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

**Item #21 (Rev. 1)**
**Agenda ID #24268**
**ENERGY DIVISION** **RESOLUTION E-5453**
**July 2, 2026**

# R E S O L U T I O N

Resolution E-5453. Approves Pacific Gas and Electric Company's and Southern California Edison Company's revised Automated Demand Response Technology Incentive Program.

PROPOSED OUTCOME:

- This resolution approves, with modification, the proposed changes to Pacific Gas and Electric Company's (PG&E) and Southern California Edison Company's (SCE) Automated Demand Response Technology Incentive Programs proposed through the Mid-Cycle Review Advice Letter (AL).

SAFETY CONSIDERATIONS:

- There are no safety considerations associated with this resolution.

ESTIMATED COST:

- This resolution does not add any incremental budget beyond budgets approved in D.23-12-005.

By Advice Letter (AL) 7742-E (PG&E) and AL 5658-E (SCE) Filed on October 28, 2025; and Supplemental AL 7742-E-A (PG&E) and Supplemental AL 5658-E-A (SCE) Filed on March 31, 2026.

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## SUMMARY

Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE), jointly submitted Tier 2 PG&E Advice Letter 7742-E *et al.* (the Joint AL) on October 28, 2025 (PG&E AL 7742-E and SCE AL 5658-E), and Tier 3 PG&E Advice Letter 7742-E-A *et al.* (Supplemental Joint AL) on March 31, 2026 (PG&E AL 7742-E-A and SCE AL 5658-E-A), proposing modifications to the Automated Demand Response (AutoDR

or ADR) Technology Incentive Program. The Supplemental Joint AL replaces the original Joint AL in its entirety.

This Resolution approves the Supplemental Joint AL with modifications. This Resolution discusses findings on specific proposed modifications:

- Addition of PG&E's Automated Response Technology Program (ART) as an AutoDR Qualified Residential Program.
- Clarification of the cloud-based technology provision for relevant AutoDR programs.

## BACKGROUND

AutoDR is a program that offers customers financial incentives to install technologies that facilitate an automated response to demand response (DR) events or price signals.

The utilities' AutoDR programs began in 2007.[1] Utilities initially offered these programs to commercial, industrial, and agricultural customers. The programs were modified in multiple subsequent decisions and ALs to expand inclusion for small and medium business customers, and residential customers. In D.16-06-029, the Commission ordered utility programs to standardize to achieve consistency across jurisdictions. Common AutoDR Guidelines were first required to be drafted by D.17-12-003, Ordering Paragraph (OP) 29. These are now known as the Auto Demand Response Control Incentives Guidelines and Adopted Policies ("Guidelines") and have been updated through decisions and ALs in subsequent years.

D.18-11-029, OP 8, outlines an annual process for proposing and adopting updates to AutoDR Guidelines, which includes utility-led workshops/webinars for discussion of proposed modifications, to be followed by a Tier 2 AL incorporating proposals for modifications. D.23-12-005 directed IOUs to modify this annual process for AutoDR and other DR program updates, introducing the Mid-cycle Review (MCR) process. In D.23-12-005, the Commission adopted the following guidance:

> *The process to identify and mitigate issues with AutoDR as prescribed in D.18-11-029 may be conducted once during the current budgeting cycle, at the discretion of the Utilities with AutoDR offerings, and with Energy Division concurrence. Any proposed changes may be submitted via Tier 2 advice letter, by*

[1] D.06-11-069, Ordering Paragraphs (OP) 6, 7.

> *November 1, 2025. Utilities may eliminate the stakeholder involvement and detailed schedule set in D.18-11-029 if flexibility is needed.*[2]

D.23-12-005, OP 14 authorizes the utilities to submit changes to the AutoDR program via the MCR process in the 2024-2027 DR application cycle. OP 14 also limits the scope of changes that may be proposed to changes that "manage or increase program enrollment, improve program efficiency, increase potential load reduction available, improve program value, reduce costs, or bring the program in alignment or comply with Commission policies" and further clarifies the modifications permitted shall be limited to technical aspects of program design.

