

INTERNAL REVENUE BULLETIN



HIGHLIGHTS OF THIS ISSUE

These synopses are intended only as aids to the reader in identifying the subject matter covered. They may not be relied upon as authoritative interpretations.

Bulletin No. 2023-25
June 20, 2023

EMPLOYEE PLANS

Notice 2023-44, page 924.

This notice updates the version of Appendix A (defining qualifying advance energy projects) with clearer definitions and examples and updates the earlier version of Appendix B (providing the Department of Energy (DOE) application process) published in Notice 2023-18, 2023-10 I.R.B. 508. This notice also provides the process for submitting concept papers and joint applications for DOE recommendations and for IRS § 48C(e) certifications and clarifies the selection

criteria used to evaluate whether a project merits a DOE recommendation. This notice defines the term “facility” for purposes of sections 45X and 48C, provides the procedure for informing DOE and the Internal Revenue Service (IRS) of a significant change to the project plan, includes information regarding the disclosure of certain information, and clarifies that eligible property that is placed in service before being awarded an allocation of section § 48C credits is ineligible for the § 48C(e) program. Finally, the guidance provides information regarding § 48C(e) energy communities census tracts, including new Appendix C, which contains a list of those census tracts.

The IRS Mission

Provide America's taxpayers top-quality service by helping them understand and meet their tax responsibilities and enforce the law with integrity and fairness to all.

Introduction

The Internal Revenue Bulletin is the authoritative instrument of the Commissioner of Internal Revenue for announcing official rulings and procedures of the Internal Revenue Service and for publishing Treasury Decisions, Executive Orders, Tax Conventions, legislation, court decisions, and other items of general interest. It is published weekly.

It is the policy of the Service to publish in the Bulletin all substantive rulings necessary to promote a uniform application of the tax laws, including all rulings that supersede, revoke, modify, or amend any of those previously published in the Bulletin. All published rulings apply retroactively unless otherwise indicated. Procedures relating solely to matters of internal management are not published; however, statements of internal practices and procedures that affect the rights and duties of taxpayers are published.

Revenue rulings represent the conclusions of the Service on the application of the law to the pivotal facts stated in the revenue ruling. In those based on positions taken in rulings to taxpayers or technical advice to Service field offices, identifying details and information of a confidential nature are deleted to prevent unwarranted invasions of privacy and to comply with statutory requirements.

Rulings and procedures reported in the Bulletin do not have the force and effect of Treasury Department Regulations, but they may be used as precedents. Unpublished rulings will not be relied on, used, or cited as precedents by Service personnel in the disposition of other cases. In applying published rulings and procedures, the effect of subsequent legislation, regulations, court decisions, rulings, and procedures must be considered, and Service personnel and others concerned are cautioned

against reaching the same conclusions in other cases unless the facts and circumstances are substantially the same.

The Bulletin is divided into four parts as follows:

Part I.—1986 Code.

This part includes rulings and decisions based on provisions of the Internal Revenue Code of 1986.

Part II.—Treaties and Tax Legislation.

This part is divided into two subparts as follows: Subpart A, Tax Conventions and Other Related Items, and Subpart B, Legislation and Related Committee Reports.

Part III.—Administrative, Procedural, and Miscellaneous.

To the extent practicable, pertinent cross references to these subjects are contained in the other Parts and Subparts. Also included in this part are Bank Secrecy Act Administrative Rulings. Bank Secrecy Act Administrative Rulings are issued by the Department of the Treasury's Office of the Assistant Secretary (Enforcement).

Part IV.—Items of General Interest.

This part includes notices of proposed rulemakings, disbarment and suspension lists, and announcements.

The last Bulletin for each month includes a cumulative index for the matters published during the preceding months. These monthly indexes are cumulated on a semiannual basis, and are published in the last Bulletin of each semiannual period.

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Part III

Additional Guidance for the Qualifying Advanced Energy Project Credit Allocation Program under Section 48C(e)

Notice 2023-44

SECTION 1. PURPOSE

.01 This notice provides additional guidance to clarify and modify Notice 2023-18, 2023-10 I.R.B. 508, which established the program under § 48C(e) (1) of the Internal Revenue Code (Code)¹ to allocate \$10 billion of credits (\$4 billion of which may be allocated only to projects located in § 48C(e) Energy Communities Census Tracts²) for qualified investments in eligible qualifying advanced energy projects (§ 48C(e) program). The Department of the Treasury (Treasury Department) and the Internal Revenue Service (IRS) released Notice 2023-18 on February 13, 2023, to establish the § 48C(e) program and to provide initial program guidance.

