CITY OF RIVERSIDE

Public Utilities Department
Administration

July 3, 2008

Marcel Saulis
South Coast AQMD
21865 E. Copley Drive
Diamond Bar, California 91765

REF: ADMIN 08-043

Subject: Riverside Energy Resource Center Units 3&4 – AQMD Facility ID 139796
Applications 481647, 481649, 481650 and 481651

Dear Mr. Saulis:

This letter shall serve as the City of Riverside's ("City") demonstration to South Coast Air Quality District that renewal/alternative energy resources are not a viable alterative for the power to be generated by the project for which the City is seeking an SCAQMD license, Riverside Energy Resource Center ("RERC") Units 3&4.

1. RPU's system constraints:

The City of Riverside, through its Public Utilities department ("RPU"), has traditionally relied on out-of-area generation resources for fulfilling the bulk of its system requirements. Power from the Northwest, Hoover Dam, the Intermountain Power Project, SONGS and Palo Verde has been available and is imported into Riverside through the Southern California Edison ("SCE") transmission system. The sole SCE-Riverside point of connection is the 230/66kV Vista substation. This single point of interconnection has a capacity of 557 MW.

Riverside is in a somewhat unique situation. Currently, over 95% of power needed to serve RPU's customers must be imported to the City from the state transmission grid through this single point of interconnection. For system reliability purposes, RPU has recognized the need for another point of interconnection since 1975, when it purchased the land for construction of the future interconnection facilities. However, system and resource planning, up to the construction of RERC Units 1&2, was strongly influenced by economics and the continued ability to import power through Vista. In its 2002 planning documents, RPU identified the need to enhance system reliability by building internal generation to serve emergency purposes, should Vista be temporarily compromised, but always relied upon the continued ability to import power to serve peak needs until a second point of interconnection was built.

RPU system peak requirements surpassed Vista's 560 MW limit in the summer of 2006 with its peak of 583 MW. RPU was able to meet its customer peak demands through its existing internal generation, Springs and RERC Units 1&2, which provide 130 MW

of capacity. SCE and RPU are jointly constructing the Riverside Transmission Reliability Project, which will establish a second point of interconnection to the SCE grid at a new substation in Riverside. Unfortunately, this project has been delayed until the 2012 time frame, which means that without additional internal generation, RPU may not have sufficient power to meet rising customer peak demands.

To highlight the City's reliability concern, the Vista substation lost five of its seven lines on October 26, 2007 due to one of the many fires in Southern California. The remaining two lines tripped on overload, leaving the entire City completely black for four hours. The unanticipated growth in peak demand, discussed below, coupled with the tenuous nature of the single point of interconnection for the importation of power, makes it imperative that RPU develop internal generation resources in a timely manner.

2. Unexpected increase in power usage amongst existing customers and RPU's efforts to reduce such consumption:

Historically, RPU's system expansion, for both new meters and customer energy usage, would increase at roughly the same rate. For example, from 1990-2001, meter growth during this eleven-year period was 14% and peak growth was 10%. (Peak is the single largest integrated hour of energy usage.) From 2002 to 2006, meter growth during this four-year period was only 7% (an average growth rate), but peak usage during this same period shot up (unexpectedly) by 31%. RPU's 2007 system peak of 610 MW is already 50 MW above the 560 MW import capability of the Vista substation. If this trend continued, by 2009 RPU would not only exceed its ability to import power through Vista but would also have insufficient internal generation to meet peak demands. The attached chart reflects the ability of RPU to import power, as compared to the increase in customer usage.

In response to this unprecedented disparity in growth, RPU shifted the focus of its planning perspective from power resource needs to system reliability requirements ("RPU can buy enough power to serve its customers' needs, but lacks the infrastructure to be able to deliver it"). Traditionally, power resources planning differ from system planning in that economics, not system constraints, dictate strategy. The goal is to obtain the most cost-effective power resource available. With the predicted shortage of power in 2009, RPU has now shifted from an emphasis on economical planning to reliability planning: what resource would enable RPU to serve customer energy demands, especially in times of peak demand.

