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Section 45Q Tax Credits For Carbon Capture, Utilization, And Storage Projects

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Section 45Q Tax Credits For Carbon Capture, Utilization, And Storage Projects

Chris Girouard & Tim Glasgow *

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ABSTRACT

In order to reduce greenhouse gas emissions in the United States, the federal government has provided financial support to incentivize taxpayers to develop and utilize technologies for capturing and storing carbon oxide. In addition to making annual appropriations to the U.S. Department of Energy for carbon capture and storage research, Congress enacted Section 45Q of the Internal Revenue Code to provide qualifying taxpayers with an income tax credit for each metric ton of carbon oxide that is captured and stored or utilized. This Article aims to provide an overview of the history and requirements of Section 45Q and the methods by which the credit may be claimed or otherwise monetized.

I. HISTORY OF SECTION 45Q OF THE CODE

Section 45Q of the Internal Revenue Code of 1986, as amended (the Code),[1] was enacted on October 3, 2008, to provide a tax credit for taxpayers that (i) capture qualified carbon dioxide at a qualified facility, and (ii) dispose of the carbon dioxide in secure geological storage within the United States.[2] As originally enacted, Section 45Q included certain thresholds that limited the availability of the credit.[3] Further, the credits were available only until the U.S. Department of the Treasury (the Treasury Department), in consultation with the Environmental Protection Agency (the EPA), certified that, nationally, 75 million metric tons of qualified carbon dioxide had been taken into account under the credit. As a result of the limitations on credit availability, taxpayers claimed only $1 billion of credits under Section 45Q from 2009 to 2019.[4]

To further incentivize and support the construction and utilization of carbon sequestration projects, Congress amended Section 45Q on

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1 Unless otherwise indicated, all "*Section*" references are to the Internal Revenue Code of 1986, as amended, and all "*Regulation Section*" references are to the Treasury Regulation Sections promulgated thereunder.

2 *See* Energy Improvement and Extension Act of 2008, Pub. L. No. 110-343, § 115(a), 122 Stat. 3765, 3829. At the time of its enactment, the credit amount under Section 45Q was equal to $20 per metric ton of qualified carbon dioxide that was captured and disposed of in secure geological storage, and $10 per metric ton of qualified carbon dioxide that was captured and used as a tertiary injected in a qualified enhanced oil or natural gas recovery project.

3 The credit was not available with respect to facilities that captured less than 500,000 metric tons of carbon dioxide during the applicable tax year, which generally precluded smaller facilities from qualifying for credits under Section 45Q.

4 CONG. BUDGET OFF., CARBON CAPTURE AND STORAGE IN THE UNITED STATES 15 (2023), https://www.cbo.gov/system/files/2023-12/59345-carbon-capture-storage.pdf [https://perma.cc/UN7P-KNMQ].

February 9, 2018.[5] Specifically, the amendments expanded the availability of the credit by (i) lowering the carbon sequestration threshold for qualifying facilities (other than electricity generation facilities) from 500,000 to 100,000 metric tons per year, (ii) broadening the qualifying types of gases from carbon *dioxide* to carbon *oxide* (which includes a wider range of greenhouse gases),[6] (iii) allowing owners of carbon capture equipment (CCE) to claim the credit (rather than the person capturing the carbon), (iv) allowing taxpayers that "utilize" captured carbon oxide in a prescribed manner to claim the credit,[7] and (v) expanding the credit to carbon dioxide removed from the ambient atmosphere by direct air capture (DAC) facilities.[8] The 2018 changes to Section 45Q also eliminated the 75-million-metric-ton cap for captured carbon and instead permitted taxpayers to claim the credit during the twelve-year period beginning on the date the CCE is originally placed in service.[9] For this

5 *See* Bipartisan Budget Act of 2018, Pub. L. No. 115-123, § 41119, 132 Stat. 64, 162.

6 Captured carbon oxide is principally carbon dioxide, but in some cases carbon monoxide. COUNCIL ON ENV'T QUALITY, REPORT TO CONGRESS ON CARBON CAPTURE, UTILIZATION, AND SEQUESTRATION 13 (2021), https://www.whitehouse.gov/wp-content/uploads/2021/06/CEQ-CCUS-Permitting-Report.pdf [https://perma.cc/N4WT-ZSGP]. As discussed in more detail below, "qualified carbon oxide is [generally] a carbon oxide that would have been released into the atmosphere if not for the qualifying equipment." ANGELA C. JONES & DONALD J. MARPLES, CONG. RESEARCH. SERV., IF11455, THE SECTION 45Q TAX CREDIT FOR CARBON SEQUESTRATION 1 (2023), https://crsreports.congress.gov/product/pdf/IF/IF11455/4.

7 For this purpose, "utilization" of qualified carbon oxide means: (1) the fixation of such carbon oxide through photosynthesis or chemosynthesis, such as through the growing of algae or bacteria; (2) the chemical conversion of such qualified carbon oxide to a material or compound that results in secure storage; or (3) the use of such carbon oxide for any other purpose for which a commercial market exists (except for use as a tertiary injected in a qualified enhanced oil or natural gas recovery project), as determined by the Secretary of the Treasury Department. I.R.C. § 45Q(f)(5).

8 The 2018 amendment to Section 45Q increased the amount of the credit under Section 45Q (i) for qualified carbon oxides "utilized" by the taxpayer or used as a tertiary injected in a qualified enhanced oil or natural gas recovery project, from $12.83 per metric ton increasing linearly each calendar year to $35 per metric ton by December 31, 2026 (and adjusted for inflation thereafter), and (ii) for direct sequestration in secure geological storage, from $22.66 per metric ton increasing linearly each calendar year to $50 per metric ton by December 31, 2026 (and adjusted for inflation thereafter).

9 As described in more detail below, while Section 45Q does not contain a definition for "placed in service", the concept has been described by the IRS in guidance applicable to the 45Q Credit as: "property is considered to be placed in service in the taxable year that the property is placed in a condition or state of readiness and availability for a specifically assigned function." Rev. Proc. 2020-12, 2020-11 I.R.B. 511 (citing Treas. Reg. §§ 1.46-3(d)(1)(ii), 1.167(a)-11(e)(1)(i)).

purpose, eligible CCE had to be placed in service at a qualified facility that had a beginning of construction date before January 1, 2024.[10]

Congress further amended Section 45Q of the Code on August 16, 2022, with the enactment of the Inflation Reduction Act of 2022 (the IRA).[11] The IRA amendments to Section 45Q provided further incentives for taxpayers to develop and construct carbon capture and sequestration projects,[12] including: (i) extending the deadline to begin constructing qualified facilities from December 31, 2025, to December 31, 2032, (ii) increasing the credit amounts, and (iii) expanding the credit to facilities emitting lower volumes of carbon oxides. The specific changes to Section 45Q under the IRA are discussed in detail below.

II. SECTION 45Q STATUTORY AND REGULATORY REQUIREMENTS

Section 45Q of the Code provides an income tax credit (a 45Q Credit) for qualified carbon oxide (QCO) captured using CCE and isolated from the environment. The captured QCO must be securely stored in any of three manners set forth in the statute. First, QCO may be disposed of in "secure geological storage," which includes (but is not limited to) deep saline formations, oil and gas reservoirs, and unminable coal seams.[13] Second, QCO may be used as a tertiary injectant in a qualified enhanced oil or natural gas recovery (EOR) project.[14] A "tertiary injectant" is QCO injected into the subsurface and stored in a qualified EOR project in connection with the extraction of crude oil and natural gas.[15] Third, QCO may be "utilized" by the taxpayer in certain specified activities, such as the fixation of the QCO through photosynthesis or chemosynthesis (e.g., such as through the growing of algae or bacteria), the chemical conversion of the QCO to a material or chemical compound in which the QCO is securely stored, or the use of the QCO

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10 The deadline to begin construction was further extended for two years, to January 1, 2026, in the Taxpayer Certainty and Disaster Tax Relief Act of 2020, Pub. L. No. 116-260, § 121, 134 Stat. 1182, 3038 (enacted as part of the Consolidated Appropriations Act of 2021).

11 Inflation Reduction Act of 2022, Pub. L. No. 117-169, § 13104(a)(1), 136 Stat. 1818, 1924.

12 While beyond the scope of this Article, additional incentives for taxpayers to develop and construct carbon capture and sequestration projects may be found in Section 45Y (with respect to the clean electricity production credit) and Section 48E (with respect to the clean electricity investment credit) as a result of the greenhouse gas emission requirements of those credits. *See* I.R.C. §§ 45Y(b)(2)(D), (e)(3), 48E(b)(3)(B)(ii), (b)(6).

13 Treas. Reg. § 1.45Q-3(a), (b)(1).

14 *Id.* § 1.45Q-3(b)(2).

15 *Id.* § 1.45Q-2(h)(6).

for any other purpose for which a commercial market exists.[16] Subject to certain rules regarding the beginning of construction (discussed below), 45Q Credits with respect to CCE placed in service on or after February 9, 2018, may be claimed during the twelve-year period beginning on the date the CCE was originally placed in service.[17]

The 45Q Credit, as amended by the IRA, includes a base credit amount and an increased credit amount (representing a multiple of five) if the prevailing wage and apprenticeship requirements are met, as discussed in more detail below. The applicable credit rates, which are adjusted for inflation beginning in a calendar year after 2026, are as follows:

- Industrial Facilities:
  - *Permanent sequestration*: For QCO that is captured in an industrial facility and disposed of by the taxpayer in secure geological storage and not utilized, the base credit amount is $17 per metric ton of QCO, and the increased credit amount is $85 per metric ton of QCO.[18]
  - *Utilization or EOR*: For QCO that is captured in an industrial facility and either (i) utilized in an approved manner, or (ii) used as a tertiary injectant in a qualified EOR project and disposed of by the taxpayer, the base credit amount is $12 per metric ton of QCO, and the increased credit amount is $60 per metric ton of QCO.[19]
- DAC Facilities:
  - *Permanent sequestration*: For QCO that is captured in a DAC facility and disposed of by the taxpayer in secure geological storage and not utilized, the base credit amount is $36 per

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16 I.R.C. § 45Q(a)(2)(B)(ii), (a)(4)(B)(ii), (f)(5); Treas. Reg. § 1.45Q-4(a).

17 I.R.C. § 45Q(a)(3)–(4). As discussed above, 45Q Credits with respect to CCE placed in service prior to February 9, 2018, were scheduled to expire when the Treasury Department, in consultation with the EPA, certified that 75 million metric tons of QCO have been captured and disposed of or used as a tertiary injectant. In September 2022, the IRS reported that the cap had been met and that 2022 was the final calendar year for which a taxpayer may claim a 45Q Credit for QCO captured by CCE originally placed in service at a qualified facility before February 9, 2018. I.R.S. Notice 2022-38, 2022-39 I.R.B. 239.

18 I.R.C. § 45Q(a)(3), (b)(1)(A)(ii)(I), (h)(1).

19 *Id.* § 45Q(a)(4), (b)(1)(A)(ii)(II), (h)(1).

metric ton of QCO, and the increased credit amount is $180 per metric ton of QCO.[20]

- *Utilization or EOR*: For QCO that is captured in a DAC facility and either (i) utilized in an approved manner, or (ii) used as a tertiary injectant in a qualified EOR project and disposed of by the taxpayer, the base credit amount is $26 per metric ton of QCO, and the increased credit amount is $130 per metric ton of QCO.[21]

The discussion immediately below provides an overview of certain key definitions and other requirements under Section 45Q. Thereafter, the methods by which taxpayers may claim 45Q Credits or otherwise monetize such credits are discussed.

A. Qualified Carbon Oxide

As discussed, the 45Q Credit is available for "qualified carbon oxide" which is captured and sequestered or utilized by the taxpayer. With respect to CCE placed in service on or after February 9, 2018,[22] "qualified carbon oxide" means (i) any carbon dioxide or carbon oxide which is captured from an industrial source[23] by CCE originally placed in service on or after February 9, 2018, and which would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release,[24] and (ii) in the case of a DAC facility, any carbon dioxide captured directly from the ambient air.[25] In each case, captured carbon oxide or dioxide is measured at the source of capture and verified at the point of disposal, injection, or utilization.[26]

B. Carbon Capture Equipment and Qualified Facilities

In order to claim the 45Q Credit, the qualified carbon oxide must be captured by the taxpayer using "carbon capture equipment" that is placed

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20 *Id.* § 45Q(a)(3), (b)(1)(A)(ii)(I), (b)(1)(B)(i), (h)(1).

21 *Id.* § 45Q(a)(4), (b)(1)(A)(ii)(II), (b)(1)(B)(ii), (h)(i).

22 With respect to CCE placed in service before February 9, 2018, "qualified carbon oxide" means any carbon dioxide if captured from an industrial source by CCE which would otherwise be released into the atmosphere as industrial emission of greenhouse gas, or lead to such release. I.R.C. § 45Q(c)(1)(A).

23 An "industrial source" of carbon oxide is an emission of carbon oxide from an "industrial facility", which is discussed below in connection with the definition of "qualified facility". Treas. Reg. § 1.45Q-2(d)(2).

24 I.R.C. § 45Q(c)(1)(B).

25 *Id.* § 45Q(c)(1)(C).

26 *Id.* § 45Q(c)(1)(A)(iii), (B)(iii), (C)(iii).

in service at a "qualified facility." Each of these definitions are discussed below.

1. Carbon Capture Equipment

CCE generally includes components of property necessary to compress, treat, process, liquify, pump, or perform some other physical action to capture QCO.[27] CCE includes a system of gathering and distribution lines that collect carbon oxide captured from a qualified facility, or multiple qualified facilities that constitute a single project, for the purpose of transporting the QCO to a pipeline that then transports the carbon oxide to or from one or more taxpayers and projects.[28] CCE generally does not include transportation equipment other than gathering and distribution lines.[29] All components that make up an independently functioning "process train" capable of capturing, processing, and preparing carbon oxide for transport are treated as single unit of CCE.[30] The concept of a single process train is significant for purposes of Section 45Q because a taxpayer must own at least one component of CCE of a single process train to claim the 45Q Credit,[31] and because of rules relating to the modification or retrofitting of existing CCE, discussed below.

i. Modification of Carbon Capture Equipment

Because of the 75-million-metric-ton cap applicable to CCE placed in service before February 9, 2018, Section 45Q(b)(2) provides a method to compute the amount of QCO captured using CCE at a qualified facility that was placed in service before February 9, 2018, and using additional CCE placed in service on or after February 9, 2018. When "additional equipment" is added to CCE placed in service before February 9, 2018 (referred to as the "original equipment"), the QCO amount treated as captured using the original equipment is the lesser of: (i) the total QCO captured at the facility for the taxable year, or (ii) the total carbon dioxide

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27 Treas. Reg. § 1.45Q-2(c)(2). "Carbon capture equipment" is defined in Regulation Section 1.45Q-2(c)(1) as all components of property that are used to capture or process carbon oxide until the carbon oxide is transported for disposal, injection, or utilization, and includes components used for the purpose of separating, purifying, drying, and/or capturing carbon oxide from an industrial facility, removing carbon oxide from the atmosphere via DAC, and compressing or otherwise increasing the pressure of carbon oxide.

28 *Id.* § 1.45Q-2(c)(2).

29 *See id.* § 1.45Q-2(c) (noting CCE "generally does not include components of property used for transporting [QCO] for disposal, injection, or utilization").

30 *Id.* § 1.45Q-2(c)(3).

