

**Comments of Southern California Edison Company on  
Staff Draft Guidelines for Certification of Combined Heat and Power Systems Pursuant to  
the Waste Heat and Carbon Emissions Reduction Act**

2008 Rulemaking on Implementation of the )  
Waste Heat and Carbon Emissions Reduction Act )  
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Docket No. 08-WHCE-1

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**I. INTRODUCTION**

Southern California Edison Company (SCE) appreciates the efforts of the California Energy Commission (CEC) in developing the Staff Draft “Guidelines for Certification of Combined Heat and Power Systems under the Waste Heat and Carbon Emissions Reduction Act” (Guidelines) pursuant to Public Utilities Code section 2840, *et seq.* SCE also commends the CEC staff for creating technical guidelines that reflect the multiple goals and nuances of the AB1613 statute.<sup>1</sup>

SCE supports many of the changes made to the Guidelines since the initial draft was circulated in July 2009, in particular, the Staff’s efforts to ensure that AB 1613 systems are environmentally beneficial, consistent with statutory mandates. SCE appreciates the more stringent and realistic fuel savings standard adopted in the Guidelines, and believes that a lower heat rate standard will help to ensure that AB 1613 systems reduce fuel use. Accordingly, SCE’s comments focus on continued concerns about (1) the calculation of the fuel savings standard; (2) the efficiency standard, and (3) the reporting and certification requirements in the Guidelines.

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<sup>1</sup> At the October 12, 2009 workshop conducted by the CEC's Electricity and Natural Gas Committee to discuss the Guidelines, one attendee questioned whether the Guidelines should contain any quantitative requirement not specified in AB1613 (e.g. the Thermal Energy Utilization and Fuel Savings Standards). This led to discussion of whether the Guidelines should be made "simpler" by omitting requirements other than the 60% minimum efficiency standard. However, AB1613 tasks the CEC with developing guidelines that accomplish a number of key objectives that are not quantified: Reduce waste energy, size projects to meet customer thermal load, optimize the efficient use of waste heat, support projects that are cost effective, technologically feasible and environmentally beneficial, and are not designed as *de facto* wholesale generators. Public Utilities Code Sections 2843(1), *et seq.* The Guidelines properly assign quantitative benchmarks and metrics to allow determination if CHP projects meet these objectives; eliminating requirements in the interest of "simplification" would render portions of the statute meaningless.

## **II. COMMENTS**

### **A. Fuel Savings Standards**

SCE appreciates Staff's recent movement toward a standard that will ensure that AB 1613 systems actually do save fuel compared to separate electric generation and thermal production. SCE has proposed that for a natural gas fired topping cycle CHP system, the electric benchmark should be a state-of-the art natural gas fired combined cycle gas turbine with a 7,000 heat rate and an 85% efficient boiler. The Guidelines made significant progress toward SCE's proposal by including a 7,700 heat rate and an 80% efficient boiler, based on a review of the range of values provided by interested parties in comments.<sup>2</sup> This standard improves upon Staff's previously proposed standard of 8,737 Btu/kWh. Nevertheless, a higher yet achievable standard is justified.

For instance, Edison's Mountainview power plant, a recently constructed combined cycle gas-turbine (CCGT) facility, has a full load heat rate (as reported by Mountainview Power Company to the Federal Energy Regulatory Commission in an annual informational filing) of 6,839 Btu/kWh at standard site conditions.<sup>3</sup> SCE considers Mountainview's full load heat rate a more relevant electrical benchmark because a CCGT would be the design choice for a new natural gas-fired generation resource.<sup>4</sup> This CCGT benchmark should be compared to the electrical production from any new natural gas fired CHP project that would be proposed under this program also at the CHP's full load design condition.

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<sup>2</sup> See Appendix C at 5. The proposed forms are based on an electrical efficiency (for the displaced electric generator) of 44.3%, which actually corresponds to 7,704 Btu/kWh. Appendix C at 5 indicates that staff recommends a value of 7,700 Btu/kWh, presumably a rounded value. Also, page 4 references an electrical efficiency of 44% (presumably a rounded value) and a corresponding 7,750 Btu/kWh displaced heat rate.

