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U.S. Department of the Treasury
Internal Revenue Service
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Room 5203
P.O. Box 7604
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Washington, D.C. 20044

RE: "Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit," 89 Fed. Reg. 47,792 (June 3, 2024)

The Solar Energy Industries Association (SEIA) is the national trade association of the U.S. solar and storage industry. Our members promote the environmentally responsible development of distributed and utility-scale solar energy and storage. We are committed to working with federal agencies, environmental and conservation organizations, Tribal governments, state agencies, and other stakeholders to achieve this goal. On behalf of our member companies, SEIA appreciates the opportunity to provide these comments on the Internal Revenue Service's (IRS) proposed rule, "Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit," 89 Fed. Reg. 47,792 (June 3, 2024) (proposed rule).

I. Introduction

SEIA is committed to building a strong solar industry to speed the country's energy transition and address the climate crisis. As the national trade association for the U.S. solar and storage energy industry, which employs more than 260,000 Americans and reflects a market valued at over \$60 billion, we represent over 1,200 organizations that manufacture, install, and support the development of solar energy and storage.

SEIA and its members support the IRS's continuing efforts to implement the Inflation Reduction Act (IRA) in a manner that helps rapidly deploy more solar and storage technology at scale while providing adequate safeguards against abuse. The IRA enacted new, technology neutral clean energy production and investment and production tax credits, Sections 45Y (PTC) and 48E (ITC), respectively, and the proposed rule is a welcome step towards addressing many of the novel issues in the IRA.

The solar industry is deeply committed to helping our nation meet the renewable energy targets set forth by President Biden in a just and equitable manner. In order to modernize the grid and address the climate crisis, solar energy must account for at least 37% of U.S. electricity generation by 2035 and at least 44% by 2050.¹ That means roughly *quadrupling* our current installed solar capacity by 2035.² Inefficient tax rules threaten to blunt the transformational impact of the IRA and send us backwards in our efforts to address the existential threats of climate change. We appreciate the opportunity to submit these comments as the Treasury Department and IRS finalize the proposed rule.

II. Hybrid solar and storage systems

For decades, Congress has encouraged commercial investments in renewable energy projects, including utility- and distributed-scale solar and storage systems, through the use of tax credits in the Internal Revenue Code. In 2022, Congress enacted the IRA to expand the types of credits available to the renewable energy industry. For example, stand-alone energy storage technologies such as batteries are now eligible for both the original Section 48 ITC and the new technology neutral Section 48E ITC.³

Under the current Section 48 ITC, and depending on other factors, a taxpayer may claim a single credit in the case of a single energy property that includes both equipment to generate electricity from solar energy and energy storage technology. For example, a residential rooftop solar and storage system placed in service today may be treated as a single energy property for purposes of filing a single Form 3468, registering to transfer an eligible credit, etc.⁴ Alternatively, a utility-scale solar and storage project may claim separate credits for solar energy property and energy storage technology. Moreover, IRS has proposed revisions to its Section 48 regulations that would continue to allow taxpayers to claim either a single credit for a hybrid solar and storage “energy project,” or separate credits for the solar and the storage property, depending on whether certain conditions are satisfied.⁵

¹ U.S. Department of Energy, “Solar Futures Study: Frequently Asked Questions,” *available at* <https://www.energy.gov/eere/solar/solar-futures-study>.

² *See, e.g.*, Solar Energy Industries Association, “Solar Data Cheat Sheet,” *available at* <https://www.seia.org/cheatsheet> (June 6, 2024), and *id.* (200.1 gigawatts of solar installed compared to 760 gigawatts required to reach 37% penetration by 2035).

³ 26 U.S.C. §§ 48(a)(3)(A)(ix), 48E(a)(1)(B).

⁴ This treatment today is consistent with practice prior to the enactment of the IRA. *See, e.g.*, 26 C.F.R. § 1.48-9(d)(3) (solar energy property eligible for the ITC “includes equipment that uses solar energy to generate electricity, and includes storage devices”); I.R.S. P.L.R. 201308005 (Feb. 22, 2013) (“an investment credit may be claimed on [the] full cost” of a hybrid system).

