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Decision 23-12-004 December 14, 2023

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking  
Regarding Policies, Procedures and  
Rules for the Self-Generation Incentive  
Program and Related Issues.

Rulemaking 20-05-012

**DECISION EXPANDING ELIGIBILITY  
FOR THE HEAT PUMP WATER HEATER PROGRAM**

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## **DECISION EXPANDING ELIGIBILITY FOR THE HEAT PUMP WATER HEATER PROGRAM**

### **Summary**

This decision modifies the existing heat pump water heater (HPWH) program in Decision 22-04-036 (the 2022 decision) to expand program eligibility. Specifically, this decision revises the current definition of a qualifying demand response program, which refers to “a [California Independent System Operator (CAISO)] market-integrated supply-side program that counts for a load-serving entity’s resource adequacy obligations.” For customers of publicly-owned electric utilities, the definition is:

Where available:

A program that (1) shifts onsite energy use to off-peak time periods or reduces demand from the grid by offsetting or lowering some or all of the customer’s onsite energy load, including, but not limited to, peak electric load, where the peak hours are defined by the electric utility serving the customer; (2) is commercially available; and (3) safely utilizes the existing transmission and distribution system.

For customers of electric investor-owned utilities (IOU), Regional Energy Networks, and Community Choice Aggregators, the new definition is:

Where available:

- a. A CAISO market-integrated supply-side program that counts toward a load-serving entity’s resource adequacy obligations; *or*
- b. Any demand response program that meets the definition of a qualified program established by the Commission in the Demand Flexibility Rulemaking 22-07-005 or the IOU Demand Response Programs Application 22-05-002; *and*

- c. No later than January 1, 2025,<sup>1</sup> where available, a program that shifts onsite energy use to off-peak time periods or reduces demand from the grid by offsetting or lowering, some or all of the customer's onsite water heater energy load, including, but not limited to, peak electric load, where the peak hours are defined by the electric utility serving the customer.

This decision also revises the eligible software that shall be used by the Program Implementer to determine central HPWH<sup>2</sup>, manufacturer models for program eligibility, from the California Building Energy Code Compliance Residential software to any software approved by the California Energy Commission for modeling central HPWHs for compliance with Title 24, Part 6 of the California Code of Regulations.

Finally, this decision eliminates the requirement for HPWH program implementors to refer to the existing Self-Generation Incentive Program Handbook for anything not specified in the 2022 decision. Instead, this decision will require the HPWH program implementor to refer to a newly adopted HPWH Handbook, as approved via the advice letter process specified in Ordering Paragraph 13b of the 2022 decision.

This proceeding remains open.

## **1. Background**

Heat Pump Water Heaters (HPWH) are an example of thermal energy storage technology. HPWHs currently qualify as one of the eligible Self-Generation Incentive Program (SGIP) technologies because these systems

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<sup>1</sup> The assigned Commissioner may extend this date based on stakeholder feedback and prevailing market conditions.

<sup>2</sup> Central HPWH means a water heater that serves multiple residential units or commercial spaces.

have the capability to shift load from peak to off-peak periods and can provide CAISO grid-integrated load drop and ramping services.

The California Public Utilities Commission (Commission) established the SGIP in 2001 in Decision (D.) 01-03-073 in response to Assembly Bill (AB) 970 (Ducheny, Stats. 2000, Ch. 329). AB 970 directed the Commission to provide incentives for distributed generation resources to reduce peak energy demand. Since 2001, the Legislature has refined and extended the SGIP several times.<sup>3</sup>

HPWHs have emerged as a commercially viable technology with the potential to decrease energy bills for most customers.<sup>4</sup> In addition, HPWHs can provide greenhouse gas (GHG) emissions reductions by replacing carbon-intensive gas and propane fueled water heaters with highly efficient electric alternatives. Due to the natural heat retention capability of water, HPWHs can heat water to a high temperature during hours when the grid is less stressed and can then deliver this hot water without using additional electricity from the grid during peak demand hours. Thus, they can act as energy storage devices capable of shifting energy loads to different hours of the day. The 2019 California Energy Commission (CEC) Integrated Energy Policy Report recognizes HPWHs as potential thermal batteries that can help match the timing of electricity demand to generation of renewable energy, as well as reduce the

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<sup>3</sup> Notably, AB 1685 (Leno, 2003), AB 2778 (Lieber, 2006) and Senate Bill (SB) 412 (Kehoe, 2009) collectively shifted SGIP's focus from peak demand reduction towards reducing criteria pollutants and greenhouse gas (GHG) emissions. SB 861 and AB 1478 authorized SGIP collections through 2019 and administration through 2020 and required a number of other changes. AB 1637 (Low, 2016) authorized the Commission to double annual collections through 2019 as compared to calendar year 2008.

