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Dockets Unit
California Energy Commission
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DOCKET 01-AFC-7C	
DATE	JUL 0 1 2008
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Re: Russell City Energy Center Project (01-AFC-7C)

Comments prepared by Robert Freehling, Policy Director at Local Power, Inc.

Questions or comments about this letter should be directed to:

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Dear Commissioners,

We appreciate your deliberative attention to the permitting of the Russell City Energy Center Project, and your careful consideration of these comments. These comments are written on behalf of the Local Clean Energy Alliance of the East Bay (LCEA), which is made up of the Bay Chapter of the Sierra Club, Bay Localize, EcoCity Builders, Pacific Environment and several other Bay Area organizations and businesses. All of our members are listed at the end of this letter. We are writing to voice our opposition to the permitting of the Russell City Energy Center Project on the grounds that it is not needed.

California is heavily dependent today on natural gas to generate about forty percent of its electricity. While natural gas is much cleaner than coal, it still has many problems, including air pollution, greenhouse gases, and price volatility. And though there are still considerable supplies of natural gas in North America, these are not unlimited.

A confluence of events is creating an opportunity to move to a new paradigm for how we meet our energy needs. An impressive raft of policies, rules and legislation in California are aiming to address global warming, to increase environmental protection, to reduce dependency on fossil fuels, and to secure a stable and economical energy supply for the future. Leading examples include:

- AB 32, California's Greenhouse Gas law that would roll back carbon dioxide emissions to 1990 levels by 2020, equivalent to a reduction of about 25%.

- The Renewable Portfolio Standard that requires all utilities to obtain at least 20% of their electric energy needs from renewable sources by 2010.
- The Energy Action Plan that sets a goal of 33% renewable energy by 2020.
- The California Solar Initiative that commits \$3 billion to subsidizing the construction of 3,000 megawatts of rooftop solar installations by 2017.
- Energy Efficiency programs that have been ramped up over the last few years to a total state budget of nearly \$1 billion per year to reduce electricity consumption.
- Programs that require utilities to procure 5% of their peak capacity needs by reducing their customers' peak demand, *in addition to energy efficiency savings*.

Implementation of these initiatives will dramatically reduce California's usage of natural gas.

By applying its policy tools, California can avoid most new power plant construction while shutting down the state's fleet of aging power plants built in 1970 or prior. One of the most important policies is the state's mandate to increase renewable energy to 20% by 2010, and the Energy Action Plan goal to increase renewables to 33% by 2020. A study by Lawrence Berkeley National Laboratory for the California Energy Commission examined the effect of a 33% renewable energy supply on the need for natural gas generation, and found that this volume of renewable energy would allow for a large amount of the state's aging natural gas power plants to be retired without commissioning new ones. Replacing aging power plants with new natural gas plants would thus seem to be at odds with the goal of achieving significantly higher levels of renewable energy.

While it may be necessary to replace some of the aging plants with new natural gas power, replacing all—or even most—of them in this way would represent failure for almost every major clean energy policy that the state has. There is no doubt that continuing to rely heavily on natural gas power plants is technically and conceptually easier for grid operators, and we will continue to need some amount of this resource for the near term. Yet it is imperative that alternative ways of meeting our future energy needs be given as high, or even higher, priority than simply taking the technically easier path. Along with answering the real technical question about how grid reliability can be maintained while reducing reliance on natural gas, there needs also to be an examination of the alternatives from the point of view of state policy and the environment. The challenges of climate change and depletion of fossil fuels will only increasingly make it necessary to face and surmount the technical challenges of moving to a new paradigm.

There are clearly abundant resources available today to the electric grid as a whole, yet planners ranging from the IOUs and regulatory bodies like the ISO, and all the

way to the White House, keep insisting that reliability in California is a problem, and that there is a great need to build new power plants. This reliability is not a lack of total generation and transmission capacity for the state. In fact, the state has been on a major construction binge for natural gas power plants for the past eight years.