RPU did five things to address this problem: 1) introduced a third tier to its residential electric rate structure to encourage conservation; 2) increased its conservation programs for customers; 3) suspended its Economic Development rate incentives to help insure existing capacity is reserved for existing customers; 4) increased its customer rebates for the installation of solar energy; and 5) began to develop RERC 3&4 for 2009 to serve peak load. Each of these steps are described in more detail below.

a. Third Tier: RPU adopted a third tier to its electric rates to send a conservation signal to its customers. Customers who monthly used in excess

of 750 kWh (winter) and 1,500 kWh (summer) would be charged a higher rate for their energy. (The monthly RPU residential customer demand, on an annual average, is 600 kWh.)

b. Increase in Conservation Programs: In addition to its extensive conservation programs, RPU promoted peak energy use reduction with the following:

- RPU identified its customers' inefficient refrigerators and air-conditioners (especially those used in un-air-conditioned garages) as particularly troublesome. RPU increased rebates to customers who purchase energy efficient refrigerators ($200) and air conditioners (10% of cost, up to $750).
- Increase in rebates to customers who install whole house fans ($200), which reduces need for air-conditioning.
- RPU partnered with an internet news service known as instantriverside.com to send customers tips on how to conserve and notify them during times of peak demand when conservation is particularly needed.
- RPU identified its top 200 customers and performed customized audits to increase energy conservation, and publicized in-home weatherization audits to its customers.
- RPU opened its residential time-of-use rate (formerly limited to 1000 customers) to all customers. This rate allows customers to receive a lower off-peak rate for shifting electric use to off-peak periods.

c. Suspension of Economic Development Rate Incentives: A two-year rate discount had been offered as an enticement to specific types of businesses to relocate in Riverside or expand an existing business. Although this program had been very successful, RPU suspended this rate in 2006, because of the system reliability concerns caused by the recently trending increases in energy consumption. Power should be reserved for existing customers, instead of enticing new load to the City.

d. Photovoltaics: RPU has established a goal to increase solar generation in the City to 1 MW by 2015 (enough to power 1000 homes) and 3 MW by 2020. RPU recently increased its residential rebate to $3 a watt, up to 50% of the cost of the installation, with caps of a) $50,000 for residential and small commercial customers, b) $200,000 for medium sized commercial customers, and c) $500,000 for RPU's largest industrial customers. In addition, for educational facilities that commit to fund the entire project, RPU will rebate up to 80% of project costs, with a cap of $250,000. To date, Riverside has 53 solar installations, providing 761.43 kw of solar generation.

e. System Planning for RERC 3&4: As noted above, the unexpected growth in customer energy usage meant that RPU's Vista capacity would be exceeded before the expected completion date of the second point of interconnection. RPU evaluated several other sites, including an adjacent property where the second point of interconnection would be located and various other sites throughout the City. None of these sites would allow a peaker unit to be

constructed by 2009. Accordingly, RPU decided that the additional units at RERC would be peaker, not baseload, units, and planned to submit its SPPE application in 2008.

3. Viability of renewable energy options as a source of peaking power:

RPU currently utilizes renewable energy for a portion of its resource needs. In 2007, 11% of RPU's delivered energy came from renewable sources including hydroelectric, geothermal, biomass and waste (landfill), solar and wind. (Attached hereto is RPU's 2007 Power Content label, which will be formally attested to by the Riverside City Council on June 24, 2008.) All of the sources of this energy are outside of RPU's service territory due to lack of available, suitable resources inside RPU's service territory. The output from these resources is transported to Riverside through SCE's Vista Substation. Additional renewable resources continue to be pursued, however additional renewable energy outside of the RPU service territory would not be a viable alternative to RERC 3&4 due to the constraint imposed by Vista, e.g., if Vista is fully loaded there is no way to get additional energy into the City for peaking purposes.