<sup>4</sup> Commission Resolution E-5233 available at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M499/K779/499779180.docx>.

severity of the late-afternoon demand ramp as solar output rapidly decreases.<sup>5</sup> In 2018, Ecotope and Natural Resources Defense Council (NRDC) published a study that assessed the potential for load flexibility in HPWHs via simulated models.<sup>6</sup>

D.22-04-036 (the 2022 decision), D.19-09-027, and D.20-01-021 adopted final budgets, incentive levels, and other program requirements for the SGIP HPWH program. The SGIP HPWH program is an \$84.7 million program incentivizing high efficiency, low-emission heat pump water heaters with the potential to shift energy loads during peak hours.

### **1.1. Procedural History**

On July 12, 2023, the assigned Commissioner issued a ruling seeking party comments to supplement the proceeding record on issues related to expanding the SGIP HPWH program to make a larger number of customers eligible (ACR).<sup>7</sup>

Parties to this proceeding filed comments and replies to the ruling on August 1, 2023, and August 11, 2023, respectively.

Twelve parties filed opening comments: The Public Advocates Office at the California Public Utilities' Commission (Cal Advocates), California Solar and Storage Association, California Efficiency + Demand Management Council (The Council), California Municipal Utilities Association (CMUA), Center for Sustainable Energy, Cohen Ventures, Inc. dba Energy Solutions, Joint

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<sup>5</sup> California Energy Commission 2019 Integrated Energy Policy Report at 51.

<sup>6</sup> CEC Docket 19-BSTD-09. "Heat Pump Water Heater Electric Load Shifting – A Modeling Study", available at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=232168&DocumentContentId=64120>.

<sup>7</sup> Assigned Commissioner's Ruling Seeking Additional Comments on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, July 12, 2023, available at: <http://docs.cpuc.ca.gov/SearchRes.aspx?DocFormat=ALL&DocID=513886938>.

Community Choice Aggregators (Joint CCAs), NRDC, Pacific Gas and Electric Company (PG&E), Rheem Manufacturing Company, Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E).

Eight parties filed reply comments: Cal Advocates, The Council, CMUA, Joint CCAs, PG&E, SCE, SDG&E, and Southern California Gas Company (SoCalGas).

## **2. Issues Before the Commission**

The ACR addressed six issues, including the three below<sup>8</sup>:

1. Should the Commission update the definition of a qualifying Demand Response (DR) program to allow customers in electric publicly-owned utilities (POU) territories that do not have a California Independent System Operator (CAISO)-integrated DR program to be eligible to participate in the SGIP HPWH Program? If it should be changed, then how should the Commission expand program eligibility so as to allow electric POU customers to participate in the program?
2. Should certain existing DR programs be considered as qualified programs so that customers enrolling in these programs are eligible for the SGIP HPWH Program? What should be the criteria to consider a DR program as a qualifying program under SGIP HPWH Program rules?
3. Should the Commission allow the SGIP HPWH Program Implementer (PI) to use California Building Energy Code Compliance (CBECC) software, in addition to CBECC Residential software (CBECC-Res), so that multi-family buildings with large central systems can qualify for SGIP HPWH Program incentives?

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<sup>8</sup> The first three questions do not pertain to the HPWH program and will therefore be addressed in a separate future decision.

### **3. Expanding Eligibility for Electric Publicly-Owned Utilities Customers**

The SGIP HPWH program was approved via the 2022 decision within the SGIP proceeding. However, certain policies associated with the prior HPWH decision present barriers to statewide participation. One barrier is the current definition relating to which technologies, programs, and entities can participate, which inadvertently excludes electric POU customers.

