December 2, 2022

SUBMITTED ELECTRONICALLY

Internal Revenue Service
CC:PA:LPD:PR (Notice 2022-58)
Room 5203
P.O. Box 5203, Ben Franklin Station
Washington, D.C. 20044

The Honorable Lily L. Batchelder
Assistant Secretary for Tax Policy
Department of the Treasury
1500 Pennsylvania Ave., NW
Washington, D.C. 20220

Mr. William M. Paul
Principal Deputy Chief Counsel and Deputy Chief
Counsel (Technical)
Internal Revenue Service
1111 Constitution Ave., NW
Washington, D.C. 20224

Re: Request for Comments on Regulatory Implementation of the Inflation Reduction Act and Section 45V (Clean Hydrogen Production Credit) of the Code Pursuant to Notice 2022-58

Dear Ms. Batchelder and Mr. Paul:

NextEra Energy, Inc. ("NextEra") appreciates the opportunity to respond to the Internal Revenue Service's request for comments regarding the Inflation Reduction Act ("IRA") pursuant to Notice 2022-58.

I. Background

The Treasury Department and the Internal Revenue Service ("IRS") plan to issue guidance regarding several sections, including Section 45V and Section 45Z, of the Internal Revenue Code, as added by Public Law 117-169, 136 Stat. 1818 (August 16, 2022), commonly known as the Inflation Reduction Act of 2022.

Treasury and the IRS have issued Notice 2022-58 (the "Notice"), requesting comments on general as well as specific questions pertaining to the clean hydrogen production credit under Section 45V and

clean fuel production credit under Section 45Z. In response to the Notice, NextEra submits the following responses.

II. Questions Raised by the IRS

Sec. 3.01. Credit for Production of Clean Hydrogen.

(1) Clean Hydrogen. Section 45V provides a definition of the term "qualified clean hydrogen." What, if any, guidance is needed to clarify the definition of qualified clean hydrogen?
IRS should clarify that it will use the Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies (GREET) model to qualify projects.[1] In addition, IRS should clarify that producers of electrolytic hydrogen that seek to be grid connected should immediately qualify, subject to certain limitations discussed herein. As the legislative history below clarifies, grid-connected electrolyzers that use grid power and procure renewable energy to offset their consumption are meant to be eligible for the 45V credit at the highest tiers. Mr. CARPER: It is … my understanding of the intent of section 13204, is that in determining ''lifecycle greenhouse gas emissions'' for this section, the Secretary shall recognize and incorporate indirect book accounting factors, also known as a book and claim system, that reduce effective greenhouse gas emissions, which includes, but is not limited to, renewable energy credits, renewable thermal credits, renewable identification numbers, or biogas credits. Is that the chairman's understanding as well? Mr. WYDEN. Yes. Mr. CARPER. Thank you, Mr. Chairman. Additionally, I would like to clarify that the intent of section 13701 allows the Secretary to consider indirect book and claim factors that reduce effective greenhouse gas emissions to help determine whether the greenhouse gas rate of a qualified fuel cell property, which does not include facilities that produce electricity through combustion or gasification, is ''not greater than zero.'' Is that the chairman's understanding? Mr. WYDEN. Yes. [2] NEE also believes IRS should clarify that, while hydrogen must be produced in the United States, the sale or use of the hydrogen may be conducted internationally. In other words, to qualify for the tax credit, the hydrogen must only be produced in the United States; the location of the sale or use of the qualified hydrogen following production should not be taken into consideration. Hydrogen is a chemical building block for other molecules that are capable of more efficiently carrying hydrogen, especially ammonia, which can be exported and used in other applications. Restricting the sale or use of qualified clean hydrogen to the United States will only limit this nation's ability to become a global leader in the clean hydrogen market, and potentially disincentivize production.

[1] GREET model' developed by Argonne National Laboratory, or a successor model (as determined by the Secretary)." 26 U.S.C. § 45V(c)(1)(B).

[2] 168 Cong. Rec. S4165 (Aug. 6, 2022), available at https://www.govinfo.gov/content/pkg/CREC-2022-08-06/pdf/CREC-2022-08-06-pt1-PgS4165-3.pdf.