⁵ *See generally* Proposed 26 C.F.R. §§ 1.48-9, 1.48-13(d) (defining energy property and relevant factors for treating multiple energy properties as one energy project), “Definition of Energy Property and Rules Applicable to the Energy Credit,” 88 Fed. Reg. 82,188 (Nov. 22, 2023), at 82,211-17. SEIA has previously provided comments on these proposed rules that request a number of modifications before they are finalized. *See* <https://www.regulations.gov/comment/IRS-2023-0054-0267> (SEIA Section 48 NPRM Comments). Reference to the proposed rules under Section 48 does not imply endorsement of them.

As a result, it is common practice across the solar and storage industry today to flexibly design and claim single or separate credits for hybrid systems depending on a variety of factors, including whether the system is a residential rooftop solar with battery storage systems or a very large, ground-mount utility-scale solar with battery storage systems. IRS's current approach simply and efficiently supports the growing practice of adding energy storage to solar generating systems for a variety of use cases, including enabling more firm and dispatchable clean power, providing resilient backup power in the case of natural disasters, demand charge management, virtual power plants, and others.

Interpreting Section 48E(a)(1) for the first time in these proposed rules, however, IRS appears to have imposed a rigid new construct for energy projects placed in service after 2024. The structure of proposed §§ 1.48E-2(a)-(f) (regarding qualified investments in qualified facilities) and 1.48E-2(g) (regarding energy storage technology) appears to contemplate two separate investment credits for hybrid systems—one for the qualified facility and one for the energy storage technology. The examples in proposed § 1.48E-2(b)(3)(vii) further support this result. In addition, proposed § 1.48E-2(b)(3) defines “integral part[s]” of a qualified facility and provides numerous examples, but energy storage technology is not among them. Last, the proposed rules under Section 48E do not mention the “energy project” concept under the Section 48 NPRM, indicating a departure from the Section 48 factorial test.

The preamble to the proposed rule provides no rationale for this dichotomous rule that differs from the existing flexibility for taxpayers. While it is possible that the proposed rule reflects an interpretation of Section 48E(a)(1), which refers to credits for “any qualified facility, *and*” “any energy storage technology” (emphasis added), such a reading rejects the plain meaning of “and.” Had Congress intended separate credits for generation and storage, Section 48E(a)(1) would likely have used “or” in place of “and.”

The better reading of Section 48E(a)(1) is that qualified facilities, which generate electricity, are the only relevant consideration for purposes of applying the “greenhouse gas emissions rate,” which statutorily only applies to “a facility *in the production of electricity*,”⁶ not storage of electricity. Separating qualified facilities from energy storage technologies presents an administrable—but not inflexible—construct for applying the greenhouse gas emissions rate to generation technology, but not to energy storage technology (which, at least in the case of battery energy storage systems, does not produce emissions, whereas certain technology neutral qualified facilities may). There is no other textual basis to eliminate a single investment credit for hybrid systems, and no stated reasoning for anything other than a smooth transition from Section 48 to 48E beginning in 2025. The proposed rules would impose a new regime at odds with years of regulatory and developer experience and should be revised.

⁶ 26 U.S.C. § 45Y(b)(2)(a).

A. IRS should permit taxpayers to make a single filing for hybrid systems and modify the definition of “integral part”

As a threshold matter, final rules should clarify that even if qualified facilities and energy storage technology are separate categories under Section 48E, a taxpayer developing a hybrid system that incorporates both is permitted to file a single Form 3468 and register only once for purposes of Section 6418 (provided that both the qualified facility and the energy storage technology seek to claim a credit under Section 48E). Without this modest allowance, taxpayers developing many smaller rooftop systems in particular will incur double the administrative burden associated with claiming and transferring the credit, which in turn will double the strain on IRS processing and examinations. This could increase costs for consumers and create inefficiencies in enforcement.