The 2022 decision requires participating SGIP HPWH program customers to enroll in a qualified “CAISO market-integrated supply-side DR program that counts for resource adequacy.”<sup>9</sup> Some electric POUs do not participate in the CAISO markets. Thus, as currently structured, the SGIP HPWH program disallows those electric POU customers who are also gas investor-owned utility (IOU) customers from participating in the program despite the fact that these customers have contributed toward SGIP HPWH program funding (gas IOU Cap-and-Trade auction proceeds) as ratepayers.<sup>10</sup>

#### **3.1. Party Comments**

Parties’ comments to the ACR generally supported expanding the definition of eligible demand response programs for increased participation in the SGIP HPWH program. In their Opening Comments, The Council supported the Commission expanding the definition of a qualifying DR program to allow customers in electric POU service territories that do not have a CAISO-integrated DR program to be eligible for participation in the SGIP HPWH program.<sup>11</sup>

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<sup>9</sup> D.22-04-036 at 34.

<sup>10</sup> Participation in DR programs are only possible for electric end uses. There is no DR program in place for gas end uses.

<sup>11</sup> Opening Comments of The California Efficiency + Demand Management Council on Assigned Commissioner’s Ruling Seeking Additional Comment on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 1, 2023, at 5.



CMUA in their Opening Comments stated that, “the Commission should update the definition of a qualifying DR program to ensure that customers in electric POU territories are able to participate in the SGIP HPWH program.”<sup>12</sup>

In their Opening Comments, Cal Advocates encouraged the Commission not to change the definition of a qualifying DR program stating, “Updating the definition so that a qualified DR program need not be ‘a CAISO market-integrated supply-side DR program that counts for resource adequacy’ would undermine these load shifting benefits by potentially reducing alignment with CAISO peak period hours and grid reliability needs.”<sup>13</sup>

In Reply Comments, The Council reiterated its support for its own comments and Energy Solutions’ comments recommending that, “POU programs and pilots be included in the DR definition by default.”<sup>14</sup> CMUA, in their Reply Comments, refutes Cal Advocates’ assertions that updating the definition of qualifying DR for the SGIP HPWH program would weaken the connection between resource performance and reliability. CMUA also states that “Public Utilities Code Section 379.6(e)(1), which defines eligibility for SGIP, limits incentives to resources that shift onsite energy use to off-peak time periods or reduce demand from the grid by offsetting some or all of the customer’s onsite

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<sup>12</sup> Opening Comments of the California Municipal Utilities Association on the Assigned Commissioner’s Ruling Seeking Additional Comments on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 1, 2023, at 2.

<sup>13</sup> Opening Comments of The Public Advocates Office on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 1, 2023, at 6.

<sup>14</sup> Reply Comments of The California Efficiency + Demand Management Council on Assigned Commissioner’s Ruling Seeking Additional Comment on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 11, 2023, at 3.

energy load, including, but not limited to, peak electric load.”<sup>15</sup> Moreover, in response to Cal Advocates’ position about not updating the definition for eligible DR programs for SGIP HPWH program participation, CMUA states that the current CAISO market-integrated supply-side DR program requirement is not a statutory requirement.<sup>16</sup> According to CMUA, leaving POU customers out of eligibility from a program that they pay into as IOU gas customers would exclude more than 2.7 million Californians.<sup>17</sup> Cal Advocates’ Reply Comments caution that expanding the definition to include POUs and others is too broad and runs the risk of not providing reliability benefits.<sup>18</sup>

### **3.2. Discussion**

Gas IOU ratepayers pay into the gas IOU Cap-and-Trade program, which, in part, funds the SGIP HPWH program. In locales where gas IOU customers are also electric POU customers, such as in Sacramento Municipal Utility District and Los Angeles Department of Water and Power service territories, program rules should be customized to not exclude them from participation. This would be consistent with the 2022 decision which states that “Any retail electric or gas distribution class of customer (industrial, agricultural, commercial, or residential) of PG&E, SCE, SoCalGas, or SDG&E is eligible to be a Host Customer that receives incentives through SGIP.”<sup>19</sup> However, this customization should not

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<sup>15</sup> Reply Comments of The California Municipal Utilities Association on The Assigned Commissioner’s Ruling Seeking Additional Comment on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 11, 2023, at 2.

