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December 3, 2022

Internal Revenue Service
CC:PA:LPD:PR (Notice 2022-57 and Notice 2022-58)
Room 5203
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: Notice 2022-57 Request for Comments on the Credit for Carbon Oxide Sequestration
Notice 2022-58 Request for Comments on Credits for Clean Hydrogen and Clean Fuel Production

Dear Ladies and Gentlemen:

Celanese Corporation ("Celanese") is submitting this letter in response to the Internal Revenue Service ("IRS") Notice 2022-57 and Notice 2022-58 requesting comments to the development of guidance implementing Internal Revenue Code ("IRC") section 45Q Carbon Oxide Sequestration Credit ("45Q Credit") and IRC section 45V Clean Hydrogen Production Credit ("45V Credit"), as provided under the Inflation Reduction Act of 2022 ("IRA").

Celanese Corporation is a global technology leader in the production of specialty materials and chemical products which are used in most major industries and consumer applications. Celanese products, essential to everyday living, are manufactured in North America, Europe and Asia. We are one of the world's largest producers of acetyl products, which are intermediate chemicals for nearly all major industries. We are also a leading global producer of high-performance engineered polymers that are used in a variety of high-value applications.

Through our integrated operations and supply chain, we are working to reduce our carbon impact through the development of our low-carbon transition plan. As part of Celanese's low-carbon transition plan, we are exploring the application of power-to-steam technology, renewable fuels, and breakthrough technologies like carbon capture and hydrogen. A priority in our commitment to climate initiatives is to better understand where we can further reduce our greenhouse gas ("GHG") emissions sources. For more information, please see Celanese's 2021-2022 Sustainability Report.

Celanese began construction of an approximately $50m project in the summer of 2022 to install breakthrough technologies related to carbon capture and hydrogen as part of our low-carbon transition plan. Like many other companies in the chemical industry, we believe it is crucial to understand eligibility requirements associated with credits opportunities within the IRC and how the credit programs will be administered. Federal tax incentives, including the 45Q Credit and the 45V Credit, will play a large part in our decisions to move forward with several projects and partnerships. We appreciate the opportunity to

submit comments for consideration as the IRS and the U.S. Department of Treasury ("Treasury") drafts guidance associated with the 45Q Credit and 45V Credit, as modified under the IRA.

Please let us know if we can be of any assistance. We are happy to discuss our comments further or elaborate should you have any questions.

Thank you for your consideration of these comments.

Sincerely,

Ronnie Berry
Vice President, Global Tax, Celanese

I. Summary of Comments

Notice 2022-57 (45Q Credit)

1. Section 3.01 of the Notice on Definitions. When determining qualified carbon oxides associated with additional carbon capture equipment ("CCE") installed, capture design capacity of existing equipment should consider historical operations.

2. Section 3.06 of the Notice on any other topics related to the 45Q Credit that may require guidance.
   a. Lifecycle analysis ("LCA") Submission Process – Celanese respectfully suggests the following options amend the LCA review process:
      (i) Remove the LCA submission requirement;
      (ii) Retain the LCA submission but limit or remove the LCA pre-approval requirement;
      (iii) Implement a safe harbor system, if the IRS chooses to retain the LCA submission and pre-approval requirement, which would provide a waiver of the LCA pre-approval in subsequent years within the credit period once a project's LCA is pre-approved for a given year. This waiver could be contingent on the taxpayer continuing to operate within a specified threshold;
      (iv) Request IRS oversight and participation in the Department of Energy ("DOE") LCA review process. Specifically, we suggest: (1) An option for taxpayers to provide a preliminary LCA to the IRS for review based on planned investments; (2) An option for taxpayers to meet with the IRS and DOE before the review of the LCA Report is finalized; and (3) Establishment of an appeals process if the LCA is rejected.

