular situation. The authority provided under this legislation is also broad enough to enable Metropolitan to provide these power supply

services to third party entities which are unrelated to Metropolitan's water supply purposes.

Analysis

The first two stages of possible services to member agencies involve informational and assistance activities relating to how Metropolitan and its member agencies can obtain the power they need under the restructured electric utility industry to perform their water supply and operational functions. This exchange of information and assistance would be directed at the common problems facing Metropolitan and its member agencies in obtaining power to serve water to the public, and is clearly authorized as a reasonably implied power of Metropolitan. Section 120 of the MWD Act states that:

"A district may exercise the powers which are expressly granted by this act, together with such powers as are reasonably implied from the act and necessary and proper to carry out the objects and purposes of the district."

These informational activities are also authorized pursuant to section 126 of the MWD Act, which provides that:

"A district may disseminate information concerning the activities of the district, and whenever it shall be found by two-thirds vote of the board to be necessary for the protection of district rights and properties, the district may disseminate information concerning such rights and properties, and concerning matters which, in the judgment of the board, may adversely affect such rights and properties. Expenditures during any fiscal year for the purposes of this section shall not exceed one-half of one cent (\$0.005) for each one hundred dollars (\$100) of assessed valuation of the district."²

The third stage of possible involvement, however, concerns more than just informational and assistance activities. At this stage, Metropolitan would be engaged in actual power supply services, including power procurement and contract negotiations. Although it appears that the provisions of the MWD Act do not specifically authorize Metropolitan to perform these types of services, such authority is found in AB 1890 as part of the law which restructured the electrical utility industry in California.

In restructuring the electrical industry, AB 1890 specifically authorizes various entities, including special districts like Metropolitan, to become "aggregators", "brokers", and "marketers" of electrical power to customer classes.

An "aggregator" is defined as:

² It is noted that the dollar limit on public information expenditures in this section is currently over \$2 billion, and imposes no practical limit on Metropolitan's public information activities.

“ . . . any marketer, broker, public agency, city, county or special district, that combines the loads of multiple end-use customers in facilitating the sale and purchase of electric energy, transmission, and other services on behalf of these customers.” (AB 1890, §331(a).)

A “broker” is:

“ . . . an entity that arranges the sale and purchase of electric energy, transmission, and other services between buyers and sellers, but does not take title to any of the power sold.” (AB 1890 §331(b).)

A “marketer” is

“ . . . any entity that buys electric energy, transmission, and other services from traditional utilities and other suppliers, and then resells those services at wholesale or to an end-use customer.” (AB1890 §331(e).)

Section 366 of AB 1890 authorizes direct transactions between electricity suppliers and end use customers, and, in subpart (b), also provides that:

“Aggregation of customer electrical load shall be authorized by the [California Public Utilities] commission for all customer classes, including, but not limited to small commercial or residential customers. Aggregation may be accomplished by private market aggregators, cities, counties, special districts or on any other basis made available by market opportunities, and agreeable by positive written declaration by individual customers.”

With regard to the electrical industry, these provisions take precedence over any previous conflicting statutes. Sections 1(a) and 1(b) of the bill specifically state:

“SECTION 1. (a) ...The Legislature finds and declares that the restructuring of the California electricity industry has been driven by changes in federal law intended to increase competition in the provision of electricity. It is the intent of the Legislature to ensure that California’s transition to a more competitive electricity market structure allows its citizens and businesses to achieve the economic benefits of industry restructuring at the earliest possible date, creates a new market structure that provides competitive, low cost and reliable electric service, provides assurances that electricity customers in the new market will have sufficient information and protection, and preserves California’s commitment to developing diverse, environmentally sensitive electricity resources.

(b) It is the intent of the Legislature to provide the legislative foundation for transforming the regulatory framework of California’s electric industry in ways that meet the objectives stated in subdivision (a). . . .”

Thus, AB 1890 extends Metropolitan's authority to provide power supply services beyond Metropolitan's purposes in the MWD Act, and beyond its member agencies. Pursuant to AB 1890, by virtue of being a special district, Metropolitan can engage in these power supply activities in conjunction with any willing third party, not just with its member agencies.

