

received requests for further clarification regarding how to satisfy the Physical Work Test, as well as questions regarding the effect of various types of transfers with respect to a facility after construction has begun. On September 2, 2014, the Treasury Department and the Service published Notice 2014-46 to clarify the application of the Physical Work Test and the effect that certain transfers with respect to a facility after construction has begun will have on a taxpayer's ability to qualify for the PTC or the ITC.

In response to a significant number of questions received after the extension of the PTC and the ITC by TIPA, on March 30, 2015, the Treasury Department and the Service published Notice 2015-25 to extend by one year the Continuity Safe Harbor provided in Notice 2013-60. Under the extended Continuity Safe Harbor in Notice 2015-25, if a taxpayer began construction on a facility prior to January 1, 2015, and places the facility in service before January 1, 2017, the facility will be considered to satisfy the Continuity Requirement, regardless of the amount of physical work performed or the amount of costs paid or incurred with respect to the facility after December 31, 2014, and before January 1, 2017.

Similarly, in response to a significant number of questions received after the extension of the PTC and the ITC by the PATH Act, this notice further extends and modifies the Continuity Safe Harbor and provides additional guidance regarding the application of the Continuity Safe Harbor and the Physical Work Test. This notice also clarifies the application of the Five Percent Safe Harbor to retrofitted renewable energy

facilities. Except as otherwise specified in this notice, the guidance provided in the prior IRS notices continues to apply.

SECTION 3. EXTENSION AND MODIFICATION OF THE CONTINUITY SAFE HARBOR

On December 18, 2015, the PATH Act extended the PTC for two years with respect to certain facilities the construction of which begins before January 1, 2017, and further extended the PTC for wind facilities the construction of which begins before January 1, 2020, with the PTC phasing out over the next four years. This notice modifies the Continuity Safe Harbor originally provided in section 3.02 of Notice 2013-60 and extended by section 3 of Notice 2015-25. Accordingly, if a taxpayer places a facility in service by the later of (1) a calendar year that is no more than four calendar years after the calendar year during which construction of the facility began or (2) December 31, 2016, the facility will be considered to satisfy the Continuity Safe Harbor. For example, if construction begins on a facility on January 15, 2016, and the facility is placed in service by December 31, 2020, the facility will be considered to satisfy the Continuity Safe Harbor.

SECTION 4. ADDITIONAL ISSUES REGARDING THE CONTINUITY REQUIREMENT

.01 Combination of methods. A taxpayer may not rely upon the Physical Work Test and the Five Percent Safe Harbor in alternating calendar years to satisfy the beginning of construction requirement or the Continuity Requirement. For example, if a taxpayer performs physical work of a significant nature on a facility in 2015, and then

pays or incurs five percent or more of the total cost of the facility in 2016, the Continuity Safe Harbor will be applied beginning in 2015, not in 2016.

.02 Disruptions to Continuous Construction or Continuous Efforts Tests.

(1) In general. Section 4.06(1) of Notice 2013-29 provides that whether a taxpayer satisfies the Continuity Requirement will be determined by the relevant facts and circumstances.

(2) Excusable disruptions. Sections 4.06(2) and 5.02(2) of Notice 2013-29 provide a non-exclusive list of construction disruptions that will not be considered as indicating that a taxpayer has failed to maintain a continuous program of construction or continuous efforts to advance towards completion of the facility. This notice revises that list, which remains non-exclusive, and provides additional excusable disruptions:

(a) severe weather conditions;

(b) 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 line or necessary transmission 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) labor stoppages;

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

(i) the presence of endangered species;

(j) financing delays; and

(k) supply shortages.

SECTION 5. PHYSICAL WORK TEST

.01 In general. The Physical Work Test requires that a taxpayer begin physical work of a significant nature. As provided in section 3 of Notice 2014-46, this test focuses on the nature of the work performed, not the amount or the cost. Assuming the 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.

.02 Examples. The following list of examples is intended to illustrate physical work of a significant nature for different types of renewable energy facilities and is non-exclusive.

(1) Wind facilities. On-site physical work of a significant nature may include the excavation for the foundation, the setting of anchor bolts into the ground, or the pouring of the concrete pads of the foundation.

(2) Hydropower facilities. On-site physical work of a significant nature may include the excavation for or construction of a penstock, power house, or retaining wall structure.

(3) Biomass and trash facilities. On-site physical work of a significant nature may include the performance of site improvements (as opposed to site clearing), such as filling or compacting soil, or installing stack piling.

(4) Geothermal facilities. On-site physical work of a significant nature may include physical activities that are undertaken at a project site after a valid discovery.

.03 Preliminary activities. As provided in section 4.02(1) of Notice 2013-29, 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 facility. Generally, preliminary activities include, but are not limited to:

- (1) planning and designing;
- (2) securing financing;
- (3) exploring;
- (4) researching;
- (5) conducting geologic mapping and modeling;
- (6) obtaining permits and licenses;
- (7) conducting geophysical, gravity, magnetic, seismic and resistivity surveys;
- (8) conducting environmental and engineering studies;
- (9) performing activities to develop a geothermal deposit prior to valid discovery;

- (10) clearing a site;
- (11) conducting test drilling to determine soil condition;
- (12) excavating to change the contour of the land (as distinguished from excavation for footings and foundations); and
- (13) removing existing turbines and towers, solar panels, or any components that will no longer be part of the facility.

.04 Facility.

(1) In general. As provided in section 4.04 of Notice 2013-29, a facility (within the meaning of § 45(d)) generally includes all components of property that are functionally interdependent. Components of property are functionally interdependent if the placing in service of each of the components is dependent upon the placing in service of each of the other components in order to generate electricity.

(2) Single project. Solely for purposes of determining whether construction of a facility has begun for purposes of §§ 45 and 48, multiple facilities that are operated as part of a single project (along with any property, such as a computer control system, that serves some or all such facilities) will be treated as a single facility. Whether multiple facilities are operated as part of a single project will depend on the relevant facts and circumstances. The single project rule may be applied to facilities that rely upon either the Physical Work Test or the Five Percent Safe Harbor to satisfy the Continuity Requirement.

(3) Timing of single project determination. The determination of whether multiple facilities are operated as part of a single project and are therefore treated as a single facility for beginning of construction purposes under section 5.04(2) must be determined in the calendar year during which the last of the multiple facilities is placed in service.

(4) Disaggregation. Multiple facilities that are operated as part of a single project and treated as a single facility under section 5.04(2) for purposes of determining whether construction of a facility has begun may be disaggregated and treated as multiple separate facilities for purposes of determining whether a facility satisfies the Continuity Safe Harbor. Those disaggregated facilities that are placed in service prior to the Continuity Safe Harbor deadline will be eligible for the Continuity Safe Harbor. The remaining disaggregated facilities may satisfy the Continuity Requirement under a facts and circumstances determination. The disaggregation rule may be applied to facilities that rely upon either the Physical Work Test or the Five Percent Safe Harbor to satisfy the Continuity Requirement.

(a) Example. X is developing a wind farm that will consist of 50 turbines, associated towers and supporting pads, a computer system that monitors and controls the turbines, and associated power conditioning equipment. The entire wind farm will be connected to the power grid through a single intertie, and power generated by the wind farm will be sold to a local utility through a single power purchase agreement. Using the single project rule in section 5.04(2), the entire wind farm is a single project

that will be treated as a single facility. On June 1, 2018, X excavates the site for the foundations of 10 of the 50 turbines and pours concrete for the supporting pads. Accordingly, X has performed physical work of a significant nature that constitutes the beginning of construction of the single facility for purposes of §§ 45 and 48.

Thereafter, X places in service only 40 of the 50 turbines and related facilities before January 1, 2023. X disaggregates the 50 turbines under section 5.04(4). Forty of the 50 turbines satisfy the Continuity Safe Harbor. For the remaining 10 turbines, X may demonstrate that it satisfies the Continuous Construction Test described in section 4.06 of Notice 2013-29 based on the facts and circumstances.

SECTION 6. APPLICATION OF FIVE PERCENT SAFE HARBOR TO RETROFITTED FACILITIES

.01 In general. A facility may qualify as originally placed in service even though it contains some used property, provided the fair market value of the used property is not more than 20 percent of the facility's total value (the cost of the new property plus the value of the used property) (80/20 Rule). See Rev. Rul. 94-31, 1994-1 C.B. 16; Notice 2008-60, 2008-2 C.B. 178. In the case of a single project comprised of multiple facilities (as described in section 5.04(2)), the 80/20 Rule is applied to each individual facility comprising the single project.

.02 Application of beginning of construction to retrofitted facilities. To satisfy beginning of construction for §§ 45 and 48, the Five Percent Safe Harbor is applied only with respect to the cost of new property used to retrofit an existing facility. Therefore,

only expenditures paid or incurred that relate to new construction should be taken into account for purposes of the Five Percent Safe Harbor.

(1) Example. Taxpayer owns an existing wind farm comprised of 13 turbines, pads, and towers for which the eligibility periods for the PTC or the ITC have elapsed. Each facility has a fair market value of \$1 million. Taxpayer replaces components worth \$900,000 at each of 11 of the facilities at a cost of \$1.4 million for each facility. Two of the 13 facilities are not upgraded. The fair market value of the remaining original components at each of the upgraded facilities is \$100,000. The total expenditures to retrofit the 11 facilities are \$15.4 million (\$1.4 million x 11). Taxpayer applies the single project rule provided in section 5.04(2).

The fair market value of the remaining original components of each individual upgraded facility (\$100,000) is not more than 20% of each facility's total value of \$1.5 million (the cost of the new components (\$1.4 million) + the value of the remaining original components (\$100,000)). Thus, each upgraded facility will be considered newly placed in service for purposes of §§ 45 and 48. Accordingly, if the taxpayer pays or incurs at least \$770,000 (5% of \$15.4 million) of qualified expenditures in 2016, construction of the single facility will be considered to have begun in 2016, and if the taxpayer also satisfies the Continuous Efforts Test, each of the 11 upgraded facilities will be a qualified facility within the meaning of § 45(d). No additional PTC will be allowed with respect to energy produced by the taxpayer at the two facilities that were not upgraded. Nor will those two facilities qualify for additional ITC.

SECTION 7. EFFECT ON OTHER DOCUMENTS

Notice 2013-29, Notice 2013-60, Notice 2014-46, and Notice 2015-25 are clarified and modified. The guidance provided in this notice is applicable to any project for which a taxpayer claims the PTC or the ITC under §§ 45 or 48, as modified by ATRA, that is placed in service after January 2, 2013.

SECTION 8. 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).

Beginning of Construction for Sections 45 and 48

Notice 2015-25

SECTION 1. PURPOSE

On December 19, 2014, the Tax Increase Prevention Act of 2014, Pub. L. No. 113-295, 128 Stat. 4010 (TIPA), extended by one year the date by which construction of a qualified facility (as described in section 45(d) of the Internal Revenue Code) must begin. Accordingly, a taxpayer will be eligible for the renewable electricity production tax credit under section 45 (PTC), or the energy investment tax credit under section 48 (ITC) in lieu of the PTC, with respect to such a facility if construction of such facility began before January 1, 2015.

This notice updates the guidance provided in Notice 2013-29, 2013-1 C.B. 1085, Notice 2013-60, 2013-2 C.B. 431, and Notice 2014-46, 2014-36 I.R.B. 520 (collectively “the prior IRS notices”) consistent with this statutory extension. The Internal Revenue Service (Service) will not issue private letter rulings to taxpayers regarding the application of this notice or the application of the beginning of construction requirement under sections 45(d) and 48(a)(5).

SECTION 2. EXTENSION OF BEGINNING OF CONSTRUCTION DATE

Prior to TIPA, sections 45(d) and 48(a)(5) required that construction of a qualified facility begin before January 1, 2014 for the facility to be eligible for the PTC or ITC.

Based on sections 45 and 48 as in effect before the enactment of TIPA, the prior IRS notices provide guidance to determine whether construction has begun on a qualified facility prior to January 1, 2014. Because TIPA extended the date by which construction of a qualified facility must begin to January 1, 2015, this notice updates all references to "January 1, 2014" in the prior IRS notices as they relate to the date by which construction must begin on a facility by replacing "January 1, 2014" with "January 1, 2015." Except as otherwise specified in this notice, the guidance provided in the prior IRS notices continues to apply.