The viability to renewable resource opportunities within RPU's service territory are discussed below:

Hydro – The Santa Ana River, which flows through Riverside (and also is the source of Riverside's name), is a fully appropriated river, meaning that the river falls under the jurisdiction of the State Water Resources Control Board (the "Board"). The Board has allocated all surface flow to various public agencies along the River, who use the flows to recharge groundwater basins. Given the unavailability of surface flows, and the general low level of such flows within the Santa Ana River, a run of the river hydro resource is not a viable option. In addition, to provide peaking capacity, hydro power would require creating a storage reservoir to store water that could be released for generation when peaking situations occur. Given the size of the reservoir that would be needed, the environmental impacts would likely be greater than those caused by RERC 3&4. Thus, this option was not considered viable.

Geothermal – There are no known geothermal resources within the RPU service territory. Another consideration is that geothermal power plants tend to operate best as base load power as rapid flow changes and start/stops can degrade well production over time. Thus, this option was not considered viable.

Wind – RPU's service territory is not a good candidate for a wind farm of comparable capacity to RERC 3&4 due to lack of available space and inability to reliably dispatch wind generation for peaking needs.

Solar – RPU already utilizes photovoltaic solar energy to some extent on carports and has a program underway to expand usage. Solar thermal could provide a dispatchable source of power; however, the area required is not readily available within the service territory and thus, this alternative was not considered viable.

Wave – RPU's service territory does not abut the Pacific Ocean and thus, this option was not considered a viable option for peaking power.

Fuel Cells – The City's regional water quality control plant recently activated a 1 MW fuel cell. The fuel cell will take methane gas from sewage and industrial waste oil and produce hydrogen, which is used by fuel cells to generate electricity. The 1 MW plant will provide about one-third of the waste-treatment plant's energy needs. If the fuel cells work as expected, the City eventually could expand the system by building two additional fuel cell plants, enough to provide all the waste treatment plant's energy needs. However, the cost of the 1 MW fuel cell is estimated to be between $7 million and $8 million dollars. The new fuel cell is meant to be a demonstration project, and is funded through a combination of grants and manufacturer discounts, with the City contributing $10,000 as well as certain ongoing maintenance costs. With RPU's estimated need for up to 96 MW of new peaking power, a fuel cell as the source of such power is not a cost effective option.

4. **RPU's commitment to future renewable projects:**

RPU's portfolio of energy resources, like other Southern California municipal and investor owner utilities, is heavily dependant on coal-burning power resources. RPU has adopted a goal to have its energy resources portfolio be comprised of 33% renewable sources by 2020. Because of careful planning and aggressive pursuit of available renewables, RPU is very pleased that its portfolio will be comprised of 30% renewables by 2010.

Approximately 16% of RPU's power resources, or 52 MW, are obtained from the Deseret Generation & Transmission Co-Operative, a coal-burning plant located in Utah. This contract expires on December 31, 2009, and RPU will not renew or extend. Instead, RPU has contracted for 90 MW of geothermal energy. Of the 90 MW, 26 MW will come from the Salton Sea Unit 5 LLC, starting in June of 2009, and 64 MW will come from the Renaissance Shoshone LLC, beginning on January 1, 2010.

When combined with RPU's existing renewable portfolio of landfill gas (5 MW), wind (1 MW), solar (.08 MW) and geothermal (20 MW), RPU will have 34% renewable generation in its portfolio by 2010. With its proposed resource plan that recommends meeting all future requirements with renewable resources, RPU plans to have almost 50 percent of its retail energy requirements met by renewable resources by 2020. With such percentages, RPU expects that it will lead all other Southern California utilities, both municipal and investor-owned, in the amount of renewable in its energy portfolio.

Sincerely,

Stephen H. Badgett
Utilities Deputy General Manager/Energy Delivery

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