31 *See id.* § 1.45Q-1(h)(1)(ii); Rev. Rul. 2021-13, 2021-30 I.R.B. 152 (discussed below).

capture capacity of the original equipment in service at the facility on February 8, 2018 (and eligible for the credit amounts with respect to CCE placed in service prior to February 9, 2018).[32] Any QCO captured at such facility in excess of the original equipment capacity is treated as captured using the additional equipment.[33] Carbon oxides treated as captured by the additional equipment are eligible for the then-applicable credit amounts, unlimited by the 75-million-metric-ton restriction.[34] For the foregoing rule to apply, a physical modification or equipment addition must result in an increase in the carbon dioxide capture capacity of the existing CCE.[35] The Treasury Regulations also include a rule that may treat a physical modification or equipment addition as the installation of new CCE if the "80/20 Rule" is satisfied, as discussed immediately below.[36]

ii. Retrofitting Carbon Capture Equipment

The Treasury Regulations adopt an "80/20 Rule," which provides that a retrofitted qualified facility or retrofitted CCE may qualify as originally placed in service on or after February 9, 2018, even if it contains some used components of property that were previously placed into service, if the fair market value of the used components is not more than 20% of the CCE's total value (i.e., the cost of the new components and the value of the used components).[37] The relevant unit of retrofitted CCE for purposes of the 80/20 Rule is an independently functioning process train.[38] For purposes of the 80/20 Rule, the cost of new CCE includes all properly capitalized costs thereof and may include (at the taxpayer's option) "the cost of new equipment for a pipeline (but not equipment used to repair an existing pipeline) owned and used exclusively by that taxpayer to transport carbon oxide captured by that taxpayer's qualified facility or [CCE] that would otherwise be emitted into the atmosphere."[39]

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32 I.R.C. § 45Q(b)(2); Treas. Reg. § 1.45Q-1(g)(1).

33 I.R.C. § 45Q(b)(2).

34 Treas. Reg. § 1.45Q-1(g).

35 *Id.* § 1.45Q-1(g)(2). Increasing the amount of carbon dioxide captured without physically modifying existing CCE or adding new equipment (*e.g.*, by merely operating the existing CCE above the carbon dioxide capture capacity), does not constitute the installation of additional CCE. *Id.*

36 *See id.* § 1.45Q-1(g)(3).

37 *Id.* § 1.45Q-2(g)(5). According to the preamble, the Treasury Department and the IRS take the position that used equipment purchased by a taxpayer is not "new" equipment for purposes of the 80/20 Rule. T.D. 9944, 2021-16 I.R.B. 1062.

38 Treas. Reg. § 1.45Q-2(g)(5).

39 *Id.* § 1.45Q-2(g)(5).

iii. Revenue Ruling 2021–13

On July 1, 2021, the Internal Revenue Service (the IRS) released Revenue Ruling 2021–13,[40] which provides additional guidance on the definition of CCE for purposes of Section 45Q. Further, the ruling (i) holds that the taxpayer claiming the 45Q Credit is not required to own every component of CCE in a single process train (it must own only one such component) and (ii) provides guidance on the original placed-in-service date of a single process train of CCE.

Under the facts of Revenue Ruling 2021–13, a methanol plant utilized a multi-step process to produce methanol from petroleum coke. This process included gasifying the petroleum coke into a raw synthetic gas, which included, among other components, carbon dioxide. The gas was purified in an acid gas removal (AGR) unit and then converted into methanol at the plant. The AGR unit removed the unwanted components, including carbon dioxide, which was then either captured or released into the atmosphere. The AGR unit was placed in service on January 1, 2017, and up until 2021, carbon dioxide was released into the atmosphere. In 2021, the taxpayer, who was not an owner of the AGR or methanol plant, purchased and installed new components of CCE necessary to create a single process train to capture, process, and prepare the carbon dioxide that was being released into the atmosphere for transport. The taxpayer did not acquire an ownership interest in the AGR or the methanol plant.

Under the facts above, the IRS determined that the AGR unit was CCE because one of its functions was to remove carbon dioxide from a gas stream.[41] Additionally, the IRS held that a taxpayer is not required to own every component of CCE within a single process train in order to be the person to whom the 45Q Credit is attributable, as long as the taxpayer owns at least one such component of CCE.[42]

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40 Rev. Rul. 2021-13, 2021-30 I.R.B. 152.

41 The IRS determined that the AGR unit was "CCE" for purposes of Section 45Q based on Regulation Section 1.45Q-2(c)(1) (which provides that CCE is equipment used for the purpose of "separating, purifying, drying and/or capturing carbon oxide that would otherwise be released into the atmosphere from an industrial facility") and Regulation Section 1.45Q-2(c)(3) (which provides that "all components that make up an independently functioning process train capable of capturing, processing, and preparing carbon oxide for transport will be treated as a single unit of [CCE]" (i.e., a single process train)).

42 The IRS based this holding on Regulation Section 1.45Q-1(h)(1)(ii), which provides that for each single process train of CCE, only one taxpayer will be the taxpayer to whom the 45Q Credit is attributable. According to the IRS, this requirement

With respect to the placed-in-service date of the CCE, the IRS noted that CCE is placed in service on the date that any person first places it in a condition or state of readiness and availability for the specifically designed function of capturing, processing, and preparing carbon oxide for transport for disposal, injection, or utilization. According to the IRS, this could not occur until the new components of CCE were added to perform such function and prevent the release of carbon oxide into the atmosphere. Accordingly, the IRS held that the single process train was placed in service in 2021 (i.e., when the CCE was installed on the AGR).

2. Qualified Facility

As discussed above, CCE must be placed in service at a "qualified facility," which is defined to include an "industrial facility" or a DAC facility.[43] An "industrial facility" is a facility, including an electricity generating facility, that produces a carbon oxide stream from a fuel combustion source or fuel cell, a manufacturing process, or a fugitive carbon oxide emission source that (absent capture and disposal, injection, or utilization) would otherwise be released into the atmosphere as industrial emission of greenhouse gas or lead to such release.[44] A DAC facility is a facility that uses CCE to capture carbon dioxide directly from the ambient air and does not include facilities that capture carbon dioxide deliberately released from naturally occurring subsurface springs or using natural photosynthesis.[45]

A "qualified facility" must capture: (i) in the case of a DAC facility, no less than 1,000 metric tons of carbon dioxide in the applicable tax year (reduced from 100,000 metric tons prior to amendment by IRA);[46] (ii) in the case of an electricity generating facility, not less than 18,750 metric tons of carbon oxide in the applicable tax year (reduced from 500,000 metric tons prior to amendment by IRA);[47] and (iii) in the case of any other facility, no less than 12,500 metric tons of carbon oxide in the

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would be unnecessary if, in order to claim the 45Q Credit, the same taxpayer were required to own all components of CCE within a single process train.

43 Treas. Reg. § 1.45Q-2(g).

44 *Id.* § 1.45Q-2(d). An industrial facility does not include a facility that produces carbon dioxide from carbon dioxide production wells at natural carbon dioxide-bearing formations or a naturally occurring subsurface spring. *Id.* An electricity generating facility is a facility described in Section 45Q(d)(2)(A) or (B) that is subject to depreciation under MACRS Asset Class 49.11 (Electric Utility Hydraulic Production Plant), 49.12 (Electric Utility Nuclear Production Plant), 49.13 (Electric Utility Steam Production Plant), or 49.15 (Electric Utility Combustion Turbine Production Plant). Treas. Reg. § 1.45Q-2(e).

45 Treas. Reg. § 1.45Q-2(f).

46 I.R.C. § 45Q(d)(2)(A).

47 *Id.* § 45Q(d)(2)(B).

applicable tax year (reduced from 25,000 metric tons prior to amendment by the IRA).[48] For purposes of determining whether a qualified facility satisfies the foregoing thresholds, a taxpayer may apply the "single project" rules of Section 8.01 of IRS Notice 2020–12 (discussed below).[49] To be a "qualified facility," construction on such facility must begin before January 1, 2033, which requires that either (i) construction of CCE began before such date, or (ii) the original planning and design for such facility included installation of CCE.[50]

C. Beginning of Construction

For purposes of determining "beginning of construction," IRS Notice 2020–12 provides guidance substantially similar to the rules applicable to wind and solar projects. Specifically, the notice provides that the "beginning of construction" has started for purposes of the 45Q Credit when the taxpayer starts "physical work of a significant nature" (the Physical Work Test) or pays or incurs at least 5% of the total cost of, in each case, the facility or CCE (the Five Percent Test). Under both the Physical Work Test and the Five Percent Test, a taxpayer must demonstrate continuous progress toward completion once construction has begun (the Continuity Requirement).

1. Physical Work Test

Under the Physical Work Test, construction of a qualified facility or CCE will be considered as having begun when "physical work of a significant nature begins."[51] According to IRS Notice 2020–12, the focus of the Physical Work Test is on the actual work performed rather than the cost of such work.[52] Physical work does not include preliminary work, which includes, but is not limited to, work associated with securing financing, exploring, researching, obtaining permits and licenses, conducting test drilling to determine soil condition, clearing a site, excavating to change the contour of the land, and removing existing foundations and any components that are not part of the qualified facility or CCE.[53] Conversely, third-party work performed under a binding written contract that is entered into prior to the manufacture, construction, or production of a qualified facility or CCE components is

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[48] *Id.* § 45Q(d)(2)(C).

[49] Treas. Reg. § 1.45Q-2(g).

[50] I.R.C. § 45Q(d)(1). Prior to amendment by the IRA, Section 45Q required eligible carbon oxide sequestration credit projects to begin construction before January 1, 2026. Treas. Reg. § 1.45Q-2(g).

[51] I.R.S. Notice 2020-12, 2020-11 I.R.B. 495, § 5.01.

[52] *Id.* § 5.02.

[53] *Id.* § 5.03.

taken into account to determine whether construction has begun.[54] Both on-site and off-site work may be considered to demonstrate that physical work of a significant nature has begun.[55]

2. Five Percent Test

Under the Five Percent Test, construction of a qualified facility or CCE will be considered as having begun if the taxpayer pays or incurs (within the meaning of Regulation Section 1.461-1(a)(1) and (2)) 5% or more of the total costs of the qualified facility or CCE.[56] All costs properly included in the depreciable basis of the qualified facility or CCE are taken into account to determine whether the Five Percent Test has been satisfied.[57] Costs incurred by a third party for property that is manufactured, constructed, or produced for the taxpayer by such third party under a binding written contract with the taxpayer before the property is provided to the taxpayer are deemed incurred by the taxpayer when the costs are incurred by the third party under the principles of Section 461.[58] Because the total costs of the qualified facility or CCE may

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54 *Id.* § 5.01.

55 I.R.S. Notice 2020-12 includes the following examples of on-site physical work of a significant nature: the excavation for and installation of foundations for the project or for buildings to house equipment necessary to the project, the installation of gathering lines necessary to connect the industrial facility to the carbon capture or other necessary equipment before transportation away from the facility, the installation of components necessary for carbon capture processes, and the installation of equipment and other work necessary for the disposal of QCO in secure geological storage (which may be at a location different from the location of the qualified facility or carbon capture equipment). With respect to off-site physical work of a significant nature, IRS Notice 2020-12 includes the following examples: the manufacture of mounting equipment, support structures such as racks, skids, and rails, components necessary for carbon capture processes, and components or equipment necessary for disposal of QCO in secure geological storage.

56 I.R.S. Notice 2020-12, § 6.01. Pursuant to Regulation Section 1.461-1(a)(1), taxpayers using the cash receipts and disbursements method of accounting generally take costs into account at the time such costs are paid. Under Regulation Section 1.461-1(a)(2), taxpayers using the accrual method of accounting generally take costs into account at the time all the events have occurred that establish the fact of the liability, the amount of the liability can be determined with reasonable accuracy, and economic performance has occurred with respect to the liability.

57 I.R.S. Notice 2020-12, § 6.02. Costs associated with "Front-End Engineering and Design" activities or other approaches for front-end planning (e.g., the "Front-End Loading" approach) common to projects of similar scope and complexity may also be considered when determining whether the Five Percent Test has been satisfied. *Id.*

58 *Id.* § 8.03(2).

not be known in the year in which construction begins, IRS Notice 2020–12 provides guidance on cost overruns.[59]

3. Continuity Requirement

After the start of construction is established pursuant to the Physical Work Test or the Five Percent Test, the taxpayer is required to then satisfy the Continuity Requirement, which requires the taxpayer to demonstrate continuous progress toward completion once construction has begun.[60] Under the Physical Work Test, a taxpayer must maintain a "continuous program of construction," and under the Five Percent Test, a taxpayer must make "continuous efforts to advance toward completion."[61] These continuity requirements are determined by the relevant facts and circumstances.[62]

Certain disruptions in a taxpayer's continuous construction or efforts to advance toward completion of a qualified facility or CCE that are beyond the taxpayer's control will not necessarily cause the taxpayer to fail the Continuity Requirement.[63] However, these disruptions will not extend the Continuity Safe Harbor (discussed in the subsequent paragraph), such that whether the Continuity Requirement has been satisfied will depend on the relevant facts and circumstances.[64] For a single project comprised of multiple qualified facilities or multiple units of CCE, whether an excusable disruption has occurred must be

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[59] Generally, if cost overruns with respect a single project comprised of multiple qualified facilities or multiple units of CCE cause the project to fail the Five Percent Test (i.e., because the amount a taxpayer actually paid or incurred with respect to the single project turns out to be less than 5% of the total cost of the single project at the time it is placed in service), the Five Percent Test nonetheless may be satisfied with respect to some (but not all) of the qualified facilities or units of CCE, so long as the total aggregate cost of such property is not more than 20 times greater than the amount the taxpayer paid or incurred. *Id.* § 6.03(1). However, no such partial qualification is permitted if the project consists of a single qualified facility or unit of CCE. *Id.* § 6.03(2).

[60] *Id.* § 4.01.

[61] *Id.* §§ 7.01–.02.

[62] *Id.* With respect to the Five Percent Test, relevant facts and circumstances may include: (1) paying or incurring additional amounts included in the total cost of the qualified facility or CCE; (2) entering into binding written contracts for the manufacture, construction, or production of components of the qualified facility or components of the CCE or for future work to construct the qualified facility or CCE; (3) obtaining necessary permits; and (4) performing work of a significant nature. *Id.* § 7.02.

[63] *Id.* § 7.03. Section 7.03 of IRS Notice 2020-12 includes a non-exclusive list of excusable disruptions.

[64] *Id.* § 7.03.

determined in the calendar year in which the last of multiple qualified facilities or units of CCE is placed in service.[65]

IRS Notice 2020–12 includes a safe harbor for satisfying the Continuity Requirement (the Continuity Safe Harbor), pursuant to which the Continuity Requirement will be deemed to be satisfied if a taxpayer places a qualified facility or CCE in service by the end of a calendar year that is no more than six calendar years after the calendar year during which construction of the qualified facility or CCE began (the Continuity Safe Harbor Deadline).[66] For example, if construction begins on a qualified facility or CCE on January 15, 2021, and the qualified facility or CCE is placed in service by December 31, 2027, the qualified facility or CCE will satisfy the Continuity Safe Harbor. As discussed above, the excusable disruption rules do not apply for purposes of applying the Continuity Safe Harbor.[67]

4. Single Project

Section 8.01 of IRS Notice 2020–12 provides rules for treating multiple qualified facilities or CCE units as a single qualified facility or CCE unit when operated as part of a single project. These rules are significant (i) because such multiple qualified facilities or CCE units may be treated as a single qualified facility or CCE unit to satisfy the beginning of construction requirements[68] and (ii) in determining whether "qualified facilities" satisfy the applicable, requisite annual carbon capture thresholds.[69] The determination of whether multiple facilities or CCE units are operated as part of a single project and are therefore treated as a single qualified facility or CCE unit is made in the calendar year during which the last of the multiple qualified facilities or CCE units is placed in service.[70] Whether multiple qualified facilities or units of CCE are operating as part of a single project will depend on the relevant facts and circumstances.[71]

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65 *Id.* § 7.04. For a single project comprised of a single qualified facility or CCE, whether an excusable disruption has occurred must be determined in the calendar year during which the qualified facility or CCE is placed in service. *Id.*

66 *Id.* § 7.05.