SECTION 3. CONTINUOUS CONSTRUCTION/CONTINUOUS EFFORTS TESTS

The prior IRS notices provide that a taxpayer may establish the beginning of construction by either (1) starting physical work of a significant nature (Physical Work Test) or (2) paying or incurring five percent or more of the total cost of facility (Safe Harbor). Both methods require that a taxpayer make continuous progress towards completion once construction has begun (as set forth in section 4.06 (Continuous Construction Test) and section 5.02 (Continuous Efforts Test) of Notice 2013-29, respectively). Section 3.02 of Notice 2013-60 further provides that if a facility is placed in service before January 1, 2016, the facility will be considered to satisfy the Continuous Construction Test (for purposes of satisfying the Physical Work Test) or the Continuous Efforts Test (for purposes of satisfying the Safe Harbor).

Consistent with the one-year extension of the beginning of construction date, this notice extends the placed in service date provided in section 3.02 of Notice 2013-60 to

January 1, 2017. Thus, if a taxpayer begins construction on a facility prior to January 1, 2015, and places the facility in service before January 1, 2017, the facility will be considered to satisfy the Continuous Construction Test (for purposes of satisfying the Physical Work Test) or the Continuous Efforts Test (for purposes of satisfying the Safe Harbor), regardless of the amount of physical work performed or the amount of costs paid or incurred with respect to the facility after December 31, 2014 and before January 1, 2017.

SECTION 4. 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).

Part III - Administrative, Procedural, and Miscellaneous

Clarification and Modification of Notice 2013-29 and Notice 2013-60

Notice 2014-46

SECTION 1. PURPOSE

On January 2, 2013, the American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, 126 Stat. 2313 (ATRA), modified the definition of certain qualified facilities under section 45(d) of the Internal Revenue Code (the Code) by replacing the placed in service requirement with a beginning of construction requirement. Accordingly, a taxpayer will be eligible to receive the renewable electricity production tax credit (PTC) under section 45, or the energy investment tax credit (ITC) under section 48 in lieu of the PTC, with respect to such a facility if construction of such facility began before January 1, 2014.

Notice 2013-29, 2013-1 C.B. 1085, provides two methods to determine when construction has begun on a qualified facility: (i) a “physical work” test and (ii) a five percent safe harbor. Notice 2013-60, 2013-2 C.B. 431, clarifies Notice 2013-29

regarding (i) the determination of whether a taxpayer satisfies either the continuous construction requirement or the continuous efforts requirement of those methods with respect to a facility, (ii) the applicability of the “master contract” provision, and (iii) the ability to transfer a facility after construction has begun. This notice further clarifies Notices 2013-29 and 2013-60 regarding (i) how to satisfy the physical work test and (ii) the effect of various types of transfers with respect to a facility after construction has begun. In addition, this notice modifies the application of the five percent safe harbor.

The guidance provided in this notice applies the rules of sections 45 and 48 as in effect on January 1, 2014. The Internal Revenue Service (Service) will not issue private letter rulings to taxpayers regarding the application of this notice or the application of the beginning of construction requirement under sections 45(d) and 48(a)(5) as provided in Notice 2013-29 and Notice 2013-60.

SECTION 2. BACKGROUND

A taxpayer may establish the beginning of construction by beginning physical work of a significant nature as described in section 4 of Notice 2013-29 (Physical Work Test). Alternatively, a taxpayer may establish the beginning of construction by meeting the safe harbor provided in section 5 of Notice 2013-29 (Safe Harbor). A taxpayer can satisfy the Safe Harbor with respect to a facility by demonstrating, after the facility is placed in service, that five percent or more of the total cost of the facility was paid or incurred before January 1, 2014. Both methods require that a taxpayer make continuous progress towards completion once construction has begun (as set forth in section 4.06 (Continuous Construction Test) and section 5.02 (Continuous Efforts Test)

of Notice 2013-29, respectively).

In response to a significant number of questions received after the publication of Notice 2013-29, the Treasury Department and the Service issued Notice 2013-60, which in part clarifies that the transfer of a facility after construction has begun will not necessarily prevent a facility from qualifying for the PTC or the ITC. Additionally, section 3.02 of Notice 2013-60 provides a method for taxpayers to satisfy either the Continuous Construction Test or the Continuous Efforts Test. If a taxpayer places a facility in service before January 1, 2016, the facility will be considered to satisfy the Continuous Construction Test (for purposes of satisfying the Physical Work Test) or the Continuous Efforts Test (for purposes of satisfying the Safe Harbor), regardless of the amount of physical work performed or the amount of costs paid or incurred with respect to the facility between December 31, 2013, and January 1, 2016.

After the publication of Notice 2013-60, the Treasury Department and the Service received requests for further clarification regarding how to satisfy the Physical Work Test as well as questions regarding the effect of various types of transfers with respect to a facility after construction has begun. This notice clarifies the application of the Physical Work Test and the effect that certain transfers with respect to a facility after construction has begun will have on a taxpayer's ability to qualify for the PTC or the ITC. In addition, this notice modifies the application of the Safe Harbor for certain facilities with respect to which a taxpayer paid or incurred less than five percent, but at least three percent, of the total cost of the facility before January 1, 2014.

SECTION 3. PHYSICAL WORK TEST

The Physical Work Test requires that a taxpayer begin physical work of a significant nature (as defined in section 4.02 of Notice 2013-29) prior to January 1, 2014. This test focuses on the nature of the work performed, not the amount or cost. Notice 2013-29 describes several activities that constitute physical work of a significant nature. These activities are merely examples and not an exclusive list of the activities that will satisfy the Physical Work Test. For example, section 4.02 of Notice 2013-29 provides:

[I]n the case of a facility for the production of electricity from a wind turbine, on-site physical work of a significant nature begins with the beginning of the excavation for the foundation, the setting of anchor bolts into the ground, or the pouring of the concrete pads of the foundation.

Section 4.05(1) of Notice 2013-29 provides:

[P]hysical work on a custom-designed transformer that steps up the voltage of electricity produced at the facility to the voltage needed for transmission is physical work of a significant nature with respect to the facility because power conditioning equipment is an integral part of the activity performed by the facility.

Section 4.05(2) of Notice 2013-29 provides:

Roads that are integral to the facility are integral to the activity performed by the facility; these include onsite roads that are used for moving materials to be processed (for example, biomass) and roads for equipment to operate and maintain

the qualified facility. Starting construction on these roads constitutes physical work of a significant nature with respect to the facility.

Beginning work on any one of the activities described above will constitute physical work of a significant nature.

Section 4.04(3) of Notice 2013-29 provides an example in which X, a developer of a 50 turbine wind farm, is found to satisfy the beginning of construction requirement in part based on the stated fact that, in 2013, for 10 of the 50 turbines, X excavates the site for the foundations of the wind turbines and pours concrete for the supporting pads. This example illustrates the “single project” concept set forth in section 4.04(2) of Notice 2013-29 and is not intended to indicate that there is a 20% threshold or minimum amount of work required to satisfy the Physical Work Test. Assuming the 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.

As provided in section 4.01 of Notice 2013-29 the Service will closely scrutinize a facility, and may determine that construction has not begun on a facility before January 1, 2014, if a taxpayer does not maintain a continuous program of construction as determined under section 4.06 of Notice 2013-29 and section 3.02 of Notice 2013-60.

SECTION 4. TRANSFERS WITH RESPECT TO A FACILITY

.01 In general. Certain of the definitions of a qualified facility provided in section 45(d) require that the construction of the facility begin before January 1, 2014. There is no statutory requirement that the taxpayer that places the facility in service also be the taxpayer that begins construction of the facility. See Notice 2013-60, section 5.01.

Moreover, section 48(a)(5)(D) defines “qualified property” (which may be eligible for the ITC in lieu of the PTC) as certain property that is “constructed, reconstructed, erected, or *acquired* by the taxpayer.” (Emphasis added.) Thus, except as provided in section 4.03 of this notice, a fully or partially developed facility may be transferred without losing its qualification under the Physical Work Test or the Safe Harbor for purposes of the PTC or the ITC. For example, a taxpayer may acquire a facility (that consists of more than just tangible personal property) from an unrelated developer that had begun construction of the facility prior to January 1, 2014, and thereafter the taxpayer may complete the development of that facility and place it in service. The work performed or amount paid or incurred prior to January 1, 2014, by the unrelated transferor developer may be taken into account for purposes of determining whether the facility satisfies the Physical Work Test or Safe Harbor.

.02 Relocation of equipment by a taxpayer. A taxpayer also may begin construction of a facility in 2013 with the intent to develop the facility at a certain site, but thereafter transfer equipment and other components of the facility to a different site, complete its development, and place it in service. The work performed or amount paid or incurred prior to January 1, 2014, by such a taxpayer may be taken into account for purposes of determining whether the facility satisfies the Physical Work Test or the Safe Harbor.

.03 Transfers of equipment between unrelated parties. 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 (defined for these purposes by reference to section 197(f)(9)(C)) to the transferor, any work performed or

amount paid or incurred by the transferor with respect to such property so transferred will not be taken into account with respect to the transferee for purposes of the Physical Work Test or the Safe Harbor.

Example. Developer D intends to develop and operate Facility K at a location to be determined. Prior to January 1, 2014, Developer D pays or incurs \$60,000 to have tangible personal property integral to Facility K manufactured off-site pursuant to a binding written contract. Thereafter Developer D incurs no further development costs and engages in no further development activity with respect to Facility K. In January 2014, Developer D sells the tangible personal property to Developer E, a party unrelated to Developer D. Developer E is developing and intends to operate Facility L, a facility located on a parcel of land owned by Developer E. Developer E incorporates the tangible personal property acquired from Developer D into Facility L. In October 2015, Developer E places Facility L in service on the parcel of land. The total cost of Facility L is \$1,000,000.

Amounts paid or incurred by Developer D prior to January 1, 2014, for the tangible personal property will not be taken into account for purposes of satisfying the Safe Harbor with respect to Facility L. However, if without regard to these components, Developer E has otherwise satisfied the Physical Work Test or the Safe Harbor with respect to Facility L, Developer E will be eligible to claim the PTC with respect to electricity generated by Facility L and sold to an unrelated party. In such a case, Developer E may alternatively elect to claim the ITC in lieu of the PTC.

SECTION 5. SAFE HARBOR

.01 Single project. If the amount a taxpayer paid or incurred before January 1, 2014, with respect to the total cost of a facility that is a single project comprised of multiple facilities (as described in section 4.04(2) of Notice 2013-29) is less than five percent of the total cost of the facility at the time the facility is placed in service, the Safe Harbor is not fully satisfied. However, if a taxpayer paid or incurred at least three percent of the total cost of such a facility before January 1, 2014, the Safe Harbor may be satisfied and the PTC or ITC may be claimed with respect to some, but not all, of the individual facilities (as described in section 4.04(1) of Notice 2013-29) comprising the project. In this situation, a taxpayer may claim the PTC or ITC on any number of individual facilities as long as the total aggregate cost of those individual facilities at the time the project is placed in service is not greater than twenty times the amount the taxpayer paid or incurred before January 1, 2014. The Continuous Efforts Test of section 5.02 of Notice 2013-29 must also be met to qualify for the Safe Harbor.

.02 Single facility. If the amount a taxpayer actually paid or incurred before January 1, 2014, with respect to the total cost of a single facility that is not a single project comprised of multiple individual facilities (as described in section 4.04(2) of Notice 2013-29), and that cannot be separated into individual facilities, is less than five percent of the total cost of the facility at the time the facility is placed in service, then the taxpayer will not satisfy the Safe Harbor with respect to any portion of the facility.

.03 Examples – (a) Example 1. Developer incurs \$30,000 in costs prior to January 1, 2014, to construct Project M, a five-turbine wind farm, that will be operated as a single project (as described in section 4.04(2) of Notice 2013-29). In October 2015,

Developer places Project M in service. The total cost of Project M is \$800,000, with each turbine costing \$160,000. Although Developer did not pay or incur five percent of the total cost of Project M before January 1, 2014, Developer did pay or incur at least three percent of the total cost of Project M before January 1, 2014. In addition, because Developer placed Project M in service before January 1, 2016, Developer is deemed to satisfy the Continuous Efforts Test pursuant to section 3.02 of Notice 2013-60.

Accordingly, Developer will be treated as satisfying the Safe Harbor with respect to three of the turbines of Project M, as their total aggregate cost of \$480,000 is not greater than twenty times the \$30,000 in costs incurred by Developer prior to January 1, 2014. Thus, Developer may claim the PTC on electricity produced from three of the turbines of Project M or the ITC based on \$480,000, the cost of three of the turbines of Project M.