<sup>16</sup> *Ibid.*

<sup>17</sup> *Id.* at 4.

<sup>18</sup> Reply Comments of The Public Advocates Office on The Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 11, 2023, at 5.

<sup>19</sup> D.22-04-036, Appendix A at A2.

apply to electric IOU customers who are already able to participate in a CAISO market-integrated supply-side DR program.

Therefore, we revise the current definition of a qualifying DR program for electric POU customers only from “a CAISO market-integrated supply-side program that counts for a load-serving entity’s resource adequacy obligations,”<sup>20</sup> to a program that (1) shifts onsite energy use to off-peak time periods or reduces demand from the grid by offsetting or lowering some or all of the customer’s onsite energy load, including, but not limited to, peak electric load; (2) is commercially available; and (3) safely utilizes the existing transmission and distribution system.

#### **4. Requiring Heat Pump Water Heater-Specific Load-Shifting Programs**

For the purposes of this decision, we make the following distinction about real-time and continuous load shifting activity for DR. DR programs, in the simplest sense, are programs whose goal is to be responsive to the grid in real time, or near real time, during certain hours of the year when the demand on the grid is critically high. Relatedly, California’s grid operator – CAISO – issues Flex Alerts during critical hours of the year (“flex hours”) based on predicted generation and demand, which usually occur during the hottest hours of the hottest days of the hottest months.

DR programs also consistently shift peak loads throughout the year, irrespective of intermittent conditions of the grid. “Peak hours” generally refers to specific hours of the day corresponding with early evening to early night, such as 4:00 p.m. to 9:00 p.m. or 5:00 p.m. to 8:00 p.m., depending on a customer’s

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<sup>20</sup> D.22-04-036 at Ordering Paragraph (OP) 1: Appendix A at A4.

specific rate plan. CAISO's flex hours often overlap with peak hours but can also fall outside of it.

Certain current Community Choice Aggregator (CCA) and IOU load-shifting programs are designed to shift energy use of HPWHs away from peak hours (load shifting), but are not necessarily market-integrated supply-side DR programs that count for resource adequacy.<sup>21</sup> For example, the PG&E WatterSaver program and the SCE Smart HPWH program are designed to help customers optimize HPWH – and, in some cases, electric resistance water heater – operation. More specifically, they install a communication device (*e.g.*, a CTA 2045 port or other hardware component capable of connecting to Wi-Fi and receiving external signal) in the customer's water heater. This enables load shifting by sending a daily signal to the water heater to increase tank temperature during each day's off-peak hours and reduce tank temperature during each day's peak hours. However, participation in these programs is currently not mandatory when the PI qualifies customers for the SGIP HPWH program incentive. Also, because these programs are load shifting programs and not DR programs, they are currently not required to signal load reduction in the water heater during flex hours. The PG&E WatterSaver program currently does not bid into CAISO markets for RA. Due to being relatively new, there is insufficient data to determine whether the WatterSaver program also has the potential to be a CAISO market-integrated program that can count towards RA.

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<sup>21</sup> A resource adequacy (RA) resource has the ability to provide power, or shed load, and be available to CAISO – when needed. The Commission's RA program, launched in 2006, provides the CAISO with access to significant quantities of capacity resources, and is critical for preventing rolling blackouts.

#### 4.1. Party Comments

On the question of whether certain existing DR programs should be considered as qualified programs for SGIP HPWH program participation, parties provided comments for and against the idea. Cal Advocates in their comments, mentioned that programs that are not integrated and do not count for RA, like PG&E's WatterSaver pilot, should not be considered as a qualifying program.<sup>22</sup> In their comments, The Council requested that "the Commission consider existing or upcoming DR programs that actively shift daily load of connected HPWHs as qualified programs for SGIP HWPB Program."<sup>23</sup> They continue, "While these programs are not market-integrated supply-side programs counting for resource adequacy, enrollment in these programs still achieve SGIP HPWH Program goals of grid support, environmental benefits, and market transformation."<sup>24</sup> Energy Solutions' comments support the Commission updating the qualifying DR requirement to allow for enrollment in certain programs that further the goals of SGIP without necessarily being CAISO market-integrated supply-side DR programs.<sup>25</sup>

The Opening Comments of Cohen Ventures, Inc. (Energy Solutions) on the ACR stated that, "the Commission should update the qualifying [DR] program

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<sup>22</sup> Opening Comments of The Public Advocates Office on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 1, 2023, at 9.

