

Attachment 2

Requested New FTE's

- 2 – Sr. Electrical Testers
- 1 – Electrical Engineer – Planning
- 1 – Electrical Engineer – Substations
- 2 – Electrical Engineers – Distribution
- 1 – Associate Engineer - Civil
- 5 – Sr. Engineering Aides
- 1 – Power Distribution Crew Supervisor
- 1 – Electrical Mechanic
- 1 – Assistant Electrical Mechanic
- 1 – Electrical Craft Helper
- 2 – Powerline Mechanics
- 2 – Sr. Cable Splicers

COMMUNICATION MATERIAL



UTILITY ADVISORY COMMISSION

MEMORANDUM

March 24, 2005

To: Utility Advisory Commission

From: Wayne Schmus
Bryan Reese
Ad Hoc Committee

Subject: **Distribution Master Plan Ad Hoc Report**

Background

At the February Utility Advisory Commission (UAC) meeting, Mr. Steven Rupp presented the R. W. Beck study entitled Electric Distribution Master Plan (EDMP). This plan was prepared in 2004 at the request of PWP management to provide expert and independent assessment of the distribution system. It was based on a belief that the electric infrastructure has aged and is in need of a significantly higher level of capital investment to provide residents of Pasadena with the fine electric service they have come to expect. Furthermore, the equipment must be safe for both the public and the Pasadena Water and Power (PWP) workers.

There is concern PWP has evolved into a reactive organization as opposed to proactive, and lacks the resources to manage system change efficiently. The recent high demands of new commercial development and residential customer service upgrades in the city have taxed the limited engineering and project management resources of PWP to the point that little time is left for maintaining and upgrading the infrastructure.

It is clear that the time has come for a thorough assessment of the situation to provide a basis for a new era of responsible stewardship of the PWP electric distribution system.

Elements of the Master Plan

The study seeks to answer the following questions:

- What is condition of the existing system?
- What criteria should be used to assess the adequacy and reliability of the system?

- What are the priorities for repair, replacement, and upgrades?
- How much capital will be required for the program and when is it needed?
- What changes and improvements are needed to the human resources, inventory of skills, information systems, and organization to be able to implement the needed change?

We found R. W. Beck to have been thorough and to have used experience and good judgment in meeting the objectives of the study. All the important issues have been addressed and there are many well-founded recommendations for change. The staff of PWP has worked closely with Beck during 2004 and endorses the study as a well-balanced and thorough assessment.

Priorities

Of the nine major strategies recommended, all address a combination of safety, reliability, and efficiency. The UAC believes the priorities should be placed in the same order, as that safety to the public and our city workers is of prime importance. The attached Table 1 reflects this as it recommends program priorities on the basis of these issues.

The attached Table 2 entitled, "5-year Capital Requirements in 2004 Dollars" summarizes the Master Plan's range of spending options for revitalization of the electric system. The total capital varies from a low of about \$30 million over five years to a maximum of more than \$200 million. Additionally, there are management recommendations for adding permanent staff, use of contract resources, work management systems, and personnel training.

Recommendation

The UAC agrees with the analysis, findings, and the body of recommendations of the report. The three scenarios for capital spending (Gold, Silver, and Bronze) span a large range of cost and activity, and as such, it must be emphasized that elements should be taken from each category to arrive at a plan that is truly tailored to the needs of PWP and Pasadena. That is, policy-makers should not limit their thinking to a single column, but instead, two elements from Gold, three from Silver, and so forth.

The UAC should recommend that the EDMP by R. W. Beck be accepted by the City as a planning tool and used for the following:

- An expert and third party evaluation to validate the recommendations of PWP management
- An assessment of the condition of the existing system
- Recommended criteria for electric adequacy and reliability by which actual plans may be judged
- A set of accepted priorities for system upgrades
- A range of capital expenditures by which actual plans and budgets may be evaluated
- A framework for addressing the resource needs of PWP

The Master Plan is not an inflexible framework for PWP management decisions, but instead serves as a tool for management to recommend programs and expenditures based on the this assessment. During the coming year, PWP management expects to recommend CIP and other projects. In order for PWP to implement these projects, it is essential that the resource issues are resolved first so that the staff will be able to engineer and manage the programs efficiently.

Attachments:
Table 1
Table 2

TABLE 1

City of Pasadena Water and Power Department Electric Distribution System Master Plan Final Draft January 2005 UAC Priority Recommendations 2006 - 2010					
Item	Safety	Reliability	Efficiency	Overall Priority	
Vault Replacements	High	Medium	Low	Urgent	
Cable Replacement	Medium	High	Low	Urgent	
Switch Replacements	High	Medium	Low	Urgent	
Circuit Breaker Replacements	Medium	Medium	High	Urgent	
Oil Containment	High	Low	Low	Very Important	
Reactive Power Supply Additions	Low	Low	Medium	Important	
Substation Capacity Additions	Low	High	Low	Very Important	
Second Interconnection	Low	Medium	Medium	Important	
4-kV to 17-kV Conversions	Low	Medium	High	Very Important	

TABLE 2

City of Pasadena Water and Power Department Electric Distribution System Master Plan Final Draft January 2005 5-Year Capital Requirements in 2004 Dollars (Thousands) 2006 - 2010				
Item	Gold Plan	Silver Plan	Bronze Plan	
Vault Replacements	\$4,140	\$3,080		\$2,170
Cable Replacement	18,522	14,742		7,560
Switch Replacements	11,136	5,568		3,686
Circuit Breaker Replacements	6,720	3,192		2,352
Oil Containment	1,415	1,198		918
Reactive Power Supply Additions	805	483		322
Substation Capacity Additions	17,200	10,320		6,880
Second Interconnection	53,937	4,584		0
4-kV to 17-kV Conversions	90,400	28,250		5,650
Total Master Plan Projects (2004 Dollars)	\$204,275	\$71,417		\$29,538

Capital Costs by Year	Gold Plan	Silver Plan	Bronze Plan
2006	\$26,617	\$12,825	\$4,466
2007	29,353	9,444	7,381
2008	33,017	14,561	4,624
2009	43,028	14,100	4,730
2010	72,260	20,487	8,337