

Decision 03-06-008 June 5, 2003

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the
Commission's Proposed Policies and Programs
Governing Energy Efficiency, Low-Income
Assistance, Renewable Energy and Research
Development and Demonstration.

Rulemaking 98-07-037
(Filed July 23, 1998)

**INTERIM OPINION DENYING CAPSTONE TURBINE CORPORATION'S
PETITION FOR MODIFICATION OF DECISION (D.) 01-03-073**

Introduction and Summary

"Self-generation" refers to distributed generation technologies (micro-turbines, small gas turbines, wind turbines, photovoltaics, fuel cells and internal combustion engines) installed on the customer's side of the utility meter that provide electricity for either a portion or all of that customer's electric load. Under the program adopted in D.01-03-073, financial incentives are provided to three different categories (or levels) of self-generation technologies: ¹

Level 1: The lesser of 50% of project costs or \$4.50/watt for photovoltaics, wind turbines and fuel cells operating on renewable fuels;

¹ D.01-03-073 has subsequently been corrected by D.01-04-048 and modified by D.01-07-028, D.02-02-026, D.02-04-004, D.02-09-051 and D.03-01-006, in response to petitions for modification.

Level 2: The lesser of 40% of project costs or \$2.50/watt for fuel cells operating on non-renewable fuel and utilizing sufficient waste heat recovery; and

Level 3: The lesser of 30% of project costs or \$1.00/watt for micro-turbines, internal combustion engines and small gas turbines operating on non-renewable fuel that both utilize sufficient waste heat recovery and meet reliability criteria. For these same technologies operating on renewable fuel: The lesser of 40% of project costs or \$1.50/watt.

Pacific Gas and Electric Company (PG&E), Southern California Gas Company (SoCal) and Southern California Edison Company (SCE) are the program administrators for the self-generation program within their service territories. Per D.01-06-035, San Diego Gas & Electric Company (SDG&E) subcontracts to the San Diego Regional Energy Office (SDREO) to administer the self-generation program within its service territory.²

The Commission authorized a combined annual budget of \$125 million for the self-generation program over a four-year period. The program was officially launched on June 29, 2001. To facilitate consistent program implementation, the Commission formed a Working Group comprised of the program administrators, staff from the Energy Division and the California Energy Commission. The Working Group's initial work products consisted of the program handbook, application, reservation request form and contract agreement. It convenes regularly, typically meeting one day each month, to fine-tune the implementation process.

² We refer to PG&E, SoCal, SCE and SDREO collectively as "the program administrators" throughout this decision. We refer to PG&E, SoCal, SCE and SDG&E collectively as "the utilities."

In its Petition For Modification of D.01-03-073 (Petition), Capstone Turbine Corporation (Capstone) requests a Commission determination that exhaust-fired absorption heat exchangers (referred to as “EFAs”) are eligible costs for incentive payments under the program. We find that EFAs represent the type of thermal load equipment exclude from eligible project costs in D.02-02-026, and deny Capstone’s Petition. EFAs are installed for the purpose of producing chilled water, irrespective of how heat is extracted in the process. As we stated in D.02-02-026, if the self-generation program incentive funds are used to pay for directly connected evaporative chiller components (only because they are directly connected to the generator), then by extension the program should be funding all other directly connected thermal end-use equipment, including ovens, boilers, radiators and storage tanks. This is clearly not our intent. Moreover, experience with the program to date indicates that the cost of EFAs (like other absorption chiller equipment) is comparable to the costs of the distributed generation equipment itself, if not more—whereas the costs that we intended to cover for heat exchangers are a small fraction of the project cost.

Positions of the Parties

Capstone filed its Petition on February 14, 2003. The utilities filed a joint response opposing the Petition on March 17, 2003. Capstone filed a reply to the joint response on March 26, 2003.³

Capstone argues that an EFA performs the same function as a heat exchanger, which is an eligible program cost for the purpose of calculating program incentives. As Capstone explains it, both technologies “reallocate heat

³ In accordance with Rule 47(g) of the Commission’s Rules of Practice and Procedure, Capstone requested leave to file a reply and was granted permission by the Administrative Law Judge.

energy in the exhaust of a combustion process to enable temperature changes in an output fluid and/or gas such as water and air.”⁴ Capstone contends that EFAs therefore meet the conditions set by the Commission, i.e., that eligible project costs include heat recovery equipment directly connected to the generator.