67 *Id.*

68 *Id.* § 8.01.

69 Treas. Reg. § 1.45Q-2(g).

70 I.R.S. Notice 2020-12, § 8.01(3).

71 *Id.* § 8.01(1). For this purpose, relevant facts and circumstances include (i) whether facilities or units are owned by a single legal entity, (ii) facilities or units that are constructed in the same general geographic location or on adjacent or contiguous pieces of land, (iii) a single system of gathering lines or a single off-take operation is used to collect and deliver carbon oxide to a transportation pipeline, (iv) carbon oxide captured

IRS Notice 2020–12 also establishes a "disaggregation rule," pursuant to which multiple qualified facilities or CCE units treated as a single project for purposes of the Physical Work Test and Five Percent Test may be disaggregated for purposes of the Continuity Safe Harbor and treated as multiple separate qualified facilities or units of CCE.[72] Under this rule, qualified facilities or CCE units (other than those which are disaggregated) that are placed in service before the Continuity Safe Harbor Deadline will be eligible for the Continuity Safe Harbor and the remaining disaggregated separate qualified facilities or units of CCE that do not satisfy the Continuity Safe Harbor may still satisfy the Continuity Requirement under the facts and circumstances determination.[73]

D. *Secure Geological Storage*

To qualify for 45Q Credits, a taxpayer must either physically or contractually dispose of captured QCO in secure geological storage or utilize the QCO in a manner conforming with Section 45Q(f)(5). QCO is disposed of by the taxpayer in secure geological storage if the QCO is injected into a well located in the United States that complies with applicable Underground Injection Control (UIC) or other regulations, and either (i) for non-EOR storage, complies with applicable requirements under 40 CFR part 98 subpart RR (Subpart RR); or (ii) for EOR storage, complies with applicable requirements under either (A) Subpart RR or (B) "the International Organization for Standardization (ISO) standards endorsed by the American National Standards Institute (ANSI) under CSA/ANSI ISO 27916:2019" (the ISO Standards).[74]

1. *Underground Injection Control*

In general, the UIC program under the Safe Drinking Water Act consists of six classes of injection wells (i.e., Classes I through VI). Each well class is based on the type and depth of the injection activity and the potential for that injection activity to result in endangerment of an underground source of drinking water. Regulation Section 1.45Q-3 does not expressly reference a specific class of UIC wells that must be used for

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from the facilities is sequestered pursuant to a shared contract, (v) the facilities or units are described in one or more common environmental or other regulatory permits or are required to collectively report their activities, (vi) the facilities or units were constructed pursuant to a single contract providing Front-End Engineering and Design or similar services covering the full scope of the single project, (vii) the facilities or units were constructed pursuant to a single master construction contract, and (viii) the construction of the facilities or units was financed pursuant to the same loan agreement. *Id.*

[72] *Id.* § 8.01(4).

[73] *Id.* § 8.01(4); *see also id.* § 8.01(5) (providing an example).

[74] Treas. Reg. § 1.45Q-3(b).

secure geological storage. However, the preamble[75] to the Treasury Regulations promulgated under Section 45Q provides that Class VI is an "appropriate" permit for such wells and that Class VI wells are generally defined as wells "used for geologic sequestration of carbon dioxide."[76] However, some Class II wells have also qualified for disposal of carbon dioxide under this provision.[77]

With respect to EOR projects, the preamble provides that a Class II well "may be appropriate" for wells that inject fluids (including carbon dioxide) for EOR projects.[78] Class II wells are generally defined as, among other things, wells that inject fluids for enhanced recovery of oil or natural gas.[79] Accordingly, Class II permits are generally required for QCO stored in connection with an EOR project.[80]

2. *Greenhouse Gas Reporting Requirements*

In addition to injecting QCO in compliance with UIC standards, Regulation Section 1.45Q-3(b) provides that QCO also must be injected in compliance with the EPA's reporting requirements set forth in Subpart RR. Subpart RR requires facilities that are engaged in geological sequestration to report information regarding the amount of carbon dioxide received and injected into the subsurface, the amount of carbon dioxide lost through leakage, the amount of carbon dioxide sequestered, and other related information.[81] Subpart RR also requires submission and

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[75] T.D. 9944, 2021-16 I.R.B. 1062.

[76] 26 C.F.R. § 144.6(f). Obtaining approval from the EPA for a Class VI well permit for geological sequestration is generally a multiyear process. It should be noted that there are currently three states (Louisiana, Wyoming and North Dakota) that have primacy (i.e., the EPA has approved such states to implement and enforce the UIC program) to issue Class VI permits for wells within those states, with Texas, Arizona and West Virginia in the process of applying for Class VI primacy. ANGELA C. JONES, CONG. RESEARCH. SERV., R48033, CLASS VI CARBON SEQUESTRATION WELLS: PERMITTING AND STATE PROGRAM PRIMACY 1 (2024), https://crsreports.congress.gov/product/pdf/R/R48033. It is anticipated that the Class VI permitting process with be expedited in those states with primacy over these types of permits.

[77] These include Class II wells disposing of acid gas (consisting of a combination of carbon dioxide, hydrogen sulfide, and other fluids) and carbon dioxide produced with other gases (e.g., methane and helium). Subpart RR MRV plans have been approved for those operations.

[78] T.D. 9944, 2021-16 I.R.B. 1062; ANGELA C. JONES, CONG. RESEARCH. SERV., R46192, INJECTION AND GEOLOGIC SEQUESTRATION OF CARBON DIOXIDE: FEDERAL ROLE AND ISSUES FOR CONGRESS 11 (2022), https://crsreports.congress.gov/product/pdf/R/R46192.

[79] 40 C.F.R. § 144.6(b).

[80] Most states have primacy over Class II wells.

[81] *See* 40 C.F.R. § 98.442.

EPA approval of a Monitoring, Reporting, and Verification (MRV) plan as part of demonstrating secure geological storage.[82] With respect to wells used in connection with EOR projects, secure geological storage can be established by either complying with Subpart RR or with the ISO Standards.[83] Taxpayers who rely on the ISO Standards are required to have the documentation prepared in connection with the ISO Standards, which must be certified as accurate and complete by a qualified, independent engineer or geologist.[84] The ISO Standards do not require an MRV plan; however, the EPA has proposed Subpart VV which would require reporting similar to Subpart RR for EOR operations using the ISO Standards to satisfy the Section 45Q requirements.[85]

E. *Utilization*

As discussed above, 45Q Credits are available to taxpayers who capture QCO and "utilize" such carbon oxides in a manner described in Section 45Q(f)(5). Section 45Q(f)(5)(A) provides that "utilization of qualified carbon oxide" means (i) the fixation of such QCO through photosynthesis or chemosynthesis, such as through the growing of algae or bacteria; (ii) the chemical conversion of such QCO to a material or chemical compound in which such QCO is securely stored; or (iii) the use of such QCO for any other purpose for which a commercial market exists (with the exception of EOR use), as determined by the Secretary of the Treasury Department. "Commercial market" is broadly defined as a market in which a product, process, or service that utilizes carbon oxide is sold or transacted on commercial terms.[86] Accordingly, the definition of "commercial" is not restricted to specific products or markets and is broad enough to accommodate the emergence of markets developed as a result of new technologies.

Section 45Q(f)(5)(B) provides a methodology to measure the amount of QCO utilized by the taxpayer. The amount utilized equals the metric tons of QCO, which the taxpayer demonstrates through a lifecycle

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[82] In general, MRV plans include, among other things, (i) the delineation of the maximum monitoring area and the active monitoring areas, (ii) identification of potential surface leakage pathways for carbon dioxide in the maximum monitoring areas, and the likelihood and magnitude of leakage in these areas, (iii) a strategy for detecting and quantifying any surface leakage of carbon dioxide, and (iv) a strategy for establishing the expected baselines for monitoring carbon dioxide surface leakage.

[83] Treas. Reg. § 1.45Q-3(b)(2)(ii).

[84] *Id.* § 1.45Q-3(d).

[85] Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule; Extension of Comment Period, 87 Fed. Reg. 42988 (July 19, 2022); Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule, 88 Fed. Reg. 32852 (May 22, 2023).

[86] Treas. Reg. § 1.45Q-4(d).

greenhouse gas emissions analysis (an LCA), that were either (i) captured and permanently isolated from the atmosphere, or (ii) displaced from being emitted into the atmosphere through use of a process described in Section 45Q(f)(5)(A).[87] The LCA must demonstrate that the proposed process results in a net reduction of carbon dioxide equivalents when compared to a comparison system, and the results of the LCA must be documented in a written LCA report.[88] Regulation Section 1.45Q-4(c)(3) provides that the LCA report must be prepared in conformity with, and contain documentation that conforms with, ISO 14040:2006 (LCA—Principles and Framework) and ISO 14044:2006 (LCA—Requirements and Guidelines). The LCA report is required to be performed or verified by a qualified, independent third party and submitted to the IRS and the Department of Energy.[89] The IRS determines whether to approve the LCA, which approval must be received by the taxpayer prior to claiming 45Q Credits.[90]

F. *Recapture*

Section 45Q(f)(4) authorizes the issuance of Treasury Regulations for the recapture of the benefit of any 45Q Credits with respect to QCO which ceases to be captured, disposed of, or used as a tertiary injectant. A recapture event occurs when QCO for which a 45Q Credit has been previously claimed is released from secure geological storage or ceases use as a tertiary injectant in a taxable year (during the recapture period)[91] in an amount in excess of the amount of QCO securely stored in the same taxable year.[92] The quantity of recaptured carbon oxides is the

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87 *Id.* § 1.45Q-4(b)(1). The term "lifecycle greenhouse gas emissions" means the aggregate quantity of greenhouse gas emissions (including direct emissions and significant indirect emissions such as significant emissions from land use changes) related to the full product lifecycle, including all stages of product and feedstock production and distribution, from feedstock generation or extraction through the distribution and delivery and use of the finished product to the ultimate consumer, where the mass values for all greenhouse gases are adjusted to account for their relative global warming potential. *Id.* § 1.45Q-4(c).

88 *Id.* § 1.45Q-4(c)(2).

89 *Id.* § 1.45Q-4(c)(5).

90 *Id.* § 1.45Q-4(c)(6).

91 The "recapture period" begins on the date of first injection of QCO for disposal in secure geological storage or EOR use for which a 45Q Credit was claimed and ends on the earlier of (i) three years after the last taxable year in which the taxpayer claimed a 45Q Credit (or was eligible to claim a 45Q Credit that it elected to carry forward), or (ii) the date monitoring ends under the requirements of the standards described in Regulation Section 1.45Q-3(b)(1) or (2). Treas. Reg. § 1.45Q-5(f).

92 Treas. Reg. § 1.45Q-5(a)–(b). Upon the determination of a leak, the taxpayer or the party with whom the taxpayer contracted to ensure the secure geological storage of the QCO must quantify the metric tons of QCO that leaked to the atmosphere pursuant to the requirements of Subpart RR or the ISO Standards. *Id.* § 1.45Q-5(c).

amount of leaked QCO that exceeds the amount of securely stored carbon oxides in the taxable year. If the leaked amount does not exceed the amount that is securely stored in the taxable year, then the taxpayer is entitled to a credit equal to the amount of QCO securely stored in such taxable year less the leaked amount.[93] The recapture amount is equal to the product of the quantity of recaptured QCO (in metric tons) and the appropriate statutory credit rate.[94] Recapture amounts are calculated on a last-in-first-out basis, such that the leaked amount of QCO that exceeds the amount of QCO securely stored in the current taxable year will be deemed attributable first to the prior year, then to the taxable year before that, and then up to a maximum of the third preceding tax year.[95]

If a recapture event occurs with respect to QCO captured from more than one unit of CCE that was not under common ownership, the recapture amount must be allocated among the multiple units of CCE on a pro rata basis, and all taxpayers that claimed 45Q Credits with respect to one or more of such units are responsible for adding the recapture amount to their amount of tax due in the taxable year in which the recapture event occurs.[96] Similarly, in a recapture event in which the leaked amount of QCO is deemed attributable to QCO with respect to which multiple taxpayers claimed 45Q Credits, the recapture amount is allocated among such taxpayers on a pro rata basis.[97]

G. *Prevailing Wage and Apprenticeship Requirements*

The amount of the 45Q Credit attributable to any qualified facility or CCE, the construction of which began after January 29, 2023,[98] depends on whether certain prevailing wage requirements and apprenticeship requirements (collectively, the PWA Requirements) have been satisfied.[99]

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[93] *Id.* § 1.45Q-5(d).

[94] *Id.* § 1.45Q-5(e).

[95] *Id.* § 1.45Q-5(g)(2).

[96] *Id.* § 1.45Q-5(g)(3).

[97] *Id.* § 1.45Q-5(g)(4). If a partnership is one of the taxpayers that claimed 45Q Credits, the partnership will be the taxpayer to which the pro rata recapture amount must be allocated (and the partnership will allocate its pro rata recapture amount among its partners in accordance with Regulation Section 1.704-1(b)(4)(ii) (providing for the allocation among partners of tax credits and tax credit recapture). *Id.* § 1.45Q-5(g)(4)(ii)(A). To the extent the partnership is terminated, the partners of the terminated partnership at the time the applicable 45Q Credit was claimed will be the taxpayers to which the pro rata recapture amount must be allocated. *Id.* § 1.45Q-5(g)(4)(iii)(B).

[98] I.R.C. § 45Q(h)(2)(A)–(B); Treas. Reg. § 1.45Q-6(b)(1)–(2); *see also* T.D. 9998; Increased Amounts of Credit or Deduction for Satisfying Certain Prevailing Wage and Registered Apprenticeship Requirements, 89 Fed. Reg. 53184 (June 25, 2024).

[99] Most of the provisions applicable to the PWA Requirements are set forth in Section 45 and the Treasury Regulations under Section 45. *See* Treas. Reg. § 1.45Q-6.

If the PWA Requirements are not satisfied, only the base credit amount is available, but if the PWA Requirements are complied with, the base credit amount is multiplied by five.[100] Each of the prevailing wage requirements and apprenticeship requirements is discussed generally below.[101]

1. *Prevailing Wage Requirements*

To satisfy the prevailing wage requirements, taxpayers must ensure that any "laborers and mechanics"[102] they employ (or any of their contractors or subcontractors at any tier) who perform any "construction, alteration, or repair"[103] of the applicable qualified facility and any CCE placed in service at such facility are paid prevailing wage rates for such construction, alteration, or repair work.[104] Notably, the compliance requirement continues past completion of the facility to include any ongoing alteration and repair work. Generally, the amount of prevailing wages required to be paid are determined and published by the U.S. Department of Labor (the Labor Department), but procedures are available to request supplemental wage determinations.[105] In the event

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100 I.R.C. § 45Q(h)(1). As described above, for industrial facilities, the base credit amount for storage is $17 per metric ton of QCO (and $85 per metric ton of QCO if the PWA Requirements are satisfied) and the base credit amount for utilization or EOR use is $12 per metric ton of QCO (and $60 per metric ton of QCO if the PWA Requirements are satisfied). *Id.* § 45Q(a)(3)–(4), (b)(1)(A)(ii)(I)–(II). For DAC facilities, the base credit amount for storage is $36 per metric ton of QCO (and $180 per metric ton of QCO if the PWA Requirements are satisfied) and the base credit amount for utilization or EOR use is $26 per metric ton of QCO (and $130 per metric ton of QCO if the PWA Requirements are satisfied). *Id.* § 45Q(a)(3)–(4), (b)(1)(A)(ii)(I)–(II), (b)(1)(B)(i)–(ii).