D.23-12-005, Conclusions of Law 92-93 direct PG&E and SCE to devote funds to conduct a joint study to identify additional customers and means to apply AutoDR in its FastTrack Application process (also known as its "Deemed Application" process and/or "Deemed Incentives"). More specifically, this decision approved a PG&E and SCE proposal for a joint study ("Study") to 1) identify additional customers and additional means to apply AutoDR in its Deemed Application process, 2) identify additional large commercial and industrial customer segments amenable to its FastTrack Application AutoDR program, and 3) further develop the FastTrack calculator to enable expansion of those controllable features that shed power demand.[3] This Study was conducted by Energy Solutions beginning in 2024, with results published to the California Measurement Advisory Council (CALMAC) in 2025.[4] The FastTrack Application AutoDR program is also referred to as "Non-Residential ADR Deemed Incentives".

The AL was submitted on time, and, with Energy Division concurrence, PG&E and SCE did not engage in a stakeholder process to inform their proposed modifications. Proposed modifications to the AutoDR Guidelines are listed below:

1. Appendix A – Program Rules and Eligibility Requirements for Residential ADR Incentives
    a. Adds <200kW Size Limit. This change clarifies that Small and Medium Business (SMB) customers with peak demand <200kW who enroll a qualifying thermostat in SCE's Smart Energy Program (SEP) can now

[2] D.23-12-005 at 34.
[3] D.23-12-005 at 117-118.
[4] Energy Solutions: Automated Demand Response Technology Enabling Incentives: Deemed Tool Expansion Project, October 17, 2025.

qualify for the $75 incentive. This administrative update was inadvertently omitted in Advice Letter 5240-E, filed February 28, 2024.

   b. Adds PG&E's Automated Response Technology Program (ART) as an ADR Qualified Residential Program. This change allows ART providers to leverage PG&E AutoDR approved funds for automation technologies. It also allows PG&E to use the ADR incentives for smart thermostat rebates, in the event the Golden State Rebates (GSR) program that currently funds these rebates in ART experiences a pause, as occurred in 2025.

2. Appendix B – Program Rules and Eligibility Requirements for Non-Residential ADR Calculated Incentives
   a. Revises and aligns the PG&E and SCE Customer Segment section of their Guidelines to include customer segments that do not qualify for Appendix A, or Appendix C. The two customer segment groups are:
      i. Non-qualifying Deemed Office, Retail, Restaurant, Conditioned Warehouse, Hotel, Grocery/Liquor, Agricultural Pumps, and
      ii. Commercial, Industrial, and Agricultural.
3. Appendix C – Program Rules and Eligibility Requirements for Non-Residential ADR Deemed Incentives
   a. Revises "Customer Segment" for SCE ADR Express and PG&E FastTrack:
      i. Removes "Small Retail Stores, Small Office (<100,000 sq ft), and Food Stores (including liquor stores)";
      ii. Adds a size designation of <499 kW for the following segments: Office, Restaurant, Conditioned Warehouse, Hotel, Grocery/Liquor; and
      iii. Adds all Retail, excluding Retail with existing refrigeration equipment; and
      iv. Adds <599kW: Agricultural Pumps
   b. Expands "Eligible Measures" to include "grocery refrigeration, and agricultural pumps."
4. Appendices A and C - Clarifies the Cloud-Based Technology Provision

   IOUs propose to provide the following clarification to be included in the Guidelines in order to provide greater customer clarity and support a uniform approach across both PG&E and SCE: "The control must be able to communicate and demonstrate operability using the current Open Auto Demand Response communication protocols and standards (currently OpenADR 2.0a, 2.0b, or 3).

The control may be located at one of the following:

a. Onsite – Physical or installed as part of a control or energy management system; or
b. Cloud level – Centralized at the manufacturer app or portal, demand response aggregator, or customer control or energy management system."

5. Additional grammatical corrections and decision reference updates to the body of the AutoDR Guidelines document.

## NOTICE

Notice of AL 7742-E (PG&E), AL 5658-E (SCE), AL 7742-E-A (PG&E), AL 5658-E-A (SCE) was made by publication in the Commission's Daily Calendar. PG&E states that a copy of the Advice Letter was mailed and distributed in accordance with Section 4 of General Order 96-B.

## PROTESTS

Advice Letter 7742-E (PG&E) and 5658-E (SCE) were not protested. Supplemental Advice Letter 7742-E-A (PG&E) and 5658-E-A (SCE) did not require reopening the protest period.

## DISCUSSION

The Commission has reviewed the AL and finds the proposed modifications are consistent with the intent of the MCR process and should be adopted, though with modifications in certain cases. This section first addresses the modifications pursuant to the MCR guidance, and then discusses items not explicitly included in the MCR guidance. Items are numbered as they appear in the Background section above, and are, in some cases, shortened from their full-length proposal in the AL.

