

Beginning of Construction for the Investment Tax Credit under Section 48

Notice 2018-59

SECTION 1. PURPOSE

On December 18, 2015, the Consolidated Appropriations Act, 2016, Pub. L. No. 114-113, Div. P, Title III, § 303, 129 Stat. 2242, extended and modified the investment tax credit (ITC) under § 48 of the Internal Revenue Code (Code). As modified, § 48 phases down the ITC for solar energy property the construction of which begins after December 31, 2019, and before January 1, 2022, and further limits the amount of the § 48 credit available for solar energy property that is not placed in service before January 1, 2024.

On February 9, 2018, the Bipartisan Budget Act of 2018, Pub. L. 115-123, Div. D, Title I, § 40411, 132 Stat. 150 (BBA 2018), modified the ITC under § 48 by replacing the requirement to place energy property in service by a certain date with a requirement to begin construction by a certain later date. Prior to the modification, energy property was required to be placed in service by a certain date (before January 1, 2016, or January 1, 2017, depending on the type of energy property). As modified, construction of energy property must begin before January 1, 2022. This modification has the effect of retroactively extending by five years the ITC for fiber-optic solar, qualified fuel cell, qualified microturbine, combined heat and power system (CHP), qualified small wind, and geothermal heat pump property the construction of which begins before January 1,

2022. The amendments also phase out the ITC for fiber-optic solar, qualified fuel cell, and qualified small wind energy property over five years. For these energy properties, regardless of when construction begins, the projects must be placed in service before January 1, 2024.

This notice provides guidance to determine when construction has begun on energy property that is eligible for the § 48 credit. It provides two methods for taxpayers to establish the beginning of construction (Physical Work Test and Five Percent Safe Harbor), a Continuity Requirement for both methods, rules for transferring energy property, and additional rules applicable to the beginning of construction requirement of § 48.

The Internal Revenue Service (Service) will not issue private letter rulings or determination letters to taxpayers regarding the application of this notice or the beginning of construction requirement of § 48.

SECTION 2. BACKGROUND

.01 In general. Section 48 provides that the ITC for any taxable year is the energy percentage of the basis of each energy property placed in service during such taxable year. For most types of energy property, eligibility for the ITC, and in some cases the amount of the ITC for which energy property is eligible, are dependent upon meeting certain deadlines for beginning construction on the energy property and placing the energy property in service. The table below summarizes these requirements, which are set forth in more detail in section 2.03 of this notice.

Type of Energy Property	Date Construction Begins	Placed in Service Date	ITC Amount
Solar	Before 1/1/20	Before 1/1/24	30%
	1/1/20 – 12/31/20	Before 1/1/24	26%
	1/1/21 – 12/31/21	Before 1/1/24	22%
	Before 1/1/22	On or after 1/1/24	10%
	On or after 1/1/22	Any	10%
Fiber-Optic Solar	Before 1/1/20	Before 1/1/24	30%
	1/1/20 – 12/31/20	Before 1/1/24	26%
	1/1/21 – 12/31/21	Before 1/1/24	22%
	Before 1/1/22	On or after 1/1/24	0%
	On or after 1/1/22	Not applicable	0%
Geothermal	Any	Any	10%
Qualified Fuel Cell	Before 1/1/20	Before 1/1/24	30%
	1/1/20 – 12/31/20	Before 1/1/24	26%
	1/1/21 – 12/31/21	Before 1/1/24	22%
	Before 1/1/22	On or after 1/1/24	0%
	On or after 1/1/22	Not applicable	0%
Qualified Microturbine	Before 1/1/22	Any	10%
	On or after 1/1/22	Not applicable	0%
CHP	Before 1/1/22	Any	10%
	On or after 1/1/22	Not applicable	0%
Qualified Small Wind	Before 1/1/20	Before 1/1/24	30%
	1/1/20 – 12/31/20	Before 1/1/24	26%
	1/1/21 – 12/31/21	Before 1/1/24	22%
	Before 1/1/22	On or after 1/1/24	0%
	On or after 1/1/22	Not applicable	0%
Geothermal Heat Pump	Before 1/1/22	Any	10%
	After 1/1/22	Not applicable	0%

Section 48(d)(1) provides that in the case of any energy property with respect to which the Secretary of the Treasury (Secretary) makes a grant under § 1603 of the American Recovery and Reinvestment Tax Act of 2009 (§ 1603 Grant), no § 45 or § 48 credit can be determined with respect to such energy property for the taxable year in which such grant is made or any subsequent taxable year. Section 48(d)(2) also provides for the recapture of a § 48 credit for qualified progress expenditures made before a § 1603 grant.

.02 Energy Property. Section 48(a)(3) provides that the term “energy property” means any property (A) listed in § 48(a)(3)(A), (B) the construction, reconstruction, or erection of which is completed by the taxpayer, or which is acquired by the taxpayer if the original use of such property commences with the taxpayer, (C) with respect to which depreciation (or amortization in lieu of depreciation) is allowable, and (D) which meets the performance and quality standards (if any) which have been prescribed by the Secretary by regulations (after consultation with the Secretary of Energy), and are in effect at the time of the acquisition of the property. Notably, the term “energy property” does not include any property which is part of a facility the production from which is allowed as a credit under § 45 for the taxable year or any prior taxable year.