(b) Example 2. Developer incurs \$25,000 in costs prior to January 1, 2014, to construct Facility N, an open-loop biomass facility, partly comprised of one boiler and one turbine generator that are functionally interdependent. In October 2015, Developer places Facility N in service. The total cost of Facility N is \$600,000. Because Developer did not pay or incur five percent of the actual total cost of Facility N before January 1, 2014, and because the boiler and turbine generator are integral parts of a single facility that is not a single project comprised of multiple facilities (as described in section 4.04(2) of Notice 2013-29), Developer will not satisfy the Safe Harbor.

However, if physical work of a significant nature began (within the meaning of section 4.01 of Notice 2013-29, as clarified by section 3 of this notice) before January 1, 2014,

Developer may be able to claim the PTC or the ITC with respect to Facility N.

SECTION 6. EFFECT ON OTHER DOCUMENTS

Notice 2013-29, 2013-1 C.B. 1085, and Notice 2013-60, 2013-2 C.B. 431, are clarified and modified.

SECTION 7. 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).

Part III - Administrative, Procedural, and Miscellaneous

Clarification of Notice 2013-29

Notice 2013-60

SECTION 1. PURPOSE

The American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, 126 Stat. 2313 (ATRA), modified the definition of a qualified facility under section 45(d) of the Internal Revenue Code by replacing the placed in service requirement with a begin construction requirement. A taxpayer will be eligible to receive the renewable electricity production tax credit (PTC) under section 45, or the energy investment tax credit (ITC) under section 48 in lieu of the PTC, with respect to a facility if construction of such facility begins before January 1, 2014. Notice 2013-29, 2013-20 I.R.B. 1085, provides two methods to determine when construction has begun on such a facility. This notice clarifies Notice 2013-29 regarding (i) the determination of whether a taxpayer satisfies either of those methods with respect to a facility, (ii) the applicability of the “master contract” provision in that notice, and (iii) the effect of a transfer of a facility after construction has begun.

SECTION 2. BACKGROUND

Notice 2013-29 provides two methods that a taxpayer may use to establish that construction of a qualified facility has begun. A taxpayer may establish the beginning of

construction by starting physical work of a significant nature as described in section 4 of the notice (Physical Work Test). Alternatively, a taxpayer may establish the beginning of construction by meeting the safe harbor provided in section 5 of the notice (Safe Harbor). These methods require that a taxpayer make continuous progress towards completion once construction has begun (as set forth in sections 4.06 (Continuous Construction Test) and 5.02 (Continuous Efforts Test) of Notice 2013-29, respectively). Notice 2013-29 provides that a taxpayer may enter into a master contract for purposes of the Physical Work Test in section 4.03(2). Notice 2013-29 does not address the effect of a transfer of a facility after construction has begun.

The Treasury Department and the Internal Revenue Service have received a significant number of questions regarding the application of the Continuous Construction and Continuous Efforts Tests in Notice 2013-29, the applicability of the master contract provision for purposes of the Safe Harbor, and the effect that a transfer of a facility after construction has begun will have on its ability to qualify for the PTC or ITC. In response to these questions, this notice provides a method that will allow taxpayers to be deemed to satisfy both the Continuous Construction and Continuous Efforts Tests. In addition, this notice provides that the master contract provision in Notice 2013-29 also applies for purposes of the Safe Harbor, and that the transfer of a facility after construction has begun will not prevent a facility from qualifying for the PTC or ITC.

SECTION 3. CONTINUOUS CONSTRUCTION/CONTINUOUS EFFORTS TESTS

.01 In general. Section 4.01 of Notice 2013-29, setting forth the Physical Work

Test, provides:

The Internal Revenue Service will closely scrutinize, and may determine that construction has not begun on a facility before January 1, 2014, if a taxpayer does not maintain a continuous program of construction as determined under section 4.06.

Section 4.06(1) provides that whether a taxpayer maintains a continuous program of construction will be determined by the relevant facts and circumstances. Section 4.06(2) provides that certain disruptions in the taxpayer's construction of a facility that are beyond the taxpayer's control will not be considered to indicate that a taxpayer has failed to maintain a continuous program of construction, and sets forth a non-exclusive list of examples of such disruptions.

Section 5.01 of Notice 2013-29, setting forth the Safe Harbor, provides:

Construction of a facility will be considered as having begun before January 1, 2014, 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 facility, except as provided in section 5.01(2), before January 1, 2014, and (2) thereafter, the taxpayer maintains continuous efforts to advance towards completion of the facility (as determined under section 5.02).

The exception in section 5.01(2) deals with costs incurred by a person other than the taxpayer under a binding written contract with the taxpayer. Section 5.02(1) provides that whether a taxpayer maintains continuous efforts to advance towards completion of the facility will be determined by the relevant facts and circumstances. Section 5.02(2)

provides that certain disruptions in the taxpayer's continuous efforts to advance towards completion of the facility that are beyond the taxpayer's control will not be considered as indicating that a taxpayer has failed to maintain continuous efforts to advance towards completion of the facility, and sets forth a non-exclusive list of examples of such disruptions.

.02 Deemed satisfaction of Continuous Construction/Continuous Efforts Tests.

If a facility is placed in service before January 1, 2016, the facility will be considered to satisfy the Continuous Construction Test (for purposes of satisfying the Physical Work Test) or the Continuous Efforts Test (for purposes of satisfying the Safe Harbor). If a facility is not placed in service before January 1, 2016, whether the facility satisfies the Continuous Construction or Continuous Efforts Tests will be determined by the relevant facts and circumstances, as described in section 4.06 and section 5.02 in Notice 2013-29.

SECTION 4. MASTER CONTRACT

.01 In general. Section 4.03(2) of Notice 2013-29, setting forth the Physical Work Test, provides:

If a taxpayer enters into a binding written contract for a specific number of components to be manufactured, constructed, or produced for the taxpayer by another person under a binding written contract (a "master contract"), and then through a new binding written contract (a "project contract") the taxpayer assigns its rights to certain components to an affiliated special purpose vehicle that will own the facility for which such property is to be used, work performed with

respect to the master contract may be taken into account in determining when physical work of a significant nature begins with respect to the facility.

.02 Master contract for Safe Harbor. The master contract provision, as described in section 4.03(2) of Notice 2013-29 under the Physical Work Test, also applies for purposes of the Safe Harbor.

SECTION 5. TRANSFER OF A FACILITY

.01 In general. Notice 2013-29 did not address the effect of a transfer of a facility after construction has begun. Section 45(d)(1), as amended by ATRA, provides:

In the case of a facility using wind to produce electricity, the term 'qualified facility' means any facility owned by the taxpayer which is originally placed in service after December 31, 1993, and the construction of which begins before January 1, 2014.

The statutory language requires only that construction of a facility begin before January 1, 2014. It does not require the construction to be begun by the taxpayer claiming the credit. If a qualified facility satisfies either the Physical Work Test or the Safe Harbor, a taxpayer that owns the facility during the 10-year period beginning on the date the facility was originally placed in service may claim the PTC with respect to that facility even if the taxpayer did not own the facility at the time construction began. Alternatively, a taxpayer that owns the facility on the date it is originally placed in service may elect to claim the ITC in lieu of the PTC with respect to that facility even if the taxpayer did not own the facility at the time construction began. Any ITC claimed on a facility will be limited to the taxpayer's basis in qualified property (as defined in

section 48(a)(5)(D)).

.02 Example. In August 2013, Developer acquires a parcel of land on which it intends to build and operate a wind farm (Facility). 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 Facility. In November 2013, Developer incurs 5 percent of the cost of Facility and thereafter maintains continuous efforts to advance towards the completion of Facility. In April 2014, to finance the development of the project, Developer sells 95 percent of the interests in LLC to a group of investors (Investors) who are not related to Developer, and Developer does not contribute sales proceeds to LLC. Under Rev. Rul. 99-5, 1999-1 C.B. 434, Developer is treated as selling 95 percent of each of the assets of LLC to Investors, and immediately thereafter 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 Facility for federal tax purposes. In October 2015, LLC places Facility in service. Because Facility satisfies the Safe Harbor and assuming Facility is otherwise a qualified facility under section 45(d), LLC is eligible to claim the PTC with respect to electricity generated by Facility and sold to an unrelated party. Alternatively, LLC may elect to claim the ITC in lieu of the PTC.

SECTION 6. EFFECT ON OTHER DOCUMENTS

Notice 2013-29 is clarified.

SECTION 7. DRAFTING INFORMATION

The principal author of this notice is Brian J. Americus of the Office of Associate

Chief Counsel (Passthroughs & Special Industries). For further information regarding this notice, contact Brian J. Americus on (202) 622-3110 (not a toll-free call).

Beginning of Construction for Purposes of the Renewable Electricity Production Tax Credit and Energy Investment Tax Credit

Notice 2013-29

SECTION 1. PURPOSE

Under the American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, 126 Stat. 2313 (ATRA), a qualified facility (as described in section 45(d) of the Internal Revenue Code) will be eligible to receive the renewable electricity production tax credit (PTC) under section 45, or the energy investment tax credit (ITC) under section 48 in lieu of the PTC, if construction of such facility begins before January 1, 2014. This notice provides guidelines and a safe harbor to determine when construction has begun on such a facility.

SECTION 2. BACKGROUND

A taxpayer can claim a PTC with respect to electricity produced at a “qualified facility” within the meaning of section 45(d). If the taxpayer makes an election under section 48(a)(5), the taxpayer may instead claim an ITC with respect to that facility. Prior to ATRA, to be a qualified facility, a facility was required to be placed in service before January 1, 2014, except for qualified wind facilities, which had to be placed in service before January 1, 2013. Section 407 of ATRA modified section 45 by extending the PTC for wind facilities through 2013. ATRA also modified the definition of qualified facility by replacing the requirement to place a facility in service before January 1, 2014, with the requirement to begin construction of a facility before January 1, 2014. For

purposes of sections 45(d) and 48(a)(5), qualified facilities include wind facilities, closed-loop biomass facilities, open-loop biomass facilities, geothermal facilities, landfill gas facilities, trash facilities, hydropower facilities, and marine and hydrokinetic facilities.

SECTION 3. METHODS FOR ESTABLISHING BEGINNING OF CONSTRUCTION

This notice provides two methods that a taxpayer may use to establish that construction of a qualified facility has begun. A taxpayer may establish the beginning of construction by starting physical work of a significant nature as described in section 4. Alternatively, a taxpayer may establish the beginning of construction by meeting the safe harbor provided in section 5 (Safe Harbor). Although a taxpayer may satisfy both methods, a taxpayer need only satisfy one method to establish that construction of a facility has begun for the purpose of qualifying for the PTC or ITC.

SECTION 4. PHYSICAL WORK

.01 In general. Construction of a qualified facility 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 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 in determining whether construction has begun. Whether a taxpayer has begun construction of a facility before January 1, 2014, will depend on the relevant facts and circumstances. The Internal Revenue Service will closely scrutinize a facility, and may determine that construction has not begun on a facility before January 1, 2014, if a taxpayer does not maintain a continuous program of construction as determined under

section 4.06.

.02 Physical work of a significant nature. 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. For example, in the case of a facility for the production of electricity from a wind turbine, on-site physical work of a significant nature begins with the beginning of the excavation for the foundation, the setting of anchor bolts into the ground, or the pouring of the concrete pads of the foundation. If the facility's wind turbines and tower units are to be assembled on-site from components 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 begins at the off-site location, but only if (i) the manufacturer's work is done pursuant to a binding written contract (as described in section 4.03(1)) and (ii) these components are not held in the manufacturer's inventory (as described in section 4.02(2)). If a manufacturer produces components for multiple facilities, a reasonable method must be used to associate individual components with particular facilities.

(1) 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 facility. Preliminary activities include planning or designing, securing financing, exploring, researching, obtaining permits, licensing, conducting surveys, environmental and engineering studies, clearing a site, test drilling of a geothermal deposit, test drilling to determine soil condition, or excavation to change

the contour of the land (as distinguished from excavation for footings and foundations). Removal of existing turbines and towers is preliminary work and, therefore, does not constitute physical work of a significant nature with respect to the facility.

(2) 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 property that is either in existing inventory or is normally held in inventory by a vendor.

.03 Construction by contract. For property that is manufactured, constructed, or produced for the taxpayer by another person under a binding written contract (as described in section 4.03(1)), the work performed under the contract is taken into account in determining when physical work of a significant nature begins, provided the contract is entered into prior to the work taking place.