Power Plants On-Line by Year		
2008		
2007	2 facilities	177 MW
2006	5 facilities	1,487 MW*
2005	7 facilities	3,112 MW
2004	0 facilities	0 MW
2003	7.5 Facilities	3,668 MW*
2002	7 Facilities	2,729 MW*
2001	9.5 Facilities	1,914 MW
1999 & 2000	0 Facilities	0 MW
2001-2007	38 Facilities	13,087 MW
<p>* Note: Some units split date they come on line. We generally use the earliest date project first unit is on line in the totals for each year. See below for years.</p> <p>2006: Riverside (Unit 1 on line 6/1/06, Unit 2 on line 7/26/06)</p> <p>2005: Mountainview (Unit 3 on line 12/9/05, Unit 4 on line 1/19/06, total MW added to 2005)</p> <p>2003: Sunrise Combined Cycle (265 MW in 2003) is added separately from Sunrise Simple Cycle (320 MW in 2001) because was done as amendment, but is counted as one facility in 2001.</p> <p>2002: Huntington Beach (Unit 3 on line 7/31/02, Unit 4 on line 8/7/03, total MW added to 2002.)</p>		

Source: California Energy Commission ¹

The table above omits additional generation that was built in the state but not under the licensing jurisdiction of the Energy Commission. Since 1999, this has amounted to 2,664 megawatts, for a grand total of 15,751 megawatts. This was accompanied by the retirement or mothballing of 7,548 megawatts of old power plants, for a net gain of 8,203 megawatts. ² This updating of the electric generation infrastructure produced some important benefits, especially in reducing demand for natural gas fuel to generate electricity over the past eight years.

There are huge resources available to the state's electric power grid, including conventional generation from natural gas, nuclear, hydroelectric and renewable power sources. Under state law hydro under 30 megawatts is considered "renewable"; however, for purposes of grid reliability small hydro is "dispatchable," meaning it can be ramped up and down in a controlled manner, unlike solar and wind which are said to be

¹ Power Plant Fact Sheet, California Energy Commission Media Office, updated 5/07/08.
http://www.energy.ca.gov/sitingcases/FACTSHEET_SUMMARY.PDF

² Ibid.

“intermittent” according to when the sun shines or the wind blows. The table below shows power supplies from different sources, adjusted for reliability factor called “effective load carrying capacity” (ELCC):³

	Capacity	ELCC	Reliable
	mw		mw
Natural Gas	40,832	100%	40,832
Other Thermal	3,446	100%	3,446
Nuclear	4,472	100%	4,472
Hydro	10,549	100%	10,549
Pumped Storage	3,670	95%	3,487
Renewables	5,739	50%	2,870
Total Database	68,707		65,654

Conventional power sources such as natural gas, nuclear and hydroelectric plants are considered to count 100% of their capacity toward reliability needs, and thus are rated with 100% Effective Load Carrying Capacity. About half of the state’s renewable power is wind, which is quite variable and has closer to a 25% ELCC. For purposes of estimation a factor of 50% was used, which is conservative, since the other in-state renewable resources such as geothermal and the solar thermal power plants with natural gas backup have 100% ELCC.

The total generation resource above, of over 65,000 megawatts, exceeds the summer heat storm peak demand needs in 2006, which was just over 60,000 megawatts. That heat storm represented an event expected less than once in 30 years, a level of demand that is thousands of megawatts higher than the long term growth trend line.⁴ Current state reliability criteria only require demand projections for a 1 in 2 year event, plus a margin of 15% to 17% for extra security. It is noteworthy that these design criteria for system resource planning were more than sufficient to meet the needs for the extraordinary 2006 event.

In addition to the power plants considered above, there are several other significant resources. For example, Investor Owned Utilities (IOUs) are required by the California Public Utilities Commission to obtain 5% of peak energy needs from Demand Response programs. While the utilities have fallen short of meeting this target, other programs allowing the utility to curtail their customers’ energy usage during power emergencies—called Interruptible Load—has more than picked up all the slack. In all, 236,195 customer “Service Accounts” participated in the demand reduction programs offered by the Investor Owned Utilities. Another resource is the wide assortment of small

³ Totals derived from California Power Plants Database, California Energy Commission.
http://www.energy.ca.gov/database/POWER_PLANTS.XLS

⁴ The OTC Reliability Study cited correctly an expected long term growth rate in demand of 1.1 to 1.2 percent “for the foreseeable future” (p. 19), but did not point out that the cited peak demand in 2006 was an extraordinarily high anomaly, not a baseline for future expected growth.

customer-owned generation, particularly Backup Generators (BUGS), and rooftop solar photovoltaics (PV).