.03 Types of Energy Property.

(1) Solar Energy Property. Section 48(a)(3)(A)(i) provides that energy property includes equipment which uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat, excepting property used to generate energy for the purposes of heating a swimming pool.

Section 48(a)(2)(A)(i)(II) provides that the energy percentage for solar energy property the construction of which begins before January 1, 2022, and which is placed in service before January 1, 2024, is 30 percent. However, § 48(a)(6) overlays a phase-down of the ITC for solar energy property the construction of which begins after December 31, 2019. For solar energy property the construction of which begins after December 31, 2019, and before January 1, 2021, and which is placed in service before January 1, 2024, the energy percentage is 26 percent; for solar energy property the construction of which begins after December 31, 2020, and before January 1, 2022, and which is placed in service before January 1, 2024, the energy percentage is 22 percent. For any solar energy property the construction of which begins before January 1, 2022, but that is not placed in service before January 1, 2024, the energy percentage is 10 percent. The energy percentage is also 10 percent for solar energy property the construction of which begins after December 31, 2021.

(2) Fiber-Optic Solar Energy Property. Section 48(a)(3)(A)(ii) provides that energy property includes equipment which uses solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight, but only with respect to property the construction of which begins before January 1, 2022.

Section 48(a)(2)(A)(i)(III) provides that the energy percentage for fiber-optic solar energy property is 30 percent. However, § 48(a)(7) overlays a phase-down of the ITC for fiber-optic solar energy property the construction of which begins after December 31, 2019. For fiber-optic solar energy property the construction of which begins after December 31, 2019, and before January 1, 2021, and which is placed in service before

January 1, 2024, the energy percentage is 26 percent; and for fiber-optic solar energy property the construction of which begins after December 31, 2020, and before January 1, 2022, and which is placed in service before January 1, 2024, the energy percentage is 22 percent. For fiber-optic solar energy property the construction of which begins after December 31, 2021, and for fiber-optic solar energy property the construction of which begins before January 1, 2022, but that is not placed in service before January 1, 2024, the ITC is eliminated.

(3) Geothermal Property. Section 48(a)(3)(A)(iii) provides that energy property includes equipment used to produce, distribute, or use energy derived from a geothermal deposit (within the meaning of § 613(e)(2)), but only, in the case of electricity generated by geothermal power, up to (but not including) the electrical transmission stage. Section 48(a)(2)(A)(ii) provides that the energy percentage for geothermal property is 10 percent.

(4) Qualified Fuel Cell Property. Section 48(a)(3)(A)(iv) provides that energy property includes qualified fuel cell property. Section 48(c)(1) generally defines qualified fuel cell property as a fuel cell power plant, which is an integrated system comprised of a fuel cell stack assembly and associated balance of plant components that converts a fuel into electricity using electrochemical means. To qualify for the ITC, qualified fuel cell property must have a nameplate capacity of at least 0.5 kilowatt of electricity using an electrochemical process and an electricity-only generation efficiency greater than 30 percent. Section 48(c)(1)(D) provides that qualified fuel cell property does not include any property the construction of which does not begin before January

1, 2022.

Section 48(a)(2)(A)(i)(I) provides that the energy percentage for qualified fuel cell property is 30 percent. However, § 48(a)(7) overlays a phase-down of the ITC for qualified fuel cell property the construction of which begins after December 31, 2019. For qualified fuel cell property the construction of which begins after December 31, 2019, and before January 1, 2021, and which is placed in service before January 1, 2024, the energy percentage is 26 percent; and for qualified fuel cell property the construction of which begins after December 31, 2020, and before January 1, 2022, and which is placed in service before January 1, 2024, the energy percentage is 22 percent. For qualified fuel cell property the construction of which begins before January 1, 2022, but that is not placed in service before January 1, 2024, the ITC is eliminated.

(5) Qualified Microturbine Property. Section 48(a)(3)(A)(iv) also provides that energy property includes qualified microturbine property. Section 48(c)(2) generally defines qualified microturbine property as a stationary microturbine power plant, which is an integrated system comprised of a gas turbine engine, a combustor, a recuperator or regenerator, a generator or alternator, and associated balance of plant components which converts a fuel into electricity and thermal energy. Such term also includes all secondary components located between the existing infrastructure for fuel delivery and the existing infrastructure for power distribution, including equipment and controls for meeting relevant power standards, such as voltage, frequency, and power factors.

To qualify for the ITC, qualified microturbine property must have a nameplate capacity of less than 2,000 kilowatts, and an electricity-only generation efficiency of not

less than 26 percent at International Standard Organization conditions. Section 48(a)(2)(A)(ii) provides that the energy percentage for qualified microturbine property is 10 percent. Under section 48(c)(2)(D), the term “qualified microturbine property” shall not include any property the construction of which does not begin before January 1, 2022.

(6) Combined Heat and Power System (CHP) Property. Section 48(a)(3)(A)(v) provides that energy property includes CHP property. Section 48(c)(3) generally defines CHP property as property comprising a system that uses the same energy source for the simultaneous or sequential generation of electrical power, mechanical shaft power, or both, in combination with the generation of steam or other forms of useful thermal energy (including heating and cooling applications).