Moreover, upon review of the legislative history of the MWD Act, it also appears that the provisions of the MWD Act concerning power matters are not in conflict with the authority provided by AB 1890. AB 1890 concerns the acquisition, transmission, distribution and use of electricity from a number of different sources, while the sections of the MWD Act relating to electrical power only concern electricity from plants owned in whole or in part by Metropolitan.

Section 25 of the MWD Act generally states that Metropolitan can provide, generate and deliver electric power for Metropolitan's purposes of developing, storing, and distributing water. Section 137 grants Metropolitan authority to construct and operate hydroelectric plants. It states that:

"A district may utilize any part of its water, and of its works, facilities, improvements and property used for the development, storage and transportation of water pursuant to Chapter 2 (commencing with Section 130) of this part, to provide, generate, and deliver hydroelectric power, and may acquire, construct, operate and maintain any and all works, facilities, improvements, and property necessary or convenient for such utilization."

With regard to the energy generated by hydroelectric facilities owned and operated by Metropolitan, Section 138 then provides that:

"A district may (a) pursuant to contract, provide, sell, exchange, and deliver electric power to the United States of America or any board, department or agency thereof; to the State of California for the purposes of the State Water Resources Development System; and to any public agency defined in subdivision (c) of Section 131, private corporation or other person or entity, or any combination thereof, engaged in the sale of electric power at retail, or (b) use all or any part of such electric power directly or through exchange, in exercising any of the powers described in Section 120 or otherwise provided by law." (Emphasis added)

Under MWD Act section 131(c), a "public agency" is defined as "a county, city, district, local agency, public authority or public corporation."

Similarly, with regard to other types of electric power, MWD Act section 139 states that:

"A district may acquire, construct, operate, and maintain any and all works, facilities, improvements, and property to provide, generate, and deliver electric power within or without the state necessary or convenient to carry out the objects or purposes of the district."

Section 139.1 of the MWD Act then states that:

"A district may (a) pursuant to contract, provide, sell, exchange, and deliver electric power to the United States of America or any board, department or agency thereof; to the State of California for the purposes of the State Water Resources Development System; and to any public agency defined in subdivision (c) of Section 131, private corporation or other person or entity, or any combination thereof, engaged in the sale of electric power at retail, or (b) use all or any part of such electric power directly or by exchange." (Emphasis added)

Sections 137 and 138 were added to the MWD Act in 1976 to give Metropolitan authority to construct hydroelectric plants on its water distribution system, and to issue bonds to pay for the construction of these plants. The urgency clause for this legislation stated that:

"The present critical energy situation has focused public attention on energy uses, resources, and the prospects for meeting both existing and future energy demands. It is necessary to resolve uncertainties as to the legal power of metropolitan water districts to design, construct and operate hydroelectric power generation plants or units at location on their water distribution systems whenever it is determined to be feasible, which plants or units will utilize presently existing hydraulic power that now is wasted in connection with the operation of the systems, and thus contribute to the energy supply of the state and the nation, electric power that otherwise would not exist. . ." ((Stats. 1976, ch. 256)

In addition, the Derivation and History of Various Metropolitan Water District Act Provisions (hereinafter "History") at page 130, points out that O'Melveny & Myers, Metropolitan's bond counsel, had informed Metropolitan that, in the absence of sections 137 and 138, it did not believe Metropolitan had authority to issue revenue bonds for the purposes of constructing and operating hydroelectric power plants on its water distribution system.

The History states that Sections 139 and 139.1 were added in 1978 because Metropolitan was interested in acquiring a piece of the proposed Sundesert Nuclear Power Plant to aid in pumping State Project Water to Metropolitan. (History at page 130) Also, in 1978, section 25 of the MWD Act was amended to add the provision of electric power to Metropolitan's purposes. The History notes that section 25 apparently was not amended in 1976, with the hydroelectric legislation, because O'Melveny & Myers had concluded that Metropolitan already had authority to "generate

electricity for its own use and for sale as an incident of its power to transport water but could not enter into a contract with a private utility to finance an electric generating plant.” (History at pages 25-26)

Thus, although the provisions of sections 138 and 139.1 limit Metropolitan’s ability to “contract, provide, exchange, and deliver” hydroelectric and electric power generated at facilities owned in whole or in part by Metropolitan to the United States, the State of California for the purposes of the State Water Resources Development System, and to entities engaged in the sale of electric power at retail, they do not limit, or relate to, Metropolitan’s ability to market or obtain electrical energy from other sources which are not owned by Metropolitan. The power supply-related services contemplated by Metropolitan as part of the restructuring of the electrical industry concern power obtained from outside power sources, and do not relate to the marketing of electricity generated by Metropolitan itself. However, it is noted that, if Metropolitan does sell its power to the entities set forth in section 138 and 139.1, these sales will now be subject to any relevant provisions of the new federal and state laws.