   b. LCA Criteria Standards and Definitions
      (i) Selection of the Comparison Product System – Celanese respectfully suggests that the IRS work with the DOE to publish a comprehensive database with emissions factors for comparison technologies that taxpayers can leverage as part of the Comparison Product System determination. Additionally, we propose a petition process similar to that of IRC sections 45Y and 48E where taxpayers can request a provisional emissions rate for specific products or processes that are not published in the comprehensive database.
      (ii) LCA Modeling, Comparison Product System ("CPS"), and Database – We would appreciate clarification on certain aspects of the LCA report/modeling that are covered in the DOE National Energy Technology Laboratory's ("NETL") published guidance. In this regard, Celanese respectfully suggests for the IRS to: (1) Establish a materiality threshold; (2) Provide complete and specific examples which have been approved by the IRS and DOE specifically for the section 45Q Credit for utilization to aid taxpayers to navigate the process; (3) Publish guidance for navigating data limitations of the current open source LCA software that is suggested by guidance; and (4) Provide examples of how the sensitivity analysis should be conducted in accordance with current guidance.

Notice 2022-58 (45V Credit)

1. Section 3.01(6)(c) of the Notice regarding Coordinating rules of the 45V Credit and the 45Q Credit. We respectfully propose that forthcoming guidance allow certain co-located facilities to each qualify for the 45Q or 45V credits provided that each facility is not interdependent with one another and is operating independently.

2. Section 3.01(7) on any other topics related to the 45V Credit that may require guidance.
   a. Clean Hydrogen ("H2") Standards and the GREET LCA – Celanese respectfully recommend the IRS to allow recognition and incorporation of indirect book accounting factors that reduce effective GHG emissions which include Renewable Energy Certificates ("RECs") and Renewable Identification Numbers ("RINs") as part of the calculation of lifecycle GHG emissions.

   b. Verification of Clean H2 Production and Sale or Use by Unrelated Party – Celanese respectfully requests that the IRS and Treasury does not impose an IRS approval requirement associated with the GREET LCA study similar to the 45Q Credit as the third-party verification requirement under IRC section 45V(c)(2)(B)(ii) is sufficient to ensure that the clean hydrogen production meet the emissions rate requirements.

II. Notice 2022-57 related to the 45Q Credit

Section 3.02 – Definitions*. (1) What clarifications are needed regarding key terms and requirements including original planning and design,* ***capture design capacity****, principal electric generating unit, designed annual carbon oxide production, average annual carbon oxide production, and actual versus potential electric output from an applicable electric generating unit?*

1. Capture Design Capacity – Forthcoming guidance should clarify that when determining qualified carbon oxides associated with additional CCE installed, the "capture design capacity" of existing equipment considers historical operations. It is rare to operate old equipment at actual design capacity due to various limitations, such as equipment degradation and permit requirements. For example, a taxpayer has existing CCE with an annual "capture design capacity" of 100,000 metric tons of carbon oxides. However, the taxpayer was not able to operate at the capacity due to various constraints and historically captured 75,000 metric tons annually, where the remaining 25,000 metric tons of carbon oxides are vented into the atmosphere. If the taxpayer installs additional CCE to capture 25,000 metric tons, the capture design capacity of the existing CCE should reflect 75,000 metric tons in order for the taxpayer to claim 45Q Credits associated with the 25,000 metric tons.

Section 3.06 – *Please provide comments on any other topics related to § 45Q credit that may require guidance.*

1. LCA Submission Process – We encourage the IRS and Treasury to reconsider the requirements associated with Treas. Reg. sections 1.45Q-4(c)(4), (5), and (6) which lack clarity, and are very burdensome for taxpayers, the IRS, and DOE. See below for more details.

