

PASADENA WATER AND POWER

MEMORANDUM

July 17, 2007

To: Environmental Advisory Commission

From: Phyllis E. Currie *Phyllis E. Currie*
General Manager

Subject: 2007 Integrated Resource Plan
Comments Re Recommendation of IRP Ad Hoc Committee

SUMMARY:

In general, staff concurs with Environmental Advisory Commission ("EAC") Integrated Resource Plan ("IRP") Ad Hoc Committee's recommendation to defer consideration of Pasadena Water and Power's ("PWP") 2007 IRP until underlying policies, such as energy efficiency and renewable resource goals, are updated by Council to reflect the city's Urban Environmental Accord ("UEA") goals and recent changes in state law. PWP anticipates bringing forward specific recommendations on the following key policies within three months:

- Energy Efficiency and Demand Reduction goals
- Solar Photovoltaic Program goals
- Renewable Portfolio Standard (renewable resource goals)

In many regards, the IRP is the vehicle that "connects the dots" between where Pasadena gets its power, the environmental impact, and how to meet the increasing need for energy with strategies that are long term and sustainable. The underlying objective of the IRP process is to balance reliability, environmental impacts, and cost to provide electrical services in a manner acceptable to the community. Ultimately, Council must determine the appropriate balance.

Comments re Report Findings:

Among its findings, the ad hoc committee noted:

- **The IRP analysis may not adequately weigh environmental impacts;**

With regard to the analysis on the IRP, one scenario modeled a \$10/ton carbon tax, which increases overall energy procurement costs by \$8-10 million per year, or 10%. For purposes of any future analyses, it will be important to agree on the method of capturing the monetary impact of environmental impacts.

- **Potential opportunity cost associated with investment of approximately \$131 million in fossil fuel technology as opposed to investing locally in renewable energy sources is a concern;**

The IRP analysis shows that this investment in the upgrade of the local power plant results in lowered costs that provide a positive return on investment. The availability of reliable local generation is essential to prevent blackouts in the event of local or regional system problems. Flexible, high efficiency local generation could facilitate additional investment in intermittent renewable resources such as wind and solar, and provide a less costly replacement for any reduction in PWP's share of IPP. Staff is unaware of any renewable technology that could feasibly replace the function of local generation within the City.

- **The City's renewable portfolio standard goals are not aggressive and are limited to procurement of renewable energy from remote generation facilities. IRP activities associated with promoting local generation capacity (predominantly residential solar energy incentives) do not consider the potential for local generation from city, commercial and other institutional properties in the City;**

Neither the RPS nor IRP preclude local resources from consideration. To date, Staff has not identified any that can be obtained at costs we are willing to recommend. Energy from customer-owned solar PV systems is not counted towards PWP's load or RPS, as PWP never takes title to the self-consumed energy and does not count such energy in its retail sales figures. From 2003 to present, PWP has made significant progress in procuring new renewable resources, which are expected to provide 11-12% of PWP's retail sales in 2010.

- **Concern about a predominant focus of PWP's energy efficiency efforts on residential customers (~50,000). The benefit of focusing on large commercial customers should be evaluated.**

Agreed. While most of PWP's efforts are focused on residential programs, about 70% of the FY2006 energy savings were from commercial programs. PWP is proposing a significant ramp up in commercial programs and seeking means to capture more residential savings with less administrative burden.

Comments re Additional Report Recommendations

In addition to the recommendation to postpone action on the 2007 IRP, the Ad Hoc Committee also recommended that the Council:

- **"form meaningful, strategic partnership with JPL, Caltech and other technological leaders to take advantage of innovative green and clean power solutions for the benefit of our community and our future."**

PWP agrees and looks forward to assisting in the development of such partnerships.

