

DATE ISSUED: September 5, 2001 REPORT NO. 01-183

ATTENTION: Committee on Rules, Finance and Intergovernmental Relations  
Agenda of September 12, 2001

SUBJECT: Energy Conservation and Management Status Report No. 6

REFERENCE: Manager's Report Nos.01-031, 01-062, 01-115, 01-137, & 01-175

### SUMMARY

THIS IS AN INFORMATION REPORT. NO ACTION IS REQUIRED ON THE PART OF THE COMMITTEE OR THE CITY COUNCIL

### BACKGROUND

On February 12, 2001, City Council directed the City Manager to implement Mayor Murphy's recommendation to establish an energy oversight position to administer San Diego's efforts toward achieving energy self-reliance and conservation. Following an initial report to the Rules Committee on February 21, 2001 regarding the energy emergency and the status of the City's energy conservation and management efforts, the Environmental Services Department was directed to provide the Committee with monthly status reports. This is the sixth status report in response to the Committee's direction.

### DISCUSSION

#### Summer Energy Outlook

Statewide peak daily energy demand levels during August were significantly lower than projected by CALISO in its March 22, 2001 "Summer Energy Outlook Report." In that report, CAISO projected peak daily energy demand levels and operating reserve requirements would reach 50,000 MW during June, July August and September and would exceed energy supplies resulting in up to 35 days of rolling blackouts during those months. As the result of a combination of energy conservation efforts by California residents, business and governmental agencies and cooler than normal weather, peak weekday energy demand during August reached the 40,000 MW level on only four days. Because of the long term energy contracts, new generation capacity becoming available and imported energy, adequate energy supplies were available for the entire period and there were no Stage 1, 2, or 3 Emergency Alerts in August.

#### Statewide Conservation Efforts

As shown in the following table, the average daily peak demand for electrical energy during first seven months of 2001 was significantly lower than the expected demand levels predicted by CAISO, primarily as a result of statewide energy conservation efforts.

	Jan	Feb	Mar	Apr	May	Jun	Jul
Expected Avg. Demand MW	33,743	32,195	32,223	31,888	34,657	39,637	41,599
Actual Avg. Demand MW	31,652	29,617	29,256	29,022	31,062	34,067	37,144
Difference MW	-2,091	-2,578	-2,967	-2,866	-3,595	-5,570	-4,445
Percent Reduction	-6.2%	-8.0%	-9.2%	-9.0%	-10.4%	-14.1%	-10.7%

Additionally, a major factor in the availability of adequate energy supplies so far this summer has been the improved reliability of the state's privately operated generating facilities.

#### **DAILY AVERAGE OF TOTAL MEGAWATTS OFF LINE**

Month	1999	2000	2001
January		3,068	2,423
February		5,096	3,243
March		5,740	3,389
April;		5,739	3,329
May		3,032	4,012
June		1,216	2,683
July		963	2,233
August		878	2,243
September		1,195	3,621
October		1,761	7,633
November		2,988	10,343
December		2,569	8,988

As shown by the table above, the daily average megawatts of energy generation offline due to scheduled or unscheduled outages was well above historic levels during the period of October 2000 through May 2001 resulting in 125 Stage 1, 101 Stage 2, & 39 Stage 3 Emergency Alerts and at least five days with rolling blackouts in the state. By comparison, in 1998 and 1999 combined, there were only eleven Stage 1, six Stage 2 and no Stage 3 Emergency Alerts. In August 2001, the daily average megawatts of energy generation offline had improved to just over 3,000 megawatts, which was more consistent with historic levels.

#### September Outlook

Statewide temperatures for September are projected by the National Oceanic & Atmospheric Administration (NOAA) to be in the normal range for at least the first half of the month with the possibility of some warming trends later in the month. If a warming trend is experienced and

temperatures exceed 90 degrees on a sustained basis for several days; then energy supplies could be strained to meet peak demand levels and the potential for Stage 3 Alerts and rolling blackouts could return. Therefore, it is essential to continue energy conservation efforts throughout the remainder of Summer 2001 to minimize the potential for rolling blackouts.