(1) Binding written contract. A 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 contract, see § 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 to be manufactured, constructed, or produced for the taxpayer by another person under a binding written contract (a “master contract”), and

then through a new binding written contract (a “project contract”) the taxpayer assigns its rights to certain components to an affiliated special purpose vehicle that will own the facility for which such property is to be used, work performed with respect to the master contract may be taken into account in determining when physical work of a significant nature begins with respect to the facility.

.04 Facility – (1) In general. A facility (within the meaning of section 45(d)) generally includes all components of property that are functionally interdependent. Components of property are functionally interdependent if the placing in service of each of the components is dependent upon the placing in service of each of the other components in order to generate electricity. For example, on a wind farm for the production of electricity from wind energy, an electricity-generating wind turbine, its tower, and its supporting pad comprise a single facility. Each such facility can be separately operated and metered and can begin producing electricity separately. See Rev. Rul. 94-31, 1994-1 C.B. 16.

(2) Single project. Solely for purposes of determining whether construction of a facility has begun for purposes of sections 45 and 48, multiple facilities that are operated as part of a single project (along with any property, such as a computer control system, that serves some or all such facilities) will be treated as a single facility. Whether multiple facilities are operated as part of a single project will depend on the relevant facts and circumstances. Factors indicating that multiple facilities are operated as part of a single project include, but are not limited to:

(a) The facilities are owned by a single legal entity;

- (b) The facilities are constructed on contiguous pieces of land;
- (c) The facilities are described in a common power purchase agreement or agreements;
- (d) The facilities have a common intertie;
- (e) The facilities share a common substation;
- (f) The facilities are described in one or more common environmental or other regulatory permits;
- (g) The facilities were constructed pursuant to a single master construction contract; and
- (h) The construction of the facilities was financed pursuant to the same loan agreement.

(3) Example. X is developing a wind farm that will consist of 50 turbines, their associated towers, their supporting pads, a computer system that monitors and controls the turbines, and associated power conditioning equipment. The entire wind farm will be connected to the power grid through a single intertie, and power generated by the wind farm will be sold to a local utility through a single power purchase agreement. In 2013, for 10 of the 50 turbines, X excavates the site for the foundations of the wind turbines and pours concrete for the supporting pads. Thereafter, X completes the construction of all 50 turbines and related facilities pursuant to a continuous program of construction (as determined under section 4.06). For purposes of sections 45 and 48, the entire wind farm is a single project that will be treated as a single facility, and X has performed physical work of a significant nature that constitutes the beginning of

construction of that facility in 2013.

.05 Property integral to the facility – (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 the facility will be considered for purposes of determining whether a taxpayer has begun construction of a facility. This includes property integral to the production of electricity, but does not include property used for electrical transmission. Thus, physical work on a transmission tower located at the site is not physical work of a significant nature because the transmission is not an integral part of the activity performed by the facility. However, physical work on a custom-designed transformer that steps up the voltage of electricity produced at the facility to the voltage needed for transmission is physical work of a significant nature with respect to the facility because power conditioning equipment is an integral part of the activity performed by the facility.

(2) Roads. Roads that are integral to the facility are integral to the activity performed by the facility; these include onsite roads that are used for moving materials to be processed (for example, biomass) and roads for equipment to operate and maintain the qualified facility. Starting construction on these roads constitutes physical work of a significant nature with respect to the facility. Roads primarily for access to the site, or roads used primarily for employee or visitor vehicles are not integral to the activity performed by the facility; physical work of a significant nature on these roads is not considered for purposes of determining whether a taxpayer has begun construction of a facility.

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

(4) Buildings. Generally, buildings are not integral parts of the facility because they are not integral to the activity of the facility. However, the following structures are not treated as buildings for this purpose: (1) a structure that is essentially an item of machinery or equipment, or (2) a structure that houses property that is integral to the activity of the facility if the use of the structure is so closely related to the use of the housed property that the structure clearly can be expected to be replaced when the property it initially houses is replaced. See Treas. Regs. § 1.48-1(e)(1).

.06 Continuous construction – (1) In general. A continuous program of construction involves continuing physical work of a significant nature (as described in section 4.02). Whether a taxpayer maintains a continuous program of construction will be determined by the relevant facts and circumstances.

(2) Construction disruptions. Certain disruptions in the taxpayer's construction of a facility that are beyond the taxpayer's control will not be considered as indicating that a taxpayer has failed to maintain a continuous program of construction. Examples of such disruptions include, but are not limited to:

- (a) severe weather conditions;
- (b) natural disasters;
- (c) licensing and permitting delays;
- (d) delays at the written request of a state or federal agency regarding matters of safety, security, or similar concerns;

- (e) labor stoppages;
- (f) inability to obtain specialized equipment of limited availability;
- (g) the presence of endangered species;
- (h) financing delays of less than six months; and
- (i) supply shortages.

SECTION 5. SAFE HARBOR

.01 In general. Construction of a facility will be considered as having begun before January 1, 2014, 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 facility, except as provided in section 5.01(2), before January 1, 2014, and (2) thereafter, the taxpayer makes continuous efforts to advance towards completion of the facility (as determined under section 5.02).

(1) Total cost of the facility. All costs properly included in the depreciable basis of the facility are taken into account to determine whether the Safe Harbor has been met. The total cost of the facility does not include the cost of land or any property not integral to the facility, as described in section 4.05(1).

(2) Look-through for economic performance. Solely for purposes of this notice, for property that is manufactured, constructed, or produced for the taxpayer by another person under a binding written contract with the taxpayer, costs incurred with respect to the property by the other person before the property is provided to the taxpayer are deemed incurred by the taxpayer when the costs are incurred by the other person under the principles of section 461.

(3) Example. In 2013, accrual-method taxpayer W enters into a binding written contract with A pursuant to which W will provide a wind turbine to A in June 2015. In 2013, W pays Y pursuant to a contract for Y to provide parts in May 2014 for use in the wind turbine. W's employees provide W with services necessary to design and plan for the production of the wind turbine in 2013 and with services to manufacture (assemble) the wind turbine in 2015. W incurs the cost to design and plan for the production of the turbine assembly in 2013, incurs the costs for the parts in May 2014 when Y delivers the parts to W (even though the parts were paid for in 2013), and incurs the costs for W's employees to manufacture the wind turbine in 2015. See § 1.461-4(d) and § 1.446-1(c)(1)(ii). The costs W incurred in 2013 for its employees' performance of turbine design and planning activities are costs deemed incurred by A before January 1, 2014, for purposes of the Safe Harbor. The other costs in this example were incurred by W in 2014 and 2015 and are costs that A includes in the total cost of the facility, but these other costs were not deemed incurred by A before January 1, 2014.

.02 Continuous efforts – (1) In general. Whether a taxpayer makes continuous efforts to advance towards completion of the facility will be determined by the relevant facts and circumstances. Facts and circumstances indicating continuous efforts to advance towards completion of the facility may include, but are not limited to:

- (a) paying or incurring additional amounts included in the total cost of the facility;
- (b) entering into binding written contracts for components or future work on construction of the facility;
- (c) obtaining necessary permits; and

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

(2) Disruptions to continuous efforts. Certain disruptions in the taxpayer's continuous efforts to advance towards completion of the facility that are beyond the taxpayer's control will not be considered as indicating that a taxpayer has failed to make continuous efforts to advance towards completion of the facility. Examples of such disruptions include, but are not limited to:

- (a) severe weather conditions;
- (b) natural disasters;
- (c) licensing and permitting delays;
- (d) delays at the written request of a state or federal agency regarding matters of safety, security, or similar concerns;
- (e) labor stoppages;
- (f) inability to obtain specialized equipment of limited availability;
- (g) the presence of endangered species;
- (h) financing delays of less than six months; and
- (i) supply shortages.

.03 Cost overruns – (1) Single project. If the total cost of a facility that is a single project comprised of multiple facilities (as described in section 4.04(2)) exceeds its anticipated total cost, so that the amount a taxpayer actually paid or incurred with respect to the facility before January 1, 2014, is less than five percent of the total cost of the facility at the time the facility is placed in service, the Safe Harbor is not fully satisfied. However, the Safe Harbor will be satisfied and the PTC or ITC may be

claimed with respect to some, but not all, of the individual facilities (as described in section 4.04(1)) comprising the single project, as long as the total aggregate cost of those individual facilities is not more than twenty times greater than the amount the taxpayer paid or incurred before January 1, 2014 (see Example 1 in section 5.03(3)(a)).

(2) Single facility. If the total cost of a single facility that is not a single project comprised of multiple facilities (as described in section 4.04(2)), and cannot be separated into smaller facilities, exceeds its anticipated total cost so that the amount a taxpayer actually paid or incurred with respect to the facility before January 1, 2014, is less than five percent of the total cost of the facility at the time the facility is placed in service, then the taxpayer will not satisfy the Safe Harbor with respect to any portion of the facility.

(3) Examples – (a) Example 1. A taxpayer incurs \$25,000 in costs in 2013 constructing a five-turbine wind farm that will be operated as a single project (as described in section 4.04(2)), anticipating that each turbine (including its own tower and pad) will cost \$100,000 for a total cost for the facility of \$500,000. Thereafter, the taxpayer makes continuous efforts to advance towards completion of the facility. At the time the taxpayer places the wind farm in service, the actual total cost of the facility amounts to \$600,000, with each turbine costing \$120,000. Although the taxpayer did not pay or incur five percent of the actual total cost of the facility before January 1, 2014, the taxpayer will be treated as satisfying the Safe Harbor with respect to four of the turbines, 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 in 2013. Thus, the taxpayer may

claim the PTC on electricity produced from four of the turbines, or the ITC based on \$480,000, the cost of four of the turbines. Alternatively, if construction of the facility began (within the meaning of section 4.01) before January 1, 2014, the taxpayer may be able to claim the PTC or the ITC with respect to the entire facility (all five turbines).

(b) Example 2. A taxpayer incurs \$25,000 in costs in 2013 in constructing an open-loop biomass facility, anticipating that the total cost of the facility, including one boiler and one turbine generator, will be \$500,000. The boiler and turbine generator are functionally interdependent. Thereafter, the taxpayer makes continuous efforts to advance towards completion of the facility. At the time the taxpayer places the facility in service, its actual total cost amounts to \$600,000. Because the boiler and turbine generator are a single facility that is not a single project comprised of multiple facilities (as described in section 4.04(2)), the taxpayer will not satisfy the Safe Harbor. However, if construction of the facility began (within the meaning of section 4.01) before January 1, 2014, the taxpayer may be able to claim the PTC or the ITC with respect to the entire facility.

SECTION 6. DRAFTING INFORMATION

The principal author of this notice is Brian J. Americus of the Office of Associate Chief Counsel (Passthroughs & Special Industries). For further information regarding this notice contact Brian J. Americus on (202) 622-3110 (not a toll-free call).

- **Fax:** 1-202-493-2251.
- **Mail:** Docket Management System; U.S. Department of Transportation, West Building, Ground Floor, Room W12-140, Routing Symbol M-30, 1200 New Jersey Avenue SE, Washington, DC 20590.

- **Hand Delivery:** To the Docket Management System; Room W12-140 on the ground floor of the West Building, 1200 New Jersey Avenue SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Instructions: All submissions must include the agency name and Docket Number (PHMSA-2019-0100) for this notice at the beginning of the comment. To avoid duplication, please use only one of these four methods. All comments received will be posted without change to the Federal Docket Management System (FDMS) and will include any personal information you provide. If sent by mail, comments must be submitted in duplicate. Persons wishing to receive confirmation of receipt of their comments must include a self-addressed stamped postcard.

Docket: For access to the dockets to read associated documents or comments received, go to <http://www.regulations.gov> or DOT's Docket Operations Office (see **ADDRESSES**).

Privacy Act: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its process. DOT posts these comments, without change, including any personal information the commenter provides, to <http://www.regulations.gov>, as described in the system of records notice (DOT/ALL-14 FDMS), which can be reviewed at <http://www.dot.gov/privacy>.

FOR FURTHER INFORMATION CONTACT: Ryan Paquet by telephone at 202-366-4511, or email at specialpermits@dot.gov.