<sup>23</sup> Reply Comments of The California Efficiency + Demand Management Council on Assigned Commissioner's Ruling Seeking Additional Comment on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 11, 2023, at 6.

<sup>24</sup> *Ibid.*

<sup>25</sup> Opening Comments of Cohen Ventures, Inc. DBA Energy Solutions on Assigned Commissioner's Ruling Seeking Additional Comment on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 1, 2023, at 5.

definition to allow for enrollment in certain programs that further the goals of SGIP but may not be CAISO market-integrated supply side DR programs.”<sup>26</sup>

In their Opening Comments, Cal Advocates encouraged the Commission not to change the definition of a qualifying DR program stating, “Updating the definition so that a qualified [DR] program need not be “a CAISO market-integrated supply-side [DR] program that counts for resource adequacy” would undermine these load shifting benefits by potentially reducing alignment with CAISO peak period hours and grid reliability needs.” Cal Advocates’ Reply Comments focused on recommending that the Commission reject proposals by PG&E, Joint CCAs, and Energy Solutions to include load-modifying programs as possible qualifying DR programs because the Commission should require participation in qualifying DR programs that provide RA. Cal Advocates also asserted that the current definition requires programs to be supply-side DR programs, and therefore have more stringent performance and reliability requirements compared to load-modifying programs.<sup>27</sup>

#### **4.2. Discussion**

The 2022 decision directed Commission staff to work with the selected SGIP HPWH program’s PI and parties to determine the best cross-program coordination approach with the goal of streamlining and optimizing customer use of SGIP HPWH program incentives across the many programs that are or will soon become available.<sup>28</sup>

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<sup>26</sup> *Ibid.*

<sup>27</sup> Reply Comments of The Public Advocates Office on The Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 11, 2023, at 5.

<sup>28</sup> D.22-04-036 at 86.

As such, approving additional load shifting programs for eligibility wherever they may be available will improve annual peak demand reduction by the SGIP HPWH program, as well as increase participation in the HPWH-specific load shifting programs that already exist. This change is in alignment with the original intent of the proceeding and the 2022 decision, which was to enable HPWHs to function as a continuous load shifting resource.

With respect to HPWH-specific load shifting programs that are specifically intended to enable load shifting in water heaters, but are not necessarily market-integrated supply-side DR programs (such as PG&E's WatterSaver program and the upcoming SCE Smart HPWH program designed to help customers optimize HPWH – and, in some cases, electric resistance water heater – operation), we agree with Cal Advocates that the participation of the customer in these programs should not be treated as equivalent to the customer participating in a CAISO-market integrated supply side DR program. However, we note that customer participation in a qualified DR program can coexist with enrollment in a load shifting program, and that the latter should be encouraged to the fullest extent possible in order to amplify the load shifting potential of any HPWH incented through the SGIP HPWH program.

Therefore, we require that the SGIP HPWH program PI enroll electric IOU customers who receive an incentive through the program in a CAISO market-integrated DR program, and further require that those customers also enroll in a HPWH load-shifting program, if one is available in the customer's service territory.

For electric IOUs, Regional Energy Networks (REN), and CCAs, we revise the current definition of a qualifying demand response program for participation in the SGIP HPWH program to:

- a. A CAISO market-integrated supply-side program that counts toward a load-serving entity's RA obligations; or
- b. Any demand response program that meets the definition of a qualified program established by the Commission in the Demand Flexibility Rulemaking (Rulemaking 22-07-005) or the IOU DR Programs Application (A.22-05-002); and
- c. Where available, a program whose technology or technologies shifts onsite energy use to off-peak time periods or reduces demand from the grid by offsetting some or all of the customer's onsite water heater energy load, including, but not limited to, peak electric load (*e.g.*, the WatterSaver program for PG&E customers and the Smart HPWH program for SCE customers).

