City of Anaheim
DEPARTMENT OF PUBLIC UTILITIES

DATE: JUNE 10, 2008
FROM: PUBLIC UTILITIES GENERAL MANAGER
SUBJECT: RESOLUTION AMENDING ELECTRIC RATES, RULES AND
REGULATIONS FOR MODIFICATION OF THE
DEVELOPMENTAL SCHEDULE TES, THERMAL ENERGY
STORAGE, RATE

ATTACHMENT (YES/NO): YES
ITEM # 38

RECOMMENDATION:

That the City Council:

1) By Motion, certify that the amendment to the Electric Rates, Rules and Regulations
for the Developmental Schedule TES, Thermal Energy Storage, rate is statutorily
exempt under the California Environmental Quality Act, Public Resources Code,
Section 21080(b)(8), in accordance with Title 14 of the California Administrative
Code, Section 15273(a), and;

2) By Resolution, adopt the amended Electric Rates, Rules and Regulations modifying
the Developmental Schedule TES, Thermal Energy Storage, rate as reflected in the
two rate schedules attached thereto, effective June 10, 2008, and November 1, 2008,
respectively.

DISCUSSION:

The Public Utilities Board (PUB) recommended that the City Council approve these
actions at its meeting of May 8, 2008.

Background
Following a public hearing before the Anaheim Public Utilities Board (PUB) and
adoption by the City Council by Resolution 2006-188, the Developmental Schedule
TES, Thermal Energy Storage, rate originally took effect on August 8, 2006. This
developmental rate schedule applies to only those customers that use thermal energy
storage technologies that shift air conditioning load off-peak.
Typically, publication of legal notices in area newspapers, a public hearing, and City Council approval are required for amendments, additions, or deletions to rate schedules of the Electric Rates, Rules and Regulations. Resolution 2006-188 grants an exception to the public hearing requirements for non-cost component modifications or amendments to developmental electric rates, which are temporary and experimental in nature. Such rate schedules must be monitored very closely and may require that changes to non-cost components be made somewhat frequently based on participant information and to maintain a rate schedule’s relevance as technology, market, or regulatory conditions change.

More specifically, with the adoption and implementation of Developmental Schedule TES by Resolution 2006-188, the Public Utilities General Manager was granted authority to make limited non-cost component changes to this developmental rate schedule to incorporate the advantages of new meter technology and conform to industry standards, as well as to implement, modify, extend, restrict, or close this Developmental Schedule TES Rate to new customers upon notification and approval by the City Council.

With this flexibility provided to the Public Utilities General Manager, the process for proposing modifications or amendments to all non-cost components of Developmental Schedule TES and other developmental electric rates is to submit these items to the PUB for consideration and, if recommended by the PUB, then to the City Council for adoption.

**Thermal Energy Storage Technology**

The intent of a thermal energy storage rate is to encourage participation in alternative air conditioning technology in order to move electricity use from high use times of the day to lower use hours. Thermal energy storage technology does this by creating ice at night and then uses a small pump to circulate a refrigerant through that ice to cool the building during the day. By encouraging thermal energy storage technology, the Public Utilities Department (Department) could realize benefits from reducing its purchases of higher-priced peak power and reducing the system capacity needed to fulfill peak demand periods. Customers benefit by paying less for energy with a rate that encourages the shifting of consumption from peak to off-peak hours.

To realize the potential benefits of improving thermal energy storage technologies, the Department developed a rebate program for installation of this technology. To fully support this program, the Department also implemented a Developmental Schedule TES rate, which includes demand and energy charges for the summer and winter periods for on-peak, mid-peak, and off-peak periods designed to provide small and medium sized commercial/industrial customers with financial incentives to adopt thermal energy storage technology.
Overview of Proposed Amendments to Electric Developmental Schedule TES
At this time, the Department is proposing modifications to the Applicability and Special Conditions provisions contained in the Developmental Schedule TES rate as follows:

1. Limiting the customer base eligible for electric service under this rate to facilities that install and utilize thermal energy storage equipment for air conditioning with a monthly maximum demand of 500 kW per meter; and

2. Requiring that customers on this rate with a monthly maximum demand between 200 kW to 500 kW per meter shift 20 percent of the monthly maximum on-peak demand to off-peak demand.

The intent in implementing a developmental Thermal Energy Storage or TES rate was to encourage small and medium commercial/industrial customers to shift their air conditioning load to less expensive, off-peak power, thereby benefiting both the Department and those customers.