- **“provide resources to support a study of the renewable energy goals for the City, including an examination of the potential for local renewable energy generation from City, residential, commercial and other institutional properties, and for procurement of renewable energy from remote sources as part of the RPS goals for PWP.”**

In partnership the Southern California Public Power Authority, PWP routinely researches available options for renewable resources including both consulting studies and competitive solicitations. RFP solicitations for renewal projects first occurred in 2002. There were three rounds of such RFPs resulting in Pasadena securing 30.2 MW of long term contracts from five projects including wind, geothermal and landfill gas. PWP executed the first two contracts in 2003. These resources are located outside the city boundaries. PWP agrees that additional effort is needed to study the feasibility of various technology options for local renewable energy generation. While PWP believes that local options are more challenging and are likely to be more costly, additional research effort would be appropriate.

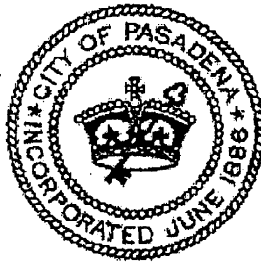
- **“research, analysis and planning be conducted to identify the benefits of increased energy efficiency efforts.”**

PWP has conducted such studies and has prepared recommendations for enhanced conservation program goals. These recommendations, which are being transmitted under separate cover, include revised goals. Council action by September 30, 2007 is needed to comply with state requirements.

- **“research, analysis and planning be conducted...to identify any feasible options that may be exercised regarding the City’s long-term contracts for fossil fuels, with the goal of reducing reliance on this form of energy.”**

The Intermountain Power Plant (“IPP”), which is the relevant long-term fossil fuel resource, is an on going issue. PWP, in partnership with SCPPA and the Intermountain Power Authority, has investigated such options numerous times in the past and continues to research potential options to economically reduce its reliance on coal power or to reduce or mitigate the emissions from such resources.

The importance of IPP as resource, and the challenges it represents in the era of global warming, cannot be understated. IPP reliably provides 60-65% of Pasadena’s energy at a cost of 4.0-4.5¢/kWh. While over time this resource may cost more than its market value, particularly if carbon taxes are imposed, it currently costs substantially less than alternative sources including market purchases or marginal natural gas generation at 6-7¢/kWh or consistent and reliable renewable resources such as geothermal.



ENVIRONMENTAL ADVISORY COMMISSION

TO: Environmental Advisory Commission

FROM : EAC/IRP Ad Hoc Committee (Commissioners Carmichael, Gray, Harris and Moseley)

DATE: 17 July 2007

SUBJECT: Recommendation of IRP Ad Hoc Committee on the Water and Power Integrated Resource Plan (IRP) Support

The IRP Ad Hoc Committee of the Environmental Advisory Commission recommends that the full Commission send the following recommendations to the City Council.

Executive Summary

The Environmental Advisory Commission recommends that the City Council postpone action on the proposed 2007 Integrated Resource Plan and establish a process to review PWP policies and Council policy directives in order to the clearly align policies and the IRP with the city's Urban Environmental Accord goals.

The Commission further recommends that Council provide resources to support a study of the renewable energy goals for the City, including an examination of the potential for local renewable energy generation from City, residential, commercial and other institutional properties, and for procurement of renewable energy from remote sources as part of the RPS goals for PWP. The study should include the feasibility of various technology options for local renewable energy generation and procurement from remote sources, the financial and economic implications

for various renewable energy goals, and the policy mechanisms necessary for implementation.

In addition, the Commission recommends investigation, analysis and planning in the following areas: (1) benefits of increased energy efficiency efforts; (2) forming meaningful, strategic partnerships with JPL, Caltech and other technological leaders; (3) options that may be exercised regarding the City's long-term contracts for fossil fuels.

Background

At the May 15, 2007, meeting of the Environmental Advisory Commission, the General Manager of Pasadena Water and Power, as represented by PWP staff, requested that the Commission support, in concept, the 2007 Integrated Resource Plan (IRP).

The Commission established an ad-hoc committee to review the draft IRP prepared by city staff members as part of the Commission's charge to "provide policy advice to the city council for promoting environmental stewardship and urban sustainability in accordance with the city council's endorsement of the '2005 United Nations Green Cities Declaration and Urban Environmental Accords," the city's adopted Environmental Charter (Ordinance No. 7082, Title 2, Chapter 2.140, Section 2.140.110, "Purpose and Functions").