This analysis is in accord with the general rules of statutory interpretation. Sutherland Statutes and Statutory Construction states that:

“It is assumed that whenever the legislature enacts a provision it has in mind previous statutes relating to the same subject matter. In the absence of any express repeal or amendment, the new provision is presumed in accord with the legislative policy embodied in those prior statutes.” (Sutherland Stat Const § 51.02 (5th Ed).)

Further, even if it was determined that a possible conflict does exist between the MWD Act provisions and the provisions in AB 1890, the provisions in 1890 would prevail. Sutherland notes that:

“Prior statutes relating to the same subject matter are compared with the new provision; if it is possible by reasonable construction, both are construed so that effect is given to every provision of all of them. . .

“Statutes for the same subject although in apparent conflict, are construed to be in harmony if reasonably possible. However, it has been held where two statutes deal with the same subject matter, the more recent enactment prevails as the latest expression of legislative will.” (Sutherland Stat Const § 51.02 (5th Ed).)

See: Brusso v. Running Springs Country Club, Inc. (1991) 228 Cal.App.3d 92, 101-102)

Metropolitan can provide these services through various means. It can provide the services on its own, through a Metropolitan entity separately created for this

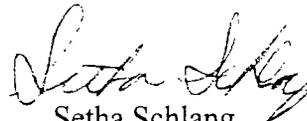
purpose, or through a joint powers agreement. The business vehicle selected will depend upon what is best suited to the particular business situation presented. Specific authority to enter into a Joint Powers Agreement (JPA) is found in Public Contract Code section 21562, which states that:

“A district may join with one or more other public or private corporations (within or without this state) for the purpose of carrying out any of its powers, and for that purpose may contract with any such other public or private corporation to finance acquisitions, constructions, and operations.”

Section 21563 of the Public Contract Code further provides that:

“Any contract with any other public or private corporation pursuant to Section 21562 may provide for contributions to be made by each party and for the division and apportionment of the expenses of such acquisitions and operations, and the division and apportionment of the benefits, services, and products from the contract. Any such contract may provide for an agency to effect such acquisitions and carry on such operations, and shall provide in the powers and methods of procedure for such agency the method by which such agency may contract. Any such contract may contain such other and further covenants and agreements as may be necessary and convenient to accomplish such purposes.”

Metropolitan and its member agencies all have the common power to obtain power for their operations, and pursuant to the above provisions, could form a JPA to exercise this common power.



Setha Schlang

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APPENDIX B

DATA TO BE COLLECTED USING MEMBER AGENCY SURVEYS

The following data illustrates the information that might be collected directly from the member agencies using a questionnaire distributed to all member agencies during Stage 1. The list is broken into two sections. The first section relates to collection of data to analyze the magnitude of loads that might be served. The second section relates to collection of data to analyze member agency interest in possible Metropolitan-provided services. It may be determined that data the member agencies have readily available would be the focus for the Stage 1 survey, with more detailed information collected through Stage 2. Data required for Stage 1 is of a more general nature, while data required in Stage 2 must support analysis of the feasibility of specific power supply alternatives.

Energy-Related Data

The more detailed the information collected by the survey, the better the analyses performed using the data in Stage 2. It should be recognized up-front that several member agencies' record-keeping systems will not have the data and flexibility to answer all questions, since they may never have had a need for such data. Hence, it would be useful to ask member agencies if they would enumerate all of their electric utility accounts, and if they would be willing to sign a waiver and data request and submit such to their power suppliers. At the time of the survey it may not be necessary to submit the requests, but if Metropolitan elected to offer Stage 2 or Stage 3 services, such requests would likely be necessary.

Basic electricity-related data to request includes the following.

