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ATTENTION: Committee on Rules, Finance and Intergovernmental Relations
Agenda of March 19, 2003

SUBJECT: Energy Conservation and Management Status Report No. 13

SUMMARY:

THIS IS AN INFORMATION ITEM ONLY. NO ACTION IS REQUIRED ON THE PART OF THE COMMITTEE OR THE COUNCIL.

BACKGROUND

The City's strategy to address Goal # 9 "Pursue Energy Independence" has been supported by developing initiatives in five major areas:

(1) Conserve energy
(2) Manage City energy use
(3) Enhance energy efficiency in existing City facilities
(4) Ensure energy efficiency in new facilities and major remodels
(5) Pursue energy independence in City facilities through self-generation of electrical energy using renewable resources

In his 2003 State of the City address, Mayor Murphy identified the additional energy initiative of creating a "Regional Energy Authority" that could become the consolidated voice of the San Diego Region for energy issues.

This report discusses significant activities of the energy program in implementing these initiatives.

DISCUSSION

LM-6000 Gas Turbines

The State of California, Office of the Attorney General, approached staff in November 2002, offering to transfer two LM-6000 gas turbine generators to the City of San Diego. The generators were provided to the State as part of a lawsuit settlement agreement between Williams Corporation and the State over past energy issues. The State expressed an interest in locating the turbines in the San Francisco and San Diego regions to increase system reliability against future energy shortages. The State's transfer terms required the City to develop the generators into two 48 Megawatt "peaker" power plants and enter into an agreement to deliver the power from the plants to the State Department of Water Resources (DWR). The agreement for the delivery of power was required to be completed not later than Dec. 31, 2002 because the DWR's authority to enter into new power purchase agreements expired on that date. The State also indicated that additional funds would be provided to pay the City's cost of developing (permitting, land purchase, etc.) the power plants.

Staff attempted to negotiate modifications to the terms of the proposed DWR power purchase agreement to ensure minimal financial risk to the City. When the City Attorney's office determined that the terms of the proposed power purchase agreement were not favorable to the City, the Rules Committee directed staff to reject the contract and attempt to obtain the generators without the DWR contract. In late December 2002, staff was notified by the State that the generators were being transferred to another agency that had accepted the DWR power delivery agreement terms.

Regional Energy Infrastructure Study

Energy Status Report No.12 provided background regarding the Regional Energy Infrastructure Study, undertaken by SAIC, to review the electric and gas infrastructures, both existing and proposed, for the San Diego region. The study was funded as a cooperative effort by the City of San Diego, County of San Diego, Port of San Diego, San Diego County Water Authority, SANDAG, UCAN, and the San Diego Regional Energy Office. The study has been published and covers electric and gas supply and demand scenarios for the period 2002 – 2030, including an extensive review of regulatory, technical, and economic conditions that impact San Diego's energy future. The entire Western States Coordinating Council (WSCC) power supply market was modeled based on three growth and natural gas scenarios to provide this data.

The study created extensive baseline information for future energy planning and recognized the difficulty in carrying out regional planning because of the many individual organizations and jurisdictions involved in forming a consensus. To improve this process, the study recommended formation of a regional planning agency to deal with the San Diego region's energy future in a consolidated manner.

The Regional Energy Policy Advisory Committee (REPAC) is a formal group of regional energy stakeholders that provide regional oversight for the development and implementation of the Regional Energy Strategy and to formulate energy policy recommendations to the San Diego

Association of Governments (SANDAG). This committee has been discussing potential organizational formats that could fulfill the regional planning void identified in the study. Formats discussed to date include:

(1) Create a municipal utility.
(2) Form a joint powers agreement (JPA) organization among Cities/agencies in the region.
(3) Introduce legislation to create a State legislated "Regional Energy Authority" as a single energy agency for the San Diego region.

Each of these formats provides different strengths and weaknesses in conducting regional planning and will confront various obstacles as the discussion continues.

Early discussions at the Regional Energy Policy Advisory Committee (REPAC) indicated several structural and financial barriers to the various options including:

(1) Formation of a municipal utility would require extensive capital investment and provide substantial risk to a City in the current energy environment.

(2) A Joint Powers Agreement (JPA) organization is formed between entities that have common powers existing in their current structure. An agency such as the County of San Diego could not be a member of a Joint Powers Agreement that is designed to distribute power to utility customers within its boundaries. Membership by any group, such as the Port or County Water Authority, other than a municipal government would reduce the authority of the organization.

A third model provides an opportunity to form a "Regional Energy Authority" authorized by the State Legislature that could expand public input and provide a single regional energy voice. It is anticipated that the "Regional Energy Authority" would include significant stakeholders. The discussions on the specific design and membership of the organization is ongoing and will seek input from as wide a group of stakeholders as possible.