To qualify for the ITC, CHP property must produce at least 20 percent of its total useful energy in the form of thermal energy which is not used to produce electrical or mechanical power (or combination thereof), and at least 20 percent of its total useful energy in the form of electrical or mechanical power (or combination thereof).

Additionally, CHP property must have an energy efficiency percentage that exceeds 60 percent, except in the case of CHP systems that use biomass (as provided in § 48(c)(3)(D)). The construction of CHP property must begin before January 1, 2022. Section 48(a)(2)(A)(ii) provides that the energy percentage for CHP property is 10 percent, though § 48(c)(3)(B) provides a special formula for determining the ITC of CHP property with certain electrical capacity, and § 48(c)(3)(D)(ii) provides a special formula for determining the ITC of CHP systems that use biomass.

(7) Qualified Small Wind Energy Property. Section 48(a)(3)(A)(vi) provides that energy property includes qualified small wind energy property. Section 48(c)(4) defines qualified small wind energy property as property which uses a qualifying small wind turbine to generate electricity. To qualify for the ITC, a qualifying small wind turbine must have a nameplate capacity of not more than 100 kilowatts. For additional information on performance and quality standards that certain small wind energy property must meet to qualify for the ITC under § 48 see Notice 2015-4, 2015-5 I.R.B. 407, as modified by Notice 2015-51, 2015-31 I.R.B. 133. Section 48(c)(4)(C) provides that qualified small wind energy property does not include any property the construction of which does not begin before January 1, 2022.

Section 48(a)(2)(A)(i)(IV) provides that the energy percentage for qualified small wind energy property is 30 percent. However, § 48(a)(7) overlays a phase-down of the ITC for qualified small wind energy property the construction of which begins after December 31, 2019. For qualified small wind energy property the construction of which begins after December 31, 2019, and before January 1, 2021, and which is placed in service before January 1, 2024, the energy percentage is 26 percent; and for qualified small wind energy property the construction of which begins after December 31, 2020, and before January 1, 2022, and which is placed in service before January 1, 2024, the energy percentage is 22 percent. For qualified small wind energy property the construction of which begins prior to January 1, 2022, but that is not placed in service before January 1, 2024, the ITC is eliminated.

(8) Geothermal Heat Pump Property. Section 48(a)(3)(A)(vii) provides that

energy property includes geothermal heat pump equipment which uses the ground or ground water as a thermal energy source to heat a structure or as a thermal energy sink to cool a structure, but only with respect to property the construction of which begins before January 1, 2022. Section 48(a)(2)(A)(ii) provides that the energy percentage for geothermal heat pump property is 10 percent.

SECTION 3. METHODS FOR ESTABLISHING BEGINNING OF CONSTRUCTION

.01 In general. This notice provides two methods for a taxpayer to establish that construction of energy property has begun for purposes of the ITC under § 48. A taxpayer may establish the beginning of construction by starting physical work of a significant nature as set forth in section 4 of this notice (Physical Work Test).

Alternatively, a taxpayer may establish the beginning of construction by meeting a safe harbor based on having paid or incurred five percent or more of the total cost of the energy property as set forth in section 5 of this notice (Five Percent Safe Harbor).

Both methods require that a taxpayer make continuous progress towards completion once construction has begun (Continuity Requirement). Section 6 of this notice discusses the Continuity Requirement and provides a safe harbor for satisfying this requirement (Continuity Safe Harbor).

.02 Combination of methods. Although a taxpayer may satisfy both methods of establishing the beginning of construction, construction will be deemed to have begun on the date the taxpayer first satisfies one of the two methods. For example, if a taxpayer performs physical work of a significant nature on energy property in 2018, and then pays or incurs five percent or more of the total cost of the energy property in 2019,

construction will be deemed to begin in 2018 under the Physical Work Test, not in 2019 under the Five Percent Safe Harbor. Thus, the Continuity Safe Harbor will be applied beginning in 2018, not in 2019. This section 3.02 applies to energy property the construction of which begins, as determined under the earlier of either the Physical Work Test or the Five Percent Safe Harbor, after December 31, 2018.

SECTION 4. PHYSICAL WORK TEST

.01 In general. Construction of energy property begins when physical work of a significant nature begins. Work performed by the taxpayer and work performed for the taxpayer by other persons under a binding written contract that is entered into prior to the manufacture, construction, or production of the energy property or components of energy property for use by the taxpayer in the taxpayer's trade or business (or for the taxpayer's production of income) is taken into account to determine whether construction has begun. Whether and when a taxpayer has begun construction of energy property will depend on the relevant facts and circumstances. The Service will closely scrutinize energy property and may determine that construction has not begun on that property if a taxpayer does not maintain a continuous program of construction (as determined under section 6.01 of this notice).

.02 Physical Work of a Significant Nature. The Physical Work Test requires that a taxpayer begin physical work of a significant nature. This test focuses on the nature of the work performed, not the amount or the cost. Assuming that physical work performed is of a significant nature, there is no fixed minimum amount of work or monetary or percentage threshold required to satisfy the Physical Work Test. Both off-

site and on-site work may be taken into account for purposes of demonstrating that physical work of a significant nature has begun (see section 7.04 of this notice).