#### State Energy Purchases

On August 18, 2001, Governor Davis announced that the cost for State purchased energy in July continued its downward trend with total costs reaching \$909 million. That amount is less than half of the \$2 billion cost for energy purchases in May and \$100 million less than the cost in June. The average cost for power in July was \$146 per megawatt hour, down from the \$332 per megawatt hour cost in January 2001, but still several times the pre-deregulation cost per megawatt hour. The total cost of energy purchased by the State Department of Water Resources for SDG&E, PG&E and SCE customers during the period of January through July 2001 was in excess of \$9.5 billion.

## City of San Diego Summer Action Plan – 20/20 Rebates

On June 19, 2001, Council approved the City’s Summer Energy Action Plan with the goal of reducing energy consumption in City facilities by 15% compared to last summer’s energy usage. City departments have implemented the measures proposed in the plan with excellent results.

Under the State’s 20/20 Energy Rebate Program, SDG&E customers that reduce energy use by 15% or more compared to last year, receive a 20% rebate off the electric portion of the current energy bill. When combined with the savings from the reduced amount of energy consumed, total savings on the current energy bill are in the range of 30 to 35% compared to the prior year’s bill. Since this program became effective, the City has received three sets of energy bills. A total 2,163 City facility energy accounts qualified for \$86,980 in 20/20 rebates and total energy cost savings of almost \$200,000.

### SDG&E Proposed Energy Rates

On August 27, 2001, the California Public Utilities Commission issued a draft decision covering a Servicing Agreement between SDG&E and the California Department of Water Resources (DWR). This agreement covers the terms and conditions under which SDG&E will provide transmission and distribution of DWR-purchased electricity to SDG&E customers, as well as billing, collection and related services. The decision also included a proposed energy rate increase designed solely to meet DWR’s financial needs for payment of the electrical energy it purchased for SDG&E’s ratepayers. The proposed rate increase translates into a system-wide average increase of 1.46 cents per kWh – a 12.6 % average increase over the current system-wide rates. If approved by the CPUC, the rates would become effective on either September 15 or October 1, 2001. The following table is a summary of the rate increases as proposed by the CPUC to meet DWR’s revenue requirements and is subject to change prior to the CPUC’s final decision in early September. SDG&E will not receive additional revenue as a result of the proposed rate increase.

**CPUC Proposed Average Rates By Customer Class**

<b>Customer Class</b>	<b>Current Cents/kWh</b>	<b>CPUC Proposed Cents/kWh</b>	<b>Percent Increase</b>
Residential – usage to 130% of baseline quantity	12.96	12.96	0
Residential – usage above 130% of baseline quantity	14.80	16.65	12.49
Small Commercial	13.48	15.90	17.94
Medium/Large Commercial	10.40	12.31	18.41
Street Lighting	13.16	15.07	14.55
Large Commercial/Industrial	10.06	11.97	19.03
Agricultural	13.25	15.16	14.45
<b>System Total</b>	<b>12.06</b>	<b>13.52</b>	<b>12.10</b>

Under the CPUC’s proposed decision, the average residential customer using 500 kWh per month will experience a \$1.60 increase per month in their energy bill. The table below indicates residential impacts under the CPUC proposed decision. The proposed residential bill impacts are not applicable to CARE or Medical Baseline customers.

**Residential Energy Bill Increases  
For City of San Diego Residents  
Under CPUC Proposed Rates**

<b>Season</b>	<b>Increase (\$/Mo) 500kWh/Month</b>	<b>Increase (\$/Mo) 1000kWh/Month</b>	<b>Percent Increase 500kWh/Month</b>	<b>Percent Increase 1000kWh/Month</b>
Summer	\$1.60	\$14.51	2.3%	9.9%
Winter	\$1.51	\$14.59	2.2%	10.3%

The City’s current total annual energy cost is approximately \$36 million. Based on the CPUC proposed rate structure, the City’s energy costs could increase by as much as \$5 to \$6.5 million per year

San Diego Region Baseline Zones

For City of San Diego residents, the Baseline Zones and Baseline Energy Allowance quantities are important factors in how they will be impacted by the CPUC proposed rates. Under State law, AB1X, residential energy rates cannot be raised for customers using less than 130% of their Baseline Energy Allowance until the DWR has recovered the costs of the power it procured for the state’s retail customers.