.02 The additional guidance contained in this notice provides general guidance for the § 48C(e) program, including (1) definitions of the term “facility” for purposes of §§ 48C and 45X, (2) clarification regarding projects placed in service prior to being awarded an allocation of qualifying advanced energy project credits (§ 48C credits), (3) the process for submitting concept papers and joint applications for Department of Energy (DOE) recommendations and for IRS § 48C(e) certifications (§ 48C(e) applications), (4) information regarding § 48C(e) Energy Communities Census Tracts, (5) the selection criteria used to evaluate whether a project merits a DOE recommendation, (6) the procedure for informing the IRS and the DOE of a significant change in plans for a project that has received an allocation of § 48C credits, and (7) the disclosure of certain information. In addition, this notice

provides information regarding when the DOE eXCHANGE portal, an online application portal available at <https://48C-exchange.energy.gov/> (or any successor interface) and referred to in this notice and its appendices as the “eXCHANGE portal,” will begin accepting concept papers and the timeline for submitting a § 48C(e) application.

.03 This notice republishes Appendices A and B included in Notice 2023-18 with certain modifications. Appendix A is modified to provide minor clarifications to definitions and examples. Appendix B is modified to provide technical review criteria, and application content requirements. This notice also includes a new Appendix C that provides a list of § 48C(e) Energy Communities Census Tracts.

.04 As stated in section 1.03 of Notice 2023-18, the Treasury Department and the IRS anticipate providing at least two allocation rounds under the § 48C(e) program. For the first allocation round (Round 1) of the § 48C(e) program, the Treasury Department and the IRS anticipate allocating up to \$4 billion of § 48C credits with approximately \$1.6 billion in § 48C credits to be allocated to projects located in § 48C(e) Energy Communities Census Tracts. Although the Treasury Department and the IRS intend to allocate a total of \$10 billion of § 48C credits with not less than \$4 billion of § 48C credits to projects located in § 48C(e) Energy Communities Census Tracts over the duration of the § 48C(e) program, depending upon applications received, the Treasury Department and the IRS may not allocate exactly 40 percent of the total § 48C credits allocated in Round 1 to projects located in § 48C(e) Energy Communities Census Tracts. To be considered for an allocation of § 48C credits in the § 48C(e) program for Round 1, taxpayers must first submit concept papers to the IRS through the eXCHANGE portal. Following submission of a concept paper, DOE will provide a letter encouraging or discouraging the taxpayer’s submission of a § 48C(e)

application. DOE begins the acceptance process for a taxpayer’s § 48C(e) application 7 days after the date of the letter of encouragement or discouragement. To be considered for the § 48C(e) program, a taxpayer’s § 48C(e) application must be submitted no later than 45 days after DOE begins the acceptance process for the taxpayer’s § 48C(e) application. The IRS will make all Round 1 allocation decisions by March 31, 2024.

SECTION 2. BACKGROUND

.01 For purposes of the § 38 general business credit, § 46 provides that the amount of the investment credit for any taxable year is the sum of the credits listed in § 46. That list includes the § 48C credit, which was originally enacted by § 1302(b) of the American Recovery and Reinvestment Act of 2009 (2009 Act), Public Law 111-5, Division B, Title I, Subtitle D, 123 Stat. 115, 345 (February 17, 2009), to provide an allocated credit for qualified investments in qualifying advanced energy projects.

.02 In addition to certain amendments made by the Tax Increase Prevention Act of 2014, Public Law 113-295, 128 Stat. 4010 (December 19, 2014), § 48C was amended most recently by § 13501 of Public Law 117-169, 136 Stat. 1818 (August 16, 2022), commonly known as the Inflation Reduction Act of 2022 (IRA). Section 13501(a) of the IRA added § 48C(e) to the Code to extend the § 48C credit and to provide an additional credit allocation of \$10 billion. Section 13501(b) of the IRA modified the definition of a “qualifying advanced energy project” contained in § 48C(c)(1)(A). Section 13501(c) and (d) of the IRA made conforming amendments to § 48C(c)(2) (A) and (f). The amendments made by § 13501 of the IRA became effective on January 1, 2023. *See* § 13501(e) of the IRA.

.03 Notice 2023-18 established the § 48C(e) program and provided initial program guidance. Section 3 of Notice

¹ Unless otherwise specified, all “section” or “§” references are to sections of the Code.

² The term “§ 48C(e) Energy Communities Census Tracts” is defined in section 5.06 of Notice 2023-18.

2023-18 provided definitions for purposes of the § 48C(e) program for the following terms: “qualifying advanced energy project,” “specified advanced energy property,” “eligible property,” “placed in service,” “industrial facility,” “manufacturing facility,” and “recycling facility.” Section 4 of Notice 2023-18 described how the prevailing wage and apprenticeship requirements that apply under § 48C(e)(5) and (6) impact the rate of § 48C credits allocated under the § 48C(e) program. Section 5 of Notice 2023-18 provided a general description of the § 48C(e) program and section 6 of Notice 2023-18 provided initial information regarding the procedures for concept papers and § 48C(e) applications.

.04 Section 5 of Notice 2023-18 states that the IRS will consider a project under the § 48C(e) program only if DOE provides a recommendation and ranking to the IRS. As stated in section 5 of Notice 2023-18, DOE will provide a recommendation only if it determines that the project has a reasonable expectation of commercial viability and merits a recommendation based on the criteria provided in additional § 48C(e) program guidance intended to be issued by May 31, 2023. This guidance comprises the additional § 48C(e) program guidance referred to in Notice 2023-18.