(a) Section 45V defines "lifecycle greenhouse gas emissions" to "only include emissions through the point of production (well-to-gate)." Which specific steps and emissions should be included within the well-to-gate system boundary for clean hydrogen production from various resources?

Given the degree to which greenhouse gas emissions (GHG) emissions arising upstream of the point of production can dictate the final emissions profile of hydrogen production pathways, NEE urges IRS to employ its discretion to develop a carbon intensity threshold that rigorously accounts for a well-to-gate life cycle assessment (LCA) on the basis that it will better support sustainable reductions in GHG emissions. Indeed, the IRA's directive to use a well-to-gate LCA will serve as a foundational requirement for establishing a clean hydrogen market since it accounts for greater GHG emissions associated with aspects of hydrogen use.

The well-to-gate LCA should establish consistent GHG reduction from hydrogen facilities, accounting for emissions associated with feedstock production processes, hydrogen production, carbon capture, and storage, as well as others. The system boundary should include carbon capture and sequestration, even if sequestration is not at the site of production, but should not include other post-hydrogen production steps, such as potential liquefaction, compression, dispensing into vehicles, etc. Quantifying emissions from well-to-gate will aid in conducting a fair and unbiased competitive § 45V tax credit program, helping to reduce subjectivity and supporting a scientific-based approach focused on decarbonizing systems. Clearly defined emissions parameters, including the stopping and starting points of calculation, can also help remove ambiguity from the process of determining "clean hydrogen" and lower the opportunity for market distortion and unfair competition (e.g., through congestion and/or negative pricing). As a technology-agnostic approach, this approach creates a common and an appropriately inclusive methodology, opening a pathway for competition to thrive if the hydrogen production can meet the desired LCA emissions threshold, regardless of technology, and gives more weight to proposals with the lowest emission profiles.

A lifecycle system boundary should enable consistent and comprehensive evaluation of diverse hydrogen production systems. NEE believes that the Department of Energy's (DOE) methodology in the proposed Clean Hydrogen Production Standard (CHPS) rulemaking includes the right steps and emissions that should be included in the well-to-gate accounting boundaries. NEE believes that the use of the system boundary employed by the International Partnership for Hydrogen in the Economy (IPHE), as proposed in the CHPS, will enable the burgeoning domestic clean hydrogen industry in the U.S. to better integrate with global hydrogen markets. More than twenty countries have been coordinating since 2019 to harmonize emissions analysis methodologies and boundary conditions for hydrogen pathways through IPHE's Hydrogen Production Analysis Task Force (H2PA TF), which is co-led by the U.S.

This methodology appropriately accounts for the emissions from each unit of hydrogen across the supply chain. This system has been demonstrated by DOE and its National Laboratories in previous work and is consistent with international best practices. Thus, its use should provide confidence regarding boundary conditions.

The IPHE methodology is based on flexibility that will support the clean hydrogen market as it emerges. It provides transparency regarding the assumptions within the IPHE methodology that supports creating confidence in the approach and stimulating innovation. Its focus on compatibility is important for the emergence of the clean hydrogen market, since it will allow comparison of

emissions from hydrogen production to emissions from other sources, supporting the growth of cleaner hydrogen production methods. Finally, the IPHE approach will mature along with the clean hydrogen market, ensuring that best practices are adopted domestically and abroad for clean hydrogen production.

(b)(i) How should lifecycle greenhouse gas emissions be allocated to co-products from the clean hydrogen production process? For example, a clean hydrogen producer may valorize steam, electricity, elemental carbon, or oxygen produced alongside clean hydrogen.

NEE encourages the IRS to allocate emissions to coproducts using a system expansion approach integrated within the GREET model. GREET model variations are robust frameworks capable of accounting for a wide range of electricity generation and hydrogen production methods, including associated coproducts. The model already accounts for coproducts, such as valorized steam, electricity, elemental carbon, and oxygen in hydrogen production, by apportioning carbon intensity among the total products.[3] To ensure clarity for clean hydrogen project investment decisions, the allocation to co-products should not change for the duration of the PTC.

(ii) How should emissions be allocated to the co-products (for example, system expansion, energy-based approach, mass-based approach)?