To avoid unnecessary disruptions in the market and better align final technology neutral rules with the statutory text and proposed IRS regulations, IRS should further revise proposed § 1.48E-2(b)(3) to clarify that “energy storage technology” may (but is not required to) be considered an “integral part” of a qualified facility.⁷ These changes will give effect to the plain meaning of “and” in Section 48E(a)(1). It will also align final rules with current guidance on the domestic content bonus credit⁸ and with the factorial test for an “energy project” under the Section 48 NPRM. Treasury and IRS have considerable authority to make these changes and keep Section 48E rules consistent with existing practice across various sectors of the solar and storage industry.⁹

B. Forcing taxpayers to claim two separate credits for the same system will significantly and unnecessarily burden IRS and taxpayers

If the proposed rules are not modified in this manner, SEIA is concerned that developers of hybrid systems, manufacturers of their components, and ultimately consumers could face considerable hardships in just a few months as investment tax credits transition to the new technology neutral regime.

First, requiring a taxpayer to claim separate credits will complicate project financing and increase project costs by requiring separate appraisals, increasing taxpayer filing and compliance burdens, and increasign strain on IRS processing and examination resources. As a result, the proposed rules would decrease the value of Section 48E credits as compared to existing Section 48 credits. This in turn will hinder deployment and consumer clean energy choice.

Second, it will potentially reduce the value of bonus credits, including the domestic content bonus credit. By eliminating the option to attain the Adjusted Percentage across generation and storage

⁷ In the alternative, final rules could provide that a taxpayer developing a hybrid system and claiming the Section 48E credit on both the qualified facility and the energy storage technology can elect to treat both as a single energy project.

⁸ See *infra*. n.10 and accompanying text.

⁹ See 26 U.S.C. § 48E(i).

inputs, fewer projects will likely qualify for the bonus. This is especially true in the ground-mount system context under Notice 2024-41, where few if any high-domestic content energy storage products are currently available in the market. It is likely for this reason that Notice 2024-41 specifically contemplates hybrid projects claiming a single bonus credit,¹⁰ but that option now only applies for projects that begin construction before 2025. This further reduces the value of the Section 48E credit and may unintentionally send a negative market signal to domestic utility-scale battery manufacturers.

Third, residential solar customers seeking to purchase or lease solar and storage hybrid systems may be required to enter into two separate contracts for electricity produced from a qualified facility and electricity stored in batteries. This will erect an unnecessary hurdle to the adoption of residential solar, especially for low- and moderate-income customers and customers more vulnerable to interruptions in electricity service who will likely seek to incorporate storage options into their residential systems.

Last, many state and local jurisdictions provide additional tax incentives specifically for hybrid systems, which may inadvertently become unavailable or require time-consuming changes to state and local tax codes if these proposed rules are finalized. That will further reduce deployment in contravention of the intent of the IRA and the policy goals of local jurisdictions.

For these reasons, IRS should correct its interpretation of Section 48E(a)(1), permit a taxpayer to file a single Form 3468 and Section 6418 registration for qualified facilities with energy storage technology, and modify the definition of “integral part” under Section 48E.

C. Interaction of Section 48 and Section 48E

SEIA understands that under the proposed rules, taxpayers developing certain hybrid systems would still be able to claim separate Section 48 and Section 48E investment credits for different elements of their system in certain instances. For example, if a taxpayer begins construction on a solar array before December 31, 2024, the taxpayer is eligible to claim the Section 48 investment credit. If the taxpayer also constructs a connected energy storage technology that is placed in service after December 31, 2024, the taxpayer is eligible to claim the Section 48E investment credit only with respect to the energy storage technology. The same would hold for an energy storage technology that began construction before December 31, 2024, and a connected solar array placed in service after December 31, 2024—the former would be eligible for the Section 48 credit, and the latter for the Section 48E credit. SEIA recommends that final rules include an example illustrating this potential dual eligibility for components of hybrid systems for the investment credits during the transition period from Section 48 to Section 48E.

¹⁰ See I.R.S. Notice 2024-4, section 4.03(6) (“Solar Energy Property and Energy Storage Technology as Part of a Single Energy Project”).