SUPPLEMENTARY INFORMATION: PHMSA received a request for special permit from Energy Transport Solutions, LLC seeking authorization to transport "Methane, Refrigerated Liquid" (UN1972), commonly known and liquefied natural gas (LNG), in a rail tank car. Specifically, the request is to authorize shipment of LNG in a DOT specification 113C120W tank car subject to certain operational conditions. We invite interested persons to review and provide comment on the "draft environmental assessment" for this special permit request. Please include comment on potential safety, environmental, and any additional impacts that should be considered. The document is available at <http://www.regulations.gov> under Docket number PHMSA-2019-0100. PHMSA has also included the draft special permit in the docket for this notice as further reference material. Before issuing a final decision on the special permit request, PHMSA will evaluate all comments and consider each relevant comment we receive in making our decision to grant or deny the request for special permit.

Issued in Washington, DC, on June 3, 2019, under authority delegated in 49 CFR 1.97.

William S. Schoonover,
 Associate Administrator for Hazardous
 Materials Safety, Pipeline and Hazardous
 Materials Safety Administration.

[FR Doc. 2019-11882 Filed 6-5-19, 8:45 am]

BILLING CODE 4910-60-P

DEPARTMENT OF THE TREASURY

Internal Revenue Service

Credit for Renewable Electricity Production and Refined Coal Production, and Publication of Inflation Adjustment Factor and Reference Prices for Calendar Year 2019

AGENCY: Internal Revenue Service (IRS), Treasury.

ACTION: Notice.

SUMMARY: The 2019 inflation adjustment factor and reference prices are used in determining the availability of the credit for renewable electricity production and refined coal production under section 45. As of October 2, 2018, the credit period for small irrigation power electricity production expired.

FOR FURTHER INFORMATION CONTACT: Martha M. Garcia, CC:PSI:6, Internal Revenue Service, 1111 Constitution Avenue NW, Washington, DC 20224, (202) 317-6853 (not a toll-free number).

SUPPLEMENTARY INFORMATION: Publication of inflation adjustment factor and reference prices for calendar year 2019 as required by sections 45(e)(2)(A) (26 U.S.C. 45(e)(2)(A)) and 45(e)(8)(C) (26 U.S.C. 45(e)(8)(C)) of the Internal Revenue Code.

The 2019 inflation adjustment factor and reference prices apply to calendar year 2019 sales of kilowatt hours of electricity produced in the United States or a possession thereof from qualified energy resources and to 2019 sales of refined coal produced in the United States or a possession thereof.

Inflation Adjustment Factor: The inflation adjustment factor for calendar year 2019 for qualified energy resources and refined coal is 1.6396.

Reference Prices: The reference price for calendar year 2019 for facilities

producing electricity from wind is 5.18 cents per kilowatt hour. The reference prices for fuel used as feedstock within the meaning of section 45(c)(7)(A) (relating to refined coal production) are \$31.90 per ton for calendar year 2002 and \$49.23 per ton for calendar year 2019. The reference prices for facilities producing electricity from closed-loop biomass, open-loop biomass, geothermal energy, municipal solid waste, qualified hydropower production, and marine and hydrokinetic renewable energy have not been determined for calendar year 2019.

Phaseout Calculation: Because the 2019 reference price for electricity produced from wind (5.18 cents per kilowatt hour) does not exceed 8 cents multiplied by the inflation adjustment factor (1.6396), the phaseout of the credit provided in section 45(b)(1) does not apply to such electricity sold during calendar year 2019. Because the 2019 reference price of fuel used as feedstock for refined coal (\$49.23) does not exceed \$88.92 (which is the \$31.90 reference price of such fuel in 2002 multiplied by the inflation adjustment factor (1.6396) and 1.7), the phaseout of the credit provided in section 45(e)(8)(B) does not apply to refined coal sold during calendar year 2019. Further, for electricity produced from closed-loop biomass, open-loop biomass, geothermal energy, municipal solid waste, qualified hydropower production, and marine and hydrokinetic renewable energy, the phaseout of the credit provided in section 45(b)(1) does not apply to such electricity sold during calendar year 2019.

Credit Amount by Qualified Energy Resource and Facility and Refined Coal: As required by section 45(b)(2), the 1.5 cent amount in section 45(a)(1) and the \$4.375 amount in section 45(e)(8)(A) are each adjusted by multiplying such amount by the inflation adjustment factor for the calendar year in which the sale occurs. If any amount as increased under the preceding sentence is not a multiple of 0.1 cent, such amount is rounded to the nearest multiple of 0.1 cent. In the case of electricity produced in open-loop biomass facilities, landfill gas facilities, trash facilities, qualified hydropower facilities, and marine and hydrokinetic renewable energy facilities, section 45(b)(4)(A) requires the amount in effect under section 45(a)(1) (before rounding to the nearest 0.1 cent) to be reduced by one-half. Under the calculation required by section 45(b)(2), the credit for renewable electricity production for calendar year 2019 under section 45(a) is 2.5 cents per kilowatt hour on the sale of electricity produced from the qualified energy

resources of wind, closed-loop biomass, and geothermal energy, and 1.2 cents per kilowatt hour on the sale of electricity produced in open-loop biomass facilities, landfill gas facilities, trash facilities, qualified hydropower facilities, and marine and hydrokinetic renewable energy facilities. Under the calculation required by section 45(b)(2), the credit for refined coal production for calendar year 2019 under section 45(e)(8)(A) is \$7.173 per ton on the sale of qualified refined coal.

Christopher T. Kelley,

Special Counsel (Passthroughs and Special Industries).

[FR Doc. 2019-11810 Filed 6-5-19, 8:45 am]

BILLING CODE 4830-01-P

DEPARTMENT OF VETERANS AFFAIRS

Solicitation of Nominations for Appointment to the Advisory Committee on Minority Veterans

ACTION: Notice.

SUMMARY: The Department of Veterans Affairs (VA), Center for Minority Veterans (CMV), is seeking nominations of qualified candidates to be considered for appointment as a member of the Advisory Committee on Minority Veterans ("the Committee").

DATES: Nominations for membership on the Committee must be received no later than 5:00 p.m. EST on July 15, 2019.

ADDRESSES: All nominations should be mailed to the Center for Minority Veterans, Department of Veterans Affairs, 810 Vermont Ave. NW (00M), Washington, DC 20420 or faxed to (202) 273-7092.

FOR FURTHER INFORMATION CONTACT: Mr. Ronald Sagudan and/or Mr. Dwayne Campbell, Center for Minority Veterans, Department of Veterans Affairs, 810 Vermont Ave. NW (00M), Washington, DC 20420, Telephone (202) 461-6191. A copy of the Committee charter and list of the current membership can be obtained by contacting Mr. Sagudan or Mr. Campbell or by accessing the website managed by CMV at www.va.gov/centerforminorityveterans/Advisory_Committee.asp.

SUPPLEMENTARY INFORMATION: In carrying out the duties set forth, the Committee responsibilities include, but are not limited to:

(1) Advising the Secretary and Congress on VA's administration of benefits and provisions of healthcare, benefits, and services to minority Veterans.

(2) Providing an Annual report to congress outlining recommendations, concerns and observations on VA's delivery of services to minority Veterans.

(3) Meeting with VA officials, Veteran Service Organizations, and other stakeholders to assess the Department's efforts in providing benefits and outreach to minority Veterans.

(4) Making periodic site visits and holding town hall meetings with Veterans to address their concerns.

Management and support services for the Committee are provided by the Center for Minority Veterans (CMV).

Authority: The Committee was established in accordance with 38 U.S.C. 544 (Pub. L. 103-446, Sec 510). In accordance with 38 U.S.C. 544, the Committee advises the Secretary on the administration of VA benefits and services to minority Veterans; assesses the needs of minority Veterans with respect to such benefits; and evaluates whether VA compensation, medical and rehabilitation services, outreach, and other programs are meeting those needs. The Committee makes recommendations to the Secretary regarding such activities. Nominations of qualified candidates are being sought to fill upcoming vacancies on the Committee.

Membership Criteria: CMV is requesting nominations for upcoming vacancies on the Committee. The Committee is currently composed of 12 members, in addition to ex-officio members. As required by statute, the members of the Committee are appointed by the Secretary from the general public, including:

(1) Representatives of Veterans who are minority group members;

(2) Individuals who are recognized authorities in fields pertinent to the needs of Veterans who are minority group members;

(3) Veterans who are minority group members and who have experience in a military theater of operations;

(4) Veterans who are minority group members and who do not have such experience and;

(5) Women Veterans who are minority group members recently separated from active military service.

Section 544 defines "minority group member" as an individual who is Asian American, Black, Hispanic, Native American (including American Indian, Alaska Native, and Native Hawaiian); or Pacific-Islander American.

In accordance with § 544, the Secretary determines the number, terms of service, and pay and allowances of members of the Committee appointed by the Secretary, except that a term of

service of any such member may not exceed three years. The Secretary may reappoint any member for additional terms of service.

Professional Qualifications: In addition to the criteria above, VA seeks—

(1) Diversity in professional and personal qualifications;

(2) Experience in military service and military deployments (please identify Branch of Service and Rank);

(3) Current work with Veterans;

(4) Committee subject matter expertise;

(5) Experience working in large and complex organizations;

Requirements for Nomination

Submission: Nominations should be type written (one nomination per nominator). Nomination package should include: (1) A letter of nomination that clearly states the name and affiliation of the nominee, the basis for the nomination (*i.e.* specific attributes which qualify the nominee for service in this capacity), and a statement from the nominee indicating a willingness to serve as a member of the Committee; (2) the nominee's contact information, including name, mailing address, telephone numbers, and email address; (3) the nominee's curriculum vitae, and (4) a summary of the nominee's experience and qualification relative to the *professional qualifications* criteria listed above.

Individuals selected for appointment to the Committee shall be invited to serve a two-year term. Committee members will receive a stipend for attending Committee meetings, including per diem and reimbursement for travel expenses incurred.

The Department makes every effort to ensure that the membership of its Federal advisory committees is fairly balanced in terms of points of view represented and the committee's function. Every effort is made to ensure that a broad representation of geographic areas, males & females, racial and ethnic minority groups, and the disabled are given consideration for membership. Appointment to this Committee shall be made without discrimination because of a person's race, color, religion, sex (including gender identity, transgender status, sexual orientation, and pregnancy), national origin, age, disability, or genetic information. Nominations must state that the nominee is willing to serve as a member of the Committee and appears to have no conflict of interest that would preclude membership. An ethics review is conducted for each selected nominee.

EXHIBIT JJM-2
SUMMARY - PTC GENERATION AND UTILIZATION FOR SELECTED WIND FACILITIES
DETERMINED AT AEP AND SUBSIDIARIES' CONSOLIDATED LEVEL

PTC Generation at P50 Production Level
(in millions)

Southwestern Electric Power Company			
Year	PTCs Generated	PTCs Utilized	PTC Carryforward
2021	11	0	11
2022	67	0	78
2023	70	8	140
2024	70	21	189
2025	72	40	221
2026	72	44	249
2027	75	55	269
2028	75	63	281
2029	78	67	292
2030	78	70	300
2031	67	70	297
2032	0	94	203
2033	0	119	84
2034	0	84	0

(in millions)

Year	PTCs Generated	PTCs Utilized													
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2021	11	0	0	8	3										
2022	67		0	0	18	40	9								
2023	70			0	0	0	35	35							
2024	70				0	0	0	20	50						
2025	72					0	0	0	13	59					
2026	72						0	0	0	8	64				
2027	75							0	0	0	6	69			
2028	75								0	0	0	1	74		
2029	78									0	0	0	20	58	
2030	78										0	0	0	61	17
2031	67											0	0	0	67
2032	0														
2033	0														
2034	0														
		0	0	8	21	40	44	55	63	67	70	70	94	119	84
PTC Carryforward		11	78	140	189	221	249	269	281	292	300	297	203	84	0

PTC Generation at P95 Production Level
(in millions)

Southwestern Electric Power Company			
Year	PTCs Generated	PTCs Utilized	PTC Carryforward
2021	10	-	10
2022	58	-	68
2023	60	7	121
2024	61	21	162
2025	63	38	187
2026	63	42	208
2027	65	52	221
2028	66	59	228
2029	67	63	232
2030	67	67	232
2031	58	75	215
2032	-	101	115
2033	-	115	-
2034	-	-	-

(in millions)

Year	PTCs Generated	PTCs Utilized													
		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
2021	10	-	-	7	3										
2022	58		-	-	18	38	2								
2023	60			-	-	-	39	21							
2024	61				-	-	-	31	30						
2025	63					-	-	-	29	34					
2026	63						-	-	-	29	34				
2027	65							-	-	-	33	32			
2028	66								-	-	-	43	23		
2029	67									-	-	-	67		
2030	67										-	-	10	57	
2031	58											-	-	58	
2032	-														
2033	-														
2034	-														
		-	-	7	21	38	42	52	59	63	67	75	101	115	-
PTC Carryforward		10	68	121	162	187	208	221	228	232	232	215	115	-	-