NEE believes that the IRS should use a system expansion or mass-based approach within the GREET model to allocate emissions to the co-products of hydrogen production, as this approach would account for the co-products' effect on total carbon emission intensity. System expansion best aligns with the intent of the IRA because it captures the environmental impact of hydrogen production to a greater extent as compared to a mass-based approach.[4] System expansion better accomplishes this aim since it uses a larger dataset to generate information on the full suite of environmental consequences for hydrogen production, namely the accounting of useful coproducts that otherwise would have been created through other means associated with their own carbon emissions.[5] If a system expansion approach is used, the allocation to co-products should not change for the duration of the PTC to ensure clarity for clean hydrogen project investment decisions. If a system expansion approach is not used, NEE supports the use of a more straightforward mass-based approach.

(iii) What considerations support the recommended approaches to these issues?

NEE has no comments.

[3] Available on p. 8 at https://greet.es.anl.gov/files/hydrogenreport2022.

[4] See Comparison of a system expansion and allocation approach for the handling of multi-output processes in life cycle assessment by Theresa Krexner, Iris Kral*, Andreas Gronauer, Francisco Javier Medel-Jiménez, Alexander Bauer, published on 18 October 2021

[5] *Available at* http://qpc.adm.slu.se/7_LCA/page_18.htm#:~:text=System%20expansion%20is%20part%20of,information%20on%20consequences%20of%20actions.

(c)(i) How should lifecycle greenhouse gas emissions be allocated to clean hydrogen that is a by-product of industrial processes, such as in chlor-alkali production or petrochemical cracking?
NEE has no comments.

(ii) How is byproduct hydrogen from these processes typically handled (for example, venting, flaring, burning onsite for heat and power)?
NEE has no comments.

(d) If a facility is producing qualified clean hydrogen during part of the taxable year, and also produces hydrogen that is not qualified clean hydrogen during other parts of the taxable year (for example, due to an emissions rate of greater than 4 kilograms of CO2-e per kilogram of hydrogen), should the facility be eligible to claim the § 45V credit only for the qualified clean hydrogen it produces, or should it be restricted from claiming the § 45V credit entirely for that taxable year?
The flexibility of a facility to claim the § 45V credit for the qualified clean hydrogen it produces over the course of a year is closely tied to the integral notion of annual matching and, as a result, is critical to ensuring clean hydrogen production technology can reach scale. NEE encourages the IRS to adopt a time of use standard based on an annual basis (i.e., the carbon-free energy must be produced within the same year the hydrogen is produced). Requiring that time matching be too granular, such as hourly, would devastate the economics of clean hydrogen production and would not align with legislative intent to accelerate progress towards a clean hydrogen economy. Therefore, NEE urges Treasury to accredit hydrogen projects that meet the § 45V carbon intensity thresholds using the GREET model on an annual-average approach for estimating emissions.

(e) How should qualified clean hydrogen production processes be required to verify the delivery of energy inputs that would be required to meet the estimated lifecycle greenhouse gas emissions rate as determined using the GREET model or other tools if used to supplement GREET?
NEE encourages the IRS to work with DOE and other industry stakeholders to develop verification processes. As part of the verification process, NEE strongly urges IRS to allow the use of power purchase agreements (PPAs) and/or virtual PPAs (vPPAs). Currently available technology allows for accurate metering that is equivalent to a direct, behind-the-meter connection and which ensures annual matching between electricity production and consumption. To effectively verify effective GHG emissions reductions, system-level modeling and grid emissions data should be required. A framework with expanded capabilities will be needed to establish a robust "book-and-claim" system for grid-connected projects, which can then be integrated with GREET. A "book-and-claim" approach would allow for regionally supplied clean energy to be carefully quantified to satisfy the "renewable" component of grid-connected hydrogen production. The use of

indirect book accounting is strongly supported by the legislative intent of the IRA.[6] A book and claim system ensures that hydrogen production infrastructure need not be co-located with renewable energy production systems, which are often located in rural areas. By leveraging the existing electric grid, clean hydrogen producers can utilize procured renewable energy that is sourced elsewhere within the balancing authority.

To the extent that taxpayers are using industry standards in practice, IRS should allow taxpayers to continue to use such standards to verify their LCA until a more robust framework for verification is identified.

(i) How might clean hydrogen production facilities verify the production of qualified clean hydrogen using other specific energy sources?