1. Whether the member agency sells power as well as water. If the member agency does sell power, the questionnaire should request information regarding the size and characteristics of electric utility loads, resources, and resource balances projected over some reasonable time horizon (e.g., 10 years).
2. Descriptions of the member agency's power consuming facilities. The questionnaire would probably provide a list of facilities (e.g., water treatment plant, wastewater treatment plant, pumps of varying sizes, office buildings) with a request that the member agency indicate which facilities are applicable, and how many of each type of facility they have that use electricity.
3. Total annual power bill of the member agency, under each applicable account.

4. Number of separately metered sites and the type of meters. This information would lead into a series of questions. For each site the questionnaire would request items 5 through 9.
5. A description of the facility or facilities associated with each meter.
6. Monthly energy, peak demand, and total charges for some time period (e.g., the last year).
7. The utility providing the service and the rate under which service is taken.
8. The nature and impact of any changes contemplated at the facility that would significantly increase or decrease the energy consumption.
9. The typical operating profile of the facility, whether the facility has any excess capacity, the schedule for use of any excess, and peak demand at full capacity.
10. Whether the member agency has power generation facilities, the peak demand capability of the facilities, and the energy output of the facilities over some time period (e.g., the last year).
11. Whether the member agency sells the output of their power generation facilities to a utility (rather than using the output for their own loads), the name of the utility, the type of contract, and the termination date of the contract.

Service Interests

This section of the questionnaire would provide information to Metropolitan on the level of member agency interest in Metropolitan-provided services.

1. The level of understanding that exists among the member agency's decision makers on the subject of electric deregulation. The question(s) would probably need to refer to some scale (e.g., 0=Totally Uninformed and 6=Travels to Hearings throughout the state and reads all regulatory and legislative reports).
2. Whether the member agency has any interest in leaving their current electricity supplier and seeking alternatives in the deregulated environment.
3. What energy-related services the member agency purchases from utilities or other traditional suppliers.
4. Which non-utility vendors the member agency purchases power-related services from, and which services they purchase.

5. Whether the member agency has been approached by non-utility power service providers, and if so, which providers have approached them and what services have been offered.
6. Whether the member agency thinks Metropolitan should offer power supply services.
7. Whether the member agency thinks services should be offered through a Metropolitan-initiated JPA.
8. What services the member agency wishes to see offered by Metropolitan or by a Metropolitan-initiated JPA. This question would probably provide a list of services and ask that the member agency indicate level of interest using a scale (e.g., 0 = Not Interested and 6 = Extremely Interested - would sign up tomorrow).

**APPENDIX C ESTIMATED EXPENDITURES FOR
PROGRESSIVE STAGES OF ASSISTANCE**

STAFFING

1/27/97

**APPENDIX C
BASE CASE EXPENSE FORECAST**

Cost Category	% of Direct	1997	1998	1999	2000	2001	2002	2003
Power Resources Branch								
Staff Cost (per Engineer FTE)								
Escalation		-	3%	3%	3%	3%	3%	3%
Direct Labor	-	80,000	82,400	84,872	87,418	90,041	92,742	95,524
Fringe	31%	24,960	25,709	26,480	27,274	28,093	28,935	29,804
Overhead	9%	7,040	7,251	7,469	7,693	7,924	8,161	8,406
Total Cost per FTE	-	112,000	115,360	118,821	122,385	126,057	129,839	133,734
Stage 1								
Additional Staff		0.5	0.5	0.5	0.5	0.5	0.5	0.5
Preliminary Survey		50,000						
Staff Cost		56,000	58,000	59,000	61,000	63,000	65,000	67,000
Outside Services		80,000	80,000	40,000	40,000	40,000	40,000	40,000
Total		186,000	138,000	99,000	101,000	103,000	105,000	107,000
Recovered Through Fees		0	0	0	101,000	103,000	105,000	107,000
Net Cost in Water Rates		186,000	138,000	99,000	0	0	0	0
Stage 2								
Additional Staff				1	1	1	1	1
Staff Cost				119,000	122,000	126,000	130,000	134,000
Start-up Cost				50,000	0	0	0	0
Outside Services				140,000	140,000	140,000	140,000	140,000
Total				309,000	262,000	266,000	270,000	274,000
Recovered Through Fees				0	262,000	266,000	270,000	274,000
Net Cost in Water Rates				309,000	0	0	0	0
Stage 3								
Additional Staff							4	4
Staff Cost							519,000	535,000
Start-up Cost							150,000	0
Outside Services							100,000	100,000
Total							769,000	635,000
Recovered Through Fees							769,000	635,000
Net Cost in Water Rates							0	0
Total								
Additional Staff		0.5	0.5	1.5	1.5	1.5	5.5	5.5
Staff Cost		50,000	0	119,000	122,000	126,000	649,000	669,000
Start-up Cost		56,000	58,000	109,000	61,000	63,000	215,000	67,000
Outside Services		80,000	80,000	180,000	180,000	180,000	280,000	280,000
Total		186,000	138,000	408,000	363,000	369,000	1,144,000	1,016,000
Cumulative Total Costs		186,000	324,000	732,000	1,095,000	1,464,000	2,608,000	3,624,000
Cumulative Cost in Water Rates		186,000	324,000	732,000	732,000	732,000	732,000	732,000