III. Retrofitted facilities (80/20 Rule)

The proposed Section 48E rules would generally treat all additions, improvements and retrofits (collectively, Retrofits) to a qualified facility as subject to the “80/20 Rule,” similar to the proposed Section 48 rules. As argued in SEIA’s Section 48 NPRM Comments, applying the 80/20 Rule to all Retrofits of facilities claiming the ITC is misguided for two reasons. First, ITC rules have long held that otherwise ITC-eligible improvements made to existing energy property may qualify for the ITC, and the IRA did not change this rule in any way. Second, application of the 80/20 Rule has always uniquely been a PTC issue rather than an ITC issue. The 80/20 rule is simply not relevant in an ITC-only context.

Final rules under both Section 48 and Section 48E should make clear that the 80/20 Rule only applies to Retrofits in the context of the PTC. Thus, if a new PTC will be claimed on an upgraded facility, such Retrofit must satisfy the 80/20 rule. For other situations regarding Retrofits at facilities for which the ITC was claimed, final rules should be amended to make clear that taxpayers have the ability to continue to make upgrades or add capacity without adding an entirely new unit of qualified facility, consistent with the historic definitions of energy property and the unit of property for tax credit, cost recovery, and depreciation purposes.

Since the inception of the ITC, IRS rules have provided that any capital addition of new eligible property qualifies for a new credit. But proposed § 1.48E-4(c) would impose a fundamental change to that longstanding rule by treating new components added to an existing qualified facility as “excluded costs,” unless such new components added to the existing qualified facility satisfy the 80/20 Rule.

For the past 30 years, the sole purpose of the 80/20 Rule was to address whether a fresh 10-year PTC could be claimed for an upgraded facility by allowing the facility to have a new original placed in service date.¹¹ By applying the 80/20 Rule to qualified facilities under Section 48E, and excluding the costs of otherwise eligible components that do not satisfy the 80/20 Rule, the proposed rule fundamentally misconstrues the 80/20 Rule’s purpose.

Two examples in current regulations illustrate the proper interpretation of the original use requirement in 26 C.F.R. § 1.48-2(b)(7) and the difference between a reconditioned or rebuilt (*i.e.*, retrofitted) unit of property previously in service and the addition of new property or capital improvements. Examples 4 and 5 illustrate that a taxpayer cannot claim an ITC with respect to a reconditioned machine or used property acquired from a prior user, but Example 5 demonstrates that the taxpayer’s additional expenditures—*i.e.*, the taxpayer’s costs for new components or capital improvements—are eligible for a new credit.

Thus, the 80/20 Rule should apply to Section 48E qualified facilities only in limited circumstances. First, the 80/20 Rule should apply to the acquisition of retrofitted or refurbished qualified facility by a taxpayer with respect to the issue of original use and original placed in service date of such

¹¹ I.R.S. Rev. Rul. 94-31.

retrofitted facility. This is the traditional application of the 80/20 Rule.¹² Second, the 80/20 Rule should be applied where it is necessary for a qualified facility to obtain a new original placed in service date, such as a retrofitted Section 45 or 45Y facility that elects to be treated as a Section 48E qualified facility. The 80/20 Rule applies to such retrofitted facilities because their qualification for the tax credit is based on achieving a new original placed in service date for the facility. In sum, the 80/20 Rule should only apply to improvements made to a qualifying facility originally claiming the PTC during its 10-year credit period, and to improvements made to a facility that claimed the ITC that now wishes to claim a new PTC. Said differently, the 80/20 Rule simply does not apply to equipment additions made to that portion of an existing facility that did not claim the PTC where the taxpayer intends to claim the ITC on such additions.

Accordingly, the 80/20 Rule and excluded costs should not apply to capital additions of otherwise eligible components to a taxpayer's existing qualified facility on which a PTC was not claimed. For example, the owner of a solar energy facility can make capital improvements to upgrade or replace existing solar modules or inverters and claim a new credit on such capital improvements when placed in service without regard to the 80/20 Rule.