As discussed further below in the answer to question .01(4)(d), and as discussed above, IRS should work with DOE and other stakeholders to create a verification method.

(ii) What granularity of time matching (that is, annual, hourly, or other) of energy inputs used in the qualified clean hydrogen production process should be required?

Grid-tied electrolyzers are typically most economic when operating as close to 100 percent capacity as possible, which means that to meet a true green standard, they typically need to procure power as a block around the clock from wind and solar, and potentially storage resources—allowing the electrolyzers to run at high-capacity factors. At this time, this might be not possible or cost effective to realize at scale in all regions of the country without impeding the growth of electrolyzer-produced hydrogen. Therefore, NEE encourages the IRS to adopt a time of use standard based on an annual basis (i.e., the carbon-free energy must be produced within the same year the hydrogen is produced). Requiring that time matching be too granular, such as hourly, would potentially devastate the economics of clean hydrogen production and would not align with legislative intent to accelerate progress towards a clean hydrogen economy.

One potential consequence of implementing a matching regime that is more granular than annual, such as hourly, would be to disincentivize investment in new green hydrogen infrastructure, significantly slowing the pace of large-scale decarbonization. According to an internal NEE analysis, hourly matching would increase the cost of green hydrogen production by around 70%-170% versus annual matching, eliminating the ability of the PTC to make green hydrogen cost competitive with other forms of hydrogen. This is because hourly matching would require a green hydrogen project to buy time-correlated renewables during periods of under-generation, which corresponds to higher market price periods, increasing the overall cost of green hydrogen. If time-correlated renewables are not available, the green hydrogen project may curtail its electrolyzer, leading to long idle times. Hydrogen production equipment remains expensive and requires high utilization to improve the overall facility economics. If a green hydrogen production facility can only produce during hours when

[6] Senate Finance Committee Chairman Ron Wyden (D-OR) and author of the PTC Sen. Tom Carper (D-DE) confirmed Congress' intent to use a book and claim system in a colloquy during debate over passage of the Inflation Reduction Act.

wind and solar are available, the low utilization rate will dramatically increase the price of the hydrogen produced.

The higher production cost for green hydrogen as a result of implementing hourly matching risk snowballing, leading to reduced investment by equipment manufacturers, further slowing the pace of technological innovation and manufacturing scale-up. The poor economic returns would demotivate investment from project developers, owners, and lenders. Therefore, hourly matching would severely limit the buildout of the green hydrogen economy because it makes green hydrogen production uneconomic compared to other forms of hydrogen.

Furthermore, hydrogen's use as a feedstock in refining, ammonia and liquid hydrogen applications requires a constant and uninterrupted flow of hydrogen for the safe and reliable operation of these complex processes. Limiting hydrogen production to times of renewable energy generation would significantly hinder the adoption of applications that need an uninterrupted flow of hydrogen. Applications where hydrogen is a feedstock currently account for substantially all its existing uses and thus hourly renewable matching would severely limit the adoption of green hydrogen.

(2) <u>Alignment with the Clean Hydrogen Production Standard</u>. On September 22, 2022, the Department of Energy (DOE) released draft guidance for a Clean Hydrogen Production Standard (CHPS) developed to meet the requirements of § 40315 of the Infrastructure Investment and Jobs Act (IIJA), Public Law 117-58, 135 Stat. 429 (November 15, 2021). The CHPS draft guidance establishes a target lifecycle greenhouse gas emissions rate for clean hydrogen of no greater than 4.0 kilograms CO2-e per kilogram of hydrogen, which is the same lifecycle greenhouse gas emissions limit required by the § 45V credit. For purposes of the § 45V credit, what should be the definition or specific boundaries of the well-to-gate analysis?

See answer to question .01(1)(a) above.

(3) <u>Provisional Emissions Rate</u>. For hydrogen production processes for which a lifecycle greenhouse gas emissions rate has not been determined for purposes of § 45V, a taxpayer may file a petition with the Secretary for determination of the lifecycle greenhouse gas emissions rate of the hydrogen the taxpayer produces.

(a) At what stage in the production process should a taxpayer be able to file such a petition for a provisional emissions rate?