The utilities argue that the sole purpose of the EFA is to produce chilled water, irrespective of its heat source, and therefore it represents thermal load equipment. They point to the Commission’s determinations in D.01-03-073 to support their position that incentive funds should not be used to pay for evaporative chiller components that are connected to the generator.

Discussion

In D.02-02-026, we denied a petition filed by RealEnergy Inc. (RealEnergy) to include absorption chillers as an eligible project cost:

“RealEnergy requests that we clarify that all waste heat recovery equipment that must be installed in order for an applicant to satisfy these requirements be included in project costs for the purpose of calculating the incentive payment. Although RealEnergy’s Petition does not clearly identify such equipment, its reply comments suggest that devices such as absorption chillers would be included, since they create thermal output when connected to the generation device [footnote omitted].

“As the utility administrators explain, eligible project costs currently include heat recovery equipment directly connected to the generation equipment, and heat recovery piping and controls necessary to interconnect primary heat recovery equipment to existing thermal load at the project site.

⁴ Capstone’s Reply, March 26, 2003, p. 2.

However, the program administrators have distinguished between this type of equipment and the cost of devices that then use the heat (“thermal load equipment”), such as absorption chillers [footnote omitted]. We believe that this is a reasonable line to draw. If the utilities are directed to pay for one type of thermal load equipment like chillers, developers are also likely to seek funding for other thermal load equipment, such as boilers and radiators, thermal storage tanks, etc. We **deny** RealEnergy’s request, and affirm the program administrators’ decision to exclude the cost of thermal load equipment at the project site from eligible project costs.”⁵

We agree with the utilities that EFAs represent the type of thermal load equipment that should be excluded from eligible project costs in D.02-02-026. In that decision, we distinguished between equipment that recovers heat, but does not use the heat for process or cooling needs, and equipment that uses waste heat in a process to produce a product different and distinct from the waste heat input (referred to as “thermal load equipment”).

EFAs clearly fall under the latter category. Capstone attempts to confuse the issue by emphasizing certain heat extraction properties of EFAs. As indicated in the attached flow diagrams, the EFA technology essentially eliminates the need for a heat exchanger by incorporating that function directly into the absorption chiller itself. EFAs use the high temperature exhaust heat directly. In contrast, standard absorption chillers require a water heat exchanger and hot water circulating system to recover the exhaust heat for use by thermal loads. However, irrespective of how heat is extracted in the process, the “EFA’s sole purpose is to produce chilled water.”⁶

⁵ D.02-02-026 (at pp. 11-12) (emphasis added).

⁶ Capstone’s Petition, p. 3.

As the utilities point out in their comments, the Commission and the Working Group have considered the issue of absorption chiller eligibility on several occasions. In each setting, absorption chillers were found to represent thermal loads and thus were not eligible for incentives under the self-generation incentive program. As we pointed out in denying RealEnergy's request, if the self-generation program incentive funds are used to pay for directly connected evaporative chiller components (only because they are directly connected to the generator), then by extension the program should be funding all other directly connected thermal end-use equipment including ovens, boilers, radiators, and storage tanks. This clearly is not our intent. Moreover, experience with the program to date indicates that the cost of EFAs, like other absorption chiller equipment, is comparable to the costs of the distributed generation equipment itself, if not more—whereas the costs that we intended to cover for heat exchangers is a small fraction of the project cost.

For these reasons, we deny Capstone's Petition.

Comments on Draft Decision

The draft decision of the Administrative Law Judge in this matter was mailed to the parties in accordance with Section 311(g)(1) and Rule 77.7 of the Rules of Practice and Procedure. Comments were filed on May 23, 2003 by Capstone and reply comments were filed on June 2, 2003 by SCE.

In its comments, Capstone contends that the draft decision determines that EFAs represent thermal load equipment "without explanation or justification." We find no merit to this contention and make only minor language modifications to underscore the point that EFAs represent a device that uses waste heat in a process to produce a product different and distinct from the waste heat input. It is this attribute, and not how the device is connected to a generating system or the method used to introduce external heat into the chemical process, that we

find relevant to our determination of what represents thermal load equipment for the purpose of defining eligible costs under this program.