SECTION 3. SECTION 48C AND SECTION 45X FACILITIES

.01 *Section 48C Facility.* For purposes of § 48C, a “facility” is the eligible property that makes up the qualified investment that is part of the qualifying advanced energy project (§ 48C Facility). Section 48C(c)(2) defines the term “eligible property” to mean any property that—

(1) Is necessary for the production or recycling of property described in § 48C(c)(1)(A)(i), re-equipping an industrial or manufacturing facility described in § 48C(c)(1)(A)(ii), or re-equipping, expanding, or establishing an industrial facility described in § 48C(c)(1)(A)(iii),

(2) Is tangible personal property, or other tangible property (not including a building or its structural components), but only if such property is used as an integral part of the qualified investment credit facility, and

(3) With respect to which depreciation (or amortization in lieu of depreciation) is allowable.

.02 *Section 45X Facility.* For purposes of the § 38 general business credit, the advanced manufacturing production credit determined under § 45X(a) (§ 45X credit) for any taxable year is an amount equal to the sum of the credit amounts determined under § 45X(b) with respect to each eligible component (as defined in § 45X(c)(1)) that is produced by a taxpayer and, during the taxable year, sold by the taxpayer to an unrelated person. Section 45X(c)(1)(B) provides that the term “eligible component” does not include any property which is produced at a facility if the basis of any property which is part of such facility is taken into account for purposes of the credit allowed under § 48C after August 16, 2022 (the date of enactment of the IRA). For purposes of the § 45X credit, all tangible property that comprises an independently functioning production unit that produces one or more eligible components will be treated as a single facility (§ 45X Facility). The Treasury Department and the IRS intend to further define the term “production unit” for purposes of the § 45X credit in forthcoming guidance addressing various § 45X issues.

.03 *Interaction between Sections 48C and 45X.* For purposes of evaluating the interaction between §§ 48C and 45X, the eligible component is defined as provided in § 45X(c)(1). A § 45X Facility cannot produce an eligible component for purposes of the § 45X credit if such facility includes eligible property that has been taken into account for purposes of the credit allowed under § 48C after August 16, 2022.

.04 *Example.* Taxpayer owns and operates a manufacturing site that contains Production Unit A and Production Unit B. Production Unit A manufactures photovoltaic wafers and Production Unit B manufactures photovoltaic cells. Production Unit A and Production Unit B are arranged in serial fashion, in that the wafer produced by Production Unit A is utilized in Production Unit B. Production Unit A and Production Unit B function independently and produce eligible components. Taxpayer was allocated a § 48C credit for Production Unit A under the § 48C(e) program and subsequently placed it in service

in taxable year 2024. Production Unit A is eligible property that is part of Taxpayer’s § 48C Facility and Taxpayer claimed a § 48C credit for Production Unit A in taxable year 2024. Therefore, Production Unit A fails to qualify as § 45X Facility under § 45X(c)(1)(B). Production Unit B is tangible property that comprises an independently functioning production unit that produces eligible components. Production Unit B can be treated as a § 45X Facility because the tangible property comprising Production Unit B is not eligible property that is part of a § 48C Facility.

SECTION 4. PLACED IN SERVICE REQUIREMENT

.01 *In General.* Eligible property (as defined in § 48C(c)(2)) is placed in service for purposes of the § 48C(e) program in the earlier of the following taxable years:

(1) The taxable year in which, under the taxpayer’s depreciation practice, the period for depreciation with respect to such eligible property begins; or

(2) The taxable year in which the eligible property is placed in a condition or state of readiness and availability for a specifically assigned function, whether in a trade or business or in the production of income.

.02 *No Section 48C(e) Allocation if Placed in Service Prior to Allocation Award.* Eligible property placed in service prior to being awarded an allocation of § 48C credits under the § 48C(e) program is not eligible to receive such an allocation.

SECTION 5. CONCEPT PAPERS AND § 48C(e) APPLICATIONS

.01 *In General.* For each project for which a taxpayer seeks a § 48C(e) allocation for Round 1, the taxpayer must use the eXCHANGE portal to submit to the IRS (1) a concept paper for DOE consideration and (2) the § 48C(e) application. If a § 48C(e) application does not (1) propose a qualifying advanced energy project (as described in Appendix A) or (2) include all of the information required in Notice 2023-18 and this notice (including the additional § 48C(e) program guidance contained in the appendices), DOE may either decline to consider the § 48C(e)

application or request that the applicant resubmit its § 48C(e) application with the missing information. If DOE does not provide a recommendation to the IRS on the § 48C(e) application, the IRS will not consider the § 48C(e) application.

.02 Taxpayer submissions. Notice 2023-18 requires taxpayers to submit their concept papers and § 48C(e) applications through the eXCHANGE portal. *See* Appendix B for additional information regarding the application process.