PUC DOCKET NO. _____

PUBLIC UTILITY COMMISSION OF TEXAS

APPLICATION OF
SOUTHWESTERN ELECTRIC POWER COMPANY
FOR CERTIFICATE OF CONVENIENCE AND NECESSITY
AUTHORIZATION AND RELATED RELIEF FOR
THE ACQUISITION OF WIND GENERATION FACILITIES

DIRECT TESTIMONY OF
NOAH K. HOLLIS
FOR
SOUTHWESTERN ELECTRIC POWER COMPANY

JULY 15, 2019

<u>SECTION</u>	<u>TESTIMONY INDEX</u>	<u>PAGE</u>
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II. PURPOSE OF TESTIMONY		2
III. FINANCING PLAN		2
IV. COST OF CAPITAL		4
V. CREDIT RATING IMPACTS.....		6

EXHIBITS

<u>EXHIBIT</u>	<u>DESCRIPTION</u>
EXHIBIT NKH-1	S&P Capital IQ Authorized ROEs
EXHIBIT NKH-2	Moody's - Rate Basing Wind Generation adds Momentum to Renewables CONFIDENTIAL
EXHIBIT NKH-3	Moody's - Approval of Public Service New Mexico's Renewable investment is credit positive; rate case order still pending CONFIDENTIAL

1 I. INTRODUCTION

2 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

3 A. My name is Noah K. Hollis. My business address is 1 Riverside Plaza, Columbus,
4 Ohio 43215.

5 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

6 A, I am employed by American Electric Power Service Corporation (AEPSC) as
7 Manager of Corporate Finance. AEPSC, a wholly-owned subsidiary of American
8 Electric Power Company, Inc. (AEP), provides centralized professional and other
9 services to subsidiaries of AEP. AEP is the parent company of Southwestern Electric
10 Power Company (SWEPCO or the Company) and Public Service Company of
11 Oklahoma (PSO). AEPSC is SWEPCO's and PSO's service company.

12 Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
13 BUSINESS EXPERIENCE.

14 A. I earned a Bachelor of Science in Business Administration in Transportation and
15 Logistics from The Ohio State University in 1996. I earned a Master of Business
16 Administration with a concentration in Banking and Finance and Operations
17 Management from the Weatherhead School of Management at Case Western Reserve
18 University in 2003.

19 I joined AEPSC as a credit risk analyst in AEP's Credit Risk department in
20 June 2003. In 2005, I transferred to the Corporate Finance department as a senior
21 financial analyst. In 2007, I was promoted to the Strategic Initiatives Group as an
22 associate. In December 2010, I transferred into AEP Transmission as a Manager of
23 Business Development. In 2013, I transferred to Manager of Project Portfolio and

1 Strategic Initiatives in AEP Transmission. In 2016, I was promoted to Corporate
2 Finance Manager in the Corporate Finance Group.

3 Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE OR BEEN AN EXPERT
4 WITNESS IN PROCEEDINGS BEFORE REGULATORY BODIES?

5 A. Yes, I have presented testimony on behalf of AEP Texas Inc. in Public Utility
6 Commission of Texas Docket Nos. 46050 and 49308 and on behalf of Indiana
7 Michigan Power Company in Indiana Utility Regulatory Commission Cause No.
8 45126.

9

10 II. PURPOSE OF TESTIMONY

11 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

12 A. The purpose of my testimony is to address how SWEPCO intends to finance the three
13 wind facilities that are the subject of this application (Selected Wind Facilities), the
14 impact to SWEPCO's credit metrics and credit ratings, the Return on Equity (ROE)
15 and discount rate used for evaluation of the Selected Wind Facilities and the carrying
16 costs associated with Deferred Tax Assets identified in Company witness Multer's
17 testimony.

18

19 III. FINANCING PLAN

20 Q. PLEASE DESCRIBE HOW SWEPCO INTENDS TO FINANCE THE SELECTED
21 WIND FACILITIES.

22 A. SWEPCO manages the financial needs of its business as a holistic business entity.
23 With the Selected Wind Facilities' costs being allocated to SWEPCO and PSO

1 consistent with their respective 54.5%/45.5% expected ownership shares, SWEPCO's
2 incremental financing need equates to approximately \$1,088 million. The Company
3 intends to finance the Selected Wind Facilities by employing Cash Flow from
4 Operations, to the extent any is available, a combination of both short-term and long-
5 term debt, and equity contributions from its parent, AEP. Because SWEPCO's Cash
6 Flow from Operations is insufficient to cover this large of an investment in a single
7 period, SWEPCO will largely rely on external debt funding and capital contributions
8 from its parent to fund the Selected Wind Facilities. This, however, is dependent on
9 when the Selected Wind Facilities become operational and title is transferred to the
10 Company. In addition, financing of the Selected Wind Facilities will be managed to
11 ensure that SWEPCO maintains an appropriate capitalization structure.

12 Q. DOES THE COMPANY PLAN TO UTILIZE EXISTING INDEBTEDNESS TO
13 FUND THE SELECTED WIND FACILITIES?

14 A. No. Borrowings to finance the Selected Wind Facilities will be incremental to the
15 Company's current existing indebtedness. The Company initially intends to utilize
16 the borrowing capacity that exists under its participation in the AEP Utility Money
17 Pool with the plan to access longer-term capital in the public and private debt capital
18 markets to finance the acquisition. Longer-term issuances of debt generally are sized
19 to be in excess of \$300 million to access the public debt capital markets.

1 IV. COST OF CAPITAL

2 Q. HAVE YOU ESTIMATED A LONG-TERM FINANCING RATE FOR THE
3 INCREMENTAL DEBT THE COMPANY WILL INCUR FOR THE SELECTED
4 WIND FACILITIES?

5 A. Yes. The forecasted incremental borrowing rate for the Selected Wind Facilities is
6 4.395%. I estimated this rate by applying the same forecasting methodology
7 employed for forecasting future issuances of debt for all AEP companies that have an
8 anticipated funding date beyond one year. This methodology takes the average of the
9 forecasted U.S. Treasury bond yield, derived from the quarterly average economic
10 analysts' bond yield forecasts as provided by Bloomberg, for 10-year and 30-year
11 U.S. Treasury bonds and adds a blended credit spread of 125 basis points to reflect
12 the spread AEP pays incremental to the US Treasury bond yield for 10-year issuances
13 and 30-year issuances. The US Treasury bond yields are forecasted as of the end of
14 the third quarter 2021.

15 Q. DO YOU INCORPORATE ANY INCREMENTAL BENEFIT TO THE
16 COMPANY'S INCREMENTAL BORROWING RATE DUE TO THE NATURE OF
17 THE ASSETS BEING A RENEWABLE RESOURCE?

18 A. No. Although there has been an increased awareness of the Environmental, Social,
19 and Governance factors (ESG) by investors as a whole, which has led to an increase
20 in the inclusion of carbon-neutral asset allocation by money managers and
21 institutional investors, there is no way to quantify the benefit to the incremental
22 borrowing rate assumed in this analysis at this time. In time, as demand for
23 carbon-neutral investments increases, one might expect the supply and demand

1 imbalance between issuers and investors to create bond price tension that may
2 ultimately result in lower yields on carbon-neutral financial instruments and/or
3 utilities with larger portions of renewable assets as a portion of total asset mix.

4 Q. WHAT ROE WAS USED IN THE ECONOMIC ANALYSIS PRESENTED IN
5 THIS CASE?

6 A. For the analysis presented in this case, the Company used an ROE of 10.0%. That
7 ROE presents a reasonable view of the return expectations on the Company's equity
8 investment in the Selected Wind Facilities over their entire life and recognizes the
9 historic average authorized ROE within the SWEPCO jurisdictions as reflected by
10 EXHIBIT NKH-1, sourced from S&P Capital IQ, as well as the anticipation of higher
11 interest rates over the life of the Selected Wind Facilities.

12 Q. ARE YOU SPONSORING THE DISCOUNT RATE USED IN THE CUSTOMER
13 BENEFITS ANALYSIS OF THE SELECTED WIND FACILITIES IN SWEPCO
14 WITNESS TORPEY'S TESTIMONY?

15 A. Yes. Company witness Torpey's customer benefits analysis for the Selected Wind
16 Facilities uses a discount rate of 7.09%. That discount rate is based on a weighted
17 average cost of capital (WACC) of 7.09%, which assumes a capital structure of 52%
18 debt and 48% equity, an incremental borrowing rate of 4.395% and a 10.0% ROE, as
19 previously discussed in my testimony. The 7.09% discount rate is reasonable given
20 the historical WACCs that have been approved in SWEPCO's jurisdictions and those
21 that the Company filed in recent rate cases.

1 V. CREDIT RATING IMPACTS

2 Q. PLEASE GENERALLY DESCRIBE THE FINANCIAL IMPACT THE SELECTED
3 WIND FACILITIES WILL HAVE ON THE COMPANY.

4 A. SWEPCO has a total net property, plant, and equipment of \$6,915.4 million as of
5 March 31, 2019. At the close of this transaction, SWEPCO is expected to add an
6 incremental \$1,088 million related to the Selected Wind Facilities, which is an
7 increase of approximately 15.7%. Thus, the Selected Wind Facilities will represent a
8 significant investment for SWEPCO.

9 Q. WILL THE INVESTMENT IN THE SELECTED WIND FACILITIES HAVE AN
10 ADVERSE EFFECT ON THE COMPANY'S CURRENT CREDIT RATINGS?

11 A. No. To the contrary, provided there is timely recovery on and of the investment, I
12 believe the acquisition of the Selected Wind Facilities is supportive of the Company's
13 long-term credit rating. Currently, SWEPCO has an investment grade credit rating of
14 Baa2 by Moody's Investor Service and A- by S&P. The Selected Wind Facilities
15 investment is expected to be incremental to rate base and earnings for the Company
16 while providing significant savings for customers through their addition. As
17 previously published reports by Moody's Investor Service (which are attached as
18 CONFIDENTIAL EXHIBITs NKH-2 and NKH-3) reflect, rate base renewable
19 generation projects have a credit-positive impact. Consistent with those reports, I
20 believe the Selected Wind Facilities will be supportive of the Company's existing
21 credit rating, assuming timely recovery of the investment through rates. If the
22 Commission did not allow timely recovery of this investment, there could be an
23 unfavorable impact to the Company's credit rating.

1 Q. DO YOU BELIEVE THE TIMELY RECOVERY OF AND ON THE
2 INVESTMENT IN THE SELECTED WIND FACILITIES IS BENEFICIAL TO
3 SWEPCO'S FINANCIAL CREDIT METRICS?

4 A. Yes. As discussed by Company witness Torpey, the Company will be making a
5 significant investment in the Selected Wind Facilities that will generate significant
6 benefits for its customers. Recovery of and on the investment as soon as it is used
7 and useful is necessary to protect the financial condition and credit metrics of the
8 Company. The Selected Wind Facilities will be funded with a significant amount of
9 debt and equity, and an absence of timely recovery will reduce earnings and cash
10 flow and have a detrimental impact on the Company's financial credit metrics. As
11 addressed by Company witness Aaron, SWEPCO intends to request implementation
12 of a Generation Investment Recovery Rider pursuant to newly-enacted Section
13 36.213 of PURA to recover the revenue requirements of the Selected Wind Facilities.