Assignment of Proceeding

Loretta M. Lynch is the assigned Commissioner and Meg S. Gottstein is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. The EFA's sole purpose is to produce chilled water.
2. EFAs recover heat to produce chilled water.
3. In D.02-02-026, the Commission distinguished between equipment that recovers heat, but does not use the heat for process or cooling needs, and equipment that uses waste heat in a process to produce a product different and distinct from the waste heat input (referred to as "thermal load equipment"). The Commission excluded the latter (thermal load equipment) from eligibility under the self-generation incentive program.
4. EFAs are thermal load equipment.
5. The cost of EFAs is ineligible for the purpose of calculating incentive payments under the self-generation incentive program.

Conclusion of Law

Capstone's Petition should be denied.

INTERIM ORDER

IT IS ORDERED that the Petition for Modification of Decision 02-02-026 filed by Capstone Turbine Corporation on February 14, 2003 is denied.

This order is effective today.

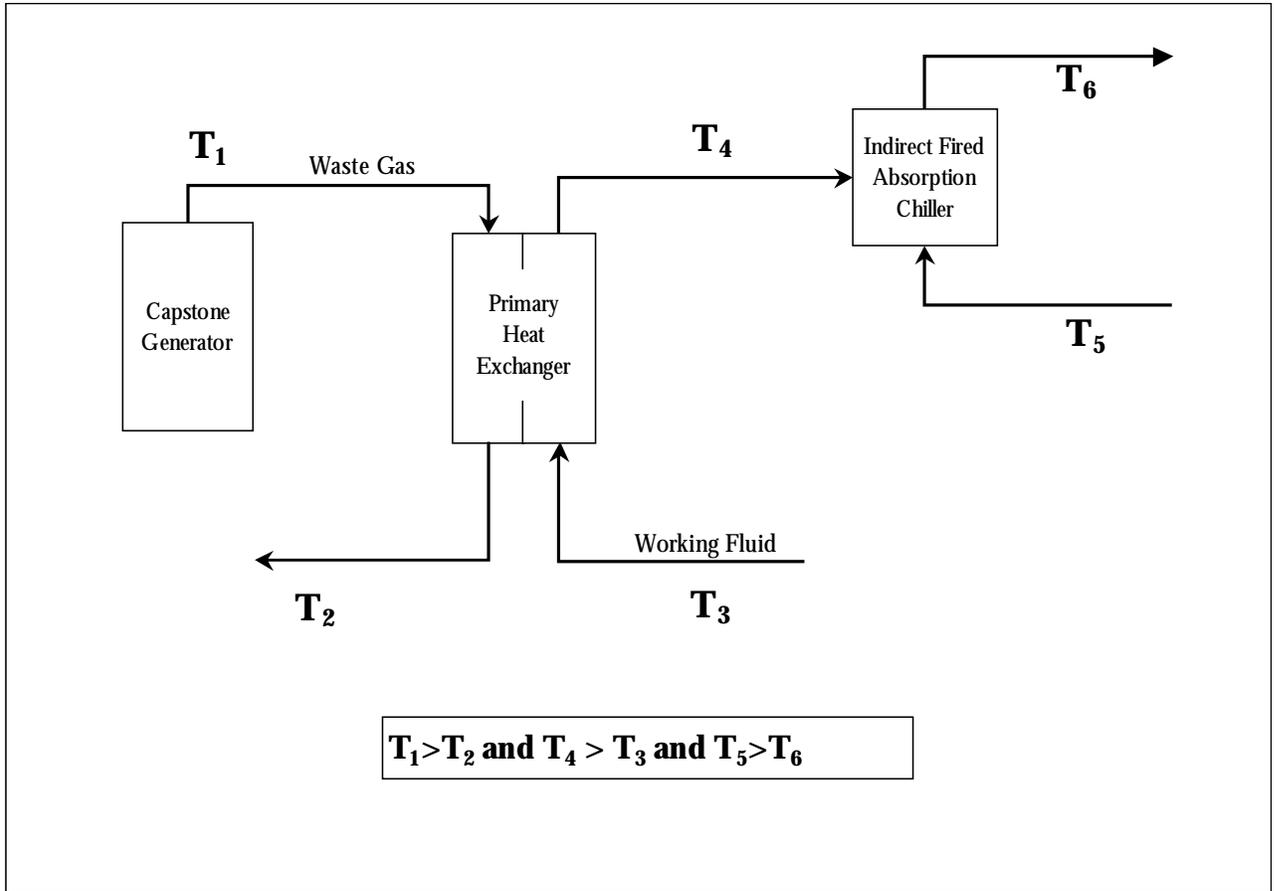
Dated June 5, 2003, at San Francisco, California.