(1) Off-Site Physical Work of a Significant Nature. Generally, off-site physical work of a significant nature may include the manufacture of components, mounting equipment, support structures such as racks and rails, inverters, and transformers (used in electrical generation that step up the voltage to less than 69 kilovolts) and other power conditioning equipment.

(2) On-Site Physical Work of a Significant Nature. This non-exclusive list of examples is intended to illustrate on-site physical work of a significant nature for different types of energy property:

(a) Solar Energy Property. On-site physical work of a significant nature may include the installation of racks or other structures to affix photovoltaic (PV) panels, collectors, or solar cells to a site.

(b) Fiber-Optic Solar Energy Property. On-site physical work of a significant nature may include the installation of collectors, concentrators, tracking systems, bundles of optical fibers, or fixtures within a structure.

(c) Geothermal Property. On-site physical work of a significant nature may include physical activities that are undertaken at a project site after a valid discovery such as the installation of piping, turbines, generators, flash tanks, or heat exchangers.

(d) Qualified Fuel Cell Property. On-site physical work of a significant nature may include the installation of components of a fuel cell stack assembly such as electrodes, gas diffusion layers, membranes, gasketing, or plates.

(e) Qualified Microturbine Property. On-site physical work of a significant nature may include the installation of a gas turbine engine, combustor, recuperator, regenerator, generator, alternator, or other plant components.

(f) CHP Property. On-site physical work of a significant nature may include the installation of a heat engine, generator, heat recovery components, or electrical interconnections.

(g) Qualified Small Wind Energy Property. On-site physical work of a significant nature may include the installation of a foundation, tower, wiring, or grounding systems.

(h) Geothermal Heat Pump Property. On-site physical work of a significant nature may include the installation of ground heat exchangers, heat pump units, or air delivery systems (ductwork).

.03 Preliminary Activities. Physical work of a significant nature does not include preliminary activities, even if the cost of those preliminary activities is properly included in the depreciable basis of the energy property. Generally, preliminary activities include, but are not limited to:

- (a) planning or designing;
- (b) securing financing;
- (c) exploring;
- (d) researching;
- (e) conducting mapping and modeling to assess a resource;
- (f) obtaining permits and licenses;
- (g) conducting geophysical, gravity, magnetic, seismic and resistivity surveys;

- (h) conducting environmental and engineering studies;
- (i) performing activities to develop a geothermal deposit prior to valid discovery;
- (j) clearing a site;
- (k) conducting test drilling to determine soil condition (including to test the strength of a foundation);
- (l) excavating to change the contour of the land (as distinguished from excavation for a foundation); and
- (m) removing existing foundations, turbines, and towers, solar panels, or any components that will no longer be part of the energy property (including those on or attached to building structures).

.04 Inventory. Physical work of a significant nature does not include work (performed either by the taxpayer or by another person under a binding written contract) to produce components of energy property that are either in existing inventory or are normally held in inventory by a vendor.

SECTION 5. FIVE PERCENT SAFE HARBOR

.01 In general. Construction of energy property will be considered as having begun if:

- (1) a taxpayer pays or incurs (within the meaning of Treas. Reg. § 1.461-1(a)(1) and (2)) five percent or more of the total cost of the energy property, and
- (2) thereafter, the taxpayer makes continuous efforts to advance towards completion of the energy property (as determined under section 6.02 of this notice).

.02 Total Cost of Energy Property. All costs properly included in the depreciable

basis of the energy property are taken into account to determine whether the Five Percent Safe Harbor has been met. The total cost of the energy property does not include the cost of land or any property not integral to the energy property, as described in section 7.02 of this notice.

.03 Cost Overruns. (1) Single Project. If the total cost of an energy property that is a single project comprised of multiple energy properties (as described in section 7.01(2) of this notice) exceeds its anticipated total cost, so that the amount a taxpayer actually paid or incurred with respect to the single project turns out to be less than five percent of the total cost of the single project at the time it is placed in service, the Five Percent Safe Harbor is not fully satisfied. However, the Five Percent Safe Harbor will be satisfied and the § 48 credit may be claimed with respect to some, but not all, of the energy properties (as described in section 7.01(1) of this notice) comprising the single project, as long as the total aggregate cost of those energy properties is not more than twenty times greater than the amount the taxpayer paid or incurred.

(a) Example. In 2018, taxpayer incurs \$25,000 in costs to construct Project A, comprised of five energy properties that will be operated as a single project. Taxpayer anticipates that each energy property will cost \$100,000 for a total cost for Project A of \$500,000. Thereafter, the taxpayer makes continuous efforts to advance towards completion of Project A. The taxpayer timely places Project A in service in a later year. At that time, the actual total cost of Project A amounts to \$600,000, with each energy property costing \$120,000. Although the taxpayer did not pay or incur five percent of the actual total cost of Project A in 2018, the taxpayer will be treated as satisfying the

Five Percent Safe Harbor in 2018 with respect to four of the energy properties, as their actual total cost of \$480,000 is not more than twenty times greater than the \$25,000 in costs incurred by the taxpayer. Thus, the taxpayer may claim the § 48 credit based on \$480,000, the cost of four of the energy properties.