Findings

The Commission recognizes that the policies and procedures for developing the IRP preceded the approval of the "Declaration of Support for the United Nations Urban Environmental Accords (UEA)" by the City Council on September 18, 2006. It recognizes the complexity of the issues addressed in the IRP, especially with respect to providing low-cost, reliable and environmentally responsible electricity for the City. It further recognizes that the IRP might reasonably have been intended by PWP to address, in concept, existing policy as set by the City Council prior to the endorsement of the UEA.

The Commission acknowledges concerns, expressed by its members and the public, about the adequacy of existing policies, and the actions proposed in the IRP, to achieve the City's aspiration "to be an environmental advocate and leader" and "to cultivate superior environmental standards that will provide for sustainable municipal development," as stated in the Environmental Charter.

In particular:

- The IRP report states the objective to balance costs, reliability, and environmental impacts. The Commission is concerned that the least-dollar-cost strategy employed in the IRP analysis may not adequately weigh environmental impacts.
- The Commission recognizes the efficiency gains associated with the proposal to re-power approximately 110 MW of local generation by replacing aging units GT-1, GT-2 and B-3 with a state-of-the-art combined cycle gas combustion unit. The Commissioners are concerned, however, about the potential opportunity cost associated with investment of approximately \$131 million in fossil fuel technology as opposed to investing locally in renewable energy sources.
- The Commission is concerned that the goals established for the use of renewable energy in the City, as reflected in the California Renewables Portfolio Standard (RPS) plan for PWP, are not aggressive and are limited to procurement of renewable energy from remote generation facilities. The IRP activities associated with promoting local generation capacity (predominantly residential solar energy incentives) are inadequate in that they do not consider the valuable resource potential for local generation from city, commercial and other institutional properties in the City.¹
- The Commission recognizes that the IRP activities associated with the promotion of energy efficiency and local generation are cost-effective; however, it is concerned about economies-of-scale issues associated with a predominant focus on residential customers (~50,000) and associated demands on staff resources. The benefit of focusing on large commercial customers should be evaluated.

Recommendations

Accordingly, the Commission recommends that the Council postpone action on the proposed 2007 IRP and immediately establish a process to review PWP policies and Council policy directives in order to the clearly align policies and the IRP with the city's Urban Environmental Accord goals.

The Commission urges City Council to start thinking about how to transform Pasadena's utility for the 21st Century. We need to adopt policies that connect the dots between where Pasadena gets its power, the environmental impact, and how to meet the increasing need for energy with strategies that are long term

¹ The Commission understands that municipal utilities may lag behind investor owned utilities because of community and political pressure to keep direct dollar rates low. During 2006, 71% of Pasadena's power was generated by coal; only 2% was generated by renewable sources (compared to Southern California Edison's 16% during the same period.)

and sustainable. In this regard, the Commission urges Council to form meaningful, strategic partnership with JPL, Caltech and other technological leaders to take advantage of innovative green and clean power solutions for the benefit of our community and our future.

The Commission specifically recommends that the City Council provide resources to support a study of the renewable energy goals for the City, including an examination of the potential for local renewable energy generation from City, residential, commercial and other institutional properties, and for procurement of renewable energy from remote sources as part of the RPS goals for PWP. The study should include the feasibility of various technology options for local renewable energy generation and procurement from remote sources, the financial and economic implications for various renewable energy goals, and the policy mechanisms necessary for implementation.

In addition, the Commission recommends that research, analysis and planning be conducted to identify the benefits of increased energy efficiency efforts and to identify any feasible options that may be exercised regarding the City's long-term contracts for fossil fuels, with the goal of reducing reliance on this form of energy, which is polluting communities in other areas.

The EAC Ad Hoc Committee appreciates this opportunity to make this recommendation to the full Commission.