.03 Program Timeline. Generally, the § 48C(e) program will proceed as follows:

(1) A taxpayer submits a concept paper through the eXCHANGE portal. The eXCHANGE portal will open no later than June 30, 2023. Taxpayers must submit concept papers prior to 12:00 PM (noon) Eastern Time on July 31, 2023.

(2) DOE reviews the concept paper and sends the taxpayer a letter encouraging or discouraging the submission of a § 48C(e) application. After receiving a letter of encouragement or discouragement from DOE, the taxpayer determines whether to submit a § 48C(e) application. All taxpayers who submit concept papers are eligible to submit a § 48C(e) application, regardless of DOE's response to its concept paper.

(3) Taxpayers submit § 48C(e) applications through the eXCHANGE portal. *See* Appendix B for additional information.

(4) DOE reviews the § 48C(e) applications for compliance with eligibility and other threshold requirements.

(5) If the § 48C(e) application complies with all eligibility and threshold requirements, DOE conducts a technical review of the application to form a DOE recommendation.

(6) DOE provides a recommendation to the IRS regarding the acceptance or rejection of each § 48C(e) application and a ranking of all § 48C(e) applications.

(7) The IRS makes a decision regarding the acceptance or rejection of each § 48C(e) application based on DOE's recommendation and ranking. The IRS notifies each taxpayer that submitted a § 48C(e) application of the outcome by sending a letter allocating § 48C credits in the case of an acceptance (Allocation Letter) or letter denying the requested allocation in the case of a rejection (Denial Letter). The IRS will make all Round 1

allocation decisions by March 31, 2024. In the case of an acceptance, the amount of § 48C credits allocated to a project will be based on the taxpayer's qualified investment in the qualifying advanced energy project and whether the taxpayer intends to apply for and receive an allocation of § 48C credits calculated at the 30 percent credit rate (*see* Notice 2023-18, section 5.07). In the case of a denial, a taxpayer may request a debriefing with DOE regarding its review of the taxpayer's § 48C(e) application. The Denial Letter will include instructions for requesting a DOE debriefing.

(8) To be eligible to claim a § 48C credit allocated under the § 48C(e) program with respect to a taxpayer's § 48C Facility, the earliest that the taxpayer may place in service the § 48C Facility is after receiving the Allocation Letter with respect to that § 48C Facility. *See* section 4 of this notice.

(9) Within 2 years of receiving an Allocation Letter, a taxpayer must notify DOE that the certification requirements have been met by submitting this information through the eXCHANGE portal. *See* Appendix B for additional information.

(10) DOE notifies the taxpayer and the IRS that it has received the taxpayer's notification that the certification requirements have been met.

(11) The IRS certifies the § 48C Facility by sending a letter (Certification Letter).

(12) Within 2 years of receiving the Certification Letter, the taxpayer notifies DOE that the § 48C Facility has been placed in service by submitting such information through the eXCHANGE portal. *See* Appendix B for additional information. If the taxpayer has not placed the § 48C Facility in service within the required 2-year period or has not notified DOE that the § 48C Facility has been placed in service within the required 2-year period, then the § 48C credit allocated to the taxpayer's project is forfeited.

(13) DOE notifies the taxpayer and the IRS that it has received the taxpayer's notification that the § 48C Facility has been placed in service or notification that the taxpayer will not place the § 48C Facility in service within the required 2-year period. *See* Section 5.09 of Notice 2023-18.

(14) If the taxpayer has placed the § 48C Facility in service within the

required 2-year period and has notified DOE, then the taxpayer claims the § 48C credit on its Federal income tax return for the taxable year in which the § 48C Facility was placed in service.

(15) If the taxpayer chooses to withdraw a submission at any phase of the § 48C(e) program (whether at the concept paper phase, the § 48C(e) application phase, the post-Allocation Letter phase, or the post-Certification Letter phase), the taxpayer must provide a formal withdrawal notification through the eXCHANGE portal.

SECTION 6. SECTION 48C ENERGY COMMUNITIES CENSUS TRACTS

.01 In General. Section 48C(e)(2) provides that the total amount of § 48C credits which may be allocated under the § 48C(e) program may not exceed \$10 billion (National § 48C(e) Limitation), of which not greater than \$6 billion may be allocated to qualified investments that are not located within § 48C(e) Energy Communities Census Tracts. This notice refers to the aggregate amount of § 48C credits that will be allocated to § 48C(e) Energy Communities Census Tracts from the National § 48C(e) Limitation as the § 48C(e) Energy Community Allocation.

.02 Timing. The determination of whether a project is located in a § 48C(e) Energy Communities Census Tract will be made at the time that DOE provides recommendations to the IRS and will not be redetermined.