A taxpayer should be able to file a petition as soon as the taxpayer has submitted permits for a project with documentation, including procured inputs and valorized products. Once the project is operational, this provisional emissions rate can be verified via recordkeeping, metering, or other data to demonstrate that it meets the criteria for this provisional emissions rate. After a review process by the IRS, in consultation with DOE, the provisional emission rate should be guaranteed so the project can proceed to development. Early certainty of emissions rates will be essential for timely clean hydrogen project development.

(b) What criteria should be considered by the Secretary in making a determination regarding the provisional emissions rate?
A taxpayer should be able to demonstrate that it meets the same criteria as will be required for all taxpayers claiming the 45V credit once final guidance is in effect. In other words, taxpayers should be required to demonstrate that their well-to-gate emissions, on an annual basis, are below the appropriate threshold laid out in the IRA.

(4) <u>Recordkeeping and Reporting</u>.

(a) What documentation or substantiation do taxpayers maintain or could they create to demonstrate the lifecycle greenhouse gas emissions rate resulting from a clean hydrogen production process?
Taxpayers should be required to retain documentation of the sources of feedstock (e.g., electricity, etc.) used to generate clean hydrogen, as well as the type of mechanism used to produce clean hydrogen. IRS should identify, in recordkeeping guidance, a reporting system and database that encompasses certain attributes. The IRS should also allow applicants to substitute data for factors like the carbon intensity of regional grids, where available, as grid carbon intensity can vary significantly within NERC regions, which are utilized in the GREET model.

(b) What technologies or methodologies should be required for monitoring the lifecycle greenhouse gas emissions rate resulting from the clean hydrogen production process?
NEE generally believes the technology-agnostic approach taken in the IRA should be embraced for monitoring as well, so long as it is reliable and effective. IRS should provide as much flexibility as possible in designating technologies and/or accounting systems, until further industry practices are established. IRS could look at certain international standards for guidance, such as: (i) the Product Life Cycle Accounting and Reporting Standard under the Greenhouse Gas Protocol; (ii) ISO 14067; and (iii) PAS 2050 from the British Standards Institution.

(c) What technologies or accounting systems should be required for taxpayers to demonstrate sources of electricity supply?
Through the establishment of data or tools to assign unique attributes to the renewable power virtually consumed, projects should be able to verify the emission reductions associated with green hydrogen. Conventional metering technology can assist in this, and there is precedent for the use of third-party certifiers by the California Air Resources Board (CARB) for adherence to the Low Carbon Fuel Standard (LCFS). NEE also supports IRS considering the development of additional infrastructure and mechanisms to help verify the use of market instruments in green hydrogen in a way that supports development of the industry and helps these instruments be accounted for as a source of clean electricity. For instance, a "book-and-claim" approach could be implemented in which regionally supplied clean energy can be carefully quantified to satisfy the "renewable" component of grid-

connected hydrogen production. As noted in (1)(e) above, a "book-and-claim" accounting system is strongly supported by the legislative intent of the IRA, and for this reason NEE supports its use.

(d) What procedures or standards should be required to verify the production (including lifecycle greenhouse gas emissions), sale and/or use of clean hydrogen for the § 45V credit, § 45 credit, and § 48 credit?

With respect to green hydrogen, the IRS should allow taxpayers to submit: (a) a life cycle analysis report that demonstrates compliance with the definition of the qualified facility and that the GHG emission rate for such facility determined in GREET—i.e., a standardized model life cycle analysis model; and (b) submit verification that the energy has come from a renewable source via a PPA and/or vPPA. Currently available technology allows for accurate metering that is equivalent to a direct, behind-the-meter connection and which ensures annual matching between electricity production and consumption.

Initially, in preparing a life cycle analysis report, in addition to the GREET model, the life cycle analysis report should also be deemed as in compliance with the § 45V requirements if it adheres to industry standards such as: (i) the Product Life Cycle Accounting and Reporting Standard under the Greenhouse Gas Protocol; (ii) ISO 14067; or (iii) PAS 2050 from the British Standards Institution.

IRS should provide guidance on accurate reporting of methane leakage, as estimates can vary across models and regions. For instance, in Argonne's Hydrogen Life-Cycle Analysis in Support of Clean Hydrogen Production, GREET currently applies a nominal upstream methane leakage of 1% (or 2% for high) in the bottom-up/top-down hybrid approach. Other studies, however, have found a much higher national average leak rate of 2.3%. Recent empirical studies have also indicated much larger values for certain wet-gas production basins. Therefore, IRS should continue to work with DOE to update current GREET estimates based on the best available data from published academic studies or verified third party measurement platforms utilizing established methodologies.