101 The PWA Requirements were added to the Code via the IRA and also apply to the following energy-related tax credits: alternative fuel vehicle refueling property credit (Section 30C); renewable electricity production tax credit (Section 45); zero-emission nuclear power production credit (Section 45U); credit for production of clean hydrogen (Section 45V); credit for new energy-efficient homes (Section 45L); clean electricity production credit (Section 45Y); clean fuel production credit (Section 45Z); energy investment tax credit (Section 48); qualifying advanced energy project credit (Section 48C); and clean electricity investment credit (Section 48E).

102 For these purposes, "laborers and mechanics" mean those individuals (including apprentices and helpers) whose duties are manual or physical in nature (including those individuals who use tools or who are performing the work of a trade), but not individuals whose duties are primarily administrative, executive, or clerical. Treas. Reg. § 1.45-7(d)(8).

103 The definition of "construction, alteration or repair" uses the definition of "construction, prosecution, completion, or repair", which is defined in 29 C.F.R. § 5.2. Treas. Reg. § 1.45-7(d)(3).

104 I.R.C. § 45Q(h)(3); Treas. Reg. § 1.45Q-6(b)(1); *see also* I.R.C. § 45(b)(7); Treas. Reg. § 1.45–7.

105 Treas. Reg. § 1.45-7(b)(2)–(3). The specific procedure for requesting a supplemental wage determination, and the information required to be included with the

any laborer or mechanic is not paid prevailing wages, procedures are available to correct the failure.[106] Special recordkeeping and reporting requirements apply to the prevailing wage requirements.[107]

2. *Apprenticeship Requirements*

To satisfy the apprenticeship requirements, taxpayers must ensure that "qualified apprentices"[108] perform at least the "applicable percentage"[109] of the total "labor hours"[110] of the construction, alteration, or repair of the applicable qualified facility prior to the qualified facility

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request, is set forth in Regulation Section 1.45-7(b)(3)(ii). The timing for identifying the applicable prevailing wage rates is generally set forth in Regulation Section 1.45-7(b)(5).

[106] I.R.C. § 45Q(h)(3)(B) (providing that rules similar to the rules of Section 45(b)(7)(B) apply for purposes of the 45Q Credit). Generally, to correct the failure to pay prevailing wages, the taxpayer must (i) pay the applicable laborer or mechanic the difference between the amount such laborer or mechanic was paid and the amount such laborer or mechanic should have been paid, plus 3% interest on such amount, and (ii) pay the IRS a penalty of $5,000 for each laborer or mechanic who was not paid prevailing wages, on a year-by-year basis. *Id.* § 45(b)(7)(B)(i); Treas. Reg. § 1.45-7(c)(1). In the case of an intentional disregard of the prevailing wage requirements, the amount required to be paid to the applicable laborer or mechanic is three times the difference between the amount such laborer or mechanic was paid and the amount such laborer or mechanic should have been paid, plus 3% interest on such amount, and the penalty to the IRS is $10,000 (rather than $5,000). I.R.C. § 45(b)(7)(B)(iii); Treas. Reg. § 1.45-7(c)(1). Because the deficiency procedures set forth in subchapter B of chapter 63 of the Code do not apply to the penalty required to be paid to the IRS to cure a failure to comply with the prevailing wage requirements, the penalty must be paid within 180 days of the date the IRS sends the taxpayer a notice stating that the taxpayer failed to satisfy the prevailing wage requirements. I.R.C. § 45(b)(7)(B)(ii), (iv); Treas. Reg. § 1.45-7(c)(2), (4).

[107] *See* Treas. Reg. § 1.45-12(b), (c).

[108] A "qualified apprentice" is an individual who is employed by the taxpayer (or a contractor or subcontractor) and who is participating in a "registered apprenticeship program" (as defined in Section 3131(e)(3)(B)). I.R.C. § 45(b)(8)(E)(ii); *see also* Treas. Reg. § 1.45-8(g)(8) (defining "qualified apprentice"); *id.* § 1.45-8(g)(9) (defining "registered apprenticeship program"); *id.* § 1.45-8(g)(10) (defining "state apprenticeship agency").

[109] The "applicable percentage" is 15% for any qualified facility the construction of which began after December 31, 2023. I.R.C. § 45(b)(8)(A)(ii)(III); Treas. Reg. § 1.45-8(b)(2)(iii). Lower percentages apply for qualified facilities with a beginning of construction date prior to January 1, 2024 (i.e., 12.5%) or prior to January 1, 2023 (i.e., 10%). I.R.C. § 45(b)(8)(A)(ii)(I)–(II); Treas. Reg. § 1.45-8(b)(2)(i)–(ii).

[110] In this context, "labor hours" means the total number of hours devoted to the performance of construction, alteration, or repair work by any individual employed by the taxpayer (or by any contractor or subcontractor of any tier), other than any hours worked by foremen, superintendents, owners, or persons employed in a bona fide executive, administrative, or professional capacity. I.R.C. § 45(b)(8)(E); Treas. Reg. § 1.45-8(g)(7).

being placed in service.[111] The apprenticeship requirements include a participation requirement that mandates any entity (including the taxpayer and any contractor or subcontractor) employing four or more individuals to perform work in the construction, alteration, or repair of the qualified facility must engage at least one qualified apprentice to perform such work.[112] Additionally, any applicable requirements for apprentice-to-journeyworker ratios of the Labor Department or the applicable state apprenticeship agency apply to the apprenticeship requirements.[113] In the event that the taxpayer does not have a sufficient number of the total labor hours be performed by qualified apprentices to satisfy the applicable percentage, procedures are available to correct the failure.[114] A good faith effort exception applies in the event qualified apprentices are not available to satisfy the applicable percentage.[115] Special recordkeeping and reporting requirements apply to the apprenticeship requirements.[116]

Given the increased value of the 45Q Credits resulting from compliance with the PWA Requirements, most taxpayers are expected to attempt to comply with such requirements.

III. CLAIMING OR MONETIZING THE 45Q CREDIT

Generally, the 45Q Credit is available to the person (the Initial Credit Holder) who owns the CCE and either physically or contractually ensures

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111 I.R.C. § 45Q(h)(4) (providing that rules similar to the rules of Section 45(b)(8) apply for purposes of the 45Q Credit); Treas. Reg. § 1.45Q-6(b)(2); *see also* I.R.C. § 45(b)(8); Treas. Reg. § 1.45-8.

112 I.R.C. § 45(b)(8)(C); Treas. Reg. § 1.45-8(d).

113 I.R.C. § 45(b)(8)(B); Treas. Reg. § 1.45-8(c). For these purposes, "journeyworker" is defined as "an individual who has attained a level of skill, abilities, and competencies recognized within an industry as having mastered the skills and competencies required for the occupation." Treas. Reg. § 1.45-8(g)(6). Generally, these rules require that there are sufficient number of trainers (i.e., journeyworkers) on site so that the trainees (i.e., apprentices) are able to get appropriate training. In the event that on any day the ratio of journeyworker-to-apprentices is less than the required ratio, the labor hours performed by any qualified apprentices in excess of the ratio are not counted as hours performed by qualified apprentices for purposes of the applicable percentage calculations. *Id.* § 1.45-8(c)(3).

114 Generally, to correct the failure of qualified apprentices working fewer labor hours than the applicable percentage of total labor hours, the taxpayer must pay the IRS a penalty of $50 for each labor hour short of the applicable percentage. I.R.C. § 45(b)(8)(D)(i); Treas. Reg. § 1.45-8(f)(2)(i). In the case of an intentional disregard of the apprenticeship requirements, the amount required to be paid to the IRS is $500 (rather than $50). I.R.C. § 45(b)(8)(D)(iii); Treas. Reg. § 1.45-8(f)(2)(ii). Special rules apply for the failure to satisfy the participation requirements of Section 45(b)(8)(C). Treas. Reg. § 1.45-8(f)(2)(i)(B).

115 *See* I.R.C. § 45(b)(8)(D)(ii); Treas. Reg. § 1.45-8(f)(1).

116 *See* Treas. Reg. § 1.45-12(b), (d).

the QCO is captured and disposed, utilized, or used as a tertiary injectant and disposed.[117] In addition to claiming the 45Q Credit, the Initial Credit Holder can monetize the credit in certain ways, including electing to transfer the credit to the party that disposes or utilizes the QCO or by putting in place various "tax equity" structures that effectively provide the benefits of the credits to investors.[118] The IRA also introduced new ways to monetize the credit with the enactment of Section 6417 (regarding direct pay) and Section 6418 (regarding eligible credit transfers). The requirements for claiming the 45Q Credit by the Initial Credit Holder and the methods of monetizing the 45Q Credit are discussed in more detail below.

A. Claiming the Credit

As noted above, the Initial Credit Holder must (i) own the CCE and (ii) either physically or contractually ensure the QCO is captured and disposed, utilized, or used for EOR.[119] There is only one Initial Credit Holder for each single process train of CCE, but there can be multiple single process trains of CCE at a qualified facility.[120] To claim the 45Q Credit, the Initial Credit Holder must use IRS Form 8933 (Carbon Oxide Sequestration Credit) for each taxable year for which the Initial Credit Holder is eligible to claim the credit.[121]

In the event that the Initial Credit Holder does not capture, dispose, utilize, or use the QCO for EOR, the Initial Credit Holder must ensure in a "binding written contract" that the party (or parties)[122] that physically

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[117] I.R.C. § 45Q(f)(3)(A); Treas. Reg. § 1.45Q-1(h)(1).

[118] Prior to the enactment of the IRA, the 45Q Credit was not refundable and was not eligible for direct payment, and the right to claim the credit could only be transferred pursuant to Section 45Q(f)(3)(B). STAFF OF THE JOINT COMMITTEE ON TAXATION, JCX-5-23, DESCRIPTION OF ENERGY TAX CHANGES MADE BY PUB. L. NO. 117-169 91 (2023), https://www.jct.gov/getattachment/78d3be25-92c5-4004-b2a3-09c389af5c1c/x-5-23.pdf [https://perma.cc/7Q3R-PH68].

[119] I.R.C. § 45Q(f)(3)(A)(ii); Treas. Reg. § 1.45Q-1(h)(1)(ii). For any CCE placed in service prior to February 9, 2018, the Initial Credit Holder is the person that captures and physically or contractually ensures sequestration (without the requirement that the Initial Credit Holder own the applicable CCE). I.R.C. § 45Q(f)(3)(A)(i); Treas. Reg. § 1.45Q-1(h)(1)(i). The addition of the requirement that the Initial Credit Holder own the CCE was added to Section 45Q to facilitate tax-equity investment in CCE. JONES & MARPLES, *supra* note 6, at 1.

[120] Treas. Reg. § 1.45Q-1(h)(1)(ii); T.D. 9944, 2021-16 I.R.B. 1062, III.B.4. To the extent various owners own components of a single process train, the Initial Credit Holder will be the taxpayer who either physically or contractually ensures the capture and disposal, injection, or utilization of the QCO. Treas. Reg. § 1.45Q-1(h)(1)(ii).

[121] Treas. Reg. § 1.45Q-1(h)(1)(iii).

[122] The Initial Credit Holder is permitted to engage multiple Contractors for purposes of capturing, disposing, utilizing or using the QCO, and a Contractor is

carries out the capture, disposal, utilization, or EOR use (the Contractor) completes the work in the manner required by Section 45Q and the applicable Treasury Regulations.[123] To be a binding written contract, the agreement between the Initial Credit Holder and the Contractor must include commercially reasonable terms, be enforceable under State law against both parties, and cannot limit damages to an amount less than five percent of the total contract price.[124] Additionally, such agreements may, but are not required to, include (i) long-term liability provisions, indemnity provisions, penalties for breach of contract, or liquidated damages provisions, and (ii) information about how many metrics tons, or the minimum quantities, of QCO the parties agree to dispose of, inject, or utilize.[125]

If the Contractor will use the QCO for EOR, the agreement must obligate the Contractor to comply with Regulation Sections 1.45Q-3(b)(2) and 1.45Q-3(c) (regarding requirements for EOR and IRS reporting), and, in the case of a recapture event, promptly inform the Initial Credit Holder of all information that is pertinent to the recapture as listed in Regulation Sections 1.45Q-5.[126] To the extent the Contractor will dispose of the QCO in secured geological storage, the agreement must obligate the Contractor to comply with Regulation Sections 1.45Q-3(b)(1) and 1.45Q-3(c) (regarding requirements for secure geological storage and IRS reporting), and, in the case of a recapture event, promptly inform the Initial Credit Holder of all information that is pertinent to the recapture.[127] Finally, if the Contractor will utilize the

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permitted to enter into contracts with multiple Initial Credit Holders for the same purpose. *Id.* § 1.45Q-1(h)(2)(ii). As long as all the requirements of Regulation Section § 1.45Q-1(h)(2) are met, the parties to these contracts may be related. T.D. 9944, 2021-16 I.R.B. 1062, II.B.3.

[123] Treas. Reg. § 1.45Q-1(h)(2). A Contractor is permitted to engage one or more subcontractors to capture, dispose, utilize or use the QCO as long as the contract binds the subcontractors to the requirements of Regulation Section 1.45Q-1(h)(2). Because of this requirement, Initial Credit Holders would likely want their contracts with Contractors to provide for review and consent rights of any contract between the Contractors and their subcontractors.

[124] *Id.* § 1.45Q-1(h)(2)(i). Additional guidance regarding the definition of a binding written contract is set forth in Regulation Section 1.168(k)-1(b)(4)(ii)(A)–(D). The 5% limit is intended to align the requirement in the Treasury Regulations with the requirement applicable to binding written contracts for "start of construction" purposes in Section 8.02 of IRS Notice 2020-12, 2020-11 I.R.B. 495. T.D. 9944, 2021-16 I.R.B. 1062, II.B.1.

[125] Treas. Reg. § 1.45Q-1(h)(2)(iii)(B)–(D).

[126] *Id.* § 1.45Q-1(h)(2)(iii)(F).

[127] *Id.* § 1.45Q-1(h)(2)(iii)(E). The pertinent information with respect to the recapture includes location of leak, leaked amount of QCO, and dollar value of 45Q Credit attributable to leaked QCO. It is not clear why Regulation Section 1.45Q-1(h)(2)(iii)(F) describes the information as "information that is pertinent to recapture of

QCO, the agreement must obligate the utilizing party to comply with Regulation Section 1.45Q-4 (regarding the utilization of QCO).[128]

Contracts with respect to the capture, disposal, utilization, or EOR use of QCO must be reported to the IRS annually using IRS Form 8933 by each party to the contract.[129] Further, each of the Contractors must provide the Initial Credit Holder with a copy of its IRS Form 8933 so that the Initial Credit Holder can attach and file all of the Contractors' IRS Forms 8933 with its IRS Form 8933.[130] The enforcement mechanism for this requirement is that an Initial Credit Holder will not be permitted to claim a 45Q Credit with respect to a taxable year and a particular contract in the event that these requirements are not satisfied in such year.[131] The Treasury Regulations and instructions to IRS Form 8933 include various additional requirements with respect to information to be reported to the IRS and shared with the contract counterparties (including model certificates).[132]

B. *Monetizing the Credit*

To the extent an Initial Credit Holder does not have sufficient income tax liability to fully claim the 45Q Credit or wants to use the 45Q Credit to generate positive cash flow, the Initial Credit Holder may have other options for monetizing the credit.[133] Such options include

the [45Q Credit] as listed in [Regulation Section] 1.45Q-5" and Regulation Section 1.45Q-1(h)(2)(iii)(E) describes the information as "information that is pertinent to the recapture (e.g., location of leak, leaked amount of qualified carbon oxide, dollar value of [45Q Credit] attributable to leaked qualified carbon oxide)," but presumably the pertinent information is substantially the same.