(2) Single Energy Property. If the total cost of a single energy property, which is not part of a single project comprised of multiple energy properties (as described in section 7.01(2) of this notice) and cannot be separated into multiple energy properties, exceeds its anticipated total cost so that the amount a taxpayer actually paid or incurred with respect to the single energy property as of an earlier year is less than five percent of the total cost of the single energy property at the time it is placed in service, then the taxpayer will not satisfy the Five Percent Safe Harbor with respect to any portion of the single energy property in such earlier year.

(a) Example. In 2018, a taxpayer incurs \$25,000 in costs to construct Project B, an energy property. The taxpayer anticipates that the total cost of Project B will be \$500,000. Thereafter, the taxpayer makes continuous efforts to advance towards completion of Project B. The taxpayer places Project B in service in a later year. At that time, its actual total cost amounts to \$600,000. Because Project B is a single energy property that is not a single project comprised of multiple energy properties, the taxpayer will not satisfy the Five Percent Safe Harbor as of 2018. However, if the construction of Project B satisfies the requirements of the Physical Work Test, the taxpayer may be able to demonstrate that construction began in 2018 and claim the § 48 credit with respect to Project B.

SECTION 6. CONTINUITY REQUIREMENT

.01 Physical Work Test: Continuous Construction Test. A continuous program of construction involves continuing physical work of a significant nature (as described in section 4.02 of this notice). Whether a taxpayer maintains a continuous program of construction to satisfy the Continuity Requirement will be determined by the relevant facts and circumstances.

.02 Five Percent Safe Harbor: Continuous Efforts Test. Whether a taxpayer makes continuous efforts to advance towards completion of an energy property to satisfy the Continuity Requirement will be determined by the relevant facts and circumstances. Facts and circumstances indicating continuous efforts to advance towards completion of an energy property may include, but are not limited to:

(a) paying or incurring additional amounts included in the total cost of the energy property;

(b) entering into binding written contracts for the manufacture, construction, or production of components of property or for future work to construct the energy property;

(c) obtaining necessary permits; and

(d) performing physical work of a significant nature (as described in section 4.02 of this notice).

.03 Excusable Disruptions to Continuous Construction and Continuous Efforts Tests. Certain disruptions in a taxpayer's continuous construction or continuous efforts to advance towards completion of an energy property that are beyond the taxpayer's

control will not be considered as indicating that a taxpayer has failed to satisfy the Continuity Requirement. However, these disruptions will not extend the Continuity Safe Harbor Deadline as provided in section 6.05 of this notice.

The following is a non-exclusive list of construction disruptions that will not be considered as indicating that a taxpayer has failed to satisfy the Continuity Requirement:

- (a) delays due to severe weather conditions;
- (b) delays due to natural disasters;
- (c) delays in obtaining permits or licenses from federal, state, local, or Indian tribal governments, including, but not limited to, delays in obtaining permits or licenses from the Federal Energy Regulatory Commission (FERC), the Environmental Protection Agency (EPA), the Bureau of Land Management (BLM), and the Federal Aviation Agency (FAA);
- (d) delays at the written request of a federal, state, local, or Indian tribal government regarding matters of public safety, security, or similar concerns;
- (e) interconnection-related delays, such as those relating to the completion of construction on a new transmission or distribution line or necessary transmission or distribution upgrades to resolve grid congestion issues that may be associated with a project's planned interconnection;
- (f) delays in the manufacture of custom components;
- (g) delays due to labor stoppages;

(h) delays due to the inability to obtain specialized equipment of limited availability;

(i) delays due to the presence of endangered species;

(j) financing delays; and

(k) delays due to supply shortages.

.04 Timing of Excusable Disruption Determination. In the case of a single project comprised of a single energy property, whether an excusable disruption has occurred for purposes of the beginning of construction requirement of § 48 must be determined in the calendar year during which the energy property is placed in service. In the case of a single project comprised of multiple energy properties, whether an excusable disruption has occurred for purposes of the beginning of construction requirement of § 48 must be determined in the calendar year during which the last of multiple energy properties is placed in service.

.05 Continuity Safe Harbor: Deemed Satisfaction of Continuity Requirement. Except as provided in this section, if a taxpayer places an energy property in service by the end of a calendar year that is no more than four calendar years after the calendar year during which construction of the energy property began (the Continuity Safe Harbor Deadline), the energy property will be considered to satisfy the Continuity Safe Harbor. The excusable disruption rules in section 6.03 do not apply for purposes of applying the Continuity Safe Harbor. However, if an energy property is not placed in service before the end of the fourth calendar year after the calendar year during which construction of the energy property began, whether the energy property satisfies the

Continuity Requirement under either the Physical Work Test or the Five Percent Safe Harbor will be determined by the relevant facts and circumstances.

For example, if construction begins on an energy property on January 15, 2018, and the energy property is placed in service by December 31, 2022, the energy property will be considered to satisfy the Continuity Safe Harbor. If the energy property is not placed in service before January 1, 2023, whether the Continuity Requirement was satisfied will be determined by the relevant facts and circumstances.

Under section 48(a)(7), fiber-optic solar, qualified fuel cell, and qualified small wind energy property must be placed in service before January 1, 2024 to qualify for the ITC. Similarly, section 48(a)(6) reduces the ITC to 10 percent for any solar energy property placed in service after January 1, 2024. The Continuity Safe Harbor does not extend either of these deadlines.