.03 Location. A § 48C Facility is treated as located within a § 48C(e) Energy Communities Census Tract, if the § 48C Facility satisfies the square footage test (Footprint Test). The Footprint Test provides that a § 48C Facility is considered located within a § 48C(e) Energy Communities Census Tract if 50 percent or more of its square footage is in an area that qualifies as a § 48C(e) Energy Communities Census Tract. This percentage is determined by dividing the square footage of the § 48C Facility that is located in a § 48C(e) Energy Communities Census Tract by the total square footage of the § 48C Facility.

.04 Resources to Determine Whether a § 48C Facility is Located Within a § 48C(e) Energy Communities Census

Tract. A taxpayer can determine whether its project is located within a § 48C(e) Energy Communities Census Tract by referring to the list of Section 48C(e) Energy Communities Census Tracts provided by Appendix C. Additionally, a map of § 48C(e) Energy Communities Census Tracts has been provided by the DOE and is available at www.energy.gov/infrastructure/48C.

SECTION 7. SELECTION CRITERIA

.01 *In General.* Section 48C(d)(3) lists the selection criteria used to determine which qualifying advanced energy projects merit a DOE recommendation. Section 48C(d)(3)(A) provides that in determining which qualifying advanced energy projects to certify under this section the Secretary of the Treasury or her delegate (Secretary) is to take into consideration only those projects where there is a reasonable expectation of commercial viability. Further, § 48C(d)(3)(B) provides that in determining which qualifying advanced energy projects to certify under this section the Secretary is to take into consideration projects that—

- (1) Will provide the greatest domestic job creation (both direct and indirect) during the credit period,
- (2) Will provide the greatest net impact in avoiding or reducing air pollutants or anthropogenic emissions of greenhouse gases,
- (3) Have the greatest potential for technological innovation and commercial deployment,
- (4) Have the lowest levelized cost of generated or stored energy, or of measured reduction in energy consumption or greenhouse gas emission (based on costs of the full supply chain), and
- (5) Have the shortest project time from certification to completion.

.02 *Technical Review Criteria Generally.* DOE will implement the selection criteria and evaluate whether a project merits a DOE recommendation based on the following four technical review criteria, as described further in Appendix B:

- (1) Commercial viability,
- (2) Greenhouse gas emissions impacts,
- (3) Strengthening U.S. supply chains and domestic manufacturing for a net-zero economy, and

- (4) Workforce and community engagement.

.03 *Description of Technical Review Criteria.* These four technical review criteria—described in more detail in Appendix B—are based on § 48C(d)(3), which originally applied to earlier allocations made under the 2009 Act, and are intended to further the overall purposes of the IRA.

(1) *Commercial Viability.* The first criterion of commercial viability is a key criterion for determining which qualifying advanced energy projects merit consideration based on § 48C(d)(3)(A) and, consistent with § 48C(d)(3)(B)(iv) and (v), will help to identify projects with the lowest levelized cost and shortest time frame for completion.

(2) *Greenhouse gas emissions impacts.* The second criterion of greenhouse gas emissions impacts, consistent with § 48C(d)(3)(B)(ii), will help to identify projects with the greatest net impacts in avoiding or reducing anthropogenic emissions of greenhouse gases.

(3) *Strengthening U.S. supply chains and domestic manufacturing for a net-zero economy.* The third criterion of strengthening U.S. supply chains and domestic manufacturing for a net-zero economy is consistent with § 48C(d)(3)(B)(ii) and (iii), and will help to identify impacts on domestic job creation and the potential for technological innovation and commercial deployment.

(4) *Workforce and community engagement.* The fourth criterion of workforce and community engagement, consistent with § 48C(d)(3)(B)(i), (ii), and (v), will look to additional facts that can inform how and to what extent projects will lead to domestic job creation, reduce barriers that might otherwise increase project completion time, and have an impact on avoiding or reducing local pollution, including non-greenhouse gas air pollution.

(5) *Interrelationship of criteria.* The four technical review criteria are also interrelated and work together to help further multiple goals under the statute, and they are consistent with the IRA's broader goals of increasing the deployment of renewable energy resources, increasing energy security and domestic investment in the renewable energy supply chain, and helping to ensure that benefits of the clean energy economy are shared broadly.

SECTION 8. SIGNIFICANT CHANGE IN PLANS

.01 *In General.* As provided in section 8.01 of Notice 2023-18, any taxpayer that submits a concept paper or a § 48C(e) application must inform DOE and the IRS if the plans for the project change in any significant respect from the plans set forth in the concept paper and the § 48C(e) application. A significant change is any change that a reasonable taxpayer would conclude might have negatively influenced DOE in recommending or ranking the project or the IRS in issuing the Allocation Letter had the taxpayer described the change when submitting the § 48C(e) application. See section 8.01 of Notice 2023-18 for how a significant change in plans affects a § 48C(e) application.

.02 *Change in Plan Procedure.* If a project has a significant change in plans:

(1) The taxpayer must upload a letter to the eXCHANGE portal as an appendix informing DOE and the IRS that the project has a significant change in plans as compared to the description of the project included in the concept paper or § 48C(e) application.