(e) If a taxpayer serves as both the clean hydrogen producer and the clean hydrogen user, rather than selling to an intermediary third party, what verification process should be put in place (for example, amount of clean hydrogen utilized and guarantee of emissions or use of clean electricity) to demonstrate that the production of clean hydrogen meets the requirements for the § 45V credit?

NEE has no comment.

(f) Should indirect book accounting factors that reduce a taxpayer's effective greenhouse gas emissions (also known as a book and claim system), including, but not limited to, renewable energy credits, power purchase agreements, renewable thermal credits, or biogas credits be considered when calculating the § 45V credit?

As noted in (1)(e) above, NEE supports a book-and-claim approach that could be implemented so that regionally supplied clean energy can be carefully quantified to satisfy the "renewable" component of grid-connected hydrogen production. The use of indirect book accounting is strongly supported by the legislative intent. Senate Finance Committee Chairman Ron Wyden (D-OR) and author of the PTC Sen.

Tom Carper (D-DE) confirmed Congress' intent to use a book and claim system in a colloquy during debate over passage of the Inflation Reduction Act. A book and claim system ensures that hydrogen production infrastructure need not be co-located with renewable energy production systems, which are often located in rural areas. By leveraging the existing electric grid, clean hydrogen producers can utilize procured renewable energy that is sourced elsewhere within the balancing authority.

Through the establishment of data or tools to assign unique attributes to the renewable power virtually consumed, projects should be able to verify the emission reductions associated with green hydrogen. As noted, NEE supports IRS considering the development of additional infrastructure and mechanisms to help verify the use of these instruments with respect to green hydrogen in a way that supports development of the industry and helps these instruments be accounted for as a source of clean electricity.

(g) If indirect book accounting factors that reduce a taxpayer's effective greenhouse gas emissions, such as zero-emission credits or power purchase agreements for clean energy, are considered in calculating the § 45V credit, what considerations (such as time, location, and vintage) should be included in determining the greenhouse gas emissions rate of these book accounting factors?

Regionality
Regionality establishes a geographical boundary within which both the clean energy project and the electrolyzer must be located. NEE supports the IRS adopting a requirement that the electrolyzer be in the same region as the renewable project that it claims as the source of electricity. This enables operators of green hydrogen to draw power from the local utility, e.g., if they have a PPA, vPPA, or storage tolling agreement, so long as it is within the same financially settled, balancing authority or organized market. In the case where a single utility acts as the balancing authority, the boundaries should be extended to include any adjacent or connected balancing authority. Regionality incentivizes a more balanced build out of renewable energy projects and infrastructure, including storage, contributing to grid stability and lower market volatility.

Additionality
"Additionality" is the requirement that renewable energy generation resources serving hydrogen facilities must be new generation resources. A strict interpretation of additionality, or requiring additionality for hydrogen production facilities, would tie new renewable generation assets to these production facilities, which could become uneconomic upon the expiration of the hydrogen PTC, potentially stranding billions of dollars in renewable energy infrastructure.

Double Counting
The IRS should consider establishing requirements to ensure no double claiming of benefits so that any environmental attributes associated with the electricity used to produce green hydrogen are retired and not claimed under any other program. For clarification, consideration of the renewable component of the carbon intensity of the regional grid should not be considered double counting, except to the extent that renewable component is driven by the same RECs purchased by the taxpayer under separate transaction.

Temporal Accounting As discussed in greater detail in (1)(e)(ii) above, we encourage IRS to adopt a time of use standard based on an annual basis (i.e., the carbon-free energy must be produced within the same year the hydrogen is produced). Requiring that time matching be too granular, such as hourly, would potentially devastate the economics of clean hydrogen production and would not align with legislative intent to accelerate progress towards a clean hydrogen economy.

(5) <u>Unrelated Parties</u>.