SECTION 7. OTHER RULES APPLICABLE TO PHYSICAL WORK TEST AND FIVE PERCENT SAFE HARBOR

.01 Energy Property. (1) In general. An energy property generally includes all components of property that are functionally interdependent (unless such equipment is an addition or modification to an energy property). Components of property are functionally interdependent if the placing in service of each component is dependent upon the placing in service of each of the other components in order to generate electricity. Functionally-interdependent components of property that can be operated and metered together and can begin producing electricity separately from other components of property within a larger energy project will be considered an energy property. See Rev. Rul. 94-31, 1994-1 C.B. 16.

Generally, energy property is comprised of all components of property necessary to generate electricity up to and including the inverter. This may include PV panels (or other arrangements of solar cells), fiber-optics, fuel cells, turbines, boilers, mounting equipment, support structures, tracking equipment, monitoring equipment, transformers (used in electrical generation that step up the voltage to less than 69 kilovolts) and other power conditioning equipment, and inverters. For rooftop solar energy property, property integral to the generation of electrical energy that is installed on a single rooftop is considered a single unit of property.

(2) Single project. Solely for purposes of determining whether construction of energy property has begun for purposes of the § 48 credit, multiple energy properties that are operated as part of a single project (along with any components of property, such as a computer control system, that serves some or all such energy properties) will be treated as a single energy property. Whether multiple energy properties are operated as part of a single project will depend on the relevant facts and circumstances.

(a) Factors of Single Project Determination. Factors indicating that multiple energy properties are operated as part of a single project may include:

- (i) the energy properties are owned by a single legal entity;
- (ii) the energy properties are constructed on contiguous pieces of land;
- (iii) the energy properties are described in a common power purchase agreement or agreements;
- (iv) the energy properties have a common intertie;
- (v) the energy properties share a common substation;

(vi) the energy properties are described in one or more common environmental or other regulatory permits;

(vii) the energy properties were constructed pursuant to a single master construction contract; or

(viii) the construction of the energy properties was financed pursuant to the same loan agreement.

(b) Example. A taxpayer is developing Project C, an energy property that will consist of 50 energy properties. Project C will connect to the power grid through a single intertie, and power generated by Project C will be sold to a local utility through a single power purchase agreement. In 2020, for 10 of the 50 energy properties, the taxpayer installs supporting structures to affix components of the energy property to the foundation. Thereafter, the taxpayer completes the construction of all 50 energy properties and related equipment pursuant to a continuous program of construction. For purposes of the § 48 credit, Project C is a single project that will be treated as a single energy property, and the taxpayer performed physical work of a significant nature that constitutes the beginning of construction of Project C in 2020.

(3) Timing of Single Project Determination. The determination of whether multiple energy properties are operated as part of a single project and are therefore treated as a single energy property for purposes of the beginning of construction requirement of § 48 must be determined in the calendar year during which the last of the multiple energy properties is placed in service.

(4) Disaggregation. Multiple energy properties that are operated as part of a

single project and treated as a single energy property under section 7.01(2) of this notice for purposes of determining whether construction of an energy property has begun may be disaggregated and treated as multiple separate energy properties for purposes of determining whether a separate energy property satisfies the Continuity Safe Harbor. Those disaggregated separate energy properties that are placed in service prior to the Continuity Safe Harbor Deadline will be eligible for the Continuity Safe Harbor. The remaining disaggregated separate energy properties may satisfy the Continuity Requirement under a facts and circumstances determination.

(a) Example. A taxpayer is developing Project D, an energy property that will consist of 50 separate energy properties. Project D will connect to the power grid through a single intertie, and power generated by Project D will be sold to a local utility through a single power purchase agreement. Under the single project rule in section 7.01(2) of this notice, Project D is a single project that will be treated as a single energy property. In 2020, for 10 of the 50 separate energy properties, the taxpayer installs racks and other supporting structures to affix components of the energy property to the foundation. Accordingly, the taxpayer has performed physical work of a significant nature that constitutes the beginning of construction of Project D for purposes of § 48.

Thereafter, the taxpayer places in service only 40 of the 50 separate energy properties in 2024. The taxpayer disaggregates Project D under section 7.01(4) of this notice; 40 of the 50 separate energy properties satisfy the Continuity Safe Harbor. For the remaining 10 separate energy properties, the taxpayer may demonstrate that it satisfies the Continuous Construction Test described in section 6.01 of this notice based

on the facts and circumstances.

.02 Property Integral to Energy Property. (1) In general. Only physical work of a significant nature on tangible personal property and other tangible property used as an integral part of the activity performed by an energy property will be considered for purposes of determining whether a taxpayer has begun construction of the energy property. This includes property integral to the production of electricity, but does not include property used for the transmission of electricity. For purposes of the Five Percent Safe Harbor, the cost of any property not integral to an energy property is not included in the total cost of the energy property under section 5.02 of this notice.