Recently, however, large commercial/industrial customers with little air conditioning load as a proportion of their total electricity demand, have begun to express interest in purchasing thermal energy storage equipment solely in order to be eligible for the TES rate. Under the current Developmental Schedule TES, large customers do meet eligibility requirements to have the TES rate applied to their entire electricity demand simply by purchasing and installing this technology, while possibly shifting little of their on-peak demand to off-peak hours. In other words, simply by purchasing and installing thermal energy storage equipment, a large customer could experience a significant rate reduction without a corresponding projected savings in the Department’s power costs.

In order to eliminate the possible misapplication of program benefits in a manner inconsistent with the intent of the program, it is proposed that the TES rate be modified so that there is no misunderstanding as to the type of customers who are eligible for this developmental rate.

Large customers with a monthly maximum demand greater than 500 kW per meter would remain eligible for the Department’s Time-of-Use (TOU) rate, designed to encourage load shifting for large customers by providing them with appropriate rates for doing so. On the TOU rate, large customers would be able to reduce electric bills by shifting their air conditioning load to less expensive, off-peak power with thermal energy storage equipment, thereby continuing to provide these customers with significant incentives to adopt thermal energy storage technology. In addition, the Department is in the process of developing a TES rebate program specifically for our large customers, a vitally important contingent of our customer base.

It is the Department’s desire to continue promoting thermal energy storage technology to small and medium commercial/industrial customers in order to reduce their on-peak demand. Therefore, the Department proposes that the TES rate actually state that it is applicable to customers with facilities utilizing thermal energy storage equipment for air
conditioning with a monthly maximum demand of no more than 500 kW per meter, such as a large retailer. The installation of this equipment should result in a significant shift of their air conditioning demand to off-peak hours, which meets the intent of providing benefits to both the customer and the Department.

Future applicants for service under this rate with a monthly maximum demand between 200 kW and 500 kW per meter would be required to outline a plan to shift 20 percent of their monthly maximum on-peak demand to off-peak. The purpose of this requirement is to ensure that rate reductions offered to these customers under Developmental Schedule TES result in a corresponding savings in the Department’s power costs by shifting the customer’s air conditioning load to less expensive, off-peak power. If an application were approved and the customer failed to shift 20 percent of their monthly maximum on-peak demand or exceeded 500 kW per meter for any three months during the preceding 12-month period, the customer would be deemed ineligible for service under this rate schedule and the customer’s account would be transferred to the otherwise applicable tariff.

Thermal energy storage rebates offered by the Department would not be enough to encourage commercial/industrial customers with a monthly maximum demand below 200 kW per meter to invest in thermal energy storage technology. However, it is the Department’s desire to promote this technology to those customers as a means to further reduce on-peak demand. Therefore, these smaller customers would not be required to shift 20 percent of their monthly maximum on-peak demand. In the aggregate, staff believes that rate reductions to these customers would be offset by the shift of a sufficient amount of their electricity use from high use times of the day to lower use hours, thereby reducing the Department’s power costs and benefiting all ratepayers in the long run.

Participation in the TES rate, as well as other electric developmental rates, will remain strictly voluntary. Should a customer apply for this rate and then determine that it is not beneficial, the customer may choose an otherwise applicable tariff offered by the Department. The Department will continue to closely monitor the TES rate and other electric developmental rates and recommend changes where appropriate.

**Conclusion**

The proposed modifications to the Developmental Schedule TES rate are intended to bring the rate into alignment with its original intent, which was to provide incentives to small and medium commercial/industrial customers to shift their air conditioning usage from relatively expensive, high demand times of the day to time periods when energy costs are lower. Adoption of this proposal will save these customers and, most likely, the Department money. It will also eliminate the potential for large customers to obtain substantial rate reductions without a corresponding reduction in the Department’s power costs.
Upon City Council authorization, the Department will implement the modifications to the Developmental Schedule TES, Thermal Energy Storage, rate by an amendment to the Electric Rates, Rules and Regulations. As previously outlined, the Department plans to implement the two rate schedules attached thereto, effective June 10, 2008, and November 1, 2008.

**IMPACT ON BUDGET:**

The anticipated impact on the Electric Utility’s budget and on the General Fund is minimal.

Respectfully submitted,

Marcie L. Edwards
Public Utilities General Manager

**Attachments:**

1. Resolution which includes:
   - Attachment A - Developmental Schedule TES effective June 10, 2008
   - Attachment B - Developmental Schedule TES effective November 1, 2008

2. Redline of current Developmental Schedule TES
   - Redline of Developmental Schedule TES effective June 10, 2008
   - Redline of Developmental Schedule TES effective November 1, 2008