(2) If the taxpayer submits a letter informing DOE and the IRS that the project has a significant change in plans, the submitted letter constitutes an acknowledgment that the project no longer qualifies as a qualifying advanced energy project or is no longer located within a § 48C(e) Energy Communities Census Tract, and if submitted after the taxpayer receives an Allocation Letter, that the taxpayer forfeits its § 48C credit allocation.

SECTION 9. DISCLOSURE OF INFORMATION

.01 Section 48C(e)(7) provides that upon making a certification under § 48C(e), the Secretary is required to disclose publicly the identity of the applicant and the amount of the credit certified with respect to such applicant. Accordingly, the IRS will publish the results of Round 1 of the § 48C(e) program and will disclose the identity of the taxpayer and the amount of the § 48C credits allocated to the taxpayer with respect to projects that have been allocated a § 48C credit and have received a certification.

.02 After a taxpayer receives an allocation through the § 48C(e) program, the eXCHANGE portal will ask the recipient-taxpayer if the taxpayer consents to disclosure of information in addition to information that is required by statute to be disclosed. The additional information may include the location of the taxpayer's § 48C Facility and a brief description. A taxpayer's decision to authorize or not to authorize the disclosure of any additional information will not impact the taxpayer's § 48C credit allocation.

SECTION 10. PAPERWORK REDUCTION ACT

Any collection burden associated with this notice is accounted for in OMB Control Number 1545-2151.

This notice does not alter any previously accounted for information collection requirements and does not create new collection requirements not already approved by the Office of Management and Budget.

SECTION 11. EFFECT ON OTHER DOCUMENTS

Notice 2023-18 is clarified and modified.

SECTION 12. DRAFTING INFORMATION

.01 The principal author of this notice is John M. Deininger of the Office of Associate Chief Counsel (Passthroughs & Special Industries). For further information regarding this notice contact Mr.

Deininger on (202) 317-6853 (not a toll-free call).

.02 Any questions or comments regarding the non-tax aspects of this notice can be submitted to the Department of Energy at 48CQuestions@hq.doe.gov. DOE may post questions and answers related to this notice on the eXCHANGE portal at <https://48C-exchange.energy.gov> (select 48C from the list of options to view questions and answers specific to notice). Any questions or comments received under this notice are subject to public release pursuant to the Freedom of Information Act. DOE is under no obligation to respond to, or acknowledge receipt of, any questions or comments submitted under this notice and any responses provided do not constitute legal advice provided by either DOE or the IRS.

APPENDIX A
Qualifying Advanced Energy Projects

THIS APPENDIX A SUPERSEDES APPENDIX A OF NOTICE 2023-18.

For the purposes of determining eligibility for the § 48C credit, a “qualifying advanced energy project” means:

1. Clean Energy Manufacturing and Recycling Projects

A qualifying advanced energy project in this category re-equips, expands, or establishes an industrial or manufacturing facility for the production or recycling of specified advanced energy property:

a. Property designed to be used to produce energy from the sun, water, wind, geothermal deposits (within the meaning of § 613(e)(2)), or other renewable resources.

(i) Examples of *eligible* property include solar panels and their specialized support structures; wind turbines, towers, floating offshore platforms, and related equipment; power electronics designed for use with eligible solar or wind property; equipment to concentrate sunlight to generate heat for industrial processes or to convert it to electricity; geothermal turbines and heat pumps; hydropower turbines; and other products directly used to generate electrical and/or thermal energy from renewable resources, as well as the specialized components, subcomponents, and materials incorporated into any such eligible property, including equipment for sensing, communication, and control.

(ii) Examples of *ineligible* property include equipment for applications other than the conversion of energy from renewable resources for delivering electricity, building heat, or industrial process heat such as a gas turbine generator set which burns natural gas, or a building that houses a boiler to heat water from fossil fuel.

b. Fuel cells, microturbines, or energy storage systems and components.

(i) Examples of *eligible* property include stationary batteries; stationary hydrogen fuel cells; hydrogen storage vessels; microturbines for combined heat and power systems; pumps and turbines for pumped hydropower storage systems; and the specialized components of any such equipment, including equipment for sensing, communication, and control.

(ii) Examples of *ineligible* property include heavy gas turbines.

(iii) **Note:** For electric vehicle batteries and fuel cells for vehicles see the “light-, medium-, or heavy-duty electric or fuel cell vehicles” project class.

c. Electric grid modernization equipment or components.

(i) Examples of *eligible* property include grid equipment for electricity delivery; power flow, control, and conversion, such as transformers, power electronics, advanced cables and conductors, advanced meters, breakers, switchgears, composite poles, converters, medium-voltage direct current (MVDC) and high-voltage direct current (HVDC) lines, grid-enhancing technologies, and electrical steel or alloys used in transformer cores. Examples of *eligible* property also include the specialized components of any such grid modernization equipment, including components for sensing communication, and control.

(ii) Electric vehicle supply equipment qualifies under the “light-, medium-, or heavy-duty electric or fuel cell vehicles” project class. Storage technologies for grid applications qualify under the “fuel cells, microturbines, or energy storage systems and components” project class.

d. Property designed to capture, remove, use, or sequester carbon oxide emissions.