[128] *Id.* § 1.45Q-1(h)(2)(iii)(G). If an Initial Credit Holder and a Contractor entered into an agreement with respect to the capture, disposal, utilization or EOR use prior to January 13, 2021, and such agreement did not satisfy all of the requirements in Regulation Section 1.45Q-1(h)(2), the parties were required to amend the contract or enter into a new contract that satisfies such requirements by July 12, 2021. *Id.* § 1.45Q-1(h)(2)(iv); T.D. 9944, 2021-16 I.R.B. 1062, II.B.4.

[129] Treas. Reg. § 1.45Q-1(h)(2)(v).

[130] *Id.*

[131] *Id.* The preamble to the Treasury Regulations clarifies that the failure of a Contractor to file its IRS Form 8933 with the IRS will not impact the ability of the Initial Credit Holder to claim the 45Q Credit. Given the significant economic impact of the failure to receive all applicable IRS Forms 8933, taxpayers intending to claim the 45Q Credit would be expected to include stringent provisions, and potential indemnity obligations, with respect to the reporting requirements in their agreements with Contractors.

[132] *See id.* § 1.45Q-1(h)(2)(v)(A)–(E); U.S. DEP'T OF THE TREASURY, INTERNAL REVENUE SERV., INSTRUCTIONS FOR FORM 8933 (2022), https://www.irs.gov/pub/irs-prior/i8933--2022.pdf [https://perma.cc/KA6R-ZTJ2].

[133] Transfers of the 45Q Credit are particularly useful to Initial Credit Holders because CCE projects typically do not generate much, if any, positive cash flow. *See*

arrangements with relatively low transaction costs (such as the elections under Section 45Q(f)(3)(B) and Section 6417) to arrangements with higher transaction costs that frequently require the guidance of experienced counsel (such as transferring the credits under Section 6418 or putting in place various tax-equity structures). Initial Credit Holders considering how to monetize 45Q Credits should keep in mind that most of the monetization options below are mutually exclusive.[134]

1. *Section 45Q(f)(3)(B) Election*

For CCE placed in service on or after February 9, 2018, the Initial Credit Holder is permitted to make an annual election (the 45Q(f)(3)(B) Election) to allow one or more Contractors to claim all or a portion of the 45Q Credit arising during the taxable year (Contractor Claimants).[135] The election is made on a year-by-year and qualifying-facility-by-

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Rev. Proc. 2020-12, 2020-11 I.R.B. 511 § 4.09 ("If the Project Company does not receive payments for its activities relating to carbon oxide sequestration, an allocation of the Section 45Q Credit in the same proportion as the partners' respective distributive shares of the loss or deduction (or other downward capital account adjustments) associated with the cost of the capture and disposal, use as a tertiary injectant, or utilization of the qualified carbon oxide will be treated as in accordance with the partners' interests in the partnership for this purpose."); Letter from Allyson Anderson Book, Vice President, Energy Transition, Baker Hughes, to Internal Revenue Serv. (Aug. 3, 2020) (available at https://www.taxnotes.com/research/federal/other-documents/public-comments-on-regulations/company-comments-on-carbon-capture-credit-regs/2cvbl [https://perma.cc/8JC7-79WY]) ("[T]he high upfront capital cost in addition to ongoing operating costs of CCUS projects combined with the annual payment schedule of [45Q Credit] means that projects can experience long periods of negative cash flow."); CONG. BUDGET OFF., *supra* note 4, at 3 ("One likely reason the technology [for capturing carbon dioxide emissions and storing them underground] has been so little used is that the cost to install and operate it generally exceeds any financial incentive that companies have to do so.").

[134] For example, 45Q Credits transferred via the election under Section 45Q(f)(3)(B) are not eligible for the election under Section 6417 or Section 6418. Treas. Reg. §§ 1.6417-2(c)(4), 1.6418-2(a)(4)(iii). Further, if a Section 6417 election is made for a 45Q Credit, a Section 6418 election may not be subsequently made with respect to the same credit. Treas. Reg. § 1.6418-2(d)(1). Likewise, if an election under Section 6418 is made for a 45Q Credit, an election under Section 6417 may not also be made for the same credit. Treas. Reg. § 1.6417-2(c)(4).

[135] I.R.C. § 45Q(f)(3)(B). For these purposes, the Contractor must be the person that (i) obtains the permit to dispose and so disposes of the QCO, (ii) utilizes the QCO, or (iii) obtains the permit to use and so uses the QCO for EOR. Treas. Reg. § 1.45Q-1(h)(3). A Contractor that only physically captures QCO on behalf of the Initial Credit Holder does not qualify. *Id.* Further, a subcontractor of a Contractor Claimant that performs the disposal, utilization, or EOR use for the Contractor Claimant is not allowed to claim the credit based on the fact that the Contractor Claimant is the party with contractual privity with the Initial Credit Holder (rather than the subcontractor). *Id.*; T.D. 9944, 2021-16 I.R.B. 1062, II.C.1. Given that most captured carbon in the United States is used for EOR, the Contractor Claimant will typically be an oil extractor.

qualifying-facility basis.[136] To the extent the Initial Credit Holder elects to allow multiple Contractor Claimants to claim portions of the 45Q Credit, each Contractor Claimant is limited to the proportional amount of QCO disposed of, utilized, or used for EOR by such Contractor Claimant.[137]

To make the 45Q(f)(3)(B) Election, the Initial Credit Holder must file IRS Form 8933 with the Initial Credit Holder's federal income tax return for each taxable year in which the 45Q Credit is claimed, which must occur by such federal income tax return's due date (including extensions).[138] Further, the Initial Credit Holder must provide each Contractor Claimant with a copy of its IRS Form 8933 and the information set forth in Regulation Section 1.45Q-1(h)(3)(iv). To claim the 45Q Credit following a 45Q(f)(3)(B) Election, a Contractor Claimant must include IRS Form 8933 with its timely filed federal income tax return and include the information set forth in Regulation Section 1.45Q-1(h)(3)(v). If the Initial Credit Holder or the Contractor Claimant fails to satisfy these requirements with respect to a taxable year, neither party can claim the 45Q Credit for that year pursuant to the particular 45Q(f)(3)(B) Election associated with the failure.[139] In the event of a recapture event involving a leaked amount of QCO, as described in more detail above, if a 45Q(f)(3)(B) Election has been made with respect to the applicable 45Q Credits, the recapture amount must be allocated on a pro rata basis among the taxpayers that claimed such 45Q Credits.[140]

2. Section 6417 (Direct Pay)

The IRA added Section 6417 to the Code to allow the value of various tax credits to be realized by entities that generally do not benefit from income tax credits because they are not subject to federal income tax. Section 6417 operates by treating the amount of the credit as a payment of tax, such that any overpayment results in a refund.[141] Section

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136 Treas. Reg. § 1.45Q-1(h)(3). Pursuant to Regulation Section 1.45Q-1(h)(3)(iii), a new 45Q(f)(3)(B) Election must be made for each taxable year for which an Initial Credit Holder wishes to allow 45Q Credits to a Contractor Claimant.

137 *Id.* § 1.45Q-1(h)(3). For clarity, a Contractor Claimant may receive allowances of the 45Q Credit from multiple Initial Credit Holders in the same taxable year. *Id.*

138 Despite significant pushback from commentators to the proposed Treasury Regulations, the Treasury Department retained a requirement in the final Treasury Regulations that the 45Q(f)(3)(B) Election generally may not be filed with an amended federal income tax return. *Id.* § 1.45Q-1(h)(3)(iii).

139 *Id.* § 1.45Q-1(h)(3)(vi).

140 *Id.* § 1.45Q-5(g)(4).

141 *See* WHITE HOUSE, BUILDING A CLEAN ENERGY ECONOMY (2023), https://www.whitehouse.gov/wp-content/uploads/2022/12/Inflation-Reduction-Act-Guidebook.pdf [https://perma.cc/W7PF-BCNK]; I.R.S. PUBLICATION 5817:

6417 generally permits "applicable entities," or in some cases "electing entities" (collectively, Direct Pay Entities), to make an election (the Direct Pay Election) with respect to any "applicable credit." The effect of the Direct Pay Election is that the Direct Pay Entity is treated as making an income tax payment equal to the amount of the credit for the taxable year in which the credit was generated.[142] The Treasury Department and IRS have released a notice of proposed rulemaking applicable to Section 6417 (the 6417 NPRM)[143] and Treasury Decision 9988, which promulgated final Treasury Regulations and removed temporary Treasury Regulations.[144] Additionally, frequently asked questions regarding elective pay are available on the IRS's website (the 6417 FAQs).[145] Direct Pay Entities may rely on the proposed Treasury Regulations in taxable years beginning after December 31, 2022, and ending before March 11, 2024, to the extent they follow the proposed Treasury Regulations in their entirety and in a consistent manner. The final Treasury Regulations are effective May 10, 2024.

The 45Q Credit is an "applicable credit" under Section 6417, and thus is eligible for the Direct Pay Election, to the extent the CCE to which the 45Q Credit is attributable is placed in service after December 31, 2022.[146] Generally, "applicable entities" are tax-exempt entities.[147]

ELECTIVE PAY OVERVIEW (4-2024), https://www.irs.gov/pub/irs-pdf/p5817.pdf [https://perma.cc/9SR8-H6BB].

142 I.R.C. § 6417(a).

143 Section 6417 Elective Payment of Applicable Credits, Proposed Rule, 88 Fed. Reg. 39995, 40528 (June 21, 2023).

144 T.D. 9988; Elective Payment of Applicable Credits; Elective Payment of Advanced Manufacturing Investment Credit; Final Rules; Election to Exclude Certain Unincorporated Organizations Owned by Applicable Entities from Application of the Rules on Partners and Partnerships, 89 Fed. Reg. 17546, 17546 (Mar. 11, 2024).

145 *Elective Pay and Transferability Frequently Asked Questions: Elective Pay*, INTERNAL REVENUE SERV. [hereinafter *6417 FAQs*], https://www.irs.gov/credits-deductions/elective-pay-and-transferability-frequently-asked-questions-elective-pay [https://perma.cc/YW68-PCML] (last visited May 5, 2024).

146 I.R.C. § 6417(b)(3); Treas. Reg. § 1.6417-1(d)(3). The other applicable credits for which a Direct Pay Election may be available include the: alternative fuel vehicle refueling property credit (Section 30C); renewable electricity production tax credit (Section 45); zero-emission nuclear power production credit (Section 45U); credit for production of clean hydrogen (Section 45V); credit for qualified commercial vehicles (Section 45W); advanced manufacturing production credit (Section 45X); clean electricity production credit (Section 45Y); clean fuel production credit (Section 45Z); energy investment tax credit (Section 48); qualifying advanced energy project credit (Section 48C); and clean electricity investment credit (Section 48E). *See also* Treas. Reg. § 1.6417-1(d).

147 I.R.C. § 6417(d)(1); Treas. Reg. § 1.6417-1(c). Specifically, "applicable entities" include: tax-exempt organizations; states and political subdivisions such as local governments; Indian tribal governments; Alaska Native Corporations; the Tennessee Valley Authority; rural electric cooperatives; U.S. territories and their political

Unlike many of the other applicable credits, the Direct Pay Election for the 45Q Credit may be made by "electing entities," which include for-profit entities, partnerships, and S corporations.[148] The Direct Pay Election is made for each "applicable credit property," which in the case of the 45Q Credit, is defined as "a component of carbon capture equipment within a single process train described in [Regulation Section] 1.45Q-2(c)(3)."[149]

For applicable entities (i.e., tax-exempt entities), the Direct Pay Election for the 45Q Credit applies for the taxable year that the CCE owned by the applicable entity is placed in service and for the remaining taxable years for which the 45Q Credit is available with respect to such CCE.[150] For electing entities (i.e., for-profit entities, partnerships, and S corporations), the Direct Pay Election for the 45Q Credit applies for the taxable year that the CCE owned by the electing entity is placed in service and the lesser of the subsequent four years or the number of subsequent taxable years that end prior to January 1, 2033.[151] While an applicable entity may not revoke a Direct Pay Election with respect to a single process train of CCE,[152] an electing entity may revoke its Direct Pay Election (but thereafter may not remake the Direct Pay Election with respect to the same single process train).[153]

The Direct Pay Election can only be made on a timely filed (including extensions) original income tax return with respect to the taxable year in which the CCE was placed in service, and not on an amended return.[154] Further, Regulation Sections 301.9100–1 through 301.9100–3 provide only limited relief for the failure to make a timely Direct Pay Election.[155]

subdivisions; and agencies and instrumentalities of state, local, tribal and U.S. territorial governments. ELECTIVE PAY OVERVIEW, *supra* note 141.

148 I.R.C. § 6417(d)(1)(C); Treas. Reg. § 1.6417-1(g).

149 Treas. Reg. § 1.6417-1(e)(3); *see* I.R.C. § 6417(d)(3)(C)(i)(I); Treas. Reg. § 1.6417-3(c). Accordingly, an applicable entity or an electing entity that owns multiple applicable credit properties can make the Direct Pay Election on a property-by-property basis.

150 I.R.C. § 6417(d)(3)(C)(i)(II)(bb); Treas. Reg. § 1.6417-2(a)(3)(ii)(C).

151 I.R.C. § 6417(d)(3)(C)(i)(II)(aa); Treas. Reg. § 1.6417-3(e)(3)(i).

152 I.R.C. § 6417(d)(3)(A)(ii).

153 *Id.* § 6417(d)(3)(C)(iii).

154 *Id.* § 6417(d)(3)(A)(i); Treas. Reg. § 1.6417-2(a)(3)(ii)(B), (b)(1)(ii). However, for these purposes, a Direct Pay Election can be made on superseding original income tax return. Superseding returns are generally returns that are filed after a first return is filed, but before the due date (including extensions) of the first return. *See* Haggar Co. v. Helvering, 308 U.S. 389 (1940); I.R.S. Chief Couns. Adv. Mem. 202026002 (June 26, 2020), https://www.irs.gov/pub/irs-wd/202026002.pdf [https://perma.cc/DX33-4763].

155 Treas. Reg. § 1.6417-2(b)(1)(ii). Specifically, relief under Regulation Section 301.9100-2(b) may apply if the applicable entity or electing taxpayer has not received an

Because of the requirement with respect to the 45Q Credit that the Direct Pay Election be made for the year that the CCE is placed in service,[156] the failure by a Direct Pay Entity to timely make the Direct Pay Election for any CCE will result in no Direct Pay Election being available for such CCE.

Prior to filing any income tax return on which a Direct Pay Election is made or in effect, the entity making the election will be required to register with the IRS via the IRS's IRA/CHIPS Pre-filing Registration Tool (the Registration Portal).[157] The registration process is intended to expedite the processing of returns and prevent improper payments.[158] The Registration Portal will provide a registration number for the entity, as well as for each applicable credit property (i.e., each single process train of CCE) of the entity, which must be included on the entity's income tax return and Form 3800 (General Business Credit).[159] Applicable entities and electing entities will be required to register each year with respect to all applicable credit property, even though a Direct Pay Election has previously been made by such entity with respect to such property.[160] In light of the timing requirements for making a Direct Pay Election described above, and the current uncertainty regarding the registration process, Direct Pay Entities would be advised to submit their registration materials on the Registration Portal as soon as the

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extension of time to file a return after the original due date, has timely filed a return, takes corrective action under Regulation Section 301.9100-2(c) within the six-month extension period, and meets the procedural requirements outlined in Regulation Section 301.9100-2(d).

[156] I.R.C. § 6417(d)(3)(C)(i)(II)(aa)–(bb).

[157] Treas. Reg. § 1.6417-5(b). The Registration Portal is accessible at Register for Elective Payment or Transfer of Credits, INTERNAL REVENUE SERV., https://www.irs.gov/credits-deductions/register-for-elective-payment-or-transfer-of-credits [https://perma.cc/7H5N-GA72] (last visited May 5, 2024).