At the very least, the 80/20 Rule should only apply to a specific category of qualified facilities. For example, when a new category of components (*e.g.*, energy storage technology) is added to an existing qualified facility comprised of different categories of components (such as wind or solar), then that new category of component should be treated as a separate "unit of qualified facility." This will allow installation of new batteries on an existing qualified facility without triggering 80/20 Rule analysis. This is also consistent with the IRA generally, which provides that a facility's decision to claim PTCs on the generating output does not limit its ability to claim ITCs on the energy storage technology. As discussed above, this treatment of batteries is consistent with the treatment of wind turbines. If a taxpayer adds new turbines (instead of retrofitting existing ones), then the 80/20 Rule does not apply.¹³ Indeed, under IRS Notice 2018-59, the 80/20 Rule applies at the property level—not the project or system level. Thus, if a taxpayer with an existing solar energy project wants to add new units of energy storage technology, those should not be subject to the 80/20 Rule.

IV. Interconnection property

Prior to the enactment of the IRA, interconnection costs facilities and upgrades for new or upgraded generation facilities were generally treated of as part of transmission or distribution costs equipment rather than generation costs equipment and thus not eligible for the ITC. The IRA enacted a special rule for projects up to 5 MW, as measured in alternating current, under which the costs of the project's qualified interconnection property are deemed to include costs attributable to qualified interconnection property, enabling a taxpayer to claim the ITC on qualifying interconnection costs. Thus, while qualified transmission property is still not considered energy

¹² See I.R.S. Rev. Rul. 68-111.

¹³ See I.R.S. Notice 2016-31, at § 6.01 (holding that 80/20 Rule applies on a turbine-by-turbine—or facility-by-facility—basis, implying that addition of new turbines does not trigger the 80/20 Rule).

property or qualified facility after IRA enactment, some of its costs are attributed and reallocated to the project's basis in the underlying energy property or qualified facility.

A. Five-Megawatt Limitation

As described in SEIA's Section 48 NPRM Comments, proposed § 1.48E-4(a)(3) must be modified to clarify that interconnection property eligible for the credit is measured at the point of output, *i.e.*, 5 MW_{AC} at the inverter, and not nameplate generation capacity. The text of Section 48E(b)(1)(B) does not contain the words "nameplate" or "capacity"; instead, it specifically refers to the 5 MW limit by reference to "output ... measured in alternating current" which, for solar systems, can only be read to refer to post-inverter measurement. This section does not contain the words "nameplate" or "capacity." The proposed definition of interconnection property for generators at proposed § 1.48E-4(a)(3), as applied to direct current generating equipment like solar panels, would result in a nullity: only AC-generating technologies would qualify for the credit. The term "AC" is completely omitted from this subsection, despite the plain language of the statute. The final rule must revise the definition to follow statute and specify that the five-megawatt limitation is measured in terms of output in alternating current, not nameplate capacity and not in terms of output in direct current.

B. Storage interconnection property

While sections 48E(b) and (c) do not mention eligible interconnection costs in the context of stand-alone energy storage technology, the term "qualified interconnection property" is defined by reference to Section 48(a)(8), which clearly includes "amounts paid or incurred by the taxpayer for qualified interconnection property ... to provide for the transmission or distribution of the electricity produced *or stored*" by the facility (emphasis added). SEIA therefore believes that while Section 48E is ambiguous with respect to the eligibility of stand-alone storage interconnection costs, final rules should be resolved to permit interconnection costs for stand-alone storage. This result is consistent with the Section 48 NPRM and the IRA's policy to encourage storage deployment.

C. Qualified interconnection costs example

SEIA appreciates the examples in proposed § 1.48E-4(a)(7) and believes they will provide needed clarity to taxpayers. Timely and efficient interconnection of clean energy assets to the grid is of critical and growing importance as developers continue to contend with significant grid operator queue lengths, ongoing supply chain challenges, and the substantial additional costs these challenges often entail. SEIA therefore respectfully requests that final rules include an additional example that more clearly illustrates the applicability of proposed § 1.48E-4(a):

(iii) *Example 3. Application of Five-Megawatt Limitation to property up to the inverter.* A 100 MW facility with a single power purchase agreement, interconnection agreement, and intertie and owned by a single taxpayer is comprised of 25 strings of inverter circuits and each string has its own inverter with a maximum net output of 4 MW (as measured in alternating current), and the 25 energy properties share a transformer with a maximum output of 100 MW. Each of the 25 solar energy properties comprising each of the 25 inverter strings, up to and including the inverter, is a separate unit of energy property for purposes of calculating the section 48 credit for qualified interconnection property. With respect to each of the 25 solar energy properties, the taxpayer may include the costs it paid or incurred for qualified interconnection property when calculating its section 48 credit for the eligible property otherwise included in the 100 MW facility because each of the units of solar energy property has a maximum net output of no greater than 5 MW through a single inverter.

