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Via Electronic Submission

July 3, 2019

Hon. Charles P. Rettig
Commissioner
Internal Revenue Service
CC:PA:LPD:PR (Notice 2019-32)
Room 5203, Internal Revenue Service
1111 Constitution Avenue, N.W.
Washington, D.C. 20224

RE: COMMENTS ON ISSUES TO BE ADDRESSED IN GUIDANCE ON IRC §45Q

Dear Commissioner Rettig:

This letter is submitted in response to the request in IRS Notice 2019-32 for comments on ten issue areas identified in the Notice. It is very important the IRS and Treasury issue regulations providing technical guidance on the requirements and operation of the new §45Q tax credit program, given the issues and uncertainties that taxpayers have experienced in complying with the original §45Q tax credit. In addition, guidance is necessary to accomplish the policy objectives of Congress in enacting changes to the eligibility and other key requirements for the issuance of this new tax credit. We will follow the Notice and provide comments on the issue areas of most concern to Shell.

Shell has long been interested in carbon capture utilization and storage (CCUS) as a low-carbon technology and believes that the deployment of CCUS is critical to transitioning to a low-carbon energy economy. As a result, we have participated in CCUS projects in other countries, most notably the Quest Project that Shell developed and operates in Alberta, Canada. Quest has now stored underground the most carbon dioxide of any onshore CCS facility in the world with dedicated geological storage. We are also a minority partner in Gorgon, the largest CCUS project in the world off the coast of Australia. Shell has a strong interest in the deployment of CCUS in the United States. Shell sits on the steering committee of the National Petroleum Council CCUS study and is actively engaged in its various workstreams to promote the deployment of CCUS projects. Additional to policy development such as that undertaken by the NPC, Shell offers these comments because our experience tells us clear and workable §45Q implementation guidelines/regulations are necessary for projects to advance. These comments filed in response to the IRS request for input focus on issues Shell deems key to CCUS deployment.

ISSUE AREA: SECURE GEOLOGICAL STORAGE

Section 3.01 – Are there technical criteria different from or in addition to those provided in the EPA’s GHGRP that should be used to demonstrate secure geological storage? Are there existing guidelines, standards, or regulations that could be used to demonstrate secure geological storage such as those developed by the International Organization for Standardization (ISO)?

Should EPA’s GHGRP rules continue to be the reporting requirements for purposes of §45Q, and should an approved MRV Plan from the EPA be received before any §45Q credit can be claimed? Are there any viable alternatives to the subpart RR reporting requirements, such as third party, Department of Energy, or State certification?

Shell strongly supports the establishment of an effective and workable framework for demonstrating “secure geological storage” of the captured carbon dioxide under §45Q.¹ As a general matter, the IRS should be guided by the following principles in the development of such a framework for monitoring, reporting, and verification of secure geological storage of carbon dioxide injected into subsurface geological formations:

- **Environmental integrity:** Establish substantive criteria for demonstrating secure geological storage that assures environmental integrity based on the principles and procedures that the Intergovernmental Panel on Climate Change has developed on the injection and geological storage of carbon dioxide.²
- **Public transparency:** Establish an implementation process that provides public transparency in a manner that—
 - Balances the need to protect confidential business information and
 - Establishes procedures for the reporting and verification of requisite information by either a competent federal or state government authority or an independent third party.
- **Lead role of IRS:** Establish a regulatory framework (as directed by the statute) whereby the IRS assumes the lead role of issuing regulations that establish the general substantive criteria and implementation process for demonstrating secure geological storage. As directed by the statute,³ Shell encourages the IRS to collaborate closely with EPA and other federal agencies that have expertise in secure geological storage. The IRS

¹ The §45Q tax credit also applies to the capture and sequestration of “carbon oxide” that is captured from a qualified industrial source if that carbon oxide “would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release.” 26 U.S.C. §45Q(c)(1)(B). Any reference to carbon dioxide in this comment letter also includes reference to carbon oxide that qualifies for the tax credit under §45Q.