**Modifications Consistent with MCR Process:**

1. **Appendix A – Program Rules and Eligibility Requirements for Residential ADR Incentives**

**a. Adds <200kW Size Limit.**

In D.23-12-005, Finding of Fact 65 states "Expanding the SEP to non-residential customers with less than 200kW load will allow SCE to reach new customers," and Conclusion of Law 45 states, "SCE should be allowed to expand the SEP to non-residential customers with less than 200kW load." As stated above, the administrative update to Appendix A was inadvertently omitted in prior AL 5240-E. The proposed update is approved.

2. **Appendix B – Program Rules and Eligibility Requirements for Non-Residential ADR Calculated Incentives**
   a. **Revises and aligns PG&E and SCE Customer Segment section to allow customer segments which do not qualify for Appendix A above, or Appendix C below.**

This proposal is a relevant modification to clarify eligibility for Non-Residential Calculated Incentive AutoDR eligibility, only so far as the subsequent proposed modification(s) for eligibility for Non-Residential Deemed Incentive AutoDR eligibility are adopted. With this modification, any non-residential AutoDR incentive which does not qualify for deemed incentives has the opportunity to qualify for calculated incentives. The proposed modification is approved.

3. **Appendix C – Program Rules and Eligibility Requirements for Non-Residential ADR Deemed Incentives**
   a. **Revises "Customer Segment" for SCE ADR Express and PG&E FastTrack:**
      i. **Removes "Small Retail Stores, Small Office (<100,000 sq ft), and Food Stores (including liquor stores)";**
      ii. **Adds a size designation of <499 kW for the following segments: Office, Restaurant, Conditioned Warehouse, Hotel, Grocery/Liquor; and**
      iii. **Adds all Retail, excluding Retail with existing refrigeration equipment; and**
      iv. **Adds <599kW: Agricultural Pumps**

**b. Expands "Eligible Measures" to include "grocery refrigeration, and agricultural pumps."**

The Study authorized by D.23-12.005 finds that sectors and measures that are most appropriate for AutoDR deemed incentives are those which have consistent load shapes that react to known and reliable stimulus, especially if that stimulus correlates with the likelihood of grid strain. These types of loads lend themselves to predictable response to AutoDR signals and are likely to have a meaningful impact when the grid is stressed. The Study identified the following promising sectors and measures to propose for inclusion in the deemed incentive methodology:

- Retail customers without significant refrigeration exhibited consistent load shapes that correlated to summer peak hours at all peak load sizes, such that the study recommends removing the 499kW cap on the size of retail customer peak demand which should qualify for the deemed incentive methodology.
- Agricultural pumping loads, under specific conditions, also exhibit relatively consistent load shapes, though with daily and seasonal variability that may not always correlate to grid strain periods. Nonetheless, a predicted load shed capability was constructed that factored in the observed variability, such that this additional customer segment was recommended to qualify for the deemed incentive methodology. The conditions under which response is predictable include a peak load of 599kW or less, and without onsite solar generation. This change also requires agricultural pumps be added as an eligible measure for controls.
- Control of refrigeration, another new eligible measure, was also studied and found to have consistent load shapes that represent a large portion of loads in summer peak hours. Inclusion of refrigeration controls as an eligible measure is relevant to the Grocery/Liquor store customer segment.

The Study uses the data from its analysis to create calculators specific to these new eligible measures. In the case of the agricultural pumping calculator, the Study proposes a calculation scheme that manages the risk of over and under prediction of outcomes correlated with low and high precipitation years by incorporating a 5-year analysis period. The refrigeration calculator methodology for load shed potential was developed from research originated at NREL, subsequently tested for verification, and adjusted based on results.

Energy Division staff requested additional information from the IOUs on whether any of the new eligible measures opened the possibility for duplicate technology incentive payments for the same measure. SCE's response outlined how the primary existing technology incentive program of concern, the Agricultural Interruptible Program (AP-I), is not compatible with Non-Residential ADR Deemed Incentives, as the load control device required by AP-I does not use OpenADR communication protocols, and the program is not an ADR Qualifying program. Both IOUs stated they do check proposed projects for potential dual and conflicting enrollment/participation. The proposed modifications are approved.

5. **Additional grammatical corrections and decision reference updates to the body of the AutoDR Guidelines document.**

The grammatical and decision reference updates in various locations of the body of the AutoDR Guidelines document are trivial in nature, and were verified for accuracy. The proposed modifications are approved.

