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TO: Linda Kelly
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FROM: Mike Tollstrup, Chief
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DATE: August 13, 2009

SUBJECT: COMMENTS ON COMBINED HEAT AND POWER (CHP) MARKET
ASSESSMENT STUDY

The Air Resources Board (ARB) appreciates the opportunity to provide comments on the draft summary of the forthcoming CHP Market Assessment Study, presented to the Commission's Integrated Energy Policy Report (IEPR) Committee at its July 23rd, 2009 workshop. As you know, the CHP Scoping Plan measure approved by the ARB was based partly on the findings of the Commission's 2005 market penetration study for CHP. As our Energy Section staff discussed with you, we believe the utility of the forthcoming study could be improved by the inclusion and analysis of the information described below:

Comparative analysis with the 2005 study

An analysis of the factors that have caused the updated study's results to differ so markedly from the earlier study would help clarify specific market condition changes or assumptions.

For example, the "base case" scenario in the 2005 study, with SGIP payments in place, estimated that 1,966 MW of additional CHP capacity could be expected by 2020 (a 15-year period). In the updated study, it's estimated that restoration of SGIP payments would only encourage 497 MW to be developed by 2029 (a 20-year period).

In the 2005 study's "moderate market access" scenario, it's estimated that 4,376 MW of additional capacity (2,410 MW over the base case) could be expected by 2020, if large facilities were allowed to export power at wholesale prices. In the updated study, it's estimated that restoration of SGIP payments, combined with the "expanded export"

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scenario (which assumes the benefits of a tariff), would encourage only 1,168 MW to be developed by 2029.

Finally, the “high deployment case” in the 2005 study estimated that 7,340 MW could be accommodated by 2020, whereas the “all in case” of the updated study estimates only 4,406 MW by 2029. While the assumptions between these two scenarios may not specifically match, an explanation for the differences between these two optimum scenarios would be useful.

Evaluation of barrier removal strategies

The revised study notes a need to overcome several barriers (market, contractual, pricing, capital cost, interconnection charges, etc.) to facilitate CHP development. In addition, the Commission’s 2007 IEPR identifies and recommends strategies for reducing several existing barriers to CHP development, which were incorporated in our adopted CHP measure. Therefore, we recommend that the study evaluate the effect of removing or mitigating identified barriers on the various scenario results examined in the study.

Clarify emission standards for CHP technologies

The study’s general assumption that all CHP system sizes and technologies would need to comply with the distributed generation NO_x emission standard of 0.07 lb/MWh is not correct. Please refer to ARB’s Guidance for the Permitting of Electrical Generating Technologies, as approved by the Board on November 15, 2001, at www.arb.ca.gov/energy/dg/documents/guidelines.pdf for a detailed description of applicable standards.

Provide thermal load assumptions for CHP site applications

The study generally identifies CHP sizing parameters and thermal load assumptions for commercial and industrial sites but does not include specific calculations and assumptions for each of the identified SIC Code applications. Actual thermal load profiles for various CHP applications within the commercial and industrial sectors may vary substantially. Providing calculations for each of the SIC code applications examined will help us to better understand and evaluate the study’s results.

We appreciate the Commission’s efforts to update its CHP market penetration study in support of achieving ARB’s scoping plan goal and look forward to reviewing the completed study and report. We may have additional comments once the completed study, with the details of the study’s assumptions, has been released.

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If you have questions concerning our comments, or would like additional information about the requested information, please contact Dave Mehl in our Energy Section at (916) 323-1491 or by email at dmehl@arb.ca.gov.

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