14 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

15 A. Yes, it does.

S&P Global
Market Intelligence

Rate Case Statistics (Data)

State : Arkansas, Louisiana, Oklahoma, Texas
Frequency : Annual
Date Range: 15 Years
Service Type : Electric
Metric Type : Mean
Chart Items : Return on Capital, Return on Equity

Electric									
Date	State	Return on Equity (%)	Return on Capital (%)	Rate Change/ Revenue (%)	Original Cost Rate Base (\$000)	Rate Change Amount (\$000)	Rate Case Return Original Cost (%)	Common Equity to Total Capital (%)	
2018	AR	NA	NA	14.93	7,546,589	189,660	5.26	36.55	
2017	AR	9.50	NA	7.96	3,800,645	60,251	5.03	34.00	
2016	AR	9.75	NA	12.55	NA	137,061	4.52	28.46	
2013	AR	9.50	NA	8.70	4,801,795	86,015	4.35	28.64	
2011	AR	9.95	NA	5.20	428,865	8,788	5.93	34.90	
2010	AR	10.20	NA	7.10	3,995,608	63,670	5.04	29.32	
2009	AR	10.25	NA	6.40	485,473	15,551	6.22	35.02	
2007	AR	9.95	NA	3.95	1,993,400	150	5.47	32.26	
2014	LA	9.95	NA	43.20	NA	9,343	NA	NA	
2013	LA	9.97	NA	14.57	NA	35,667	NA	NA	
2009	LA	11.10	NA	(13.40)	1,936,697	(24,659)	8.52	51.00	
2005	LA	10.25	NA	0.00	NA	0	8.76	48.73	
2018	OK	9.30	NA	4.05	2,465,222	5,766	6.88	48.51	
2017	OK	9.50	NA	0.80	4,202,129	8,803	7.69	53.31	
2016	OK	9.50	NA	2.40	2,024,773	14,470	6.94	44.00	
2015	OK	NA	NA	(0.90)	1,908,676	(4,757)	7.63	NA	
2012	OK	10.20	NA	0.30	NA	4,314	NA	NA	
2011	OK	10.15	NA	2.80	1,706,271	30,275	8.17	45.84	
2009	OK	10.50	NA	3.40	1,467,290	53,778	8.31	44.10	
2007	OK	10.00	NA	2.20	1,117,229	9,791	8.01	46.02	
2005	OK	10.75	NA	1.25	1,711,400	17,700	8.66	55.69	
2018	TX	9.65	NA	7.72	520,298	25,329	7.89	45.00	
2017	TX	9.66	NA	4.36	4,993,252	28,432	7.19	44.83	
2016	TX	NA	NA	NA	NA	40,700	NA	NA	
2015	TX	9.65	NA	(1.10)	920,647	13,437	7.00	45.50	
2014	TX	9.70	NA	5.46	693,862	47,755	6.37	45.00	
2013	TX	9.62	NA	11.79	564,924	46,567	7.32	43.03	
2012	TX	9.70	NA	0.55	863,122	9,110	7.54	47.46	
2011	TX	10.13	NA	5.91	3,609,634	53,044	8.75	43.33	
2010	TX	10.13	NA	6.30	NA	36,717	8.52	NA	
2009	TX	10.25	NA	5.33	7,073,725	53,914	8.28	40.00	
2008	TX	NA	NA	NA	NA	0	NA	NA	
2007	TX	9.96	NA	6.83	817,280	22,365	7.69	40.00	
2006	TX	NA	NA	(3.70)	NA	(57,900)	NA	NA	
2005	TX	10.94	NA	(1.95)	729,850	(5,050)	6.83	32.50	
2004	TX	NA	NA	0.00	NA	0	NA	NA	
Average - Arkansas		9.9%							
Average - Louisiana		10.3%							
Average - Oklahoma		10.0%							
Average - Texas		9.9%							
Average - All Jurisdictions		10.0%							

This information is CONFIDENTIAL under the terms of the Protective Order. The Confidential information is available for review at the Austin offices of American Electric Power Company (AEP), 400 West 15th Street, Suite 1520, Austin, Texas, 78701, (512) 481-4562, during normal business hours.

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PUBLIC UTILITY COMMISSION OF TEXAS

APPLICATION OF
SOUTHWESTERN ELECTRIC POWER COMPANY
FOR CERTIFICATE OF CONVENIENCE AND NECESSITY
AUTHORIZATION AND RELATED RELIEF FOR
THE ACQUISITION OF WIND GENERATION FACILITIES

DIRECT TESTIMONY OF
JOHN O. AARON
FOR
SOUTHWESTERN ELECTRIC POWER COMPANY

JULY 15, 2019

TESTIMONY INDEX

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EXHIBITS

<u>EXHIBIT</u>	<u>DESCRIPTION</u>
EXHIBIT JOA-1	Summary of Customer Benefits
EXHIBIT JOA-2	Impact on Major Rate Classes

1 I. INTRODUCTION

2 Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.

3 A. My name is John O. Aaron. I am Director, Regulated Pricing and Analysis in the
4 Regulatory Services Department of American Electric Power Service Corporation
5 (AEPSC). AEPSC is a subsidiary of American Electric Power Company, Inc. (AEP)
6 that provides corporate support services to the operating subsidiaries of AEP, including
7 Southwestern Electric Power Company (SWEPCO or Company). My business address
8 is 212 East Sixth Street, Tulsa, Oklahoma 74119-1295.

9 Q. PLEASE BRIEFLY DESCRIBE YOUR CURRENT JOB RESPONSIBILITIES.

10 A. As Director, Regulated Pricing and Analysis, I supervise the preparation of cost-of-
11 service studies, rate design, special contracts and pricing, and tariff provisions for the
12 three AEP West operating companies¹ that operate in the Southwest Power Pool (SPP)
13 and the Electric Reliability Council of Texas (ERCOT). I am also responsible for the
14 preparation of, and support for, filings before the regulatory commissions exercising
15 jurisdiction over the electric operating companies of the western portion of AEP,
16 including SWEPCO.

17 Q. WOULD YOU PLEASE REVIEW YOUR EDUCATIONAL AND BUSINESS
18 BACKGROUND?

19 A. I received a Bachelor of Science in Accounting from Louisiana State University in
20 Shreveport in May 1980. I am a Certified Public Accountant (CPA) in the State of
21 Oklahoma and a member of the American Institute of CPAs and the Oklahoma Society

¹ The AEP West operating companies include Southwestern Electric Power Company, Public Service Company of Oklahoma, and AEP Texas Inc.

1 of CPAs. Upon graduation from college, I was employed as an Internal Auditor for a
2 multi-state wholesale appliance and electrical supplier in Shreveport, Louisiana. In
3 May 1984, I accepted employment with SWEPCO as an accountant in the Property
4 Accounting Department. From 1985 through 1995, I held various positions in the
5 Accounting, Internal Auditing, and Rate Departments, including Supervisor of
6 Regulatory Accounting Support and Supervisor of Wholesale Marketing Support.
7 From 1995 through 2010, I held various accounting positions in the Regulatory
8 Accounting Services Department at Central and South West Services, Inc. (CSWS),
9 the service company for the former Central and South West Corporation (CSW)
10 System. With the merger of AEP and CSW, as of January 1, 2001, AEPSC became the
11 successor to CSWS. In August 2010, I transferred to AEPSC's Regulatory Services
12 Department as manager and was promoted in April 2019 to my current position as
13 Director, Regulated Pricing and Analysis.

14 Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE THIS COMMISSION
15 OR OTHER COMMISSIONS?

16 A. Yes. Before the Public Utility Commission of Texas (PUC or Commission), I have
17 filed testimony in the following: SWEPCO Docket Nos. 32624, 32672, 32898, 35137,
18 36949, 37364, 40443, 42089, 42448, 44496, 46449, 47461, and 49042; AEP Texas
19 North Company Docket Nos. 18607, 18970, 21385, and 23477; AEP Texas Central
20 Company Docket No. 22352; and AEP Texas Docket No. 49494. I have also filed
21 testimony before the Arkansas Public Service Commission, the Louisiana Public
22 Service Commission, and the Oklahoma Corporation Commission.

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II. PURPOSE OF TESTIMONY

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

A. I quantify the estimated impact on SWEPCO’s costs and rates of SWEPCO’s and Public Service Company of Oklahoma’s (PSO’s) proposal to purchase three wind generating facilities in Oklahoma (Selected Wind Facilities). SWEPCO has contracted to purchase 54.5% of the Facilities and PSO will purchase the remaining 45.5%. My rate impact compares SWEPCO’s proposed base rate and fuel revenues in Texas to the base rate and fuel revenues with the Selected Wind Facilities’ estimated revenue requirement and fuel cost savings. Acquisition of the Selected Wind Facilities is expected to result in savings that will more than offset SWEPCO’s fixed cost revenue requirement, resulting in a net decrease in customer costs over the life of the project.

Q. WHAT EXHIBITS ARE YOU SPONSORING?

A. I sponsor the following exhibits attached to my testimony.
EXHIBIT JOA-1: Summary of Customer Benefits.
EXHIBIT JOA-2: Impact on Major Rate Classes.

III. IMPACT ON TEXAS CUSTOMERS

Q. HOW ARE THE CUSTOMER IMPACTS DETERMINED?

A. The impact of the Selected Wind Facilities on SWEPCO’s costs and rates reflects the annual revenue requirement associated with the Facilities, the estimated cost savings due to the addition of the Facilities to SWEPCO’s existing generation, and the offset resulting from federal Production Tax Credits (PTCs). These cost elements, when combined with SWEPCO’s current revenues, provide sufficient information for

1 estimating the cost and rate impact to the Texas jurisdiction. This is similar to the
2 standard cost-of-service formula that is applied during a rate case proceeding.
3 EXHIBIT JOA-1, a summary of the expected net customer benefits, provides
4 SWEPCO's Texas retail allocation of the revenue requirement, the cost savings for the
5 Facilities, and the credit for the PTCs earned. As shown on this exhibit, it is expected
6 that the Facilities' savings and PTCs will more than offset its fixed cost revenue
7 requirement, resulting in a net decrease in customer costs over the life of the project.

8 Q. HOW WAS THE REVENUE REQUIREMENT DETERMINED?

9 A. The Selected Wind Facilities' revenue requirement recovers the return and taxes on the
10 Facilities' assets, a return on a Deferred Tax Asset (DTA), depreciation expense, and
11 the associated operations and maintenance (O&M) expenses. The inputs for this
12 calculation come from the economic model, discussed by Company witness Torpey,
13 used in the evaluation of the Facilities. The facilities' operation and maintenance
14 expenses and the depreciation expense based on a thirty-year life for the wind turbines
15 are discussed in the testimony of Company witness DeRuntz. The return reflects a 52%
16 debt ratio and a 48% equity ratio with a 4.395% cost of debt and a 10% return on equity
17 as discussed in the testimony of Company witness Hollis. When the Facilities are
18 reflected in SWEPCO's Texas rates, the then Commission-approved return on equity,
19 other cost of capital rates, and cost of capital ratios will be used in the revenue
20 requirement calculation.

1 Q. HOW DO THE ADDITION OF THE SELECTED WIND FACILITIES PRODUCE
2 SAVINGS FOR SWEPCO'S TEXAS CUSTOMERS?

3 A. First, the addition of the Selected Wind Facilities to SWEPCO's generation mix is
4 expected to lower SWEPCO's energy costs. In the first year (Sundance Facility only),
5 there will be an estimated \$3.3 million (Texas retail) reduction in net energy costs (fuel
6 costs reduced by off-system sales) associated with the kWh production from the
7 Sundance Facility. In the second year (all Facilities), there will be an estimated \$25.8
8 million (Texas retail) reduction in net energy costs (fuel costs reduced by off-system
9 sales) associated with the kWh production from all facilities. As discussed by company
10 witness Torpey and summarized in his Exhibit JFT-3, two scenarios were reviewed to
11 identify the energy benefit of the Facilities that is reflected in the rate impact analysis.
12 The first scenario, the "Baseline Case," assumed the Selected Wind Facilities for
13 SWEPCO were not added and the second scenario, the "Project Case," assumed the
14 Selected Wind Facilities are approved and implemented. The total generation costs
15 from the Baseline Case are reflected in the pro-forma revenues in my rate impact
16 analysis and the difference between the Baseline Case and the Project Case generation
17 costs are reflected in the proposed rate impact analysis. Consistent with SWEPCO's
18 current fuel cost recovery, 90% of the off-system sales margins are returned to
19 SWEPCO's customers and reflected in the energy cost savings in the rate impact
20 analysis.

21 Second, the Selected Wind Facilities are expected to defer future capacity
22 requirements for SWEPCO and result in additional savings to SWEPCO's Texas
23 customers beginning in 2030. Because the capacity savings for SWEPCO do not begin

1 until 2030, my calculation of the impact on major classes for the first four years the
2 Facilities are in service does not show this capacity savings value.

3 Third, the Selected Wind Facilities will be eligible for federal PTCs during the
4 first ten years of commercial operation. The PTCs will flow through to SWEPCO's
5 customers as an additional benefit valued with a tax gross up. Since the PTCs create a
6 direct reduction to income tax expense, the pre-tax revenue level of the PTCs is
7 determined by applying the applicable tax gross up factor.