² Intergovernmental Panel on Climate Change. Special Report: Carbon Dioxide Capture and Storage, (ed. Metz, et al.) (2005) (available at <https://www.ipcc.ch/report/carbon-dioxide-capture-and-storage/>); Intergovernmental Panel on Climate Change. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. (ed. Eggleston, et al.) (2006) (available at <http://www.ipcc-nggip.iges.or.jp/public/2006gl/>). Similarly, these criteria are aligned with EPA’s Subpart RR monitoring, reporting, and verification requirements for documenting long-term containment of carbon dioxide in deep saline and oil and gas reservoirs, as well as the ISO 27916 Standard, which establishes a similar set of rules for accounting for the amount of carbon dioxide that has been injected only in oil and gas reservoirs for EOR purposes.

³ In particular, §45Q(c)(1)(B) directs the IRS to establish these regulations on demonstrating secure geological storage in consultation with EPA, the Department of Energy, and Department of Interior.

regulations (including any future updates) should reflect the environmental and geological expertise from relevant federal agencies.

- **Demonstration of secure geological storage:** Establish a regulatory framework that defines clear criteria for demonstrating secure geological storage. This should include the following:
 - A method for quantification and mass balance accounting of carbon dioxide through the full CCS/EOR process;
 - The identification and assessment of potential leakage pathways;
 - A site-specific monitoring program for the detection and quantification of leaks; and
 - Reporting requirements that ensure public transparency.
- **Flexible Pathways for Implementation:** The framework may be implemented by following any of the following protocols:
 - Subpart RR requirements that EPA has adopted for monitoring, reporting carbon dioxide injected for long-term containment under a UIC Class VI permit, or EOR under a UIC Class II permit. However, for EOR it should be made clear that CO₂-EOR is principally an oil recovery operation and, associated with this oil recovery, safe and long-term carbon dioxide storage occurs.
 - ISO 27916 Standard that was developed for quantifying and documenting the amount of carbon dioxide incidentally stored in association with the injection of carbon dioxide for EOR purposes. Shell would note that the ISO Standard requires an implementation process to be designed and implemented by the appropriate government agency or agencies.
 - Any combination of existing federal and/or state standards, requirements and procedures that are determined, either individually or collectively, to satisfy the IRS substantive criteria noted above for demonstrating long-term containment.
- **Implementation Process:** The monitoring / reporting protocols should be implemented through qualified federal or state governmental authorities that have the responsibility of administering a regulatory process for quantifying the amount of carbon dioxide that is being securely stored in accordance with standards that meet the IRS substantive criteria noted above for long-term containment. This could include delegating the verification functions to a qualified and certified third party as the government agency deems appropriate.
- **Protection of Confidential Business Information:** The process for assuring public transparency, including the requirements for making information available for public review, should be established in a way that balances the need for the protection of confidential business information.

ISSUE AREA: DEFINITIONS OF KEY TERMS

Section 3.03 – Is guidance needed to further clarify terms and definitions appearing in §45Q, such as carbon capture equipment, qualified carbon oxide, direct air capture facility, qualified facility, tertiary injectant utilization, or lifecycle greenhouse gas emissions?

Qualified Facility Definition – Guidance on the implementation of the new definition of qualified facility in §45Q(d)(1) will require the definition of industrial facility to be slightly revised from the current definition in IRS Notice 2009-83 as follows:

- Industrial facility refers to a facility that produces a carbon dioxide stream from a fuel combustion source, as a byproduct stream from a gas processing plant or from industrial processes and product use that, absent capture, utilization or storage, would otherwise be released into the atmosphere as an industrial emission of greenhouse gas.
- An industrial facility does not include a facility whose primary purpose is to extract carbon dioxide from production wells at natural carbon dioxide bearing formations.

Carbon Capture Equipment – This term should be defined in the guidance to mean project-specific equipment such as separation units, processing units/plants, pipelines, buildings, pumps, compressors, meters, facilities, motors, fixtures, materials, machinery, all other improvements used in the operation of any of them, and personal property, intangible or tangible, either attributable to or relating to, or located thereon, used for the purpose of:

- separating and/or capturing carbon dioxide that would otherwise be released into the atmosphere from a qualifying facility;
- treating, processing, compressing or otherwise increasing the pressure, or liquefying of the carbon dioxide;
- transporting, disposing, injecting, and/or utilizing the carbon dioxide; or
- equipment involved in direct air capture in addition to the equipment mentioned above.