This additional requirement aligns with the Commission's intent to maximize load shifting through program-incented equipment, as established in the 2022 decision.<sup>29</sup>

We note that in the 2022 decision the Commission also emphasized the need to drive the market towards equipment with low Global Warning Potential (GWP) refrigerants to limit the associated indirect GHG emissions. To support this, the 2022 decision approved an additional \$1,500 kicker incentive for equipment with low GWP refrigerants.<sup>30</sup> However, there are currently no HPWH models in the market that satisfy both Commission priorities: (a) the ability to receive an external signal in response to grid conditions, and (b) use of low GWP refrigerant.

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<sup>29</sup> D.22-04-036, Appendix A at A3.

<sup>30</sup> D.22-04-036 at 120 and Appendix A at A4.



## **5. Eligible Modeling Software**

Current SGIP HPWH program rules limit the PI to only qualify those products that can be modeled in CBECC-Res. Due to recent updates to Title 24, Part 6 of the California Code of Regulations, the current program is only able to qualify residential unitary systems, as there is no pathway for qualifying central HPWH systems that are often installed in multi-family buildings.<sup>31</sup>

The 2022 decision required the selected PI to use CBECC-Res, because at the time of the adoption of the decision CBECC-Res was the approved building compliance software for both single-family homes and low-rise multi-family buildings. After the 2022 updates to Title 24, Part 6 of the California Code of Regulations (which took effect January 1, 2023), CBECC-Res can now only be used for single-family homes and does not have multi-family central HPWHs as a modeling option. Certain multi-family (and all non-residential) buildings are now modeled in the distinct CEC-approved software known as CBECC. Thus, the current SGIP HPWH program can no longer incentivize central HPWHs for multi-family buildings, which also includes a large portion of low-income customers.

### **5.1. Party Comments**

Parties that commented on the question of whether to allow the SGIP HPWH PI to use the CBECC software in addition to CBECC-Res so that multi-family buildings with large central systems can qualify for SGIP HPWH program incentives were unanimous that the Commission should adopt this change.

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<sup>31</sup> *Id.* at 8.

Cal Advocates in their Opening Comments stated that “The Commission should allow the California Building Energy Code Compliance (CBECC) software to be used to model multi-family buildings participating in the SGIP HPWH program. The requirement that multi-family buildings must utilize CBECC-Res for program qualification results in excluding multi-family buildings from the SGIP HPWH program.”<sup>32</sup>

The Council’s comments also recommended that “the Commission should allow SGIP HPWH PIs to use CBECC software, in addition to CBECC-Res, so that multi-family buildings with large central systems can qualify for SGIP HPWH Program incentives.”<sup>33</sup> The Council further stated that “this expansion would help incentives reach greater customers across the state and may further assist lower-income Californians who may be more likely than higher-income Californians to live in multifamily housing.”<sup>34</sup>

Opening Comments filed by Energy Solutions recommended that “the Commission allow usage of CBECC as an equipment qualification pathway for central heat pump water heating systems, since CBECC is the CEC software that is used for multi-family buildings and that includes central HPWHs used in multi-family settings. CBECC-Res is currently only used for single family

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<sup>32</sup> Opening Comments of The Public Advocates Office on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 1, 2023, at 10.

<sup>33</sup> Reply Comments of The California Efficiency + Demand Management Council on Assigned Commissioner’s Ruling Seeking Additional Comment on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 11, 2023, at 6.

<sup>34</sup> *Ibid.*

buildings and does not include central heat pump water heating systems for multi-family settings.”<sup>35</sup>

## **5.2. Discussion**

After considering party comments and the intent of the 2022 decision to expand eligibility and participation in the SGIP HPWH program, we are revising the eligible software that can be used to model central HPWHs. Specifically, the software approved for modelling water heaters serving multiple residential units (“central”), or commercial spaces, is revised from CBECC-Res to any software approved by the CEC for modeling central HPWHs for compliance with Title 24, Part 6 of the California Code of Regulations.