General LCA Review Process

IRC section 45Q(f)(5)(B)(i) states that for the purposes of determining the amount of qualified carbon oxide utilized by the taxpayer, such amount shall be equal to the metric tons of qualified carbon oxide that the taxpayer demonstrates. This is based upon an analysis of lifecycle GHG emissions and is subject to such requirements as the Secretary, in consultation with the Secretary of Energy and the Administrator of the Environmental Protection Agency ("EPA"), determines are – (i) captured and permanently isolated from the atmosphere, or (ii) displaced from being emitted into the atmosphere, through use of a process described below:

(i) the fixation of such qualified carbon oxide through photosynthesis or chemosynthesis, such as through the growing of algae or bacteria,
(ii) the chemical conversion of such qualified carbon oxide to a material or chemical compound in which such qualified carbon oxide is securely stored, or
(iii) the use of such qualified carbon oxide for any other purpose for which a commercial market exists (with the exception of use as a tertiary injectant in a qualified enhanced oil or natural gas recovery project), as determined by the Secretary.

Treas. Reg. section 1.45Q-4(c) provides requirements associated with the lifecycle GHG emissions and LCA, including: (1) consideration of the aggregate quantity of GHG emissions related to the full product lifecycle expressed in CO2-equivalent ("CO2e"); (2) verification of qualified carbon oxide utilized through an LCA that demonstrates that the proposed process results in a net reduction of CO2e when compared to a comparison system which must be documented in a written LCA report; (3) LCA conformity with and contain documentation that conforms with International Organization for Standardization ("ISO") 14040:2006 – *Environmental management – Life cycle assessment – Principles and framework* and 14044:2006 – *Environmental management – Life cycle assessment – Requirements and guidelines*; (4) third-party independent review or preparation of the LCA, if an independent third-party review is conducted, then it must include an assessment of the model and supporting data; (5) submission of the LCA to the IRS and DOE, where the model also be submitted if the LCA is not verified by an independent third-party review; and (6) IRS pre-approval of the LCA based on a technical review by the DOE prior to claiming 45Q Credits for such taxable year on any federal income tax return.

Generally, an LCA consists of: (1) a model demonstrating aggregate quantity of lifecycle GHG emissions of the existing process (i.e., proposed system) and a comparison system, expressed in CO2e, and (2) an associated written report that describes results of the LCA model along with associated charts and diagrams. When conducting an LCA, lifecycle inventory ("LCI") datasets are used to represent the product systems, often sourced from governmental agencies, such as the DOE NETL, DOE NREL, and reputable third-party vendors, such as ecoinvent, GaBi, and Carbon Minds. Such LCI datasets are in conformance with ISO 14067:2018 – *Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification* which outlines the requirements and guidelines for the quantification and reporting of the carbon footprint of a product in accordance with ISO 14040:2006 and 14044:2006.[1]

[1] ISO 14067:2018, https://www.iso.org/standard/71206.html

Treas. Reg. section 1.45Q-4(c)(4) states if an independent third-party review is conducted, then it must include an assessment of the model and supporting data. Treas. Reg. section 1.45Q-4(c)(5) states that the taxpayer must also submit the model if the LCA is not verified by an independent third-party review.

Based on the 45Q final regulations, taxpayers essentially have two options for conducting an LCA for 45Q purposes – see below. In either case, Treas. Reg. section 1.45Q-4(c)(4) requires the taxpayer to submit the LCA report to the IRS and DOE.

(i) Option 1: Conduct the 45Q LCA in-house and contract a qualified independent third-party to verify the 45Q LCA providing an assessment of the model and supporting data. The LCA submission to the IRS and DOE must include the LCA report and independent third-party review assessment and supporting data.
(ii) Option 2: Contract a qualified independent third-party to conduct the 45Q LCA. The LCA submission to the IRS and DOE must include the LCA report and the model because "the LCA is not verified by an independent third-party review."

It is rare that a taxpayer has the required in-house expertise to conduct an LCA for 45Q purposes because of the nuanced requirements. Therefore, most taxpayers, including Celanese, will have to contract a qualified independent third-party to conduct the 45Q LCA under Option 2.