(a) What certifications, professional licenses, or other qualifications, if any, should be required for an unrelated party to verify the production and sale or use of clean hydrogen for the § 45V credit, § 45 credit, and § 48 credit?
If the IRS takes a metering approach to verification, NEE urges the IRS to ensure that verification is carried out by a professional engineer trained and certified in using the relevant technology. Extend exception set forth in Notice 2008-60, which allows related party sales of electricity for purposes of § 45 where the electricity is resold to unrelated third parties, to losses resulting from sales of electricity or hydrogen.

(b) What criteria or procedures, if any, should the Treasury Department and the IRS establish to avoid conflicts of interest and ensure the independence and rigor of verification by unrelated parties?
NEE has no comment.

(c) What existing industry standards, if any, should the Treasury Department and the IRS consider for the verification of production and sale or use of clean hydrogen for the § 45V credit, § 45 credit, and § 48 credit?
See answer to question (4)(d) above.

(6) <u>Coordinating Rules</u>.

(a) Application of certain § 45 rules.

(i) Section 45V(d)(3) includes a reduction for the § 45V credit when tax-exempt bonds are used in the financing of the facility using rules similar to the rule under § 45(b)(3)). What, if any, additional guidance would be helpful in determining how to calculate this reduction?
NEE has no comment.

(ii) Section 45V(d)(1) states that the rules for facilities owned by more than one taxpayer are similar to the rules of § 45(e)(3). How should production from a qualified facility with more than one

person holding an ownership interest be allocated?
Clarify the process for treatment of facilities owned by more than one taxpayer, which the bill specifically says should be similar to the rules of section 45(e)(3). Treasury should also clarify that it is permissible for the tax credit to be claimed in the case of two separate entities that own the qualified facility described above and in Section 45V(d)(1).

(b) Coordination with § 48.

(i) What factors should the Treasury Department and the IRS consider when providing guidance on the key definitions and procedures that will be used to administer the election to treat clean hydrogen production facilities as energy property for purposes of the § 48 credit?
The Treasury Department and IRS should ensure that the definition of energy storage for the investment tax credit covers, at the minimum, mechanical storage of hydrogen (e.g., compression), thermal storage of hydrogen (e.g., liquefaction), and chemical storage of hydrogen (e.g., ammonia, net-zero electrofuels).

(ii) What factors should the Treasury Department and the IRS consider when providing guidance on whether a facility is "designed and reasonably expected to produce qualified clean hydrogen?"
NEE has no comment.

(c) Coordination with § 45Q. Are there any circumstances in which a single facility with multiple unrelated process trains could qualify for both the § 45V credit and the § 45Q credit notwithstanding the prohibition in § 45V(d)(2) preventing any § 45V credit with respect to any qualified clean hydrogen produced at a facility that includes carbon capture equipment for which a § 45Q credit has been allowed to any taxpayer?
If feedstock is sourced from unrelated processes, NEE would encourage the IRS to allow the application of separate and additive tax credits for unrelated process trains.

(7) Please provide comments on any other topics related to § 45V credit that may require guidance.

A. Provide a Safe Harbor on an Interim Basis for Existing Facilities.
The IRS should provide a one-year compliance safe harbor for hydrogen production facilities that qualify under one standard, such as a provisional assessment or time-matching requirements and then, for any reason other than fraud, do not qualify for the next year but do qualify the following year. This will provide continuity and certainty for developers genuinely trying to produce green hydrogen but have a good faith lapse while attempting to bring their facilities into compliance.

B. Clarification on Producer for Energy Storage

IRS should clarify that a taxpayer shall be treated as producer of hydrogen if such taxpayer stores hydrogen because hydrogen storage should be considered a "use" of such hydrogen within the meaning of § 45V(c)(2)(B)(i)(III).

C. Clarify That the § 48 ITC Credit is Eligible for The Full-Value Credit and Bonus Credits

With respect to a § 45V hydrogen project that elects the § 48 ITC, IRS should clarify that the prevailing wage and apprenticeship requirements under § 48(a)(9) apply and allow the taxpayer to claim the full value tax credit if those requirements are met and (2) such project is eligible to claim the domestic content bonus credit amount (as provided in § 48(a)(12)) and/or the energy community credit (as provided in § 48(a)(14)) if the applicable requirements are satisfied.