Staff continues close involvement in the organizational discussions and is seeking additional direction from the Rules, Finance, and Intergovernmental Committee to pursue the formation of a "Regional Energy Authority".

<u>Regulatory Issues</u>

The California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) are tasked with implementation of legislative intent through the control of the regulated investor owned utilities (IOU). The commissions adopt rules and rate structures that are intended to allocate the cost of delivery of electricity and gas to each consumer in an equitable manner. In calendar year 2001 and 2002 the high cost of energy and the subsequent investigation of market control by several energy companies created an environment of rapid legislative change in the delivery of electric service. The California Department of Water Resources (CDWR) was tasked by the legislature and entered into numerous power purchase contracts when the IOU's were not able to maintain a creditworthy status. During the same time period, additional laws were adopted to provide incentives for the development of new technologies and renewable power sources such as solar, wind and geothermal. Recent rulings and several pending proceedings scheduled to be decided in the next 12 months will have significant impact on the cost of electricity in San Diego. Additionally, the cost effectiveness of new technology development and operational cost of distributed generation systems could vary widely depending on decisions from the various proceedings. Several proceedings that could have a significant impact on the retail cost of electricity and gas are listed below.

California Public Utilities Commission proceedings:

A02-12-028 & A02-12-027 - SDG&E's request to adjust base rates for electricity and gas as of Jan 1, 2004 and provide a mechanism for automatic adjustment of rates for 2005-2008 based on cost of service delivery.

A01-10-005 - SDG&E and Socal Gas Biennial Cost Allocation Proceeding (BCAP) for natural gas.

R01-10-024 – SDG&E Long Term Procurement Plan. (Resource Plan for the next 20 years) SDG&E will deliver its resource plan to the CPUC on April 1, 2003. It will be based on SDG&E's estimate of the mix of resources that should be dedicated to development of local generation and transmission infrastructure for the next 20 years. The filing will be subject to a 60 day comment period followed by response items provided by SDG&E. The CPUC will then conduct hearings in July and take testimony from interested parties. A draft decision should be available in October with the final decision normally issued near the end of the calendar year. An additional short term resource plan (2004 only) is due to the CPUC on May 1, 2003 and will follow a similar process. The impact of these proceedings will significantly impact development of distributed generation and demand reduction efforts in the Region. Currently UCAN and SDG&E are the only local organizations that are parties to this proceeding.

Rulings from the proceedings listed above will form the rate structure and development plan that provides potential incentives or disincentives for implementation of new energy technology and provides the framework for energy security in the San Diego region. There is cost associated with representation at the CPUC hearings. The exact cost varies depending on need for expert witnesses, consultant services, and tracking/processing of comments to other parties. While a significant cost may be incurred to participate in these proceedings, the cost of not participating may impact cost of electric service for a significant number of years.

Staff is seeking direction from the Rules, Finance, and Intergovernmental Committee concerning the City of San Diego's level of involvement in these proceedings.

<u>Council District 2 and 6 request for an Energy Bond</u>

The City and County of San Francisco, through their existing municipal utility structure (SFPUC), created a solar power development program in 2001 to expand the use of renewable energy resources and improve energy efficiency in City and County buildings. The model used a revenue bond process with the reduction in City/County energy costs providing the revenue stream to repay the bonds. The solar bond development targeted 40 megawatts of power savings or approximately 25 percent of the 160 megawatts peak energy use by City/County facilities. A $100 million bond was structured to finance approximately 10 megawatts of solar (photovoltaic), 25 megawatts of wind power, and 5 megawatts of energy efficiency improvements in existing City buildings. Power generated by projects installed at any site within the San Francisco City and County Public Utility service area could be used to offset other power used at any other site within the municipal utility service.

A different situation exists for the City of San Diego because a municipal utility configuration does not exist and the City's peak energy use is only 56 megawatts. Each self generation project that creates power in the city of San Diego must be limited to a size that will serve the load at the site of generation to obtain the best rate of return on the capital invested. Any excess power generated at a site must be sold to the electric grid at a price significantly lower than purchasing the same quantity from electricity from the electric utility grid and the energy cannot be transferred to other City facilities.

Council District 2 and 6 indicated a desire to pursue an energy financing bond similar to the San Francisco model in a letter of Feb 27, 2003. Staff is seeking further direction from the Rules, Finance, and Intergovernmental Committee regarding investigation of financing options for energy projects.