## **6. Clarifying Self-Generation Incentive Program Smart Heat Pump Water Heater Handbook Requirements**

The Commission endorses centralization of SGIP HPWH program incentive administration in a single statewide PI as the best approach to streamline the program and coordinate incentive offerings.<sup>36</sup> In the 2022 decision, the SGIP HPWH program PI was directed to submit a Tier 2 Advice Letter containing an SGIP HPWH program handbook reflecting the requirements adopted in D.22-04-022, and additional Commission Staff guidance provided, as necessary, no later than 120 days after executing its contract with SCE.<sup>37</sup> D.23-04-036 also specifies that the existing SGIP Handbook rules not otherwise modified by D.22-04-022 shall apply to the SGIP HPWH program.<sup>38</sup> This

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<sup>35</sup> Opening Comments of Cohen Ventures, Inc. DBA Energy Solutions on Assigned Commissioner’s Ruling Seeking Additional Comment on Self-Generation Incentive Program and Heat Pump Water Heater Program Improvements, August 1, 2023, at 8.

<sup>36</sup> D.22-04-022 at 80-81.

<sup>37</sup> *Id.* at 84.

<sup>38</sup> D.22-04-022 at OP 19.

decision clarifies that the SGIP HPWH program PI must refer to the most recent SGIP handbook approved by advice letter process<sup>39</sup> for anything not specified in the D.22-04-022.

The PI has submitted the Advice Letter 2-E on May 16, 2023, and a supplemental Advice Letter 2-EA on September 12, 2023, to be reviewed by Energy Division staff. Once approved, the SGIP HPWH program handbook will become effective and should be used by PIs to comply with SGIP HPWH program rules. Going forward, PIs must refer to the most recent SGIP Handbook approved by the Commission's advice letter process.

## **7. Summary of Public Comment**

Rule 1.18 of the Commission's Rules of Practice and Procedure (Rules) allows any member of the public to submit written comment in any Commission proceeding using the "Public Comment" tab of the online Docket Card for that proceeding on the Commission's website. Rule 1.18(b) requires that relevant written comment submitted in a proceeding be summarized in the final decision issued in that proceeding.

No public comments were submitted about the issues addressed in this decision.

## **8. Conclusion**

This decision, by (1) modifying the current requirement for DR program enrollment that is a necessary prerequisite for participation in the SGIP HPWH program, as well as the load shifting programs that eligible customers receiving an incentive through the SGIP HPWH program must also enroll in; (2) expanding the eligible software that can be used to model HPWHs,

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<sup>39</sup> *Id.* at OP 13.

specifically water heaters serving multiple residential units or commercial spaces; and (3) directing PIs to use the most recent version of the SGIP HPWH handbook, lays the foundation to improve outcomes and expand the SGIP HPWH program to make a larger number of customers eligible.

## **9. Comments on Proposed Decision**

The proposed decision of Commissioner Karen Douglas in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3. Comments were filed on November 16, 2023, and reply comments were filed on November 21, 2023.

Ten parties filed Opening Comments:

1. A.O. Smith Corporation (A.O. Smith)
2. Bradford White Corporation (BWC)
3. Cal Advocates
4. CMUA
5. The Council
6. Energy Solutions
7. JCCAs
8. NRDC
9. PG&E
10. SCE

Five parties filed Reply Comments:

1. BWC
2. Cal Advocates
3. CMUA
4. SCE
5. SoCalGas

Party comments largely requested clarification of the proposed definitions, as well as additional flexibility for program implementation. Based on comments received, the Commission has made the following changes to the Proposed Decision:

- We clarify that the peak hours are defined by the electric utility serving the customer. As explained in Section 4, peak hours often overlap with CAISO-driven flex hours but are also independently defined by utilities for specific DR programs, load-shifting programs, or rate schedules. Therefore, allowing the electric utility to define peak hours would align with the various incentive eligibility requirements of the HPWH program.
- Customer participation in a CAISO-market integrated program is only required if such programs are available to the customer. We clarify that a CAISO-market integrated supply side DR program is not specific to HPWHs, and includes programs such as customer behavior modification programs, smart thermostat programs, *etc.*
- Customer participation in programs that shift energy loads specifically from a HPWH, and where available, shall not be required until January 1, 2025. This date may be revised by the Assigned Commissioner based on stakeholder feedback and prevailing market conditions.
- We clarify that the purpose of CBECC software is for the program implementer to determine central HPWH manufacturer models for program eligibility.

#### **10. Assignment of Proceeding**

Karen Douglas is the assigned Commissioner and Hazlyn Fortune is the assigned Administrative Law Judge in this proceeding.