**Modifications Requiring Additional Discussion:**

The Commission now addresses two specific proposed modifications that seek to clarify a prior Commission decision.

1. **Appendix A – Program Rules and Eligibility Requirements for Residential ADR Incentives**
    b. **Adds PG&E's Automated Response Technology Program (ART) as an ADR Qualified Residential Program. This change allows ART providers to leverage PG&E AutoDR approved funds for smart thermostat rebates, in the event the Golden State Rebates (GSR) program that currently funds these rebates experiences a pause, as occurred in 2025.**

In AL 7192-E[5], PG&E removed residential incentives of smart thermostats in Appendix A Residential, section "Customer Segment", consistent with D.23-12-005, Conclusion of Law 88. In this decision, the Commission agreed with PG&E that programs already existed to provide smart thermostat technology incentives[6]. As a result, ART program providers relied on the Statewide Energy Efficiency Plug Load and Appliance (PLA) program called Golden State Rebates (GSR) to fund smart thermostat rebates. The Commission's decision in D.23-12-005 was conditioned on the GSR program funding being in place. GSR funding was inconsistent in 2025, having been offline from May – November 2025. During that time, ART providers were without a funding source for smart thermostat rebates.

GSR funding has been restored at this point, but this proposal allows PG&E's AutoDR budget funding for smart thermostat rebates, should GSR funding become unavailable in the future. AutoDR incentives would only be used to cover smart thermostat rebates in the ART program when GSR funding is unavailable. The proposed modification is approved.

4. **Appendices A and C - Clarifies the Cloud-Based Technology Provision. PG&E and SCE propose to provide the following clarification to be included in the Guidelines to provide greater customer clarity and support a uniform approach across both PG&E and SCE: "The control must be able to communicate and demonstrate operability using the current Open Auto Demand Response communication protocols and standards (currently OpenADR 2.0a, 2.0b, or 3).**

   **The control may be located at one of the following:**

   a. **Onsite – Physical or installed as part of a control or energy management system; or**
   b. **Cloud level – Centralized at the manufacturer app or portal, demand response aggregator, or customer control or energy management system."**

[5] Advice Letter 7192-E was submitted on 2/28/24 and accepted by the CPUC on 10/07/2024. PG&E removed "Residential" from the "Customer Segment" section based on the availability of Energy Efficiency rebates in A.22-05-002.
[6] D.23-12-005, p. 112.

In the AL, PG&E and SCE provide the following additional information about this proposed change:

> *At page 53 and in OP 6.g of D.18-11-029, the CPUC identified policies associated with ADR control incentives. As the Commission explained, "the control must be able to communicate and demonstrate operability using the current Open ADR communication protocols and standards (currently OpenADR 2.0a or 2.0b). The control may be located either on site or (as part of a control system) on site and at the manufacturer/demand response aggregator or provider cloud level. Only the customer is eligible for the ADR control incentive, not the aggregator, DR provider, or manufacturer cloud portion of the control."*[7]
>
> *IOUs recently identified that the sentence structure of this section rendered different interpretations and subsequent implementations.*

And later:

> *SCE will align its ADR Express option with PG&E's current practice. This operational change will expand SCE customer eligibility for cloud-based controls with incentives for those customers with peak demand at or greater than 200 kW. Further, in alignment with PG&E and current technology and industry practice, SCE will no longer require the customer's on-site controls to be OpenADR certified for cloud-based projects because cloud-level controls only require OpenADR at the manufacturer, DR aggregator or provider cloud-level. Assuming there are no protests specific to the SCE-specific operational updates that would expand eligibility, align with PG&E, and current technology and industry practice…*

Prior to the introduction of requirements for OpenADR as a standardized communication protocol for AutoDR controls in D.18-11-029, each participating IOU had unique control communication requirements, both with respect to technical communication standard, and whether a cloud-based controls platform would suffice.

[7] D.18-11-029, OP 6 states, "The control may be located either on site or as part of a control system, on site and at the manufacturer/demand response aggregator or provider cloud level." However, on page 35, that decision includes the parenthetical around "(as part of a control system)."