Currently, SDG&E is divided into three Baseline Zones, each with a different Baseline Energy Allowance. The three zones are Coastal, Mountain and Desert with all of the City of San Diego and 98.5% of the County’s population within the Coastal Zone.

SDG&E’s current Baseline Zones and Baseline Energy Allowances were established in a 1989 rate case. For the Coastal Zone, the Summer and Winter Baseline Energy Allowance is 252 kWh for a 30-day billing period and the 130% usage level would be 328 kWh per month.

SDG&E has submitted testimony to the CPUC indicating that the Coastal Zone Baseline Energy Allowance should be increased to between 271 kWh and 348 kWh per month based on 1998 –2000 recorded monthly average energy use within the Coastal Zone. This would increase the amount of energy under the 130% usage level that is exempt from rate increases to between 352 kWh and 452 kWh per month.

SDG&E also calculated Baseline Energy Allowances under the four-zone system proposed by the California Energy Commission (CEC). The CEC proposal would include only a portion of Rancho Bernardo, Sabre Springs, Carmel Mountain Ranch and Scripps Ranch in the new Interior Zone. Under this scheme, the Coastal Zone monthly Baseline Energy Allowance would be 250 kWh in the summer and 260 kWh in the winter. The new Inland Zone would have a monthly

Baseline Energy Allowance of 330 kWh in the summer and 305 kWh in the winter.

The CPUC held a Public Participation Hearing in San Diego on Monday, September 10, 2001. An oral report on that hearing will be made when this item is heard at the Rules Committee meeting on September 12, 2001.

## Public Outreach Programs

### PowerPaLooza

*PowerPaLooza*, an energy fair held on August 18, 2001, drew about 1,200 people to the Environmental Services Department's Ridgehaven Complex to learn about energy and raise funds for *Summer Breeze* (a City/County collaboration). The event was coordinated by the City employee's SHARE program, Environmental Services Department and SDG&E. At the center of Power PaLooza were over 50 booths and educational displays highlighting energy conservation and efficiency. Booth space sales, corporate contributions and private donations brought in over \$14,000 for the *Summer Breeze* effort. The City is well on its way to reaching its 400 fan goal with its \$8,925 portion of funds raised.

### Summer Breeze

*Summer Breeze, Fund for Fans* is in the process of purchasing and delivering more than two hundred much needed fans to homebound and medically frail residents in San Diego and making a significant contribution toward the County's goal on a similar program for its homebound residents. The effort was made possible through a partnership of the City of San Diego, the City employee's SHARE program, SDG&E, United Way Chad, the San Diego Police Department, County of San Diego, and the County Sheriff's Department. Funds were also raised through Environmental Services Department's energy fair, Power PaLooza, and generous private and corporate donations including those from Home Depot and Walmart. The fans will be delivered to City residents through the San Diego Police Department's Retired Service Volunteer Program (RSVP).

### Heat Safe Zones

Brochures promoting the City's *Cool Zones Program* have been distributed throughout the City. The program, created in collaboration with the County of San Diego, designates all of the City's 35 libraries and 53 park and recreation facilities as *Cool Zones*. These locations offer buildings with temperature that are kept at about 78 degrees or shaded outdoor seating areas. The *Cool Zone* brochure also includes tips for recreational activities and ways to stay cool during periods of extreme summer temperatures.

### Energy Star Purchasing Workshop

On September 26, 2001, the City will host a workshop for the California Association of Public Purchasing Officers, a statewide organization of state and local government purchasing officers and buyers, on how to institute and carry out a policy of purchasing only Energy Star approved

equipment that is energy efficient. The workshop will be held at the Environmental Services Department's Ridgehaven Green Building and will feature Linda Dunlee from The Cadmus Group representing the USEPA's Energy Star Program.