Suggestions

a. No LCA Submission Requirement – Section 45Q requires an assessment of lifecycle GHG emissions for 45Q utilization projects, subject to such requirements as the Treasury determines appropriate. Recognizing that the IRS may lack the requisite expertise, Congress directed Treasury to consult with DOE and EPA. Upon consultation, the IRS and Treasury issued a notice of proposed rulemaking providing that taxpayers must submit the LCA to the DOE for a technical review prior to claiming the credit. Despite numerous public comments requesting removal of such requirement, the proposed rules were finalized, stating "*the LCA report will be subject to a technical review by the DOE. The IRS will determine whether to approve the LCA and will notify the taxpayer. The taxpayer must receive approval of its LCA prior to claiming the section 45Q credits for such taxable year on any federal income tax return.*"[2]

   This regulatory requirement of submission and approval of the LCA prior to claiming the credit does not stem from the statute and is not found in claiming other Federal income tax credit. There are no other Federal credits that require a similar type of pre-approval outside of competitively awarded credits that are subject to limited funding allocation, such as the qualifying advanced energy project credit under IRC section 48C.

   Therefore, we respectfully request that Treasury reconsider and remove the requirement that 45Q LCAs must be submitted and approved prior to claiming the 45Q Credit. We believe, however, taxpayers should continue to conduct an annual LCA (i.e., an analysis of lifecycle GHG) as required under the statute and the regulations. The IRS may choose to examine 45Q Credit claims as part of an audit, similar to any other credit programs, and as part of an exam, taxpayers can provide

[2] Treas. Reg. 1.45Q-4(c)(6).

substantiation for their credit claim, including the 45Q LCA report for utilization projects. If the IRS examiner does not accept the 45Q Credit claims based on the 45Q LCA report, the existing appeals process may be leveraged where taxpayers can request a conference with the appeals officer and file a formal protest.[3] Based on our understanding, there is no such appeals process in place for a 45Q LCA rejection.

b. LCA Submission with No or Limited Pre-Approval – If IRS and Treasury choose to retain the 45Q LCA submission, we suggest two options that would lessen the burden on the taxpayer and streamline the LCA pre-approval process making the process more administrable for the IRS.

First, we suggest that the ability to claim the 45Q Credit should not be pre-conditioned on IRS pre-approval of the 45Q LCA. Taxpayers will still be required to submit the LCA for DOE technical review and IRS approval. However, they will be able to claim the 45Q Credit as soon as they determine that they meet the eligibility requirements for the 45Q Credit and are able to calculate the amount as determined through a completed LCA study. If the submitted LCA is later rejected by the IRS and DOE, there could be an examination of the 45Q Credit claims as part of an audit as described in (a) above, which on conclusion could result in taxpayers making the necessary changes to their tax forms in that later year.[4] Secondly, we propose that the LCA pre-approval process be conducted in an expeditious manner where the DOE would only be responsible for checking for completion of the technical requirements of the LCA study instead of an in-depth review that is currently carried out. We believe that this would be reasonable, given that Treas. Reg. 1.45Q-4(c)(4) requires that the LCA must be either conducted or verified by an independent third-party.

c. LCA Submission with Safe Harbor for LCA Pre-Approval – If IRS and Treasury choose to retain the 45Q LCA submission and pre-approval requirement, future guidance should provide for a safe harbor where taxpayers can rely on a prior year LCA approval, as long as certain conditions are met. This would be beneficial for both taxpayers and the reviewing agencies (i.e., the DOE and IRS) since the LCA review process is long, and the current understanding of the rule would require a LCA pre-approval for each of the 12 years throughout the credit period.[5] Moreover, there is currently no appeal process in place, which would mean that a taxpayer could go through the LCA pre-approval process over 12 times depending on how many times it would take for the LCA to be approved.

The proposed safe harbor would require a one-time approval in the first year. Once a taxpayer receives a LCA pre-approval for a given year, the LCA pre-approval requirement for subsequent years within the credit period will be waived as long as the taxpayer remains within a pre-determined threshold. Adopting this safe harbor system would greatly alleviate the workload on the IRS and DOE as they would not need to review and approve LCAs for those taxpayers during the years covered by the safe harbor and provide them the bandwidth to focus on other issues. The requirements for maintaining the safe harbor for LCA pre-approval could be contingent upon two factors.

