

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

Order Instituting Rulemaking on the Commission's Own
Motion to Improve Distribution Level Interconnection
Rules and Regulations for Certain Classes of Electric
Generators and Electric Storage Resources

Rulemaking 11-09-011

Order Instituting Rulemaking to Consider Streamlining
Interconnection of Distributed Energy Resources and
Improvements to Rule 21

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Level Interconnection Rules and Regulations (Rule 21)

Rulemaking 25-08-004

**RESPONSE AND OPPOSITION OF THE SUNSPEC ALLIANCE
TO THE PETITION OF THE CALIFORNIA SOLAR & STORAGE ASSOCIATION
TO MODIFY RESOLUTIONS E-5000, E-5036, AND E-5357**

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Pursuant to Rule 16.4 of the Rules of Practice and Procedure of the California Public Utilities Commission (Commission), the SunSpec Alliance (SunSpec) respectfully submits this Response and Opposition to the Petition for Modification (Petition) filed by the California Solar & Storage Association (CALSSA) on July 24, 2026.

CALSSA requests that the Commission modify Resolutions E-5000, E-5036, and E-5357 to strip SunSpec of its established role in managing the Common Smart Inverter Profile (“CSIP”, a so-called “application profile” of the IEEE 2030.5 standard) Conformance Test Procedures and forcibly transition testing authority to a non-existent, unproven standard—IEEE P2030.5.100—targeted for potential publication no earlier than June 2028.

The Commission should deny CALSSA’s Petition in its entirety. CALSSA’s proposal violates Commission governance rules, introduces severe regulatory uncertainty, threatens to disrupt millions of dollars of existing industry investment, relies on speculative timelines for an unwritten standard, ignores significant intellectual property owned by the SunSpec Alliance, and mischaracterizes both the historical record and SunSpec’s open, proven testing ecosystem.

1. Background & Executive Summary

For more than a decade, SunSpec has been a foundational architect of California's smart inverter and Distributed Energy Resource (DER) testing infrastructure:

- **Fundamental IP & Standards Contributions:** SunSpec provided the critical SunSpec Modbus information models upon which the IEEE 2030.5-2018 standard was built.
- **CSIP & Conformance Infrastructure:** SunSpec members volunteered their expertise to create intellectual property and publish the open SunSpec CSIP Conformance Test Procedures that were published in May 2018¹.
- **Global Ecosystem & Proven Deployment:** SunSpec established an open Request for Proposal (RFP) in 2018 to build a global network of Authorized Test Labs (ATLs)², the majority of which are OSHA-approved Nationally Recognized Testing Laboratories (NRTLs). SunSpec ATLs have completed more than 110 IEEE 2030.5 CSIP certifications³. SunSpec itself has distributed thousands of copies of the SunSpec IEEE 2030.5 CSIP Test Procedures⁴, thousands of free test PKI certificates⁵, and deployed the world's first operational IEEE 2030.5 Public Key Infrastructure (PKI) root authority,⁶ a system utilized by California Investor-Owned Utilities (IOUs) and many other grid operators across North America.

In Resolution E-5357, the Commission evaluated the responsibilities of managing CSIP standards and explicit testing procedures. The Commission determined that while IEEE would oversee near-term updates to the CSIP Implementation Guide, SunSpec would continue to manage and maintain the SunSpec CSIP Test Procedures and rejected the proposal for IEEE to manage future updates of the SunSpec CSIP Test Procedures.

¹ <https://sunspec.org/wp-content/uploads/2025/01/SunSpecCSIPConformanceTestProceduresV1.3-2.pdf>

² <https://sunspec.org/sunspec-announces-rfps-certified-test-lab-pki-programs/>

³ https://sunspec.org/product-certification-registry/?search=&certification_type=2030.5+CSIP&product_type=

⁴ <https://sunspec.org/specifications/#sunspec-profiles2b84-f1df>

⁵ <https://sunspec.org/request-sunspec-test-pki-certificate-package/>

⁶ <https://sunspec.org/wp-content/uploads/2009/03/SunSpec-Certificate-Practice-Statement.pdf>

CALSSA now seeks to dismantle this proven framework in favor of an IEEE project (IEEE P2030.5.100) that is currently unwritten, unvetted, and delayed. Modifying stable Commission resolutions to mandate an unproven future framework creates unwarranted market risk for manufacturers, utilities, and consumers.