Thus, physical work on, or costs paid or incurred for, a transmission tower located at the site where the energy property is located will not be considered for purposes of determining whether a taxpayer has begun construction because transmission is not an integral part of the activity performed by the energy property. However, physical work on, or costs paid or incurred for, a custom-designed transformer that steps up the voltage of electricity produced at an energy property to the voltage needed for transmission (69 kilovolts or greater) will be considered for purposes of determining whether a taxpayer has begun construction of the energy property because power conditioning equipment is an integral part of the activity performed by the energy property.

(2) Roads. Roads that are integral to an energy property are integral to the activity performed by the energy property; these include onsite roads that are used for equipment to operate and maintain the energy property. Starting construction on, or

paying or incurring costs for, these roads will be taken into account for purposes of determining whether a taxpayer has begun construction of the energy property. Roads primarily for access to the site, or roads used primarily for employee or visitor vehicles, are not integral to the activity performed by an energy property; therefore, physical work on, or costs paid or incurred for, these roads is not taken into account for purposes of determining whether a taxpayer has begun construction of the energy property.

(3) Fencing. Generally, fencing is not an integral part of an energy property because it is not integral to the activity performed by the energy property.

(4) Buildings. Generally, buildings are not integral parts of an energy property because they are not integral to the activity of the energy property. However, the following structures are not treated as buildings for this purpose: (a) a structure that is essentially an item of machinery or equipment, or (b) a structure that houses property that is integral to the activity of an energy property if the use of the structure is so closely related to the use of the housed energy property that the structure clearly can be expected to be replaced when the energy property it initially houses is replaced. See Treas. Reg. § 1.48-1(e).

.03 Construction by Contract. For components of energy property that are manufactured, constructed, or produced for the taxpayer by another person under a binding written contract (as described in section 7.03(1) of this notice), the work performed and amounts paid or incurred under the contract are taken into account in determining when construction begins, provided the contract is entered into prior to the work taking place or the amounts paid or incurred.

(1) Binding Written Contract. A written contract is binding only if it is enforceable under local law against the taxpayer or a predecessor and does not limit damages to a specified amount (for example, by use of a liquidated damages provision). For this purpose, a contractual provision that limits damages to an amount equal to at least five percent of the total contract price will not be treated as limiting damages to a specified amount. For additional guidance regarding the definition of a binding written contract, see Treas. Reg. § 1.168(k)-1(b)(4)(ii)(A)-(D).

(2) Master Contract. If a taxpayer enters into a binding written contract for a specific number of components of property to be manufactured, constructed, or produced for the taxpayer by another person under a binding written contract (master contract), and then through a new binding written contract (project contract) the taxpayer assigns its rights to certain components of property to an affiliated special purpose vehicle that will own the energy property for which such components of property are to be used, work performed or amounts paid or incurred with respect to the master contract may be taken into account in determining when construction begins with respect to the energy property.

.04 Look-through Rule. (1) Physical Work Test. Both on-site and off-site work (performed either by the taxpayer or by another person under a binding written contract) may be taken into account for purposes of demonstrating that physical work of a significant nature has begun with respect to an energy property.

(a) Example. In the case of an energy property, on-site physical work of a significant nature may begin with the beginning of the installation of racks or other

structures to affix components of the energy property to the foundation. If the energy property's racks or other structures are to be assembled on-site from components of property manufactured off-site by a person other than the taxpayer and delivered to the site, physical work of a significant nature begins when the manufacture of the components of property begins at the off-site location, but only if (i) the manufacturer's work is done pursuant to a binding written contract and (ii) these components of property are not held in the manufacturer's inventory. If a manufacturer produces components of property for multiple energy properties, a reasonable method must be used to associate individual components of property with a particular purchaser.

(2) Five Percent Safe Harbor. For an energy property or components of energy property that are manufactured, constructed, or produced for the taxpayer by another person under a binding written contract with the taxpayer, amounts paid or incurred with respect to the energy property by the other person before the energy property is provided to the taxpayer are deemed paid or incurred by the taxpayer when the amounts are paid or incurred by the other person under the principles of § 461.

(a) Example. In 2018, an accrual-method taxpayer, E, enters into a binding written contract with F pursuant to which E will provide components of energy property to F in June 2020. In 2018, E pays G pursuant to a contract for G to provide parts to E (in March 2019) for use in the components of energy property. E's employees provide E with services necessary to design and plan for the production of the components of energy property in 2018 and with services to manufacture (assemble) the components of energy property in 2020. E incurs the cost to design and plan for the production of

the components of energy property in 2018, incurs the costs for the components of energy property in March 2019 when G delivers the components of energy property to E (even though the components of energy property were paid for in 2018), and incurs the costs for E's employees to manufacture the components of energy property in 2020. See Treas. Reg. §§ 1.461-4(d) and 1.446-1(c)(1)(h). The costs E incurred in 2018 for its employees' performance of design and planning activities with respect to the components of energy property are costs deemed incurred by F in 2018 for purposes of the Five Percent Safe Harbor. The other costs in this example were incurred by E in 2019 and 2020 and are costs that F includes in the total cost of the energy property.

.05 Application of 80/20 Rule to Retrofitted Energy Property. (1) In general. Energy property may qualify as originally placed in service even though it contains some used components of property, provided the fair market value of the used components of property is not more than 20 percent of the energy property's total value (the cost of the new components of property plus the value of the used components of property) (80/20 Rule). In the case of a single project comprised of multiple energy properties, the 80/20 Rule is applied to each energy property comprising the single project. For purposes of the 80/20 Rule, the cost of a new energy property includes all properly capitalized costs of the new energy property.