[3] IRS, '*IRS Audits'*, https://www.irs.gov/businesses/small-businesses-self-employed/irs-audits, accessed on December 1, 2022.
[4] *Id.*
[5] IRC section 45Q(a)(4)(A)

(i) One recommendation suggests that if the approved LCA results in a net reduction that is greater than the capture amount in the first (i.e., base year) the taxpayer should not be required to seek LCA pre-approval if the LCA studies for subsequent years within the safe harbor period results in a net reduction exceeding the capture amount of the base year.

(ii) Another recommendation suggests that a threshold based on the displacement factor of the LCA study of the first (i.e., base year) should be used. This displacement factor is defined in the NETL Addendum.[6] We propose that results of LCA studies for subsequent years within the safe harbor period that fall within +/- 15% of the base year's displacement factor should come under the safe harbor and the taxpayer should not be required to seek LCA pre-approval.

It should be noted that even with the safe harbor, taxpayers are still incentivized to be proactive in conducting annual LCA studies to ensure that their net reduction or displacement factor is within the specified safe harbor thresholds. If the results of a taxpayer's LCA study falls outside of the relevant thresholds, their LCA study should be submitted for review to the IRS and the DOE.

d. More Guidance Through the Review Process – Treas. Reg. 1.45Q-4(c) requires taxpayers claiming the 45Q Credit for utilization of qualified carbon oxides to submit an LCA to the IRS and DOE for approval prior to claiming the tax credit. The current submission instructions are outlined on Form 8933 where taxpayers are advised that they should submit the LCA Report to the IRS and separately submit the LCA Report and LCA Model (if not verified by a third-party) to the DOE. While the submission process is clearly outlined on Form 8933, the review process is extensive (currently taking several months) and there is currently no appeal process if a submitted LCA Report is not approved.

To improve the efficiency of the LCA submission process, we request the IRS to take a more active role and provide oversight through the process. This will involve revamping the submission process to include: (1) An option for taxpayers to provide a preliminary LCA to the IRS for review based on their planned investments; (2) An option for taxpayers to meet with the IRS and DOE before the review is finalized; and (3) An appeals process.

(i) Preliminary LCA Review: Prior to starting the LCA submission process, we propose that there be an opportunity for taxpayers to receive feedback on their planned projects and capital investments to ensure that the projects maximize financial resources and sustainability efforts. Given the current supply chain shortages and resource constraints, taxpayers are being forced to closely evaluate future investments including those in the carbon capture space. As a result of this, a preliminary LCA review would be beneficial not only to the reviewing agencies, but also for taxpayers since the preliminary feedback received from the IRS and DOE can ensure that they: (1) Invest in systems that meet the requirements set out by these agencies; and (2) Maximize the positive impacts that carbon capture projects make on the environment.

(ii) LCA Report Review Meeting: In addition to a preliminary LCA review, taxpayers would also benefit from the ability to request for a meeting with the IRS and DOE prior to the submission of their LCA Report. A process similar that outlined in under section 10.07 of Rev. Proc. 2022-

[6] DOE, '*45Q LCA Guidance Toolkit*', https://netl.doe.gov/LCA/CO2U/45Q, accessed on December 1, 2022.

1 for private letter rulings ("PLRs"), where taxpayers are permitted to schedule a pre-submission conference. Additionally, we recommend that the IRS adopt similar rules to those outlined under Rev. Proc. 2022-1 where the governing agencies must reply to taxpayers within an allotted time. Given that the current LCA review process is a binary approval/no-approval process with no option for appeals, these LCA Report review meetings would allow taxpayers to present questions involving any unique circumstances that they may have to the IRS and DOE in order to get clarity on such items before they submit their LCA Report. Through the additional guidance provided through these meetings, taxpayers will be able to ensure that they are implementing carbon capture projects that meet the DOE's standards while maximizing their chance of approval for their submitted LCA Reports on the first try and thus reduce any additional costs that might be incurred to amend and resubmit the LCA Reports. Similarly, the IRS and DOE will be able to reduce any additional costs that might be incurred to review and comment on resubmitted LCA Reports.