2. Procedural & Substantive Deficiencies of the Petition

A. Unjustified Delay and Premature Timing

Under Rule 16.4(d) of the Commission's Rules of Practice and Procedure, a petition for modification filed more than one year after an order's issuance must justify its delay based on material, concrete changes in fact. Rule 16.4(d) explicitly provides that:

“If the Commission determines that the late submission has not been justified, it may on that ground issue a summary denial of the petition.”

CALSSA attempts to justify its late filing against Resolutions E-5000 (2019), E-5036 (2019), and E-5357 (2024) by asserting that, at the time Resolution E-5357 was adopted, "the IEEE testing protocol that CALSSA is proposing the Commission to adopt did not yet exist and was not in development." CALSSA points to the initiation of the IEEE P2030.5.100 project in late 2025 as its material change in fact. This justification fails on its face for three primary reasons:

1. **The Proposed Protocol Still Does Not Exist:** The IEEE testing protocol CALSSA asks the Commission to mandate remains completely non-existent, unwritten, and unpublished. As admitted in the Declaration of Dara Yung attached to CALSSA's Petition, the submission date for IEEE 2030.5.1 has slipped from June 2026 to at least June 2028, which will cause a corresponding delay to IEEE 2030.5.100. CALSSA is asking the Commission to modify established regulations today based on an unwritten standard that has not been published in any form, precluding it from technical validation or public review. Prematurely codifying a transition to an unfinished standard is administratively irresponsible and violates Commission precedent.
2. **The Commission Already Evaluated and Rejected This Exact Framework:** When adopting Resolution E-5357, the Commission explicitly considered whether IEEE should assume responsibility for both the CSIP Implementation Guide and the associated Test Procedures. At that time IEEE had formed neither a CSIP committee

nor a Test Procedures committee, and the consideration was to determine whether they should be formed. It was determined that they should form a committee to update the CSIP implementation guide only.

3. **The Commission Made an Intentional Policy Allocation:** After deliberating on the exact institutional structure CALSSA now seeks to revisit, the Commission made a deliberate policy choice: IEEE would manage updates to the Implementation Guide, while SunSpec would continue to manage and develop the SunSpec CSIP Conformance Test Procedures. IEEE's subsequent decision to form a test procedure committee does not constitute a material change in fact from those at the time of the decision. The Commission already considered whether IEEE should assume this responsibility and determined it should not. The mere fact that IEEE later initiated a group does not alter the fact that the Commission fully evaluated—and rejected—that structure when allocating responsibilities.

The core policy question raised in CALSSA's Petition was already presented, fully considered, and squarely rejected by the Commission in Resolution E-5357. Because no material facts have changed, citing an entirely hypothetical standard that remains unpublished, and the formation of a committee that the Commission already considered and rejected, CALSSA's late filing is completely unjustified. Pursuant to Rule 16.4(d), the Commission should issue a **summary denial** of the Petition.

In stark contrast to IEEE's speculative multi-year timelines, SunSpec is actively delivering continuous improvements under its Commission-mandated role. While CSIP compliance criteria continue to develop slowly within the IEEE 2030.5.1 working group, SunSpec has already made significant progress updating the existing test procedures based on years of successfully managing CSIP testing. Furthermore, SunSpec is introducing new test procedures for the IEEE 2030.5-based SunSpec/SAE vehicle-to-grid (V2G) standard currently utilized by California IOUs. Demonstrating this active progress, the SunSpec 2030.5 Test Procedures Work Group is scheduled to release the first TEST version of the updated SunSpec CSIP Test Procedures in September 2026 for public, non-member, review and comment.