MICHAEL R. PEEVEY
President
CARL W. WOOD
LORETTA M. LYNCH
GEOFFREY F. BROWN
SUSAN P. KENNEDY
Commissioners

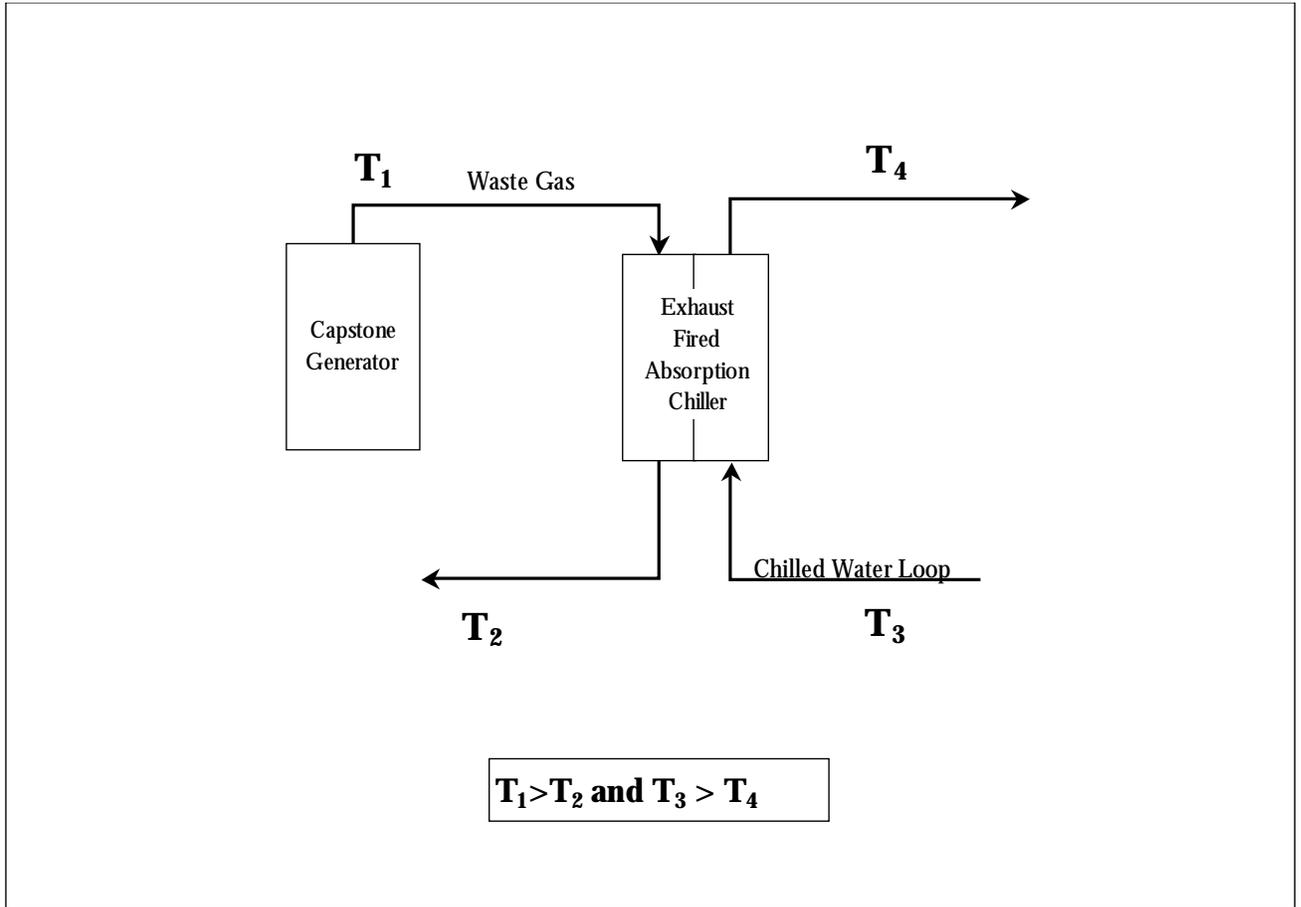
ATTACHMENT

Process Flow Diagrams For Standard Absorption Chiller System and Exhaust Gas-Fired Absorption Chiller System (EFA)

Process #1: Primary Heat Exchanger & Absorption Chiller System



**Process #2: Exhaust Gas-Fired
Absorption Chiller System**



(END OF ATTACHMENT)