(iii) Appeals Process: The establishment of an appeals process similar to that outlined under Rev. Proc. 2022-1 would be beneficial for similar reasons as stated in (ii) above. One option for an appeals process is to conduct it in a similar manner as the LCA Report Review Meeting, except that it takes place after the LCA Report has been submitted. An alternative to having a physical or virtual meeting to settle the issues related to the LCA Report is to provide responses to the IRS and DOE comments on the LCA Report in writing. This would also form a dialogue between the parties, albeit spread throughout a longer period of time.

2. LCA Criteria Standards and Definitions – We encourage the IRS and Treasury to work with the DOE and/or the EPA to streamline the 45Q LCA process. Below are our recommendations.

a. **Selection of the Comparison System –** We respectfully request that IRS and Treasury, in consultation with the DOE and/or the EPA, publish a comprehensive database with comparison technology emissions factors for products and processes for taxpayers to leverage for the 45Q LCA Comparison Product System. This would remove subjectivity related to the selection of comparison processes that aligns with hierarchy set forth by the DOE NETL (noted below), which would likely help streamline the DOE technical review.

The NETL 45Q Addendum outlines that the hierarchy to model the production of each product within the Comparison Product System shall be: (1) U.S. average GHG technology, (2) Industry standard practice technology, and (3) The hierarchy should be repeated until a comparison technology has been identified for all products.[7] A single database that contains the U.S. average GHG technology or Industry standard practice technology for production processes and/or products. Typically, there are multiple databases with differing emissions factors for the same product which may be due to factors such as data location, sample size, and timeframe. Accordingly, the party conducting the LCA must select data this is most suitable for the LCA analysis and provide adequate justification supporting the selections. The results of the 45Q LCAs can vary greatly based on the data selection.

[7] Section 2.1.3.2 of the NETL 45Q Addendum to the CO2U LCA Guidance Toolkit. See DOE, '*45Q LCA Guidance Toolkit*', https://netl.doe.gov/LCA/CO2U/45Q, accessed on December 1, 2022.

As noted, many of the LCI datasets that are suitable for the Comparison Production System selection are sourced from third party vendors subject to a licensing agreement. Access to these datasets is often costly to the taxpayers who have no choice but to invest in access to databases in order to have sufficient data to model the Comparison Product System for 45Q LCA purposes.

This is similar to provisions related to the technology-neutral credits under IRC section 48E (Clean Electricity Investment Credit) and IRC section 45Y (Clean Electricity Production Credit) where the IRS and Treasury will publish an annual table of emissions rates, and provide for the ability for taxpayers to file a petition for the determination of an emissions rate. This is set forth in IRC sections 48E(b)(3)(B)(ii) and 45Y(b)(2)(C) which state that "*The Secretary shall annually publish a table that sets forth the greenhouse gas emissions rates for types or categories of facilities, which a taxpayer shall use… In the case of any facility for which an emissions rate has not been established by the Secretary, a taxpayer which owns such facility may file a petition with the Secretary for determination of the emissions rate with respect to such facility.*"

If the IRS and DOE could prepare a comprehensive database with comparative technology emissions factors for possible end products, taxpayers could leverage the information to select comparative technology emissions factors for 45Q LCA comparison processes and create "level playing field" for taxpayers and PIs conducting 45Q LCAs. Additionally, we believe that this would be more efficient since the published database will allow taxpayers to be able to receive clarity faster to move forward with their decisions. We further suggest that similar to the rules under IRC sections 48E and 45Y referred to above, a petition process to be established for taxpayers who do not have their specific products or processes listed in the database.

b. LCA Modeling, CPS, and Database – Taxpayers claiming the section 45Q tax credit for utilization are required to conduct an LCA. The DOE NETL published a guidance document and an addendum to that guidance document for preparing an LCA model and report. While the guidance provided outlines various LCA concepts, there are several topics that require clarification. The topics are as follows:

(i) Materiality Threshold: Currently there is no published guidance that addresses minor deviations between the LCA model submitted by the taxpayer and the LCA model that includes the suggested updates from the IRS and DOE. Given that there are numerous data sources that taxpayer and PIs can use for LCA modeling that may slightly differ from one another, taxpayers would benefit from having guidance that addresses materiality thresholds for the LCA model and results. For example, the LCA model prepared by the taxpayer may be +/-5% of the LCA model that includes the suggested updates from the IRS and DOE due to the aforesaid factors. Therefore, we suggest that the IRS establish a materiality threshold to ensure that any discrepancies that may be due to differences caused by rounding errors, upstream providers, or different data sources used, will not negatively impact the approval of the LCA study.

(ii) Examples: Taxpayers would benefit from complete LCA examples that are approved by the IRS and DOE which have been conducted specifically for the section 45Q Credit for utilization. A complete example of an LCA Model and Report would provide clarification and a reference

point to all taxpayers and principal investigators conducting the LCAs that comply with the DOE and NETL guidance.

(iii) Third-party Data: The DOE and NETL guidance document outlines the principal investigators conducting LCAs for purposes of the section 45Q tax credit use the database provided in conjunction with openLCA, an open source LCA software, to conduct the LCA modeling. The NETL openLCA database is not robust enough to model all possible inputs and upstream providers, so it would greatly benefit both the reviewing parties and taxpayers if the DOE and NETL could publish guidance for navigating data limitations.

(iv) Sensitivity Analysis: Taxpayers would benefit from an example demonstrating how the sensitivity analysis should be conducted in accordance with the DOE and NETL's requirements. Current guidance in the guidance document and addendum would benefit from an example which taxpayers could reference while conducting sensitivity analysis.

III. Notice 2022-58 related to the 45V Credit

Section 3.01 – (6) Coordinating Rules. (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?*

1. Clarify that a Single Facility Can Qualify for Both the 45V and 45Q Credits – We propose that forthcoming guidance allow certain co-located facilities to each qualify for the 45Q or 45V credits provided that each facility is not interdependent with one another and is operating independently. This would be beneficial for certain companies, such as chemical manufacturing complexes that have multiple production processes (e.g., production process 1 feeds into X, while process 2 does not). Taxpayers with co-located facilities should not be prevented from claiming both the 45V and 45Q Credits provided that the qualifying activities (i.e., clean hydrogen production, carbon capture) are independent from one another.

Section 3.01 – (7) Please provide comments on any other topics related to § 45V credit that may require guidance.

1. Incorporation of Additional Factors in the Calculation of the GHG Emissions Rate – Forthcoming guidance should provide for the use of renewable energy certificates ("RECs"), renewable identification numbers ("RINs"), and similar instruments when determining the lifecycle GHG emissions rate for 45V Credit purposes. These market instruments provide the ability to procure renewable energy if there are geographical limitations. This is supported by a colloquy between Senator Ron Wyden (D-OR) and Senator Tom Carper (D-DE) as part of the U.S. Senate Congressional Record dated August 6, 2022. Senator Carper states "*it is also my understanding of the intent of section 13204 [production and investment tax credit for the production of clean hydrogen], is that in determining the "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" to which Senator Wyden agreed. As such, we would appreciate clear guidance on the ability use the instruments mentioned in the colloquy in the calculation of the lifecycle GHG emissions rate for the purposes of the 45V Credit.