B. Severe Risk to Testing Infrastructure and Industry Investment

SunSpec's current testing and certification pathway provides an open, royalty-free, and globally recognized conformance ecosystem. Forcing an immediate or hard-capped transition to an unproven IEEE test framework creates significant risks:

- **Stranded Capital:** Stakeholders—including inverter manufacturers, software developers, test laboratories, IOUs, and SunSpec itself—have invested millions of dollars into existing SunSpec testing, certification, PKI infrastructure, and intellectual property maintenance processes. CALSSA's proposal risks invalidating these investments overnight.
- **Testing Bottlenecks:** Abandoning an operational network of 15 SunSpec Authorized Test Laboratories before an IEEE alternative is fully operational will bottleneck Rule 21 DER interconnections across California, delaying the clean energy integration.
- **Unproven Reliability vs. Active Delivery:** Switching from a functional framework to an untested, multi-year standards draft creates unnecessary risk for utility interoperability. While IEEE's testing framework remains years away from operational reality, SunSpec's upcoming September 2026 release demonstrates that the existing, working paradigm is actively evolving to meet market needs without disrupting global industry work flows. In addition, the IEEE SA Standards Board Operations Manual⁷ and the IEEE SA Standards Board Bylaws⁸ defines a Project Authorization Request (PAR) process that defines consensus and openness principles that mandate that IEEE standards must reflect a broad, global or national technical consensus and cannot be crafted to give undue dominance or preference to any single organization, local interest, or region, thus precluding the development of standards for California.
- **Financial Barriers & Reduced Public Auditability:** If California decides to maintain the successful SunSpec Certification infrastructure while transferring only the development and maintenance of the SunSpec CSIP Test Procedures to IEEE, it will force implementers to purchase the new IEEE Test Procedures. Unlike SunSpec's open,

⁷ IEEE SA Standards Board Operations Manual, https://sagroups.ieee.org/smsc/wp-content/uploads/sites/126/2020/09/sa_om.pdf

⁸ IEEE SA Standards Board Bylaws, https://standards.ieee.org/wp-content/uploads/import/documents/other/sb_bylaws.pdf

royalty-free publishing model, IEEE places its standards behind paid access fees. Imposing additional mandatory purchase fees introduces a direct financial barrier to entry, lowers public auditability of regulatory compliance, increases manufacturing costs, delays adoption, and ultimately reduces clean energy deployment.

- **Limited IEEE Development Options:** In developing IEEE 2030.5.100 Test Procedures, IEEE essentially has only two paths available:
 1. *Adopt SunSpec's existing open, royalty-free standards whole-cloth:* Because SunSpec is actively developing and publishing updated test procedures, as directed by the CPUC E-5357, IEEE 2030.5.100 could choose to adopt them as-is, but cannot alter SunSpec's protected intellectual property without SunSpec's explicit permission. “[SunSpec Specifications] may be used, copied, and furnished to others, without restrictions of any kind, provided that this document itself may not be modified in anyway, except as needed by the SunSpec Technical Committee and as governed by the SunSpec IPR Policy.”
 2. *Invent a novel IEEE 2030.5 test methodology:* Attempting to create an entirely new, unproven testing methodology from scratch would cause massive disruption across every level of the industry, invalidating existing test tools, software stacks, and laboratory capabilities. Furthermore, it is questionable that a novel approach is even possible.

At present, neither the IEEE P2030.5.100 committee nor CALSSA has attempted to explain how this proposed transition would occur legally or practically—other than to suggest that standard development will move so slowly that industry will have sufficient time to completely re-engineer its infrastructure. Instead of offering a coherent roadmap, CALSSA is asking the Commission to lock in a mandatory transition to a non-existent standard without articulating a legitimate development plan or demonstrating how IEEE could possibly replicate SunSpec's well-established and successful 2030.5 testing ecosystem.

C. Mischaracterization of SunSpec Governance and Openness

CALSSA argues that transitioning to IEEE is necessary because SunSpec is not an accredited Standards Development Organization (SDO) and restricts participation through paid memberships. This characterization is inaccurate:

- **SunSpec Is A Standards Development Organization Of The Highest Rank:** Like the Internet Engineering Task Force (IETF), SunSpec is not an accredited standards development organization in the traditional formal sense, but it is a premier, globally recognized international standards development organization (SDO) for the Distributed Energy Industry. Like the IETF, SunSpec operates according to the following principles:
 - Open structure: Operates as a large, open international community of volunteers.
 - Consensus model: Relies on "rough consensus and running code" rather than formal national or international body accreditations (such as ANSI or ISO).
 - Voluntary output: Publishes specifications as SunSpec Open Standards that achieve adoption based on practical utility and technical merit.
- **Open & Accessible Publishing:** SunSpec freely distributes thousands of copies of CSIP specifications, test procedures, and test-PKI certificates to any industry participant without cost or legal barriers.⁹ The SunSpec 2030.5 Test Procedures Work Group is scheduled to release the first **publicly available**¹⁰ TEST version of the updated SunSpec CSIP Test Procedures in September 2026.
- **Broad & Transparent Participation for Members and non-Members:** SunSpec work groups actively include educators, non-profits, researchers, utilities, and manufacturers. Crucially, non-members are afforded the opportunity to review and submit input during the public TEST phase of standard development, prior to final APPROVAL. Demonstrating this open process, the SunSpec 2030.5 Test Procedures Work Group has scheduled the in-development updated SunSpec CSIP Test Procedures for public release

⁹ <https://sunspec.org/specifications/>

¹⁰ <https://sunspec.org/specifications/#specifications-for-review2b84-f1df>

in September 2026 specifically for public commentary. All public comments received through this open process are thoroughly addressed and resolved on a 100% consensus basis within the workgroup. Furthermore, SunSpec's RAND (Reasonable and Non-Discriminatory) IPR policies protect the implementor community and ensure royalty-free access to testing frameworks.

- **Globally Recognized:** As demonstrated by SunSpec's leadership in fostering the widespread global adoption of IEEE 2030.5 via CSIP, IEEE 1547, CSIP-AUS, 2030.5 Metering profile, and SAE J3072 V2G profile, SunSpec remains the premier global authority on operationalizing IEEE 2030.5 networks via open, reliable, protocol compliance testing and certification. SunSpec standards are officially recognized in the grid codes of Australia, California, Canada, Denmark, Germany, India, New Zealand, Poland, and the U.S.

3. Conclusion & Request for Relief

CALSSA's Petition asks the Commission to abandon a stable, functional, and globally adopted testing paradigm in favor of an unwritten draft standard with a speculative multi-year timeline and a questionable intellectual property foundation. Granting this Petition would destabilize California's DER market, increase compliance costs, introduce regulatory confusion, and undermine the reliable rollout of Rule 21 smart inverters.

WHEREFORE, the SunSpec Alliance respectfully requests that the Commission:

1. **Deny** CALSSA's Petition for Modification in its entirety.
2. **Reaffirm** Resolution E-5357's determination that SunSpec Alliance shall continue to manage and maintain the CSIP Conformance Test Procedures.
3. **Maintain** the existing Approved Testing Pathways under Resolutions E-5000 and E-5036 to preserve market continuity and grid reliability.

Respectfully submitted,

/s/ Dylan Tansy

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August 25, 2026

**DECLARATION OF DYLAN TANSY PURSUANT
TO RULE 16.4 OF THE CPUC'S RULES OF PRACTICE AND PROCEDURE
GOVERNING PROCEDURAL AND FACTUAL REBUTTAL**

I, Dylan Tansy, Executive Director of the SunSpec Alliance, declare as follows:

1. I am the Executive Director of the SunSpec Alliance ("SunSpec"), located at 500 E. Hamilton Ave #1022, Campbell, CA 95008. I am authorized to make this declaration on behalf of SunSpec.
2. The SunSpec Alliance developed and published the original SunSpec Common Smart Inverter Profile (CSIP) Conformance Test Procedures in May 2018 and has maintained the testing and certification framework continuously since that time.
3. In Resolution E-5357 (adopted December 2024), the Commission explicitly evaluated the organizational structure for smart inverter compliance and affirmed that SunSpec should continue to manage and update the SunSpec CSIP Conformance Test Procedures.
4. The IEEE P2030.5.100 project referenced in CALSSA's Petition currently has no published standard or draft test procedure available for technical validation or public review.
5. Pursuant to the published SunSpec Work Governing Documents, SunSpec maintains an open standards process where non-members are provided the opportunity to review and submit input during the public TEST phase of standard development, with all public comments addressed and resolved on a 100% consensus basis.
6. The SunSpec 2030.5 Test Procedures Work Group is actively updating the SunSpec CSIP Test Procedures and is scheduled to release the first publicly available TEST version of the updated CSIP Test Procedures for public commentary in September 2026.
7. SunSpec test procedures and specifications are distributed on an open, royalty-free basis to all market participants.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge and belief.

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