[158] *See 6417 FAQs*, *supra* note 145 (Question 32). Specifically, the registration process "collects critical information to minimize fraudulent elections and prevent duplication and improper or excessive payments by ensuring basic eligibility requirements for eligible credits before the election is made. Validating certain information before the annual tax return process will result in more accurate review of the veracity of the information and fewer duplicate, fraudulent, improper, or excessive transfers or payments." T.D. 9975, 2023-27 I.R.B. 1113.

[159] Treas. Reg. §§ 1.6417-5(a), (b)(4), 1.6417-2(b)(2). The Registration Portal will require Direct Pay Entities to provide the information described in Regulation Section 1.6417-5(b)(5), including information about the entity and the applicable credit property.

[160] *Id.* § 1.6417-5(c)(2)–(3). Question 37 of the 6417 FAQs confirms, for example, that if a Direct Pay Election is made with respect to property eligible for the production tax credit, a new registration number must be obtained in each of the ten years the production tax credit is claimed.

information required to be submitted for the taxable year in which the 45Q Credit is attributable is available to them.[161]

Upon making the Direct Pay Election, most Direct Pay Entities will be treated as making the payment against income taxes on the later of the due date (determined without regard to extensions) of its income tax return or the date on which such income tax return is filed.[162] Rules intended to deny double benefits with respect to the credits subject to a Direct Pay Election apply for purposes of determining the amount of the credit.[163] To the extent that the Direct Pay Election results in a refund, Direct Pay Entities have been eager to get a better understanding of when payment for the refund would be received to manage cash flows with respect to credit eligible projects.[164] Although it is clear that payment for a refund would not be made until at least the due date of the income tax return, the IRS has otherwise not provided specific guidance on the anticipated timing for the refund.[165] Accordingly, Direct Pay Entities

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[161] As of the end of 2023, the IRS recommended that a Direct Pay Entity submit its registration materials at least 120 days prior to the date the entity plans to file its income tax return. INTERNAL REVENUE SERV., I.R.S. PUBLICATION 5884: INFLATION REDUCTION ACT (IRA) AND CHIPS ACT OF 2022 (CHIPS) PRE-FILING REGISTRATION TOOL USER GUIDE 5 (2023), https://www.irs.gov/pub/irs-pdf/p5884.pdf [https://perma.cc/2TZE-5UFT]. The IRS has confirmed in Question 39 of the 6417 FAQs that receipt of a registration number through the Registration Portal does not require that a Direct Pay Election be made, such that entities contemplating a Direct Pay Election do not have to finally determine that they will make the Direct Pay Election prior to submitting registration materials.

[162] I.R.C. § 6417(d)(4)(B); Treas. Reg. § 1.6417-2(d)(2). Direct Pay Entities should be aware that while applicable credits are treated as a payment against taxes, they are not treated as quarterly estimated payments, such that penalties under Section 6651, 6654, or 6655 may apply even if a Direct Pay Entity does not have any income tax liability after application of the applicable credit at the end of the year. *See* Treas. Reg. § 1.6417-2(e)(3), (4)(v).

[163] Treas. Reg. § 1.6417–2(e).

[164] Refunds pursuant to a Direct Pay Election are subject to the federal budget sequestration requirements of the Balanced Budget and Emergency Deficit Control Act of 1985, as amended, such that the amount of the refund processed between October 1, 2023 and September 30, 2031 is initially reduced by the sequestration reduction rate of 5.7%. *See* I.R.S., *FY 2024 Effect of Sequestration on Inflation Reduction Act of 2022 (IRA) Elective Payment Elections (EPE)* (Dec. 1, 2023), https://www.irs.gov/newsroom/fy-2024-effect-of-sequestration-on-inflation-reduction-act-of-2022-ira-elective-payment-elections-epe [https://perma.cc/6S86-HGUH]. However, Section 13801(f) of the IRA included a gross-up of 6.0445% for any such payment, which is intended to offset any reduction due to the sequestration. STAFF OF THE JOINT COMMITTEE ON TAXATION, *supra* note 118, at 96. For more information about sequestration, see MEGAN S. LYNCH, CONG. RESEARCH. SERV., R42972, SEQUESTRATION AS A BUDGET ENFORCEMENT PROCESS: FREQUENTLY ASKED QUESTIONS (2023), https://crsreports.congress.gov/product/pdf/R/R42972.

[165] I.R.C. § 6417(d)(4). Question 25 of the 6417 FAQs provides in terms of timing that "[i]n general, payments occur after the tax return is processed (assuming

should be aware that a refund with respect to a 45Q Credit attributable to a tax year may not be paid until late the following year, particularly if the tax return including the Direct Pay Election for the 45Q Credit is filed on its extended due date.

A number of special rules apply to applicable entities based on their tax-exempt status, including that the 45Q Credit is determined (i) without regard to the rules applicable to property used by tax-exempt or governmental entities,[166] and (ii) by treating any CCE as used in a trade or business of the applicable entity.[167] Additionally, special rules apply to electing entities that are partnerships and S corporations based on the fact that they are flow-through entities and generally cannot claim the 45Q Credit at the entity level. If a partnership or an S corporation makes the Direct Pay Election,[168] the payment received by the electing entity is treated as tax-exempt income to the entity and is allocated among (i) the partners based on their distributable share of the 45Q Credit and (ii) the shareholders based on their pro rata share of such tax-exempt income.[169] The tax-exempt income deemed received by the partnership or S corporation is treated as arising in connection with investment activity, rather than in a trade or business, such that the income is not treated as passive income to any partner or shareholder who does not materially participate.[170] The 6417 NPRM makes clear that there are no restrictions

requirements are met)" and that generally "entities that file by the due date of their return and appropriately elect elective pay can anticipate payment issuance within 45 days of the due date of their annual return. In some cases, this may take less or more time."

166 *Id.* § 6417(d)(2)(A); Treas. Reg. § 1.6417-2(c)(1)(i). Specifically, Section 6417(d)(2)(A) provides that the applicable credit will be determined without regard to Sections 50(b)(3) and 50(b)(4)(A)(i).

167 I.R.C. § 6417(d)(2)(B); Treas. Reg. § 1.6417-2(c)(1)(ii). The treatment of any CCE as being used in an applicable entity's trade or business is important because it allows tax-exempt and governmental entities to apply the capitalization/depreciation rules for property used in a trade or business to the CCE and be able to use the 45Q Credits notwithstanding the fact that the entities do not have any unrelated business taxable income. Treas. Reg. § 1.6417-2(c)(2); *6417 FAQs*, *supra* note 145 (Question 44).

168 A Direct Pay Election made for CCE held by a partnership or an S corporation must be made by the partnership or S corporation, rather than by any partner or shareholder. I.R.C. § 6417(c)(2); Treas. Reg. § 1.6417-2(a)(2)(iii).

169 I.R.C. § 6417(c)(1); Treas. Reg. § 1.6417-4(c)(1); *6417 FAQs*, *supra* note 145 (Question 45). The determination of a partner's distributive share is made under Regulation Section 1.704-1(b)(4)(ii) and a shareholder's pro rata distributive share is made under Section 1377(a). Treas. Reg. § 1.6417-4(c)(1)(iv)–(v).

170 Treas. Reg. § 1.6417-4(c)(3). The passive activity loss rules set forth in Section 469 should generally not apply to partnerships or S corporations as a result of Section 469(a)(2). Further, because the 45Q Credit is not an investment tax credit, the at-risk rules under Section 49 and the recapture rules under Section 50 should not apply to a partnership or S corporation that makes a Direct Pay Election.

on how a partnership or S corporation may use the cash payment received as a result of a Direct Pay Election.

Finally, Direct Pay Entities that make a Direct Pay Election are subject to rules regarding "excessive payments," which are generally the excess of the amount of the 45Q Credit claimed less the amount of the 45Q Credit that a Direct Pay Entity was entitled to.[171] While an excessive payment can arise in a variety of situations,[172] to the extent the IRS determines that an excessive payment was made, the Direct Pay Entity is liable for the amount of the excessive payment, plus 20% of the excessive payment (even if a Direct Pay Entity is otherwise not subject to income tax).[173] If a Direct Pay Entity is able to establish that an excessive payment resulted from reasonable cause, the Direct Pay Entity will still be liable for the amount of the excessive payment but will not be liable for the additional 20% of the excessive payment.[174] No guidance has been released regarding factors establishing reasonable cause for this purpose, but the Treasury Department and the IRS anticipate that existing standards of reasonable cause will apply.[175] Interestingly, any amounts owed with respect to an excessive payment determination are imposed on the Direct Pay Entity in the year of the determination (rather than the year that the 45Q Credit was claimed).[176] The 6417 NPRM helpfully clarifies that the excessive payment rules operate separately from the recapture rules, such that any recapture of the 45Q Credit under

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171 I.R.C. § 6417(d)(6). See I.R.C. § 6417(d)(6)(C) and Treas. Reg. § 1.6417-6(a)(3) for the definitions of "excessive payment."

172 In the 6417 NPRM, the Treasury Department and the IRS stated that "excessive payments may arise in a variety of situations, such as an improperly claimed bonus credit amount, an error in calculating a credit, inflated basis, failure to apply the [S]ection 38(d) ordering rules, or a misapplication of the credit utilization rules, among other things." *See also* T.D. 9975, 2023-27 I.R.B. 1113.

173 I.R.C. § 6417(d)(6)(A); Treas. Reg. § 1.6417-6(a)(1). For example, if a Direct Pay Entity makes a Direct Pay Election for a 45Q Credit in the amount of $100, but the IRS determines that the Direct Pay Entity was only entitled to a 45Q Credit in the amount of $60, then the Direct Pay Entity will owe the IRS $48 (i.e., $40 + (20% of $40)) assuming that the Direct Pay Entity is unable to establish that the excessive payment resulted from reasonable cause. *See* Treas. Reg. § 1.6417-6(a)(4).

174 I.R.C. § 6417(d)(6)(B); Treas. Reg. § 1.6417-6(a)(2). The 6417 NPRM is clear that, if the additional 20% of the excessive payment applies, "it would apply in addition to any penalties, additions to tax, or other amounts applicable under the Code." Section 6417 Elective Payment of Applicable Credits, 88 Fed. Reg. 40528 (June 21, 2023) [hereinafter 6417 NPRM]; *see also* T.D. 9975, 2023-27 I.R.B. 1113.

175 *See* 6417 NPRM, *supra* note 174. As described below, the Treasury Department released several non-exhaustive factors applicable to establishing reasonable cause in context of Section 6418, which include due diligence and reasonable reliance on third party expert reports. *See* Treas. Reg. § 1.6418-5(a)(4). While not directly applicable to Section 6417, the factors used for purposes of Section 6418 may inform the factors helpful to establish in context of Section 6417.

176 I.R.C. § 6417(d)(6)(A); Treas. Reg. § 1.6417-6(a)(1).

Section 45Q(f)(4) as a result of leakage do not trigger an excessive payment.[177]

3. *Section 6418 (Transferability)*

The IRA added Section 6418 to the Code as another method of monetizing tax credits. The transferability provisions of Section 6418 should reduce the barriers to entry for investors looking to acquire certain tax credits and make it easier for developers to monetize their credits. To date, the Treasury Department and IRS have released a notice of proposed rulemaking containing proposed Treasury Regulations applicable to Section 6418 (the 6418 NPRM)[178] and Treasury Decision 9993, which promulgated final Treasury Regulations and removed temporary Treasury Regulations.[179] Additionally, frequently asked questions regarding transferability on the IRS's website (the 6418 FAQs).[180] Taxpayers may rely on the proposed Treasury Regulations in taxable years beginning after December 31, 2022, and ending before April 30, 2024, to the extent they follow the proposed Treasury Regulations in their entirety and in a consistent manner. The final Treasury Regulations are effective July 1, 2024.

Under Section 6418, an "eligible taxpayer" (a Transferor) can make an election (a Transfer Election) to transfer all or a portion of an "eligible credit" to an unrelated taxpayer (a Transferee) in exchange for a cash payment.[181] A Transferor under Section 6418 is any taxpayer other than an applicable entity under Section 6417,[182] and the 45Q Credit is an

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177 The 6417 NPRM further provides: "The excessive payment rules apply where the credit amount reported on the original credit source form by the applicable entity or electing taxpayer was excessive. Recapture of a tax credit occurs when the original tax credit reported would have been correct without the occurrence of a subsequent recapture event." For clarity, in the event that a 45Q Credit for which a Direct Pay Election is in effect is subject to recapture, the Direct Pay Entity will presumably be liable for any amounts owed as a result of such recapture event (as described above).

178 Section 6418 Transfer of Certain Credits, Proposed Rule, 88 Fed. Reg. 39995, 40496 (June 21, 2023).

179 T.D. 9993; Section 6418 Transfer of Certain Credits, 89 Fed. Reg. at 34770 (Apr. 30, 2024).

180 *Elective Pay and Transferability Frequently Asked Questions: Transferability*, INTERNAL REVENUE SERV. [hereinafter *6418 FAQs*], https://www.irs.gov/credits-deductions/elective-pay-and-transferability-frequently-asked-questions-transferability [https://perma.cc/Z57Q-G6XU].

181 I.R.C. § 6418(a); Treas. Reg. § 1.6418-1(a). The Transferee cannot be "related" to the Transferor within the meaning of Section 267(b) or Section 707(b)(1). Treas. Reg. § 1.6418-1(m).

182 I.R.C. § 6418(f)(2); Treas. Reg. § 1.6418-1(b). For these purposes, "taxpayer" means any person subject to any internal revenue tax pursuant to Section 7701(a)(14). As described above, "applicable entities" (as defined in Section 6417(d)(1)(A)) include:

eligible credit.[183] Transferees of an eligible credit are not permitted to resell the credit via a subsequent Transfer Election, and because eligible credits must be "determined with respect to [the Transferor,]"[184] the Treasury Regulations provide that a Contractor Claimant is not eligible to make a Transfer Election with respect to the 45Q Credit received pursuant to a 45Q(f)(3)(B) Election.[185]

While Transferors generally have some flexibility in terms of making a Transfer Election for an eligible credit, they are not permitted to transfer 45Q Credits that are carried back or carried forward and must include a proportionate share of each bonus credit (including the additional amounts available for any 45Q Credits to the extent the PWA Requirements are satisfied) applicable to the eligible credit.[186] There are no limits on the number of Transferees with respect to each eligible credit transferred by a Transferor or the maximum/minimum amounts of such credit that can be transferred.[187] Further, as mentioned above,

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tax-exempt organizations; states and political subdivisions such as local governments; Indian tribal governments; Alaska Native Corporations; the Tennessee Valley Authority; rural electric cooperatives; U.S. territories and their political subdivisions; and agencies and instrumentalities of state, local, tribal and U.S. territorial governments.

183 I.R.C. § 6418(f)(1)(A)(iii); Treas. Reg. § 1.6418-1(c)(2)(iii), (3)(iii). The other eligible credits are the: alternative fuel vehicle refueling property credit (Section 30C); renewable electricity production tax credit (Section 45); zero-emission nuclear power production credit (Section 45U); credit for production of clean hydrogen (Section 45V); advanced manufacturing production credit (Section 45X); clean electricity production credit (Section 45Y); clean fuel production credit (Section 45Z); energy investment tax credit (Section 48); qualifying advanced energy project credit (Section 48C); and clean electricity investment credit (Section 48E).