RECs and RINs, in particular, represent a key part of the energy industry and taxpayers often choose to utilize them to reduce their effective GHG emissions. A background is provided below:

a. **RECs –** The EPA defines RECs as a market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation.[8] RECs are issued when one megawatt-hour ("MWh") of electricity is generated and delivered to the electricity grid from a renewable energy resource.[9] These RECs can be purchased, either for compliance purposes in cases where electrical companies must generate a certain percentage of their electricity from renewable sources, or voluntarily for other reasons.[10] A REC that has been sold once cannot be purchased again.[11] All renewable energy credits are uniquely numbered and generally include information such as where they were generated, the type of renewable resource they came from, and a date stamp of generation. The exchange of RECs is tracked and recorded. In short, RECs are certificates that transfer the "renewable" aspects of renewable energy on the purchaser's behalf which provides companies the ability to acquire renewable energy even if there may be limited access to renewable energy based on location.

b. **RINs[12] –** RINs represent the "currency" of the Renewable Fuel Standard ("RFS") program established by the EPA and is used to track RFS compliance of obligated parties. Through this program, renewable fuel producers generate RINs that can be traded by other market participants. The RIN is a 38-character number that is attached to a physical gallon of renewable fuel produced by renewable fuel producers. When the fuel is transferred to a fuel blender and blended with non-renewable fuel for sale, RINs are separated from the blended gallon and are used by obligated parties as proof that they have sold renewable fuels to meet their RFS mandated volumes. These obligated parties could include blenders, refiners or importers of gasoline or diesel fuel who, in accordance with the RFS, are required to meet a Renewable Volume Obligation ("RVO") that is set annually by the EPA.

   The EPA determines the annual percentage standards of the RVO by dividing the annual gallons of renewable fuel required by the Energy Independence and Security Act of 2007 ("EISA") for each renewable fuel pathway by the amount of highway and non-road gasoline and petroleum diesel

[8] Environmental Protection Agency, '*Renewable Energy Certificates (RECs)*', https://www.epa.gov/green-power-markets/renewable-energy-certificates-recs, accessed on November 30, 2022.
[9] *Id.*
[10] *Id.* One example is due to a state regulation known as the Renewable Portfolio Standard. If the utility does not generate enough RECs through renewable energy that it—or if it does not generate renewable energy at all—a utility must purchase RECs to make up a difference. This provides proof that a percent of the utility's electricity came from renewable sources, since RECs represent the clean energy attributes of renewable electricity. Compliance markets exist in 29 states, Washington, D.C., and Puerto Rico.
[11] Energy Sage, '*What are Renewable Energy Credits (RECs)?*', https://www.energysage.com/other-clean-options/renewable-energy-credits-recs/, accessed on November 30, 2022.
[12] Environmental Protection Agency, '*Renewable Identification Numbers (RINs)*', https://www.epa.gov/renewable-fuel-standard-program/renewable-identification-numbers-rins-under-renewable-fuel-standard; Kinder Morgan, '*Renewable Identification Numbers (RINs) Explained*', https://www.kindermorgan.com/Operations/Kinetrex-Energy/Resources/Insights/Renewable-Identification-Numbers-(RINs)-Explained; DOE, '*Renewable Identification Numbers*', https://afdc.energy.gov/laws/RIN.html; DOE, '*Renewable Fuel Standard (RFS) Program*', https://afdc.energy.gov/laws/390, all accessed on December 1, 2022.

estimated to be supplied that year. These percentages are then applied to obligated parties' actual fuel sales to determine their RVO. To demonstrate compliance with the RVO, the obligated parties can seek to meet the RVO standard themselves by e.g., blending renewable fuels such as renewable natural gas into transportation fuels, or they could purchase RINs which they will ultimately retire for compliance purposes.

2. Verification of Clean H2 Production and Sale or Use by Unrelated Party – IRC section 45V(c)(1)(B) outlines that lifecycle GHG emissions shall be determined by a well-to-gate GREET model. Under IRC section 45V(c)(2)(B)(ii), the production and sale or use of such hydrogen is verified by an unrelated party. Congress included such verification to ensure the eligibility of the taxpayers claiming the credit. Requiring additional threshold prior to claiming the credit is inconsistent with the statute. Therefore, we respectfully request that forthcoming guidance do not include an IRS or DOE approval process similar to that required the 45Q Credit.