#### **Findings of Fact**

1. HPWHs currently qualify as an eligible SGIP technology.

2. Gas IOU customers who obtain electricity from an electric POU are currently ineligible to participate in the SGIP HPWH program, as some electric POUs do not participate in a CAISO market-integrated supply-side program.

3. CCA, REN, and IOU load shifting programs specifically intended for enabling load-shifting in heat pump water heaters do not qualify as market-integrated supply-side programs counting for RA.

4. Current SGIP HPWH program rules currently limit the PI to only qualify those HPWHs that can be modeled in CBECC-Res.

5. There are currently no HPWH models in the market that satisfy both Commission priorities: (a) the ability to receive an external signal in response to grid conditions, and (b) use of low GWP refrigerant.

6. Under the latest updates to Title 24, Part 6 of the California Code of Regulations (which took effect January 1, 2023), CBECC-Res can now only be used for single-family homes and does not have multi-family central HPWHs as a modeling option.

7. The 2022 decision directed the SGIP HPWH program to use the existing SGIP handbook rules not otherwise modified by the 2022 decision but also directed the PI to submit a Tier 2 Advice Letter containing an SGIP HPWH program handbook reflecting the requirements adopted in the 2022 decision.

### **Conclusions of Law**

1. Revising the definition of qualifying demand response programs for electric POU customers who are also IOU gas customers is a reasonable approach to expand SGIP HPWH program eligibility for POU customers.

2. Revising the definition of a qualifying demand response program for electric IOUs, RENs, and CCAs is a reasonable step for expanding SGIP HPWH program participation.

3. Requiring additional HPWH-specific load shifting programs after January 1, 2025, is a reasonable approach to improve outcomes for the HPWH program, and should be subject to revision by the assigned Commissioner, based on stakeholder feedback and prevailing market conditions.

4. It is reasonable to expand the eligible modeling software for the SGIP HPWH program used by the PI to determine manufacturer models for program eligibility, to any software approved by the CEC that models central heat pump water heaters.

5. PIs should refer to the latest SGIP HPWH program handbook adopted by the Commission.

## **O R D E R**

**IT IS ORDERED** that:

1. The new definition of a qualifying demand response program for the Self-Generation Incentive Program Heat Pump Water Heater (HPWH) program is:

Where available:

i. For customers of electric publicly-owned utilities:

A program that (1) shifts onsite energy use to off-peak time periods or reduces demand from the grid by offsetting or lowering some or all of the customer's onsite energy load, including, but not limited to, peak electric load, where the peak hours are defined by the electric utility serving the customer; (2) is commercially available; and (3) safely utilizes the existing transmission and distribution system.

ii. For customers of electric investor-owned utilities (IOU), Regional Energy Networks, and Community Choice Aggregators:



- a. A California Independent System Operator market-integrated supply-side program that counts toward a load-serving entity's resource adequacy obligations; or
- b. Any demand response program that meets the definition of a qualified program established by the Commission in the Demand Flexibility Rulemaking 22-07-005 or the IOU Demand Response Programs Application 22-05-002; and
- c. No later than January 1, 2025, and where available, a program that shifts onsite energy use to off-peak time periods or reduces demand from the grid by offsetting or lowering some or all of the customer's onsite water heater energy load, including, but not limited to, peak electric load, where the peak hours are defined by the electric utility serving the customer. This date may be revised by the assigned Commissioner based on stakeholder feedback and prevailing market conditions.

2. Program implementers may use any software approved by the California Energy Commission that models central heat pump water heaters for compliance with Title 24, Part 6 of the California Code of Regulations, for determining manufacturer models eligible for program incentives.

3. The Self-Generation Incentive Program Heat Pump Water Heater (SGIP HPWH) program's Program Implementer will refer to the most recent SGIP HPWH program handbook adopted by the Commission.

4. Rulemaking R.20-05-012 remains open.

This order is effective today.

Dated December 14, 2023, at San Francisco, California.

ALICE REYNOLDS

President

DARCIE L. HOUCK

JOHN REYNOLDS

KAREN DOUGLAS

Commissioners

Commissioner Genevieve Shiroma,  
being necessarily absent, did not  
participate.