Energy Project Highlights:

Police Department Headquarters - Energy Efficiency Project

In support of Goal Number 9, the Environmental Services Department's Energy Division (ESD), in conjunction with the Police Department and General Services Department's Facilities Maintenance Division (GS), requested Onsite Energy Corporation to investigate what measures could be taken to improve the facilities energy usage at the Police Headquarters building. Through a series of cooperative meetings between the Police Department, ESD, GS and Onsite Energy Corporation, the group determined a combination of energy measures that would insure the facility's critical operation, make the facility virtually independent from the local utility grid, promote energy security and reliability, significantly improve energy efficiency, enhance working conditions for employees and reduce overall energy and operations costs for the facility.

This project, approved by Council on January 28, 2003, is the Fourth Amendment to the Master Energy Service Agreement (ESA), with Onsite Energy Corporation. This agreement provides the framework that allowed project design and installation for all the energy systems and upgrades that will improve the building efficiency by 30 percent and provide self generation of approximately 90 percent of the building electric use through a combination of photovoltaic and combined heat and power systems. The agreement also includes project financing, up to twelve years of operation and maintenance services for the combined heat and power generation system (to insure the equipment is operating at full efficiency) and guaranteed annual energy savings for the facility. The energy saving guarantee is $621,589 per year for the term of the measurement and verification agreement. The project will be financed by Onsite and paid back solely through the guaranteed energy savings over a 12 year project term. At the end of year 12, it is anticipated the annual saving will exceed $600,000 per year for the remainder of the facility's life cycle 15 to 20 years.

Photovoltaic Projects:

Miramar Place Operations Station Administration Building:

A 73 Kilowatt (DC) Solar Port Array was activated by Mayor Murphy and the Assistant Secretary for Energy Efficiency of the US Department of Energy (David Garman) on October 18th 2002. The system is fully operational and will generate 91,000 kWh of electricity to the Miramar Place Operations Station Administration building and "Net Zero" that building's electric bill on an annual basis.

Ridgehaven Green Building:

Project Design for the Ridgehaven Green building photovoltaic roof top and solar port array is complete. Construction of the 64 Kilowatt (DC) array is anticipated in the next three months with the system producing power that will reduce peak power usage by 13 percent commencing in May 2003.

MOC III

The Metropolitan Wastewater Department is installing a 30 kilowatt roof top array at the MOC III facility in Kearny Mesa using a thin film technology product. The project received unanimous City Council approval on September 16, 2002.

Whole House Energy Retrofit Program

Energy Status Report No. 9 provided information concerning public education and incentive programs submitted by the Energy Conservation and Management Division to the CPUC for funding consideration. The CPUC determined it would provide $110 million of energy efficiency funds for competitive solicitation for local programs and statewide marketing and outreach programs for calendar years 2002 and 2003.

The Whole House Energy Retrofit Program received $1.48 Million to provide monetary incentive to homeowners of pre-1978 constructed dwellings who retrofit their homes with energy efficient materials and equipment. The program provides a sliding scale of incentive payments based on income to boost the participation in the program by hard-to-reach low-income homeowners. The goal is to reduce the overall energy use in older homes in San Diego to offset the energy needed to accommodate the 50,000 new homes expected in San Diego by the year 2020. The program is completely grant funded with no impact on City funds. Funding for additional years of operation after 2003 will be considered by the CPUC. The money allocated by the CPUC for this program is a portion of the "public purpose" funds paid by each ratepayer. Until deregulation occurred, the Investor Owned Utilities (SDG&E) administered these funds for the region.

The Whole House Energy Retrofit program has been operating for four months. Interest in the program has been high as indicated by the receipt of approximately 400 inquires from potential participants per month. The program continues to evolve by considering recommendations from potential users and coordinating with other programs. A new incentive package is being implemented to improve the incentive for homeowners and make the program more feasible for low-income residents. The new package focuses on the installation of low-e rated window film and Compact Fluorescent Light (CFL) bulbs. Those two new measures are more economically effective and affordable than the original double-pane windows requirement. This third package will pay for itself with energy savings in less than 1.5 years. The new package requires homeowners to insulate their attic with R-30 insulation, wrap water heaters, replace at least 50% of existing light bulbs or 10 bulbs with energy efficient bulbs and install low-e window film on all windows to obtain an income based rebate of $300 to $500.

CONCLUSION

Energy continues to be a critical issue for both the City and the State. Formation of a "Regional Energy Authority" could create a vehicle for guiding local energy policy. Legislation and regulatory actions will impact development of distributed generation and demand side energy management as an alternate method to control electric use. Continuing efforts in energy efficiency and conservation will improve City building performance. LEED certification of new construction continues to increase overall building sustainability.

Respectfully submitted,

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HAYS/EPLER/TB