8 Q. WHAT HAPPENS IN THE EVENT THE PRODUCTION TAX CREDITS ARE NOT
9 FULLY UTILIZED IN A GIVEN YEAR?

10 A. Even though customers will receive the benefit of PTCs earned in any given year, in
11 the event the Company cannot fully utilize PTCs in a given year(s), a DTA will be
12 established on SWEPCO's balance sheet. SWEPCO requests Commission approval to
13 include this DTA in its rate base and revenue requirement in a future proceeding.
14 Because SWEPCO's customers are receiving the benefits of the PTCs as earned by
15 SWEPCO, it is reasonable to also include the DTA associated with the PTCs not used
16 by SWEPCO in its base rate revenue requirement. Company witness Multer discusses
17 PTCs and the DTA in his testimony.

18 Q. HOW ARE THE SELECTED WIND FACILITIES' REVENUE REQUIREMENT
19 AND THE SAVINGS DESCRIBED ABOVE ALLOCATED TO TEXAS
20 CUSTOMERS?

21 The revenue requirement of the Facilities along with the cost savings and PTCs in this
22 analysis is allocated to the Texas jurisdiction and retail classes using an estimated
23 energy allocator. An energy allocation matches the costs of the Facilities with the

1 benefits generated by the Facilities and the PTCs earned. Actual Texas jurisdictional
2 and class energy allocation factors will be used when the Facilities are recovered in
3 SWEPCO's rates.

4 Q. WILL SWEPCO CUSTOMERS SEE A NET DECREASE IN THEIR MONTHLY
5 BILLS IN THE FIRST YEAR OF OPERATION OF THE SELECTED WIND
6 FACILITIES WHILE STILL ALLOWING SWEPCO TO RECOVER THE NEEDED
7 REVENUE REQUIREMENT?

8 A. Yes. The revenue requirement from the addition of these facilities will be more than
9 offset by the energy savings and credits associated with the federal PTC from the
10 operation of the Selected Wind Facilities. There are net customer savings in 2021,
11 which reflects Sundance only, of approximately \$428,000 but rising to approximately
12 \$4.1 million in savings for Texas customers in 2022, which is for all three facilities, as
13 shown in EXHIBIT JOA-1.

14 Q. WHAT ARE THE TEXAS CUSTOMER NET BENEFITS OVER THE FIRST FOUR
15 YEARS OF OPERATION?

16 A. For the first four years of operations, SWEPCO Texas customers would receive a Net
17 Benefit of approximately \$17.1 million in savings, as further shown in EXHIBIT
18 JOA-1.

19 Q. WHAT ARE THE TEXAS CUSTOMER NET BENEFITS OVER THE FIRST TEN
20 YEARS OF OPERATION?

21 A. For the first ten years of operations, SWEPCO Texas customers would receive a Net
22 Benefit of approximately \$121.2 million in savings, as further shown on EXHIBIT
23 JOA-1.

1 Q. ARE THERE EXPECTED SAVINGS FOR TEXAS RESIDENTIAL CUSTOMERS
2 FOR THE FIRST FOUR YEARS OF OPERATION?

3 A. Yes. The calculations showing savings for the average residential customer (1000
4 kWh) are set forth in EXHIBIT JOA-2. This exhibit also shows results of the
5 allocations for the Texas retail jurisdiction and major rate classes through 2024.
6

7 IV. COST RECOVERY

8 Q. HOW WILL THE SELECTED WIND FACILITIES' REVENUE REQUIREMENTS
9 BE RECOVERED FROM SWEPCO'S TEXAS RETAIL CUSTOMERS?

10 A. In a future filing, SWEPCO intends to request implementation of a Generation
11 Investment Recovery Rider pursuant to newly-enacted Section 36.213 of PURA² to
12 recover the revenue requirements of the Selected Wind Facilities. Under § 36.213, an
13 electric utility operating outside of ERCOT may request a rider to recover investment
14 in a power generation facility and the Commission may approve the rider before the
15 utility places the facility into service. Such a rider shall take effect on the date the
16 power generation facility begins providing service to customers, and amounts
17 recovered through the rider are subject to reconciliation in the utility's next base rate
18 proceeding. The Company intends to request that the Rider recover the share of its
19 investment in the Selected Wind Facilities that is allocable to Texas, which is 309 MW.

² PURA § 36.213 was recently enacted by the Texas Legislature and signed into law by the Governor. Acts 2019, 86th Leg., R.S., Ch. ____ (H.B. 1397), Sec. 4, eff. June 14, 2019.

1 Q. HOW WILL THE PTC BENEFITS OF THE SELECTED WIND FACILITIES BE
2 CREDITED TO CUSTOMERS?

3 A. PTCs are recorded in FERC Account No. 409.1 and, therefore, would normally be
4 credited to customers through base rates. Until the Company's investment in the
5 Selected Wind Facilities is placed into base rates, the Company intends to credit the
6 PTC benefits of the Selected Wind Facilities to customers through the future rider filing
7 discussed above, as an offset to the Facilities' revenue requirements.

8 Q. HOW WILL THE FUEL AND ENERGY COST SAVINGS OF THE SELECTED
9 WIND FACILITIES BE FLOWED THROUGH TO CUSTOMERS?

10 A. Fuel and energy-related costs are reconcilable costs that are included in the Company's
11 fuel factor, so those cost savings attributable to the Selected Wind Facilities will be
12 flowed through to customers through future fuel factor adjustment and fuel
13 reconciliation proceedings.

14

15 VI. CONCLUSION

16 Q. PLEASE SUMMARIZE YOUR TESTIMONY.

17 A. The Selected Wind Facilities are expected to result in savings and PTCs that will more
18 than offset the fixed cost revenue requirement, resulting in a net decrease in customer
19 costs and bills. SWEPCO intends to request in a future filing a Generation Investment
20 Recovery Rider to recover the revenue requirements of the Selected Wind Facilities.

21 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

22 A. Yes, it does.

Year	2021	2022	2023	2024	2025	2026	2027
Facilities' Revenue Requirement (inc DTA CC)	8,436,051	54,403,233	54,580,422	55,691,540	55,643,346	55,695,533	55,660,302
Project Capacity (Benefit) / Cost	-	-	-	-	-	-	-
Project Energy Savings	(3,334,097)	(25,800,659)	(26,815,229)	(28,132,854)	(28,689,073)	(29,290,737)	(29,829,609)
Production Tax Credits	(5,529,968)	(32,655,155)	(33,911,122)	(34,004,029)	(35,167,090)	(35,167,090)	(36,423,057)
Net Customer (Benefit) / Cost	(428,014)	(4,052,581)	(6,145,930)	(6,445,344)	(8,212,816)	(8,762,293)	(10,592,365)

Year	2028	2029	2030	2031	2032	2033	2034
Facilities' Revenue Requirement (inc DTA CC)	55,517,876	55,329,269	54,920,139	54,231,178	51,815,469	47,610,706	43,646,879
Project Capacity (Benefit) / Cost	-	-	-	-	-	-	-
Project Energy Savings	(43,424,520)	(42,716,615)	(44,313,627)	(45,654,777)	(47,393,105)	(48,710,491)	(50,666,315)
Production Tax Credits	(36,522,846)	(37,679,025)	(37,679,025)	(32,341,569)	-	-	-
Net Customer (Benefit) / Cost	(24,429,491)	(25,066,371)	(27,072,513)	(23,765,167)	4,422,364	(1,099,785)	(7,019,436)

Year	2035	2036	2037	2038	2039	2040	2041
Facilities' Revenue Requirement (inc DTA CC)	41,532,419	40,725,605	39,935,881	39,155,424	38,463,254	37,769,416	37,066,681
Project Capacity (Benefit) / Cost	-	-	(347,735)	(20,689,538)	(21,071,370)	406,308	(21,298,923)
Project Energy Savings	(52,967,651)	(53,642,095)	(55,450,311)	(56,648,391)	(58,366,004)	(60,763,304)	(62,393,687)
Production Tax Credits	-	-	-	-	-	-	-
Net Customer (Benefit) / Cost	(11,435,232)	(12,916,490)	(15,862,165)	(38,182,505)	(40,974,120)	(22,587,580)	(46,625,929)

Year	2042	2043	2044	2045	2046	2047	2048
Facilities' Revenue Requirement (inc DTA CC)	36,501,244	35,706,102	35,003,304	34,279,458	33,647,372	33,024,527	32,529,691
Project Capacity (Benefit) / Cost	(20,844,431)	974,686	374,300	150,472	235,503	(19,038,926)	(17,614,205)
Project Energy Savings	(64,707,781)	(66,141,425)	(69,333,950)	(72,653,678)	(74,850,568)	(78,581,001)	(80,904,997)
Production Tax Credits	-	-	-	-	-	-	-
Net Customer (Benefit) / Cost	(49,050,968)	(29,460,637)	(33,956,347)	(38,223,748)	(40,967,694)	(64,595,400)	(65,989,511)

Year	2049	2050	2051	Total
Facilities' Revenue Requirement (inc DTA CC)	32,173,213	32,230,994	30,278,406	1,313,204,935
Project Capacity (Benefit) / Cost	1,134,691	842,091	(1,669,751)	(118,456,828)
Project Energy Savings	(80,451,355)	(81,483,019)	(71,369,751)	(1,635,480,679)
Production Tax Credits	-	-	-	(357,079,976)
Net Customer (Benefit) / Cost	(47,143,452)	(48,409,934)	(42,761,096)	(797,812,549)

Revenue Impact

Year		2018	2021	2022	2023	2024
Proforma Revenue	Residential	242,007,350	241,285,651	245,907,765	249,608,891	249,874,953
	Commercial	199,598,128	197,049,631	200,709,116	203,282,911	202,341,902
	Industrial	187,961,301	193,678,551	200,723,338	204,865,287	204,791,103
		<u>629,566,778</u>	<u>632,013,833</u>	<u>647,340,220</u>	<u>657,757,089</u>	<u>657,007,958</u>
Project Net (Benefit) / Cost	Residential	-	(126,782)	(1,200,419)	(1,820,493)	(1,909,182)
	Commercial	-	(127,525)	(1,207,454)	(1,831,161)	(1,920,370)
	Industrial	-	(173,706)	(1,644,708)	(2,494,277)	(2,615,791)
		<u>-</u>	<u>(428,014)</u>	<u>(4,052,581)</u>	<u>(6,145,930)</u>	<u>(6,445,344)</u>
Total Revenue with Project	Residential	242,007,350	241,158,868	244,707,346	247,788,399	247,965,770
	Commercial	199,598,128	196,922,106	199,501,663	201,451,750	200,421,532
	Industrial	187,961,301	193,504,845	199,078,630	202,371,010	202,175,312
		<u>629,566,778</u>	<u>631,585,819</u>	<u>643,287,639</u>	<u>651,611,159</u>	<u>650,562,614</u>

Rate Impact per kWh

Year		2018	2021	2022	2023	2024
Proforma Rate	Residential	0.111007	0.110318	0.112094	0.113566	0.113412
	Commercial	0.090247	0.089568	0.091318	0.092770	0.092618
	Industrial	0.065257	0.064631	0.066244	0.067582	0.067442
		<u>0.086573</u>	<u>0.085594</u>	<u>0.087222</u>	<u>0.088640</u>	<u>0.088492</u>
Project Net (Benefit) / Cost	Residential	-	(0.000058)	(0.000547)	(0.000828)	(0.000867)
	Commercial	-	(0.000058)	(0.000549)	(0.000836)	(0.000879)
	Industrial	-	(0.000058)	(0.000543)	(0.000823)	(0.000861)
		<u>-</u>	<u>(0.000058)</u>	<u>(0.000546)</u>	<u>(0.000828)</u>	<u>(0.000868)</u>
Total Rate with Project	Residential	0.111007	0.110260	0.111546	0.112738	0.112546
	Commercial	0.090247	0.089510	0.090769	0.091934	0.091739
	Industrial	0.065257	0.064573	0.065701	0.066759	0.066580
		<u>0.086573</u>	<u>0.085536</u>	<u>0.086676</u>	<u>0.087812</u>	<u>0.087624</u>

Residential Monthly Bill @ 1000 kWh Impact

Year	2018	2021	2022	2023	2024
Proforma Bill	\$ 111.01	\$ 110.32	\$ 112.09	\$ 113.57	\$ 113.41
Project Impact	\$ -	\$ (0.06)	\$ (0.55)	\$ (0.83)	\$ (0.87)
Bill with Project	<u>\$ 111.01</u>	<u>\$ 110.26</u>	<u>\$ 111.55</u>	<u>\$ 112.74</u>	<u>\$ 112.55</u>