(i) Examples of *eligible* property include carbon capture equipment or other property necessary to compress, treat, process, liquefy, pump or perform some other physical action to capture carbon oxide emissions, including solvents; membranes; sorbents; chemical processing equipment; compressors; monitoring equipment; and injection equipment; and well components such as packers, casing strings, CO₂-resistant concrete, steel tubulars, wellhead, valves, and sensors suitable for use in Underground Injection Control (UIC) Class VI wells. Eligible property also includes transportation equipment, as in a system of gathering and distribution infrastructure. These include pipelines, temporary or transportation-related carbon oxide storage tanks, valves, sensors, and control panels that serve in collecting carbon oxides captured from an industrial facility or multiple facilities for the purpose of transporting that carbon oxide. Additional examples include equipment to convert carbon oxides through mineralization, thermochemical, electrochemical, photochemical, plasma-assisted, or other catalytic process approaches to carbon-based products such as synthetic fuels, chemicals, solid carbon products, and inorganic materials.

(ii) Examples of *ineligible* property include scrubbers for conventional air pollutants (except those that are required to remove pollutants upstream of carbon capture equipment for technical performance reasons), energy generation equipment (except as related to energy recovery at carbon capture systems), and refining equipment.

e. Equipment designed to refine, electrolyze, or blend any fuel, chemical, or product which is renewable, or low-carbon and low-emission. For the purposes of Round 1 of the § 48C(e) program, such fuels, chemicals, and products include:

(i) Renewable transportation fuel which:

(A) is suitable for use as a fuel in a vehicle, marine vessel, or aircraft,

(B) is derived from or co-processed with:

(I) a biomass feedstock, or

(II) hydrogen produced from renewable energy and inputs, and

(C) is not derived from palm fatty acid distillates or fossil fuels, including coal, natural gas, and petroleum.

A qualifying advanced energy project does not include any portion of a project for the production of any property which is used in the refining or blending of any transportation fuel (other than renewable fuels, as described herein).

(ii) Clean hydrogen produced with a well-to-gate lifecycle greenhouse gas (GHG) emissions rate of not greater than 4 kg CO_{2e} per kg H₂, in accordance with the definition of qualified clean hydrogen for purposes of the credit under § 45V.

(iii) Other fuel which:

(A) is derived from or co-processed with a renewable feedstock or achieves at least a 50 percent reduction in lifecycle GHG emissions in comparison with the conventional alternative,

(B) is not a transportation fuel, and

(C) is not derived from palm fatty acid distillates or fossil fuels, including coal, natural gas, and petroleum.

(iv) Product or chemical which:

(A) is derived from or co-processed with a renewable feedstock or achieves at least a 50 percent reduction in lifecycle GHG emissions in comparison with the conventional alternative,

(B) is suitable for use as an industrial feedstock, and

(C) is not derived from palm fatty acid distillates or fossil fuels, including coal, natural gas, and petroleum.

(v) Examples of *eligible* property include electrolyzers, mixing devices, pumps, separation devices, bioprocessing equipment, biomass preprocessing equipment, and reactors, so long as they are intended for use to produce eligible fuels, chemicals, and products, as demonstrated through engineering specifications or offtake agreements.

(vi) Examples of *eligible* fuels, chemicals, and products produced by eligible equipment include hydrogen produced through electrolysis powered by low- or zero-emission energy; low-emissions ammonia; renewable biofuels, including sustainable aviation fuel and fuels intended to displace petroleum fuel in on-road and off-road applications; and low-emissions chemicals, basic organic chemicals, polymers, and resins.

(vii) Examples of *ineligible* fuels and chemicals would include those derived solely from fossil resources produced through conventional petroleum and natural gas refining.

Instructions for calculating well-to-gate lifecycle GHG emissions rates are provided in Appendix B, Section V: Additional Instructions on the Data Sheet Submission.

f. Property designed to produce energy conservation technologies (including residential, commercial, and industrial applications).

(i) Examples of *eligible* energy conservation property include technologies and grid-interactive devices eligible for residential or commercial efficiency improvements for purposes of the § 25C credit or the § 179D tax deduction, as well as equipment that directly reduces net energy use in industrial applications, such as ultra-efficient heat pumps, insulation, ultra-efficient hot water systems, sensors, controls, and similar advanced efficiency technologies.

(ii) Examples of *ineligible* energy conservation property includes those that reduce electricity usage by increasing direct natural gas or other fossil fuel use and/or lead to increased system-level emissions.

g. Light-, medium-, or heavy-duty electric or fuel cell vehicles, as well as technologies, components, or materials for such vehicles, and associated charging or refueling infrastructure.

(i) Examples of *eligible* property include battery electric, plug-in hybrid electric, or fuel cell cars, trucks, and buses, as well as the specialized components of those vehicles, such as batteries, anode and cathode components and materials, electric drive systems, fuel cells, and other materials and subcomponents.