<sup>3</sup> Mountainview Power Company LLC, 2008 Annual Informational Filing, FERC Docket ER09-1078-000, May 1, 2009. The figure of 6,839 Btu/kWh is the simple average of heat rate test data for April 2008 and October 2008, following the procedures specified in Section 12.03 of the Mountainview power purchase agreement.

<sup>4</sup> The staff guidelines cite comments by CAC-EPUC and CCC that the Mountainview heat rate is 7,460 Btu/kW. This value is not Mountainview's baseload heat rate and is not comparable to the values that the CEC is using to establish an appropriate displaced heat rate in the Guidelines. Because the cited heat rate is not a full load heat rate at ISO conditions, it cannot be meaningfully used to assess the appropriateness of the staff-proposed displaced heat rate.

At the October 12, 2009 workshop on the Guidelines, an issue was raised as to whether it was appropriate that the fuel savings standard should be based on new technology, instead of at-the-margin existing generators. SCE supports staff's recommendation to use new technology. The Guidelines should not provide incentives for CHP systems that cannot do better than modern conventional generators in terms of GHG reduction, because that will result in new CHP crowding out more efficient conventional generation. The issue of setting an appropriate fuel saving standard is different than the issue of quantifying overall GHG savings, which can be measured from an existing benchmark.

The heat rate adopted in the Guidelines includes an 8% transmission and distribution system loss adder, based on the potential for a CHP unit to avoid the losses between a central power plant and end user. SCE is concerned that such avoided line losses may be inappropriate where the generator is exporting some or a majority of its electricity to the grid. Indeed, AB 1613 was passed to give generators a mechanism to export their incidental output. To the extent an AB 1613 generator is only using a portion of its energy onsite, it cannot be said that the generator is avoiding the same line losses as it would if all of the energy was used onsite.

At the October 12, 2009 workshop, SCE and several other attendees suggested that the 8% loss adder is too high, and recommended that this provision in the Guidelines be revisited in the future. Thus, SCE recommends that the Commission (i) revisit the 8% factor for site use based on the experience with AB 1613 generators and (ii) apply no losses to exported electricity. Once the CEC is aware of what percentage power AB 1613 generators are exporting, on average, it should adjust the fuel savings heat rate to account for the appropriate transmission and distribution system loss factor.

## **B. Efficiency Standard**

The Guidelines adopt a minimum efficiency standard of 60 percent. SCE remains concerned that a 60 percent efficiency standard will not (i) "dramatically advance the efficiency of the state's use of natural gas" as intended by AB 1613, (ii) reach CARB's Scoping Plan goal of 6.7 MMT of carbon reductions, or (iii) achieve the Integrated Energy Policy Report's (IEPR)

expectations for increased efficiencies over time. In the staff response to comments filed regarding the July 22, 2009 Draft AB 1613 Guidelines (Appendix C), Staff indicated that it believes that “economics of operation, the fact that the AB 1613 tariff will pay for performance (electricity deliveries) not for installed capacity, and performance monitoring and reporting will force CHP system designers and operators to strive for efficiency levels above 60% to avoid contractual penalties developed under the CPUC's parallel proceeding.” SCE is unaware of any “contractual penalties” that would require operators to strive for efficiency levels above 60 percent. In fact, the current drafts of the AB 1613 contracts simply require that the Seller meet the efficiency requirements established by the CEC for AB 1613 systems throughout the term of the contract.

At the very least, the CEC should reassess the efficiency required of AB 1613 systems every two years to ensure that the systems continue to be environmentally beneficial. Such a reassessment is contemplated in the draft 2009 Integrated Energy Policy Report in recognition of the fact that efficiencies will improve over time:

For CHP to meet ARB’s goals, a new generation of highly efficient CHP facilities must be encouraged and supported. Critical to achieving these efficiencies and meeting these targets will be the development of efficiency standards to guide development and operation of these facilities over time. AB 1613 (Blakeslee, Chapter 713, Statutes of 2007) is intended to encourage the development of new CHP systems in California with a generating capacity of not more than 20 MW. AB 1613 directs the Energy Commission to adopt guidelines by January 1, 2010 establishing technical criteria for eligibility of CHP systems for programs to be developed by the CPUC and publicly owned utilities. When these guidelines are adopted, they will set an efficiency standard for CHP facility development and assure that facilities are designed and operated in a way that reduces GHG emissions and will create a new benchmark for CHP efficiencies in California. As CHP technology continues to develop, efficiencies in the range of 75 to 80 percent can be expected to become standard and cost effective.<sup>5</sup>

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<sup>5</sup> California Energy Commission, 2009 Integrated Energy Policy Report, Draft Committee Report, September 2009, CEC-100-2009-003-CTD, page 93.