Finally, there are several major power transmission lines that bring in electricity from the north, the east and the southwest.⁵ Import capacity includes 7,900 megawatts from the Pacific Northwest, 1,900 megawatts from Utah, 7,500 megawatts from the Desert Southwest, and 800 megawatts from Baja region of Mexico.⁶

Total Resources Available to California Electric Grid

Resource	Mw	elcc	reliable mw
Conventional Instate Generation	68,707		65,654
Transmission Import	18100		18100
BUGS Database ⁷	3,880	90%	3,492
Peak Demand Resource (DR/IL) ⁸	2,669	100%	2,669
Rooftop Solar	300	40%	120
Total All	93,656		90,035

If all these above resources are included, the power capacity for the state exceeds a staggering 90,000 megawatts, 50% higher than has ever been recorded as a peak need. Not all of this is always available when and where needed, but a surprising amount is, sometimes even in excess of the ISO's forecasts.⁹

The chart below helps to picture what a "typical" day of demand looks like for the California ISO grid. During the spring and fall daily electricity demand peaks at about 30,000 megawatts, while in the summer it can rise in the late afternoon to 40,000 megawatts or more. After the peak demand falls over a period of 10 to 12 hours to a low point in the early morning before dawn, when the demand begins to rise again.

⁵ Map source: California Energy Commission, http://www.energy.ca.gov/maps/transmission_lines.html

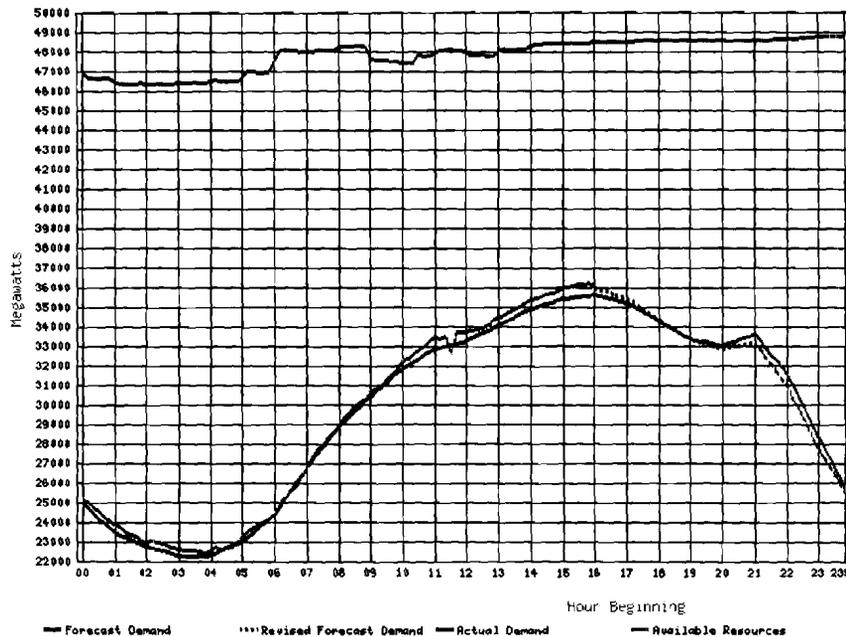
⁶ US Transmission Capacity: Present Status and Future Prospects, by Eric Hirst, prepared for Edison Electric Institute and Office of Electric Transmission and Distribution, US Dept. of Energy, August 2004, p.34.

⁷ BUGS 1 – Database of Public Back-Up Generators (BUGS) in California, Updated January 2004. California Energy Commission, http://www.energy.ca.gov/database/EDITED_PUBLIC_BUGS_INVENTORY.XLS

⁸ The State of Demand Response in California, A. Faruqui, R. Hledik, Publication Number CEC-200-2007-003-F, California Energy Commission Division of Electricity and Demand Analysis, September 2007. Table 6, p. 16.

⁹ July 2006 CAISO Actual System Daily Peak Demand, Generation and Imports at Time of Daily Peak, CAL_ISO_08_29_2006.

California ISO Forecast and Demand for June 24, 2004



Given this, it is the position of the Local Clean Energy Alliance of the East Bay that this project simply is not needed. California has sufficient resources to meet electricity demand without the project. At a time when the state has a policy to aggressively develop renewable energy, we believe this project is a step in the wrong direction.

The Local Clean Energy Alliance is a growing coalition of local non-profits, businesses, and community leaders working for a clean energy future in the East Bay. Our members: Bay Localize, Berkeley Oil Independence Task Force, EcoCity Builders, Ecology Center, Energy Preparedness, Kyoto USA, Moss Beach Renewable Energy, Nomad Café, Oakland Community Action Network, Pacific Environment, Rainforest Action Network, Sierra Club – San Francisco Bay Chapter, Urban Alliance for Sustainability.

Yours,

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