(2) Beginning of Construction. To satisfy the beginning of construction requirement of § 48, the Physical Work Test or the Five Percent Safe Harbor is applied only with respect to the work performed on, or amounts paid or incurred for, new components of property used to retrofit used components of property or an existing

energy property. For the Five Percent Safe Harbor, all costs properly capitalized in the basis of the energy property are taken into account. The total cost of the energy property does not include the cost of land (including lease payments) or any property not integral to the energy property, as described in section 7.02 of this notice.

SECTION 8. TRANSFER OF ENERGY PROPERTY

.01 In general. Section 48(a)(3)(B) provides that energy property is any property the construction, reconstruction, or erection of which is completed by the taxpayer, or which is acquired by the taxpayer if the original use of such property commences with the taxpayer. A taxpayer that owns energy property on the date it is originally placed in service may elect to claim the § 48 credit with respect to the energy property even if the taxpayer did not own the energy property at the time construction began. Any § 48 credit claimed on energy property will be limited to the taxpayer's basis in the energy property. Accordingly, except as provided in section 8.03 of this notice, a fully or partially developed energy property may be transferred without losing its qualification under the Physical Work Test or the Five Percent Safe Harbor for purposes of the § 48 credit.

(1) Example. In August 2018, a developer acquires a parcel of land on which it intends to build and operate Project H, an energy property. The developer contributes the land to its wholly-owned limited liability company (LLC), which is disregarded as an entity separate from its owner for federal tax purposes, to hold and develop the energy property. In November 2018, the developer incurs 5 percent of the total cost of Project H and thereafter maintains continuous efforts to advance towards the completion of

Project H. In April 2019, to finance the development of Project H, the developer sells 95 percent of the interests in LLC to a group of investors who are not related to the developer, and the developer does not contribute sales proceeds to LLC.

Under Rev. Rul. 99-5, 1999-1 C.B. 434, the developer is treated as selling 95 percent of each of the assets of LLC to the investors, and immediately thereafter the developer and investors are treated as contributing their respective 5 percent and 95 percent interests in those assets to LLC, which is now a partnership and the owner of Project H for federal tax purposes. In October 2019, LLC places Project H in service. Because Project H satisfies the Five Percent Safe Harbor in November 2018 and assuming Project H otherwise satisfies the requirements of the § 48 credit, the LLC is eligible to claim the § 48 credit with respect to Project H.

(2) Example. A taxpayer acquires an energy property (that consists of land and components of energy property) from an unrelated developer that had begun construction of the energy property, and thereafter the taxpayer completes the development of that energy property and places it in service. The work performed or the amounts paid or incurred by the unrelated developer prior to the taxpayer's acquisition of the energy property may be taken into account by the taxpayer for purposes of determining when the energy property satisfies the Physical Work Test or the Five Percent Safe Harbor.

.02 Relocation of Equipment by a Taxpayer. A taxpayer may begin construction of an energy property with the intent to develop the energy property at a certain site, and thereafter transfer components of property of the energy property to a different site,

complete its development, and place it in service. The work performed or the amounts paid or incurred prior to the site transfer by such a taxpayer may be taken into account for purposes of determining when the energy property satisfies the Physical Work Test or the Five Percent Safe Harbor.

.03 Transfers of Equipment Between Unrelated Parties. (1) In general. In the case of a transfer consisting solely of tangible personal property (including contractual rights to such property under a binding written contract) to a transferee not related (within the meaning of § 197(f)(9)(C) and Treas. Reg. § 1.197-2(h)(6)) to the transferor, any work performed or amounts paid or incurred by the transferor with respect to such transferred property will not be taken into account with respect to the transferee for purposes of the Physical Work Test or the Five Percent Safe Harbor.

(2) Example. A developer, X, intends to develop and operate Project I at a location to be determined. In 2018, X pays or incurs \$60,000 to have tangible personal property integral to Project I manufactured off-site pursuant to a binding written contract. Thereafter X incurs no further development costs and engages in no further development activity with respect to Project I. In January 2019, X sells the tangible personal property to another developer, Y, a party unrelated to X. Y is developing and intends to operate Project J, an energy property located on a parcel of land owned by Y. Y incorporates the tangible personal property acquired from X into Project J. In October 2019, Y places Project J in service on the parcel of land. The total cost of Project J is \$1,000,000.

Amounts paid or incurred by X in 2018 for the tangible personal property cannot

be taken into account by Y for purposes of satisfying the Five Percent Safe Harbor with respect to Project J because X and Y are not related persons as described in section 8.03(1) of this notice. However, if without regard to these components of property, Y has otherwise satisfied the Physical Work Test or the Five Percent Safe Harbor with respect to Project J in 2018, Y will be considered to have begun construction in 2018.

SECTION 9. DRAFTING INFORMATION

The principal author of this notice is Jennifer C. Bernardini of the Office of Associate Chief Counsel (Passthroughs & Special Industries). For further information regarding this notice contact Ms. Bernardini on (202) 317-6853 (not a toll-free call).