To the extent the equipment listed in the bullets above is owned by multiple persons, only the person that owns the equipment described above should be eligible for the credit pursuant to §45Q(f)(3) which attributes the credit to the person that owns the equipment capturing the qualified carbon dioxide.

ISSUE AREA: ELECTION TO TRANSFER TAX CREDITS

Section 3.07 – What factors should be considered in determining the time and manner of the election under §45Q(f)(3)(B) to transfer the §45Q credit to a person that disposes of the qualified carbon oxide, utilizes the qualified carbon oxide, or uses the qualified carbon oxide as a tertiary injectant? If such an election is made, what issues should be considered regarding the transfer of the §45Q credit?

The IRS should provide clear guidance on the election to transfer the credit in §45Q(f)(3). The statute provides that the credit “shall be allowable” to a qualified third party (defined in the statute as the person disposing of, injecting, or utilizing the carbon dioxide) at the election of the taxpayer that owns the carbon capture equipment. The statutory language does not appear to require the taxpayer to transfer all the credits earned to the qualified third party, therefore IRS guidance should make it clear that a taxpayer may elect to transfer any or all of the tax credits earned in that year. The Guidance should be explicit that the owner of the carbon capture equipment can transfer any dollar amount of the credit up to 100% of the credits earned by the taxpayer. In addition, the IRS guidance should respect any transfer that is properly reported by the taxpayer and make it clear that economic substance and other judicial doctrines do not apply to any transfers of these credits. Below are our recommendations on what should be required to make the election:

- Form 8933, Carbon Dioxide Sequestration Credit, should be revised to include a section for the taxpayer to make the election to transfer some or all the credit to a qualified third party in the project.

- This new section should require the taxpayer to report the total dollar amount of credits earned by the taxpayer, the dollar amount of the credits transferred by the taxpayer to the qualified third party, and detailed information on the qualified third party receiving the transferred tax credits.
- The election should be made on an annual basis by providing the required information on the transfer in the new Credit Transfer section of the Form 8933.

ISSUE AREA: BEGINNING OF CONSTRUCTION

Section 3.08 – What constitutes the beginning of construction for purposes of § 45Q(d)?

Shell recommends the IRS use a modified version of the definition of “beginning of construction” in the guidance issued for the Wind PTC & Solar ITC as the starting point. A taxpayer should be allowed to establish the beginning of construction by either a “Physical Work Test” or a “Five Percent Safe Harbor.” Carbon capture projects are large industrial facilities that require much longer development and construction times and much larger financial investments than wind turbines and solar panels. In addition, a carbon capture project may include one or more carbon capture units on a single qualifying facility or multiple interrelated qualifying facilities, transport pipeline from capture to field, but not hundreds of wind turbines and solar panels that may be part of one energy project for purposes of §§45 and 48. As a result, modifications from the current IRS commence construction definition applicable to wind and solar projects will be needed to appropriately address carbon capture projects.

- **Physical Work Test** – This test should require that a taxpayer begin physical work of a significant nature on the construction of new facilities with capture equipment or on new capture equipment installed on an existing industrial facility. This test should focus on the nature of the work performed, not the amount or the cost. Assuming that physical work performed is of a significant nature, there should be no fixed minimum amount of work or monetary or percentage threshold required to satisfy the Physical Work Test. Both off-site and on-site work should be considered for purposes of demonstrating that physical work of a significant nature has begun. Work performed by the taxpayer and work performed for the taxpayer by other persons under a binding written contract that is entered prior to the manufacture, construction, or production of the property or components of property for use by the taxpayer in the taxpayer’s trade or business (or for the taxpayer’s production of income) should be considered to determine whether construction has begun.
- **Five Percent Safe Harbor** – This test should require the taxpayer to have paid or incurred five percent or more of either the estimated total cost of the qualifying facility for new facilities with capture equipment or the estimated total cost of the new capture equipment installed on an existing industrial facility. The estimated total cost for this safe harbor should be based on the Front-End Engineering and Design (FEED) estimate for the total cost of the project, including capture equipment and not the actual cost of the project. All costs properly included in the depreciable basis (including FEED studies) of the carbon capture project should be taken into account to determine whether the Five Percent Safe Harbor has been met. The total cost of the project should not include the cost of land or any property not integral to the project.