## City Energy Projects and Activities

### Photovoltaic Project Status

The Request for Qualifications process closed on August 21, 2001 with a total of ten teams submitting a Statement of Qualifications. The proposals are currently being reviewed and interviews were held during the week of August 27, 2001. Respondents to the RFQ included a wide variety of highly motivated design/build teams. The initial proposal review indicates a vast amount of Photovoltaic experience amongst many of the teams.

The selection and notification process will be completed by September 14, 2001, followed by the release of the first Request for Proposal by the end of September 2001. The initial RFP will include proposals for ESD's Ridgehaven Court facility & Miramar Place Operations Center and three Metropolitan Wastewater Operations Buildings in Kearny Mesa. It is estimated the initial projects will result in approximately 150 to 160 kilowatts of photovoltaic energy generation systems being installed. The first installation, at the Environmental Services Department's Miramar Place Operations Center, should begin in early January 2002.

### Photovoltaic Feasibility Study - Chollas Operations Station

Currently Millennium Energy is performing a feasibility study for the installation of a 500 KW to 1 MW photovoltaic energy generation system at the Chollas Operations Station under a contract from the US Department of Energy and the City. The study will accomplish six tasks: Conduct On-Site photovoltaic assessment, develop sizing options, develop installation cost estimates for each PV system option, conduct economic analysis of PV options, conduct comparative analysis of rooftop vs. landfill options and develop a final report. The study is scheduled for completion and the final report to be issued by the end of September 2001.

### Environmental Services Department Operations Center

The Administration Building at the Environmental Services Department's newly renovated Operations Center on Miramar Place will be featured as a model of energy efficiency in San Diego Gas & Electric's Fall 2001 issue of *Progress Through Design*, which is targeted to architects and building designers throughout the region.

Prior to renovation, this 18,000 square foot 20-year-old office building was 12 percent less energy efficient than required under the 1998 Title 24 standards. With the support of SDG&E, Platt/Whitelaw Architects used computer-aided energy modeling to design features that make the renovated building 35.1 percent more efficient than the current Title 24 standards. Renovations included installation of a white, insulated "cool roof," replacement of the HVAC system with high efficiency heat pumps and programmable thermostats and energy efficient T-8 fluorescent lamps with electronic ballasts. These measures are designed to save 59,742 kWh per year, or

about \$9,000 per year in energy costs at current prices. The project will also receive a one-time \$14,339 cash incentive payment through SDG&E's Saving By Design program.

In addition, the building is scheduled to have a photovoltaic (solar) energy generation system installed that will be sized to provide 100% of the facility's average annual energy consumption making it the City's first energy self-sufficient building. Interviews are currently being conducted with potential contractors, and construction is scheduled to begin on the photovoltaic system in January 2002.

#### Point Loma Wastewater Treatment Plant

Metropolitan Wastewater Department's innovative 1.35 MW hydroelectric generation project at the Point Loma Wastewater Treatment Plant received additional statewide recognition in an August 24, 2001 press release by Governor Davis. The Governor announced funding of four renewable energy plants to increase California's commitment to renewable energy. The MWWD project was awarded \$419,430 by the California Energy Commission.

#### CONCLUSION

The Summer 2001 energy supply and reliability crisis seems to have been resolved as demonstrated by that there were no Stage 3 Emergency Alerts or rolling blackouts during June, July or August. However, that energy reliability has come at an extreme cost as evidenced by the energy purchase costs incurred by the California Department of Water Resources which are now proposed to be passed on to consumers through an 12% or greater energy rate increase starting in September or October 2001.

The City's Summer Energy Action Plan achieved its desired result with 2,163 City facility energy bills receiving 20/20 Energy Rebate Program rebates of \$86,960 and total savings approaching \$200,000.

It is now time to shift the City's focus from responding to Summer 2001 energy emergency to implementing longer-term energy efficiency projects, such as the Miramar Place Operations Station project and photovoltaic energy generation projects, to better prepare the City to deal with energy issues during the Summer of 2002 and controlling energy costs in the new era of higher priced energy.

Respectfully submitted,.....Approved by:

---

.....  
Robert A. Epler  
Interim Energy Management Administrator

---

.....  
George I. Loveland  
Senior Deputy City Manager



LOVELAND/HAYS/RAE