184 I.R.C. § 6418(a), (e)(2); Treas. Reg. § 1.6418-2(c)(2). The 6418 NPRM explains that broker arrangements (whereby a broker matches Transferors and Transferees of eligible credits) are permissible under this rule as long as ownership of the credit for federal income tax purposes never passes to the broker, but that dealer arrangements (whereby tax ownership of the eligible credit passes to the dealer before subsequently passing to the Transferee) are not permitted under this rule. Section 6418 Transfer of Certain Credits, 88 Fed. Reg. 40496 (June 21, 2023) [hereinafter 6418 NPRM]. Further, allocations of a transferred credit by a Transferee partnership or S corporation to its direct or indirect owners are not considered a second transfer under this rule. Treas. Reg. § 1.6418-3(b)(4), (c)(2)(i).

185 I.R.C. § 6418(a); Treas. Reg. § 1.6418-2(a)(4)(iii). T.D. 9993 and the 6418 NPRM clarify that this rule does not prevent the owner/lessor of CCE acquired in a sale-leaseback transaction to make a Transfer Election with respect to the 45Q Credit attributable to such CCE.

186 I.R.C. § 6418(f)(1)(C); Treas. Reg. § 1.6418-1(c)(3)(iii), (h). Interestingly, while the 6418 NPRM is clear that separate Transfer Elections cannot be made with respect to the base 45Q Credit amount and the bonus credit amount attributable to satisfying the PWA Requirements, the example in Regulation Section 1.6418-5(b)(3)(i) appears to cast doubt on that conclusion.

187 *See* Treas. Reg. § 1.6418-2(a)(2).

any 45Q Credit for which there is a Direct Pay Election in effect will not be eligible to be transferred pursuant to Section 6418.[188]

A Transferee takes a transferred credit into account in the Transferee's first taxable year ending with, or after, the taxable year of the Transferor in which the transferred credit was determined.[189] The Transferee must pay for an eligible credit in cash,[190] which must be paid within the period beginning at the start of the taxable year in which the 45Q Credit is generated and ending on the due date for completing a transfer election statement (i.e., the earlier of the filing of the Transferor's or the Transferee's income tax return for such taxable year).[191] The Treasury Regulations expressly permit a Transferee and a Transferor to enter into a contract obligating the Transferee to purchase eligible credits for future years if the paid-in-cash and timing rules are otherwise satisfied.[192] The cash payment is not included in the Transferor's gross

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188 I.R.C. § 6417(d)(3)(C)(ii). For clarity, only electing entities are permitted to transfer 45Q Credits under Section 6418 pursuant to Section 6418(f)(2).

189 *Id.* § 6418(d); Treas. Reg. § 1.6418-2(f)(1)(i). For clarity, the 6418 NPRM provides that, to the extent the taxable years of the Transferor and the Transferee end on different dates, the Transferee will take the transferred credit into account in the Transferee's first taxable year that ends after the Transferor's taxable year. Further, the final Treasury Regulations confirmed that, for purposes of determining the taxable year in which a credit is taken into account under Section 6418(d) and Regulation Section 1.6418-2(f)(1)(i), a 52 to 53-week taxable year of a Transferor and a Transferee is deemed to end on or close on the last day of the calendar month nearest to the last day of the 52-53-week taxable year. Treas. Reg. § 1.6418-2(f)(1)(ii).

190 I.R.C. § 6418(b)(1). For these purposes, the cash payment must be made in U.S. dollars and can be paid via cash, check, cashier's check, money order, wire transfer, automated clearing house (ACH) transfer, or other bank transfer of immediately available funds. Treas. Reg. § 1.6418-1(f)(1).

191 Treas. Reg. §§ 1.6418-1(f)(2), 1.6418-2(b)(5)(iii).

192 *Id.* § 1.6418-1(f)(3). The requirement that Transferees pay for eligible credits in cash in the year that they are generated causes some issue for the 45Q Credit because of the significant upfront cost for building CCE and the fact that the 45Q Credits will be generated over a 12-year period after the CCE is placed in service. Similar to production tax credit deals, it is common for tax equity investors to make a significant payment shortly after the applicable property is placed in service so that any construction loans can be paid off. In light of this requirement, the Transferee would likely need to make a significant cash transfer to the Transferor in the form of a loan, then the proceeds of the transferred 45Q Credits would be used to repay the loan (and subsequently purchase more 45Q Credits). This construct would also mean that the Transferee would have some taxable income given that interest would be imputed under the loan. Transferors and Transferees must be careful to ensure that the loan is respected as debt (rather than equity) given the prohibition against transfers to related persons. Further, because no Transfer Election is permitted to the extent a Transferor receives any consideration other than cash, Transferors and Transferees must ensure that their structure is properly documented and that it will not be treated as the transfer of eligible credits in exchange for debt forgiveness. *Id.* § 1.6418-2(a)(4)(ii).

income and is not deductible by the Transferee,[193] but a broad anti-abuse rule applies.[194] Similar to the rules under Section 6417, the 6418 NPRM clarifies that a Transferee may take into account any eligible credits that it has purchased, or intends to purchase, pursuant to a Transfer Election when calculating its estimated tax payments. Although, the Transferee remains liable for any additions to tax under Sections 6654 and 6655 to the extent the Transferee has an underpayment of estimated taxes. The 6418 NPRM acknowledges that no guidance has been provided with respect to the federal income tax treatment of the transaction costs to Transferors or Transferees in connection with a Transfer Election.[195]

Transferors make a separate Transfer Election for 45Q Credits with respect to each single process train of CCE and for each year during the twelve-year period beginning when the CCE was originally placed in service.[196] To make the Transfer Election, a Transferor must include with its applicable income tax return a properly completed (i) IRS Form 8933; (ii) IRS Form 3800, which includes a schedule showing the amount of the 45Q Credit transferred for each single process train of CCE; and (iii) a transfer election statement.[197] The transfer election statement, which is generally a written document (including, for example, a purchase and sale agreement) that describes the transfer of 45Q Credits between the Transferor and the Transferee, must include certain information set forth in the Treasury Regulations.[198] To claim any transferred credits, a

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[193] I.R.C. § 6418(b)(2)–(3); Treas. Reg. § 1.6418-2(e)(2)–(3). Further, a Transferee does not have gross income to the extent the amount paid for a 45Q Credit is less than the amount of the transferred 45Q Credit. Treas. Reg. § 1.6418-2(f)(2).

[194] Treas. Reg. § 1.6418-2(e)(4). Transferred credits may be disallowed, or the income tax consequences of any transactions covered by the anti-abuse rule may be recharacterized, in the event the IRS determines that a Transferor and Transferee engaged in the transactions with "a principal purpose of avoiding any Federal tax liability beyond the intent of [S]ection 6418." *Id.* § 1.6418-2(e)(4)(i). Interestingly, the anti-abuse rules were triggered under the proposed Treasury Regulations upon a determination that the taxpayers engaged in the transactions with "*the* principal purpose," but the final Treasury Regulations changed the principal-purpose standard to "*a* principal purpose." *Compare* Section 6418 Transfer of Certain Credits, 88 Fed. Reg. at 40502 (emphasis added), *with* Treas. Reg. § 1.6418-2(e)(4) (emphasis added). The 6418 NPRM provides that the anti-abuse provision could apply to transactions that are intended to decrease the Transferor's gross income or increase the Transferee's deductions (e.g., when a Transferor undercharges or overcharges for services to a customer who is also a Transferee).

[195] The 6418 NPRM also acknowledges that no guidance has been provided regarding the availability of a deduction to a Transferee if the amount paid for a transferred credit exceeds the amount of the credit that the Transferee can ultimately claim.

[196] I.R.C. § 6418(f)(1)(B); Treas. Reg. §§ 1.6418-1(d)(3), 1.6418-2(b)(2).

[197] Treas. Reg. § 1.6418-2(b)(3).

[198] *Id.* § 1.6418-2(b)(5)(i)–(ii).

Transferee must include with its applicable income tax return a properly completed (i) IRS Form 3800 and (ii) a transfer election statement.[199] While a Transferor must make a Transfer Election on a timely filed (including extensions) original income tax return, and not on an amended return,[200] a Transferee can claim transferred credits on an amended income tax return.[201] Once a Transfer Election has been made, it is irrevocable.[202]

Comparable to the rules applicable to making Direct Pay Elections, prior to filing any income tax return on which a Transfer Election is made, the Transferor will be required to register with the IRS via the Registration Portal.[203] The registration process is intended to be used by Transferees to claim a transferred 45Q Credit and by the IRS to track transfers of 45Q Credits.[204] The Registration Portal will provide a registration number for the Transferor, as well as for each applicable credit property (i.e., a component of CCE within a single process train) of the Transferor, and the registration numbers must be included on the Transferor's income tax returns and must be provided to the Transferee.[205] Transferors will be required to register each year for each applicable credit property to the extent they intend to make a Transfer

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[199] *Id.* § 1.6418-2(f)(4).

[200] I.R.C. § 6418(e)(1); Treas. Reg. § 1.6418-2(b)(4). However, for these purposes, a Transfer Election can be made on superseding original income tax return. Superseding returns are generally returns that are filed after a first return is filed, but before the due date (including extensions) of the first return. *See* Haggar Co. v. Helvering, 308 U.S. 389 (1940); I.R.S. Chief Couns. Adv. Mem. 202026002, *supra* note 154. To be clear, similar to the rules under Section 6417, Regulation Sections 301.9100-1 through 301.9100-3 provide only limited relief for the failure to make a timely Transfer Election. Treas. Reg. § 1.6418-2(b)(4). Specifically, relief under Regulation Section 301.9100-2(b) may apply if the Transferor has not received an extension of time to file a return after the original due date, has timely filed a return, takes corrective action under Regulation Section 301.9100-2(c) within the six-month extension period, and meets the procedural requirements outlined in Regulation Section 301.9100-2(d). Treas. Reg. § 1.6418-2(b)(4)(i).

[201] Treas. Reg. § 1.6418-2(f)(4). Further, the final Treasury Regulations provide that a Transferor may, after making a timely and complete transfer election, file an amended return to adjust the amount of the eligible credit reported on the Transferor's original return if the amount of the eligible credit was incorrectly reported on the original return. Treas. Reg. § 1.6418-2(b)(4).

[202] I.R.C. § 6418(e)(1); Treas. Reg. § 1.6418-2(c)(1).

[203] Treas. Reg. § 1.6418-4.

[204] *See* 6418 NPRM, *supra* note 184.

[205] Treas. Reg. §§ 1.6418-4(a), (b)(4), (c)(5), 1.6418-2(b)(2). The Registration Portal will require Transferors to provide the information described in Regulation Section 1.6418-4(b)(5), including information about the Transferor, the eligible credit and the applicable credit property.

Election with respect to the generated 45Q Credits.[206] In light of the timing requirements for making a Transfer Election described above, and the current uncertainty regarding the registration process, Transferors would be advised to submit their registration materials on the Registration Portal as soon as the required information is available for the taxable year in which the 45Q Credit is generated.[207]

A number of special rules apply to Transferors and Transferees of 45Q Credits. At a high level, the 6418 NPRM provides that the determination of the amount of a 45Q Credit available to be transferred is made with respect to the Transferor, but that the determination of the amount of a 45Q Credit that can be claimed is made with respect to the Transferee.[208] Additionally, special rules apply to Transferors and Transferees that are partnerships and S corporations. If a partnership or an S corporation makes a Transfer Election,[209] the payment received by the Transferor is treated as tax-exempt income to the Transferor and is allocated among (i) the partners based on their distributable share of the 45Q Credit and (ii) the shareholders based on their pro rata share of such tax-exempt income.[210] If a Transfer Election is made with respect to only a portion of a partnership's 45Q Credit, the partnership has flexibility in

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[206] *Id.* § 1.6418-4(c)(2)–(3). Question 9 of the 6418 FAQs confirms that Transferors will provide the same registration number to all Transferees of an eligible credit generated by the same eligible credit property.

[207] As of the end of 2023, the IRS recommended that a Transferor submit its registration materials at least 120 days prior to the date the entity plans to file its income tax return. INTERNAL REVENUE SERV., *supra* note 161.

[208] *See* Treas. Reg. § 1.6418-2(d). Accordingly, the Transferor must own the underlying eligible credit property or conduct the activities giving rise to the credit, as applicable based on the underlying credit, and all rules that relate to the eligibility of a credit (e.g., the at-risk rules in Section 49 and the property ownership/use limitations under Section 50(b)) apply at the Transferor. *Id.* § 1.6418-2(d)(1). However, rules applicable to the amount of a 45Q Credit that can be claimed (e.g., the passive loss rules in Section 469 and the limitation on the amount of general business credits that be claimed under Section 38(c)) apply at the Transferee. *Id.* § 1.6418-2(d)(1), (f)(3). Under this paradigm, it is unlikely that potential Transferees that are subject to the passive activity loss rules pursuant to Section 469(a)(2) (e.g., individuals, estates, trusts, closely held C corporations, and personal service corporations) will be able to claim any transferred 45Q Credits. Further, while not applicable to the 45Q Credit, if a Transferor is a partnership or an S corporation, the amount of a credit that is eligible to be transferred is determined by taking into account the at-risk rules in Section 49 at the partner or shareholder level. *See id.* § 1.6418-2(d)(1).

[209] Any Transfer Election made for CCE held by a partnership or an S corporation must be made by the partnership or S corporation, rather than by any partner or shareholder. I.R.C. § 6418(c)(2); Treas. Reg. § 1.6418-3(a)(3).

[210] I.R.C. § 6418(c)(1); Treas. Reg. § 1.6418-3(a)(2). The determination of a partner's distributive share is made under Regulation Sections 1.46-3(f) and 1.704-1(b)(4)(ii). Treas. Reg. § 1.6418-3(b)(1). The determination of a shareholder's pro rata distributive share is made under Section 1377(a). *See* Treas. Reg. § 1.6418-3(c)(1).

terms of allocating some or all of the non-transferred 45Q Credits and the tax-exempt income received for the transferred 45Q Credits among its partners so long as the combined amounts allocated do not exceed each partner's share of the 45Q Credit.[211] The 6418 NPRM makes clear that there are no restrictions on how a partnership or S corporation may use the cash payment received as a result of a Transfer Election.

Finally, Transferors and Transferees are subject to rules regarding "excessive credits," which are generally the excess of the amount of the 45Q Credit claimed by the Transferee less the amount of the 45Q Credit that would otherwise be allowable under the Code (without application of Section 6418).[212] To the extent the IRS determines that an excessive credit transfer occurred, the Transferee is liable for the amount of the excessive credit, plus 20% of the excessive credit (regardless of whether the Transferee would not otherwise be subject to income tax).[213] Further, any cash received by the Transferor that directly relates to the excessive credit is required to be included in the Transferor's gross income.[214] To the extent there are multiple Transferees of an excessive 45Q Credit, each Transferee's portion of the excessive credit equals the product of the total excessive credit, multiplied by the Transferee's portion of the total 45Q Credit transferred to all transferees.[215] If a Transferee is able to establish that an excessive credit resulted from reasonable cause, the Transferee will still be liable for the amount of the excessive credit but will not be liable for the additional 20% of the excessive credit.[216] The reasonable cause standard is a facts and circumstances test[217] and the

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[211] Treas. Reg. § 1.6418-3(b)(2).

[212] I.R.C. § 6418(g)(2); *see id.* § 6418(g)(2)(C) (defining "excessive credit"); Treas. Reg. § 1.6418–5(b) (defining "excessive credit transfer.").

[213] I.R.C. § 6418(g)(2)(A); Treas. Reg. § 1.6418-5(a)(1). For example, if a Transferee purchases a 45Q Credit in the amount of $75, but the IRS determines that the Transferor was only entitled to a 45Q Credit in the amount of $60, then the Transferee will owe the IRS $18 (i.e., $15 + (20% of $15)) assuming that the Transferee is unable to establish that the excessive payment resulted from reasonable cause. *See* Treas. Reg. § 1.6418-5(b)(3)(ii).