- **Continuous Construction Safe Harbor Deadline** – The wind PTC includes a four-year safe-harbor placed in service deadline that can be used to satisfy the “continuous construction requirement.” Given the complexity of the industrial facilities and carbon capture equipment incentivized by this credit, carbon capture projects will take much longer to design, permit, and construct than renewable energy projects. As a result, the safe harbor window for §45Q projects should be expanded to at least six years after the year in which the project begins construction.
- **Scope of Carbon Capture Project** – The IRS guidance should provide workable rules for determining how the “beginning of construction” requirement should apply to a single project that may involve the installation of carbon dioxide capture equipment located at multiple facilities that are part of one overall carbon capture project. Under the most recent guidance (Notice 2018-59) on “beginning construction” for several renewable energy incentives, the IRS and Treasury have provided the opportunity for multiple “energy properties” to be considered part of a “single project” for purposes of “beginning construction.” The guidance provides several factors that may be considered and says the determination will be made under relevant facts and circumstances. Shell urges the development of similar guidance confirming that a single carbon capture project may consist of multiple “qualified facilities” for which there is a project linkage or nexus and that beginning construction at one of those qualified facilities satisfies the “beginning of construction” requirements for all those qualified facilities that are part of the project.

While the qualified facilities under §45Q will be much larger than the “energy property” facilities under §48 of the Code, we believe there will likely be many situations where a single carbon capture project includes multiple sources and multiple capture units at a single qualified facility and/or multiple qualified facilities. If these individual capture units have a project linkage or nexus, beginning construction at one of those qualified facilities should satisfy the “beginning of construction” requirements for all of those qualified facilities that are part of the project. As a result, Shell encourages the IRS to craft guidance for making a “single project” determination under §45Q that is modeled after the recent §48 guidance.

To assist in the development of this guidance, Shell recommends the consideration of the following factors as useful in determining whether carbon capture equipment installed at multiple facilities are operated as part of a “single project”:

- the qualified facilities are located within the same general geographic location or adjacent locations; or
- the capture equipment on the qualified facilities share a common pipeline gathering system; or
- the pipeline gathering system shares common ancillary equipment that is integral to operation of or activities performed by the qualified facilities, such as common compression equipment and/or a common intertie into a transportation pipeline; or
- the carbon capture equipment on the qualified facilities are described in one or more common environmental or other regulatory permits; or
- the carbon capture equipment on the qualified facilities were constructed pursuant to a single front-end engineering design document.

The single project determination should be made in the calendar year during which the beginning of construction determination is also made.

ISSUE AREA: LIFECYCLE GREENHOUSE GAS ANALYSIS

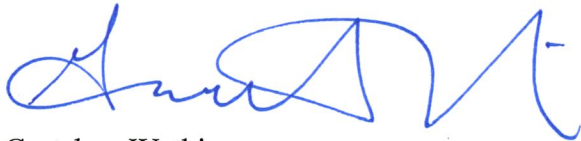
Section 3.10 – What issues may arise when determining the amount of metric tons of qualified carbon oxide utilized by the taxpayer under §45Q(a)(2)(B)(ii) or §45Q(a)(4)(B)(ii), based upon an analysis of lifecycle greenhouse emissions and subject to such requirements as the Secretary, in consultation with the Secretary of Energy and Administrator of the EPA, determines appropriate, were (i) captured and permanently isolated from the atmosphere, or (ii) displaced from being emitted into the atmosphere, through use of a process described in § 45Q(f)(5)(A)?

The IRS should establish clear guidelines for the preparation of lifecycle greenhouse gas analysis by applicants to demonstrate the net reduction or avoidance of carbon dioxide achieved through its utilization by the taxpayer. Given that lifecycle analysis requires selection of comparative data and/or determination of a counterfactual, the analysis should undergo a review by a third party determined by the IRS intended to assess the reasonableness of the assumptions, factors and calculations used by the applicant.

We appreciate the opportunity to comment on these important issues regarding the implementation of the recently enacted amendments to IRC §45Q.

If you have any questions regarding this submission, please contact Scott Salmon at (732) 621-5701, Scott.Salmon@Shell.com or Marnie Funk at (732) 621-5672, Marnie.Funk@shell.com.

Respectfully submitted,



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