SCE urges Staff to update the efficiency requirements of Eligible CHP Systems consistent with expectations in the IEPR proceeding to ensure that AB 1613 systems provide ongoing environmental benefits.<sup>6</sup>

### **C. Reporting Requirements**

SCE appreciates the staff's work in developing the reporting requirements reflected in the Guidelines. The Guidelines, however, include an exemption from these requirements for CHP systems with a net generating capacity of 1 MW<sup>7</sup> or less and/or that sell fewer than 5,000 MWh/year of electricity. This exemption is not justified.<sup>8</sup> It is imperative that ongoing monitoring, verification, and enforcement (if necessary) be conducted on all AB 1613 systems. There is no valid reason to exempt generators of any size. Generators are only eligible for AB 1613 treatment if they meet, and continue to meet, the requirements of the statute. Moreover, a 1 MW facility is not a small, inconsequential generator. Indeed, from a financial perspective, a 1 MW unit operating at 80% capacity factor earns about \$350,000/year if the market price is \$50/MWh. The CEC should remove the exemption and ensure that all generators installed under the Act continue to meet efficiency and emissions standards throughout their operation.

### **D. Certification Requirements**

Staff recommends that the AB 1613 Applicant "provide a copy of Form CEC-2843 and attachments to the electrical corporation or utility after certification, but not

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<sup>6</sup> At the October 12, 2009 workshop, several attendees expressed the concern that if the AB1613 program is implemented with too low an efficiency standard such that eligible CHP merely replaces other fossil generation with no real betterment from an emissions standpoint, the carbon reduction goal of the statute will be frustrated, with the collateral effect of limiting utility procurement of renewable resources.

<sup>7</sup> The threshold should be based on "nameplate" not "net generating" capacity.

<sup>8</sup> At the October 12, 2009 workshop, one attendee suggested that "utility grade" thermal energy metering equipment required to monitor CHP system performance and efficiency would be too costly and therefore should be waived for smaller CHP systems. Such action is not justified either on grounds of project economics or public policy. Thermal energy measurement equipment is widely available in the marketplace and used in many commercial and industrial applications, including energy management and CHP generation. The lack of thermal energy metering would make it difficult for customers to know how their CHP system was performing, and would make the effective administration of the Guidelines problematic.

contemporaneously.”<sup>9</sup> Such a requirement could result in the inefficient use of resources. Put simply, if the utility has information which contradicts the information in a generator’s application, it makes sense to allow the utility to raise that issue during the certification process, rather than wait until after the generator’s certification to raise the issue. Such a requirement is not burdensome. The CEC should require generators to provide a copy of their certification documentation to the relevant utility at the same time they provide it to the CEC. This is consistent with practices in the Qualifying Facility context.<sup>10</sup> If the Guidelines are not modified to require the generator to send a contemporaneous copy of their certification materials to the utility, the CEC should extend the appeal period from 30 days to 60 days to allow the utility sufficient time to review the materials and file an appeal, if appropriate.

### **III. CONCLUSION**

SCE appreciates the CEC’s consideration of these comments, and looks forward to working with the CEC and CPUC to implement the AB 1613 Guidelines and Tariff.

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<sup>9</sup> Guidelines, Appendix C, page C-9.

<sup>10</sup> When a QF files for certification at the Federal Energy Regulatory Commission (FERC), the generator is required to provide a copy of its application to both the utilities with which the facility will transact, as well as the Public Utilities Commission. See <http://www.ferc.gov/industries/electric/gen-info/qual-fac/obtain.asp>.

Respectfully submitted,

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