[214] Treas. Reg. § 1.6418-5(a)(3). The amount of a payment that directly relates to the excessive credit equals the product of the total consideration paid in cash by the Transferee for the transferred 45Q Credit, multiplied by the ratio of the amount of the excessive credit transferred to the Transferee to the amount of the transferred 45Q Credit claimed by the Transferee. *Id.*

[215] *Id.* § 1.6418-5(b)(2).

[216] I.R.C. § 6418(g)(2)(B); Treas. Reg. § 1.6418-5(a)(4). The 6418 NPRM is clear that, if the additional 20% of the excessive payment applies, "it would apply in addition to any penalties, additions to tax, or other amounts applicable under the Code."

[217] Notwithstanding that the test takes into account all relevant facts and circumstances, Regulation Section 1.6418-5(a)(4) provides that the

> most important factor is the extent of the [Transferee's] efforts to determine that the amount of specified credit portion transferred by

Treasury Department and the IRS provided a list of non-exhaustive factors that a Transferee could show to demonstrate reasonable cause.[218] Interestingly, any amounts owed with respect to an excessive credit determination are imposed on the Transferee in the year of the determination (rather than the year that the 45Q Credit was claimed).[219] Recapture events under Section 45Q(f)(4) as a result of leakage do not trigger an excessive credit.[220]

However, in the event that any portion of a transferred 45Q Credit is recaptured due to the leakage of any QCO during the applicable recapture period,[221] the Transferor must notify the Transferee, and the Transferee is responsible for any tax increase under Section 45Q(f)(4) as a result of the leakage.[222] With respect to the notification requirement, the Transferor must provide all information necessary for the Transferee to correctly compute the recapture amount with sufficient time for the Transferee to compute the recapture amount by the due date of the

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> the [Transferor] to the [Transferee] is not more than the amount of the eligible credit determined with respect to the eligible credit property for the taxable year in which the eligible credit was determined and has not been transferred to any other [Transferee].

218 *See* Treas. Reg. § 1.6418-5(a)(4) ("Circumstances that may indicate reasonable cause can include, but are not limited to, review of the [Transferor's] records with respect to the determination of the eligible credit (including documentation evidencing eligibility for bonus credit amounts), reasonable reliance on third party expert reports, reasonable reliance on representations from the [Transferor] that the total specified credit portion transferred (including portions transferred to other [Transferees] if[a Transferor] makes multiple [Transfer Elections] with respect to a single credit property) does not exceed the total eligible credit determined with respect to the eligible credit property for the taxable year, and review of audited financial statements provided to the Securities and Exchange Commission (and underlying information), if applicable.").

219 I.R.C. § 6418(g)(2)(A); Treas. Reg. § 1.6418-5(a)(2).

220 Treas. Reg. § 1.6418-5(a)(5).

221 As described above, the "recapture period" begins on the date of first injection of QCO for disposal in secure geological storage or EOR use for which a 45Q Credit was claimed and ends on the earlier of (i) three years after the last taxable year in which the taxpayer claimed a 45Q Credit (or was eligible to claim a 45Q Credit that it elected to carry forward), or (ii) the date monitoring ends under the requirements of the standards described in Regulation Section 1.45Q-3(b)(1) or (2). Treas. Reg. § 1.45Q-5(f).

222 Treas. Reg. § 1.6418-5(e). The 6418 NPRM is clear that Section 6418 does not include any prohibition on a Transferor indemnifying a Transferee for any recaptured 45Q Credits, and it is expected that purchase agreements for 45Q Credits will include indemnification provisions with respect to recaptured 45Q Credits. Separately, the 6418 NPRM acknowledges that Section 6418(g)(3) only specifically addresses recapture rules under Section 50(a) (and not Section 45Q(f)(4)), but the Treasury Department determined that it was appropriate to apply the recapture rules under Section 50(a) applicable to transferred credits to transferred 45Q Credits. The final Treasury Regulations clarify that recapture liability applies proportionately to a Transferor and Transferees to the extent a Transferor has retained any amount of a 45Q Credit. Treas. Reg. § 1.6418-5(e)(3).

Transferee's income tax return (determined without extensions) for the taxable year in which the recapture occurs.[223]

4. *Tax Equity*

To the extent a developer of CCE lacks sufficient income tax liability to fully utilize the 45Q Credit or needs funds to develop the CCE beyond the amount of any construction loans that may be available, the developer may consider partnering with a tax equity investor.[224] While tax equity structures for monetizing the 45Q Credit are relatively new, most would be expected to take the form of a "partnership flip" given that the IRS has released guidance on the structure, and it may provide flexibility with respect to other methods of monetizing the 45Q Credit.[225]

In the basic form of a partnership flip structure, the developer will form a project company (typically a limited liability company that retains its default classification as a pass-through entity under Regulation Section 301.7701–3) for purposes of obtaining permits, entering into key contracts with respect to the project, and holding title to the CCE. When the project is sufficiently viable to proceed, one or more tax equity

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223 Treas. Reg. § 1.6418-5(e)(2), (d)(2)(i). Transferors and Transferees are permitted to include provisions in their purchase agreements regarding the form of notice and any specific time periods that must be satisfied so long as such provisions do not conflict with applicable Treasury Regulations, which Transferees are expected to insist on when negotiating purchase agreements for 45Q Credits. *See id.* § 1.6418-5(d)(2)(i).

224 Tax equity broadly describes transactions that involve transferring the tax credits and/or other tax benefits associated with a project in exchange for an equity investment (*i.e.*, cash financing). While the tax credits are primarily the focus of tax equity investments, other tax assets (such as depreciation deductions, including accelerated or bonus depreciation deductions, and interest deductions) can be transferred as well. Tax equity investors tend to be large companies with predictable income tax liabilities such as big banks and financial institutions. Given the complexity of tax equity structures, and their related transaction costs, most tax equity investors prefer to invest in large projects that are anticipated to generate a significant amount of credits. A distinction between tax equity arrangements and other methods of transferring a credit is that transfers via a tax equity structure occur "within a partnership or contractual agreement that legally binds the two parties to satisfy federal tax requirements that the tax credit claimant have an ownership interest in the underlying physical investment." MARK. P. KEIGHTLEY ET AL., CONG. RESEARCH. SERV., R45693, TAX EQUITY FINANCING: AN INTRODUCTION AND POLICY CONSIDERATIONS 1 (2019), https://sgp.fas.org/crs/misc/R45693.pdf [https://perma.cc/HDA5-WX8D].

225 Rev. Proc. 2020-12, 2020-11 I.R.B. 511. Alternatives commonly used for other energy-related tax credits include a sale-leaseback structure and inverted lease structure. Notwithstanding the availability of the alternatives, partnership flips are the most common form of tax equity structure with respect to energy-related credits. STAFF OF THE JOINT COMMITTEE ON TAXATION, *supra* note 118, at 94.

investors will acquire interests in the project company from the company (or occasionally the developer) in exchange for cash.[226] Typically, the project company will allocate 99% of all income, loss, and tax credits to the tax equity investors until the investors achieve a pre-negotiated, internal after-tax rate of return (or occasionally upon a specified date).[227] Once the tax equity investors have achieved the after-tax rate of return or upon the specified date, the project company's allocations "flip" such that each tax equity investor is allocated only 5% of the company's income, loss, and tax credits (with the remainder being allocated to the developer). Developers typically have a call option, and tax equity investors may have a put option, to purchase the tax equity investors' interests in the project company for their then-fair market value following the flip.[228]

In context of projects eligible for the 45Q Credit, Revenue Procedure 2020–12 sets forth a safe harbor (the 45Q Safe Harbor), which, if all applicable requirements are satisfied, will result in the IRS respecting the treatment of a tax equity investor as a partner of the project company and the allocations of the 45Q Credit to the project company's members.[229] At a high level, the requirements of the 45Q Safe Harbor are generally:

- The developer must have at least a 1% interest in each material item of the project company's income, gain, loss, deduction, and credit at all times during the existence of the project company, and each tax equity investor must have at least a 5% interest in each such material item while the tax equity investor owns an interest in the project company.[230]

- Each tax equity investor's interest in the project company must constitute a "bona fide equity investment"—meaning that it must

226 When the project company has multiple members, it will be classified as a partnership for income tax purposes. Treas. Reg. § 301.7701-3(f)(2). The partnership classification is important as the structure relies on the partnership allocation rules to "transfer" the applicable tax credits.

227 Tax equity transactions involve sophisticated modeling, which takes into account the available time period when the applicable tax credit will be generated (e.g., 12 years for the 45Q Credit), for purposes of negotiating the internal rate of return or the specified date. While 99% of all income, loss and tax credits are typically allocated to the tax equity investors during this period, the tax equity investors may not necessarily be entitled to 99% of all cash distributions.

228 However, as described below, the developer is not permitted to have a call option to acquire an investor's interest in the project company under the 45Q Safe Harbor. *See* Rev. Proc. 2020-12, 2020-11 I.R.B. 511 § 4.05.

229 Rev. Proc. 2020-12, 2020-11 I.R.B. 511 § 3.02.

230 *Id.* §§ 4.01, 4.02(2)(a).

have a reasonably anticipated value commensurate with the investor's overall percentage interest (excluding for these purposes any tax assets to be allocated) that is contingent on the project company's net income, gain, and loss and is not substantially fixed.[231] Additionally, a tax equity investor's interest must not be reduced by unreasonable fees or disproportionate distributions.[232]

- Each tax equity investor must make and maintain at least a 20% minimum unconditional investment (i.e., 20% of the total fixed capital investment plus any reasonably anticipated contingent investment required to be made by the investor under the partnership agreement), and such investment cannot be protected against losses by any arrangement with the developer, another investor, the carbon oxide emitter, or the QCO purchaser (or any party related to the foregoing).[233]

- More than 50% of the total fixed capital investment, plus any reasonably anticipated contingent investment to be made by each tax equity investor, must be fixed and determinable obligations (i.e., not contingent in amount or certainty of payment).[234]

- Neither the developer, any tax equity investor, nor any related party is permitted to have a call option at any time to purchase the CCE or an interest in the project company. While the tax equity investor is permitted to have a put right with respect to its interest in the project company, the purchase price for the interest upon exercise of the put cannot exceed the then-fair market value of the interest.[235]

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231 *Id.* § 4.02(2)(b).

232 *Id.* § 4.02(2)(c). The tax equity investor's minimum unconditional investment can be reduced as a result of distributions of cash flow from the project company's operation of the CCE. *Id.* However, because CCE projects generally do not have significant positive cash flow, this exception to the maintenance requirement may not be particularly impactful for tax equity structures involving 45Q Credits.

233 *Id.* § 4.03.

234 *Id.* § 4.04. For this purpose, contributions to the project company to pay ongoing operating expenses are not treated as part of the tax equity investor's contingent investment. *Id.* As an aside, this requirement is comparable to a requirement applicable to project companies holding refined coal production facilities (which would be monetizing Section 45 production tax credits). *See* I.R.S. Chief Couns. Adv. Mem. AM 2018-002 (Mar. 9, 2018), https://www.irs.gov/pub/lanoa/am-2018-002.pdf [https://perma.cc/2RVK-4MNE].

235 Rev. Proc. 2020-12, 2020-11 I.R.B. 511 §§ 4.05, 4.06. This requirement deviates from the typical structure that provides the developer a call option to acquire

- No person involved in any part of the project company may guarantee or otherwise insure the tax equity investors' (i) ability to claim the 45Q Credits (or the value of the credits) in the event the IRS challenges the partnership structure, or (ii) receipt of distributions from the project company or consideration in exchange for a tax equity investor's interest in the project company (excluding the put right for fair market value described above).[236]

- The developer (or anyone related to the developer) is not permitted to lend any tax equity investor the funds to acquire any part of such investor's interest in the project company or guarantee any debt incurred in connection with such investor's acquisition of its interest in the project company.[237]

- Allocations under the project company's operating agreement must satisfy the requirements of Section 704(b), including the requirement that allocations of any 45Q Credits (and recapture of 45Q Credits) be made consistent with Regulation Section 1.704–1(b)(4)(ii).[238]

While the 45Q Safe Harbor is helpful to developers and tax equity investors by providing assurances regarding certain structural aspects, there are several issues that would benefit from additional clarity from

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the tax equity investors' interests in the project company after the flip. Determinations of fair market value for purposes of the 45Q Safe Harbor may take into account contracts or arrangements creating rights or obligations to the extent such contracts or arrangements are negotiated at arm's length and entered into in the ordinary course of the project company's business. *Id.* § 4.07.

[236] *Id.* § 4.08(1). From a risk management perspective, the 45Q Safe Harbor helpfully provides that tax equity investors are permitted to obtain insurance (including recapture insurance) from persons unrelated to the developer, another investor, the carbon oxide emitter or the QCO purchaser. *Id.* § 4.08(1). Further, the project company is permitted to guarantee to each tax equity investor performance of any acts necessary to claim the 45Q Credit and avoidance of any acts (or omissions) that would cause the project company to fail to qualify for the 45Q Credit or result in recapture of the 45Q Credit (including via completion guarantees, operating deficit guarantees, environmental indemnities, and financial covenants). *Id.* § 4.08(2). Permissive rules apply to long-term, arm's-length offtake agreements (including "supply all," "supply-or-pay," "take-all," "take-or-pay," or "securely-store-or-pay" provisions). *Id.* § 4.08(3).

[237] *Id.* § 4.08(4).

[238] *Id.* § 4.09. If the project company sells the QCO, allocations of the 45Q Credit (or recapture) will be respected if they follow the allocations of income generated from the sales and if the project company does not sell the QCO, allocations of the 45Q Credit (or recapture) will be respected if they follow the allocations of the loss or deduction attributable to the cost of capture and disposal, use or utilization of the QCO. *Id.*

the IRS. For example, it is unclear whether the 45Q Safe Harbor applies to project companies that receive the 45Q Credit as a result of a 45Q(f)(3)(B) Election. Additionally, it would be helpful to know how the "bona fide equity investment" requirement would apply to project companies that intend to exclusively dispose of (rather than utilize or use) the captured QCO. This is because typically the only value for tax equity investors in those situations would be the "federal, state, and local tax deductions, allowances, credits, and other tax attributes to be allocated" by the project company to the investors.[239] As tax equity investors become more interested in the 45Q Credit, additional questions are likely to arise with respect to the 45Q Safe Harbor.

5. *Carryback/Carryforward*

While not strictly a credit-monetization concept, the ability to carryback or carryforward the 45Q Credit makes the credit more valuable by providing the ability for taxpayers having insufficient income tax liability in the year the credit is generated to use the credit in other taxable years. Prior to the enactment of the IRA, the 45Q Credit could be carried back one year and carried forward up to twenty years.[240] Effective for taxable years beginning after December 31, 2022, Section 39(a)(4) provides that the 45Q Credit can be carried back three years and carried forward up to twenty-two years.[241]

IV. CONCLUSION

Notwithstanding certain technological and economic challenges that remain with carbon capture and sequestration projects, the current incentives provided to developers, utilities, and investors, including the 45Q Credit, make this an exciting time for the industry. In the near term, the authors anticipate that more CCE will be placed in service and more taxpayers will claim 45Q Credits. Experienced professionals (including tax professionals) will be crucial to the success of future investments in projects eligible to claim the 45Q Credit.

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239 *See id.* § 4.02(2)(b).

240 STAFF OF THE JOINT COMMITTEE ON TAXATION, *supra* note 118, at 98.

241 Inflation Reduction Act of 2022, Pub. L. No. 117-169, § 13801(d), 136 Stat. 1818, 2003. The IRA also expanded the carryback and carryforward window for the other credits eligible for the Direct Pay Election. *See* I.R.C. § 39(a)(4) (referencing "any applicable credit (as defined in [S]ection 6417(b))").