In the proceedings which informed D.18-11-029[8], several engagement sessions with parties (i.e., discussions via teleconference and workshop) occurred. Following these discussions, the Administrative Law Judge (ALJ) issued a ruling requesting responses to several questions.[9] The questions covered a range of topics, including section 2.3[10] covering multiple issues for AutoDR Incentive Policy. Question 3 of that section specifically asked stakeholders to weigh in on OpenADR as a required communication protocol for AutoDR incentives. Stakeholder comments in response to these questions were filed by July 20, 2018. In a review of the stakeholder comments responsive to this particular question, it is clear there was a shared understanding, at the time, that the intention of the standardized criteria for control eligibility for customers qualifying either for residential (Appendix A) or small and medium business class deemed incentives (Appendix C) was to allow the option for cloud-level controls responsive to an OpenADR signal at a centralized control, not necessarily requiring on-site device-level responsiveness to an OpenADR signal. This additional information bolsters support for the IOUs' position that the clarification proposed is consistent with the Commission's original intent in the ruling.

We find the proposed clarification of language in the Cloud-Based Technology Provision of the AutoDR Guidelines (Appendices A & C) to be consistent with the intent of D.18-11-029, OP 6.g and page 53, and we are supportive of the effort to align IOU interpretations and practices for their respective programs. We clarify, however, that the cloud-level control option still requires onsite control hardware, but that such onsite hardware is not required to communicate via OpenADR standards. The Cloud-Based Technology Provision of PG&E's and SCE's AutoDR Guidelines must be modified through subsequent Tier 1 AL to include this clarification:

> "The Virtual End Node(s) (VEN) must be able to communicate and demonstrate operability using the current Open Auto Demand Response communication protocols and standards (currently OpenADR 2.0a, 2.0b, or 3) to dispatch on-site control hardware. This on-site control hardware is not required to communicate and demonstrate operability using the current Open Auto Demand Response communication protocols and standards.

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[8] A.17-01-012, A.17-01-018 & A.17-01-019.

[9] *Administrative Law Judges' Ruling Requesting Responses to Questions*, issued June 15, 2018, in A.17-01-012, A.17-01-018 & A.17-01-019.

[10] *Administrative Law Judges' Ruling Requesting Responses to Questions*, issued June 15, 2018, in A.17-01-012, A.17-01-018 & A.17-01-019.

The VEN may be located at one of the following:

a. Onsite – Physical (i.e. hardware installed at the customer site) or installed as part of a control or energy management system; or
b. Cloud level – Centralized at the manufacturer app or portal, demand response aggregator, or customer control or energy management system which dispatches to on-site control hardware."

PG&E's and SCE's AutoDR Guidelines shall also add an industry-standard definition of Virtual End Node where appropriate. The following definition adapted from the OpenADR Alliance is acceptable, "Virtual End Node (VEN) is typically a device or system endpoint that accepts OpenADR signals from the Virtual Top Node (VTN). A VEN can be an Energy Management System (EMS), a thermostat, or another end device."

This proposal also modifies the list of current Open Auto Demand Response communication protocols and standards to include OpenADR 3, which is now the latest version of the OpenADR protocol.

The proposed amendments are approved, with the modification discussed herein. PG&E and SCE shall file Tier 1 Advice Letters to incorporate the modifications ordered herein within 60 days of the effective date of this resolution.

## COMMENTS

Public Utilities Code section 311(g)(1) provides that this Resolution must be served on all parties and subject to at least 30 days public review. Any comments are due within 20 days of the date of its mailing and publication on the Commission's website and in accordance with any instructions accompanying the notice. Section 311(g)(2) provides that this 30-day review period and 20-day comment period may be reduced or waived upon the stipulation of all parties in the proceeding.

The 30-day review and 20-day comment period for the draft of this resolution was neither waived nor reduced. Accordingly, this draft resolution was mailed to parties for comments~~, and will be placed~~ on ~~the Commission's agenda no earlier than 30 days from today~~June 1, 2026.

No party commented on the draft resolution.

**FINDINGS AND CONCLUSIONS**

1. D.23-12-005 allows PG&E and SCE to file a Tier 2 AL to propose changes to Auto DR Guidelines, to address evolving needs of auto demand response.

2. D.23-12-005 allows PG&E and SCE to conduct the process to identify and mitigate issues with Auto DR prescribed in D.18-11-029, once during the budgeting cycle, at the discretion of Utilities with Auto DR offerings, and with Energy Division concurrence, and allows PG&E and SCE to eliminate the stakeholder involvement and detailed schedule set in D.18-11-029 if flexibility is needed.

3. D.23-12-005, OP 14 limits the scope of changes that may be proposed to changes that "manage or increase program enrollment, improve program efficiency, increase potential load reduction available, improve program value, reduce costs, or bring the program in alignment or comply with Commission policies."