D. Prevailing Wage and Apprenticeship requirements

As explained above, interconnection property alone does not qualify for the ITC. Rather, the qualifying costs of certain interconnection property may be reallocated and treated as part of the cost of qualified facilities. The IRS has already confirmed that these costs are ignored for domestic content and energy community bonus credit purposes. Similarly, the IRS should confirm in its final rules that prevailing wage and apprenticeship requirements do not apply to the construction, alteration, or repair of interconnection property. Because interconnection property is distinct from the qualified facility, and the qualified facility is relevant to the application of prevailing wage and apprenticeship requirements, it should follow that interconnection property falls outside these requirements. Final rules should clarify this understanding.

E. Grid-enhancing technologies

SEIA respectfully requests that the proposed definition of “qualified interconnection property” be amended to include certain grid-enhancing technologies. Grid-enhancing technologies “maximize electricity transmission across the existing system through a family of technologies that includes sensors, power flow control devices, and analytical tools.”¹⁴ The impact of these technologies is that “clean sources of power can be integrated sooner and more cost-effectively than waiting for new transmission construction, which will address load growth challenges more rapidly, create good-paying jobs, and lower Americans’ utility bills.”¹⁵ Including “grid-enhancing software and sensors” in the definition of “qualified interconnection property” complements the IRA’s policy goals, sends a

¹⁴ The White House, “FACT SHEET: Biden-Harris Administration Launches Federal-State Initiative to Bolster America’s Power Grid” (May 28, 2024), available at <https://www.whitehouse.gov/briefing-room/statements-releases/2024/05/28/fact-sheet-biden-harris-administration-launches-federal-state-initiative-to-bolster-americas-power-grid/>.

¹⁵ *Id.*

clear market signal supporting the development of these tools, and aids the efficient integration of small-scale projects into the grid.

V. Other issues

- *Multiple owners of shared facilities*: IRS should amend the proposed rules around multiple ownership of a qualified facility, proposed § 1.48E-4(d)(2), to provide an allocation of the investment credit for separate ownership of an “integral part” of a qualified facility and the unit of qualified facility where the “integral part” meets certain factors (*e.g.*, consistent with the holding in *Cooper v. Comm’r of Internal Revenue*, 88 T.C. 84 (1987)).¹⁶ For example, in the case of a qualified facility in which both the generation assets and transfer equipment are constructed together but owned by separate taxpayers, both taxpayers should be able to claim separate credits on the bases of their respectively owned portions. Similarly, where a unit of qualified facility is constructed and placed in service by a taxpayer, and another taxpayer constructs and places in service an integral part at a later date, both taxpayers should be able to claim credits.
- *Buildings and their structural components*: Proposed § 1.48E-2(b)(3)(iv)-(v) (and related provisions in proposed § 1.45Y) would generally provide that buildings and their structural components are not integral parts of a qualified facility, unless they are equivalent to an item of machinery or equipment, or they house certain types of property so closely related to the structure that the structure and the property would be replaced at the same time. While this provision is essentially the same as equivalent provisions under the Section 48 NPRM, SEIA remains concerned that this language represents an unwarranted narrowing of over 50 years of tax precedent. For example, the IRS has previously held that special-purchase property such as hydroelectric power plant structures, reservoirs to be used with steam turbine generating plants, and dams were eligible for the former ITC as other tangible property rather than being considered buildings or their structural components.¹⁷ In only one of the cited rulings was the property not considered a “building” based on the idea that replacement of the turbine and support have to be undertaken at the same time. Accordingly, SEIA is concerned that certain special-purpose “buildings” or building-like structures that have long been considered integral “property” under Section 48 may be inadvertently excluded under final Section 48E rules. For example, final rules should make clear that containers for utility-scale battery energy storage systems, inverter housing, and transformer housing are specifically considered as “buildings” or their equivalents.