Note: Depending on success of Stage 3, Metropolitan could price each transaction on a cost plus 10 percent basis (e.g. a sale at 40 mills/kWh could include a 4 mill/kWh profit for reducing Metropolitan's cost of water.)

STAFFING

1/27/97

**APPENDIX C
AGGRESSIVE SERVICE CASE EXPENSE FORECAST**

Cost Category	% of Direct	1997	1998	1999	2000	2001	2002	2003
Power Resources Branch								
Staff Cost (per Engineer FTE)								
Escalation		-	3%	3%	3%	3%	3%	3%
Direct Labor	-	80,000	82,400	84,872	87,418	90,041	92,742	95,524
Fringe	31%	24,960	25,709	26,480	27,274	28,093	28,935	29,804
Overhead	9%	7,040	7,251	7,469	7,693	7,924	8,161	8,406
Total Cost per FTE	-	112,000	115,360	118,821	122,385	126,057	129,839	133,734
Stage 1								
Additional Staff		0.5	0.5	0.5	0.5	0.5	0.5	0.5
Preliminary Survey		0						
Staff Cost		56,000	58,000	59,000	61,000	63,000	65,000	67,000
Outside Services		80,000	80,000	40,000	40,000	40,000	40,000	40,000
Total		136,000	138,000	99,000	101,000	103,000	105,000	107,000
Recovered Through Fees		0	0	0	101,000	103,000	105,000	107,000
Net Cost in Water Rates		136,000	138,000	99,000	0	0	0	0
Stage 2								
Additional Staff			1	1	1	1	1	1
Staff Cost			115,000	119,000	122,000	126,000	130,000	134,000
Start-up Cost			50,000	0	0	0	0	0
Outside Services			140,000	140,000	140,000	140,000	140,000	140,000
Total			305,000	259,000	262,000	266,000	270,000	274,000
Recovered Through Fees			0	0	262,000	266,000	270,000	274,000
Net Cost in Water Rates			305,000	259,000	0	0	0	0
Stage 3								
Additional Staff				8	8	8	8	8
Staff Cost				951,000	979,000	1,008,000	1,039,000	1,070,000
Start-up Cost				150,000	0	0	0	0
Outside Services				100,000	100,000	100,000	100,000	100,000
Total				1,201,000	1,079,000	1,108,000	1,139,000	1,170,000
Recovered Through Fees				1,201,000	1,079,000	1,108,000	1,139,000	1,170,000
Net Cost in Water Rates				0	0	0	0	0
Total								
Additional Staff		0.5	1.5	9.5	9.5	9.5	9.5	9.5
Staff Cost		0	115,000	1,070,000	1,101,000	1,134,000	1,169,000	1,204,000
Start-up Cost		56,000	108,000	209,000	61,000	63,000	65,000	67,000
Outside Services		80,000	220,000	280,000	280,000	280,000	280,000	280,000
Total		136,000	443,000	1,559,000	1,442,000	1,477,000	1,514,000	1,551,000
Cumulative Total Costs		136,000	579,000	2,138,000	3,580,000	5,057,000	6,571,000	8,122,000
Cumulative Cost in Water Rates		136,000	579,000	937,000	937,000	937,000	937,000	937,000

Note: Depending on success of Stage 3, Metropolitan could price each transaction on a cost plus 10 percent basis (e.g. a sale at 40 mills/kWh could include a 4 mill/kWh profit for reducing Metropolitan's cost of water.)