4. PG&E and SCE followed the guidance adopted by the Commission in D.23-12-005 appropriately for this Mid-Cycle Review Advice Letter.

5. The joint Study authorized by D.23-12-005 identified additional customers and additional means to apply AutoDR in its Deemed Application process, identified additional large commercial and industrial customer segments amenable to its FastTrack Application AutoDR program, and developed the FastTrack calculator to enable expansion of those controllable features that shed power demand for these customers and means.

6. All of the proposed modifications of Supplemental Joint AL 7742-E-A (PG&E) and 5658-E-A (SCE), with the modification discussed herein, either improve the AutoDR Guidelines through trivial grammatical or reference updates, or, where non-trivial, meet the standard required that they manage or increase program enrollment, improve program efficiency, increase potential load reduction available, improve program value, reduce costs, or bring the program in alignment or comply with Commission policies.

7. It is reasonable to revise Appendix A of Guidelines to clarify that Small and Medium Business (SMB) customers with peak demand less than 200kW who enroll

a qualifying thermostat in SCE's Smart Energy Program (SEP) can also qualify for the $75 incentive.

8. It is reasonable to add PG&E's Automated Response Technology Program (ART) as an ADR Qualified Residential Program, should GSR's funding become unavailable in the future.

9. It is reasonable to revise Appendix B of Guidelines to modify customer segments so they allow any customers which do not qualify for Appendix C deemed incentives. The revisions provide alignment between customer segments of Appendix B and C.

10. We find that the revised Appendix C Customer Segments and Eligible Measures are consistent with the findings and recommendations of the Study.

11. It is reasonable to revise Appendix C Customer Segments for new customer types and revised upper peak limits as proposed.

12. It is reasonable to revise Appendix C Eligible Means to add grocery refrigeration and agricultural pumps, as proposed.

13. It is reasonable to revise Appendices A and C of the Guidelines to clarify the Cloud-Based Technology Provision.

14. We find that the proposed clarification to the Cloud-Based Technology Provision is reasonable.

15. It is reasonable that PG&E and SCE file Tier 1 Advice Letters with additional language clarifying that the cloud-level control option requires onsite control hardware, but that such onsite hardware is not required to communicate via OpenADR standards, within 60 days of the effective date of this Resolution.

16. The proposed changes in the Joint AL do not require modifications to any existing approved program budgets.

**<u>THEREFORE IT IS ORDERED THAT:</u>**

1. The request of the Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE) to modify the Automated Demand Response (AutoDR or ADR) Technology Incentive Program as requested in Supplemental Advice Letter 7742-E-A (PG&E) and Supplemental Advice Letter 5658-E-A (SCE) Filed on March 31, 2026 is approved as modified.

2. Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE) are ordered to submit via Tier 1 Advice Letter modification to the Auto Demand Response Control Incentives Guidelines and Adopted Policies, within 60 days of the effective date of this Resolution, to reflect clarification of the Cloud-Based Technology Provision as follows:

    - Appendices A and C, Controllability/Technology Registration Requirement shall read:

        "The Virtual End Node(s) (VEN) must be able to communicate and demonstrate operability using the current Open Auto Demand Response communication protocols and standards (currently OpenADR 2.0a, 2.0b, or 3) to dispatch on-site control hardware. This on-site control hardware is not required to communicate and demonstrate operability using the current Open Auto Demand Response communication protocols and standards.

        The VEN may be located at one of the following:

        a. Onsite – Physical (i.e. hardware installed at the customer site) or installed as part of a control or energy management system; or
        b. Cloud level – Centralized at the manufacturer app or portal, demand response aggregator, or customer control or energy management system which dispatches to on-site control hardware."

- PG&E's and SCE's AutoDR Guidelines shall also add an industry-standard definition of Virtual End Node where appropriate. The following definition adapted from the OpenADR Alliance is acceptable, "Virtual End Node (VEN) is typically a device or system endpoint that accepts OpenADR signals from the Virtual Top Node (VTN). A VEN can be an Energy Management System (EMS), a thermostat, or another end device."

This Resolution is effective today.

The foregoing resolution was duly introduced, passed and adopted at a conference of the Public Utilities Commission of the State of California held on July 2, 2026; the following Commissioners voting favorably thereon:

Commissioner Signature blocks to be added
upon adoption of the resolution

Dated ________________________________, at <Voting meeting location>, California