D. Direct Pay and Transferability

NEE requests guidance clarifying that direct pay elections may be made by a transferee of tax credits under § 6418. Guidance is needed to clarify whether a transferee taxpayer within the meaning of § 6418(a) includes an applicable entity as defined in § 6417(d)(1)(A). An applicable entity that receives all or a portion of an eligible credit pursuant to an election made under § 6418 should, to the extent such eligible credit is also an applicable credit as defined in § 6417(b), be entitled to make an election under § 6417 with respect to that credit. Guidance is also requested to clarify that if direct pay is elected under § 6417 for any years under § 45V, transferability may be elected for the remaining years under § 6418.

E. Clarify That Taxpayers May Claim Direct Pay on a Facility-by-Facility Basis

Section 6417(d)(1)(D)(i) allows taxpayers other than entities described in § 6417(d)(1)(A) to be treated as an applicable entity with respect to the credit established in § 6417(b)(7). Section 6417(d)(1)(D)(ii) provides a limitation stipulating that any such taxpayer making an election with respect to a taxable year shall be treated as having made such election for each of the four succeeding taxable years ending before January 1, 2033.

Additional clarification is required to ensure that elections made by taxpayers treated as an applicable entity under § 6417(c)(1)(D)(i) are allowed on a facility-by-facility basis rather than requiring entities to make a one-time, five-year election that would apply to all facilities owned by that taxpayer that are eligible to receive the credit. Such clarification is required given substantially different production schedules at each eligible facility.

F. Clarify That Existing Beginning of Construction Guidance Applicable to §§ 45 and 48 Applies to Qualified Clean Hydrogen Production Facilities

IRS should clarify that the prior IRS notices previously applicable for purposes of any beginning of construction requirement in §§ 45 and 48 shall be applied consistently to determine the date on which construction begins on a qualified clean hydrogen production facility (as defined in § 45V(c)(3)) and whether a qualified clean hydrogen production facility is treated as originally placed in service.

G. Clarify Components of Qualified Clean Hydrogen Production Facility

IRS should clarify that the term 'qualified clean hydrogen production facility' (within the meaning of § 45V(c)(3)) generally includes all components of property that are functionally interdependent (unless such equipment is an addition or modification to a qualified clean hydrogen production facility). Components of property are functionally interdependent if the placing in service of each component is dependent upon the placing in service of each of the other components in order to generate hydrogen. Components of a qualified clean hydrogen production facility that are functionally interdependent include transformers, switchgear, electrolyzer, rectifier, water supply, water treatment, cooling system, hydrogen purifier, wiring and piping, compressed air supply system, nitrogen supply system, oxygen purification and recovery system, electrolyte makeup systems, and any other equipment necessary to produce hydrogen.

H. Hydrogen Storage Investment Tax Credit

Section 48(c)(6)(A) defines 'energy storage technology' as, *inter alia*, "property (other than property primarily used in the transportation of goods or individuals and not for the production of electricity) which receives, stores, and delivers energy for conversion to electricity (or in the case of hydrogen, which stores energy), and has a nameplate capacity of not less than 5 kilowatt hours."
Clarification is required to determine hydrogen storage property that qualifies as energy storage technology. Treasury regulations should provide that energy storage technology includes:

- With respect to property that that converts electricity to hydrogen for storage and conversion back to electricity, property (other than property that is part of a qualified clean hydrogen production facility (as defined in § 45V(c)(3)) for which a credit is allowed under §§ 45V or 48(a)(15)) that (i) converts the electricity to hydrogen (such as transformers, switchgear, electrolyzer, rectifier, water supply, water treatment, cooling system, hydrogen purifier, wiring and piping); (ii) is necessary to prepare the hydrogen for storage (such as compression, liquefaction, and ammonia synthesis equipment); (iii) stores the hydrogen (such as storage tanks, pipelines, geological formations, mobile hydrogen tube trailers, and mobile hydrogen cryogenic trailers); and (iv) converts the hydrogen back to electricity (such as turbines primarily fueled by hydrogen and step-up transformers to convert stored energy to electricity); and
- With respect to property that is not described in the prior paragraph and that stores hydrogen, property that is necessary to prepare the hydrogen for storage (such as compression and liquefaction equipment), that stores hydrogen (such as storage tanks), and that is necessary to convert stored hydrogen for commercial use (such as equipment to convert stored hydrogen to ammonia or transportation fuel).