More generally, SEIA is also concerned that this definition could unintentionally exclude other integral parts of qualified solar facilities, such as canopies for solar carports, racking

¹⁶ See also I.R.S., “Payments for Specified Energy Property in Lieu of Tax Credits Under the American Recovery and Reinvestment Act of 2009,” available at <https://home.treasury.gov/system/files/216/A-FAQs0411-general.pdf>, at 7 (answer to Question 34).

¹⁷ See I.R.S. Rev. Rul. 72-223, Rev. Rul. 72-96, Rev. Rul. 84-40.

structures specific to commercial and industrial solar projects, rooftop specialized battery housing structures and enclosures for densely populated urban environments, and others. SEIA recommends that final rules clarify the status of these and similar components, or modify the rule for buildings to generally include structures but exclude buildings of particular concern to IRS (*e.g.*, housing or offices for maintenance equipment or regular operations staff).

- *Metering device*: Proposed § 1.45Y-1(a)(5) defines a “metering device” with respect to “energy revenue metering.” However, metering devices are commonly understood to measure energy production, not revenue. SEIA recommends that final rules revise the term “energy revenue metering” to “energy production metering.”
- *Load controllers*: IRS should also confirm that devices used to manage load served by energy storage technology—commonly called critical loads panels or load controllers—are an “integral part” of an energy storage technology. A key function of batteries is to provide backup power in the event of a grid failure or to provide power to users that are not connected to the grid at all. Without a load management device, backup batteries will be unable to meet a user’s total load and will disconnect. In other words, without a load management device, batteries cannot perform one of their primary intended functions. IRS should clarify that load controllers are an “integral part” of battery energy storage technology.
- *Software and power conditioning equipment*: The definitions of “power conditioning equipment” under Sections 45Y and 48E expressly include software used to “monitor, operate, and protect” such equipment. This should be expanded to include software that optimizes or automates the function of power conditioning equipment. Software is an increasingly important element of many renewable energy and storage systems, and final rules should recognize its critical and evolving role. Final rules should clarify that software performing similar functions to other integral parts of the qualified facility, like Energy Management Systems, Battery Management Systems, Data Acquisition Systems, and optimization software, are all considered “power conditioning equipment.”
- *Domestic or process hot water*: The proposed rules clarify that “thermal energy storage property” includes property that “provide[s] hot water for use in heating a residential or commercial building.” Proposed § 1.48E-2(g)(6)(ii). Final rules should further clarify that this language encompasses domestic or process hot water for consumptive use. Residential hot water devices (specifically those powered by solar energy collectors) otherwise meet the three general definitional factors of “thermal energy storage property,” *i.e.*, they are “connected to a heating ... system,” “add[] heat to[] a storage medium for subsequent use,” and “provide[] energy for the heating ... of the interior of a residential ... building.” While solar heated water may only provide incidental heating of interior pipes and spaces, collectors for hot water still serve identical thermal storage functions to other types of thermal energy storage property. Domestic and process hot water serves a variety of uses,

especially in the industrial and commercial space (including sterilization, pasteurization, cleaning, district heating, drying, preheating, and heat recovery). This clarification would assist the deployment of carbon-free solar water heating systems used in many unique environments, including military installations and remote islands.

- *Microgrid controllers*: The Section 48 investment credit for microgrid controllers added by the IRA expires at the end of 2024, but developers are still awaiting final rules implementing the credit. This has substantially chilled the market for financing microgrid controllers despite Congress's clear direction. As we urge finalization of the Section 48 NPRM as soon as possible, we further recommend that microgrid controller eligibility for the Section 48E credit be clarified.

Specifically, IRS should amend the final definition of "integral part" to include microgrid controllers. For qualified facilities that utilize microgrid controllers, their components rely on—and will not operate independently from—the microgrid controller. Clarifying the definition with express reference to the microgrid controller is consistent with Congressional intent and a partial remedy to the delay of final rules.

VI. Conclusion

Thank you for the opportunity to provide these comments. If you have any questions, please contact Ben Norris at (202) 556-2909 or bnorris@seia.org.

Sincerely,

/s/ Ben Norris

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