(ii) Examples of *eligible* charging or refueling infrastructure include electric vehicle supply equipment (EVSE), components from the grid connection to the vehicle, bidirectional charging equipment, and components used in hydrogen refueling stations (e.g., hydrogen compressors, pumps, storage vessels, and dispensing equipment).

(iii) Examples of *ineligible* property include internal combustion engine vehicles of all sizes, non-plug-in hybrid vehicles of less than 14,000 pounds gross vehicle weight rating, and their components, as well as associated refueling infrastructure, such as petroleum gas, liquefied or compressed natural gas, or ethanol refueling

stations. Examples of *ineligible* property also include electrical components upstream of the EVSE connection to the grid and components of charging or refueling stations, such as signage, that are not directly involved in the transfer of fuel or power to the vehicle.

h. Hybrid vehicles with a gross vehicle weight rating of not less than 14,000 pounds, as well as technologies, components, or materials for such vehicles.

(i) Examples of *eligible* property include traction batteries, converters, power electronics, and assembled hybrid vehicles of not less than 14,000 pounds themselves, but components and materials must be designed for large hybrid vehicles with a gross vehicle weight rating of not less than 14,000 pounds, as demonstrated through engineering specifications and/or offtake agreements.

i. Other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary.

(i) Examples of *eligible* advanced energy property include specialized components and equipment for nuclear power reactors or their fuels (e.g., including fabrication of fuels, and manufacturing of equipment for conversion, enrichment, and deconversion), and equipment used to reduce the emissions of industrial facilities, such as heat and process emissions. Property may be determined to be designed to reduce GHG emissions either through published guidance or in the letter notifying an applicant that the IRS has accepted the applicant's application for § 48C(e) certification with respect to the property.

(ii) Advanced energy property that is designed to reduce greenhouse gas emissions by enabling the production of other greenhouse gas emission-reducing advanced energy property may be eligible under this category. For such "other advanced energy property," which is not designed to *directly* reduce GHG emissions, the applicant must demonstrate that the advanced energy property is highly specialized equipment necessary to strengthen U.S. resilience of critical domestic energy supply chains and the reduction of GHG emissions is a necessary ultimate outcome from the production of the advanced energy property. This can be demonstrated through the applicant's proposed business plan, including offtake agreements and any additional market analysis or other technical specialization, to show the advanced energy property that is produced or recycled by the applicant's industrial or manufacturing facility will primarily contribute toward reduction of GHG emissions. An example of such "other advanced energy property" that may be *eligible* is diamond wire saws necessary in the solar technology supply chain, so long as the applicant demonstrates the project's output will be used primarily for the purpose of manufacturing property designed to produce energy from the sun.

Note: This section 1.i. on "other advanced energy property" has been updated with additional clarifying language since the publication of Notice 2023-18.

2. Greenhouse Gas Emission Reduction Projects

A qualifying advanced energy project in this category re-equips an industrial or manufacturing facility, including in energy-intensive manufacturing sectors, such as cement, iron and steel, aluminum, chemicals, and other sectors, with equipment designed to reduce greenhouse gas emissions by at least 20 percent through the installation of one of more of the following:

a. Low- or zero-carbon process heat systems.

Examples of *eligible* equipment include electric heat pumps, combined heat and power (CHP) systems, thermal storage technologies, and other heating systems based on electricity, clean hydrogen, biomass, or waste heat recovery.

b. Carbon capture, transport, utilization, and storage systems.

(i) Examples of *eligible* equipment include carbon capture equipment necessary to compress, treat, process, liquefy, pump, or perform some other physical action to capture carbon oxides, and specialized equipment and materials needed for the transport and storage of carbon oxides, including carbon dioxide pipelines, monitoring equipment, and injection equipment and well components such as packers, casing strings, CO₂-resistant cement, steel tubulars, well heads, valves, and sensors suitable for use in Underground Injection Control Class VI wells. Additional examples include equipment to convert carbon oxides through mineralization, thermochemical, electrochemical, photochemical, plasma-assisted, or other catalytic process approaches to carbon-based products such as synthetic fuels, chemicals, solid carbon products, and inorganic materials.

(ii) Examples of *ineligible* property include scrubbers for conventional air pollutants, except those that are required to remove pollutants upstream of carbon capture equipment for technical performance reasons; energy generation equipment, except as related to energy recovery at carbon capture systems; and refining equipment.

c. Energy efficiency and reduction in waste from industrial processes.

Examples of *eligible* equipment include technologies that reduce direct fuel use, electricity use, or waste in industrial applications, such as industrial heat pumps, CHP systems, insulation, sensors, controls, advanced recycling approaches, smart energy management, and similar advanced efficiency technologies.

d. Any other industrial technology designed to reduce greenhouse gas emissions, as determined by the Secretary.

(i) Examples of other *eligible* industrial technologies include electrification of direct fuel use processes, adoption of renewable or low-emissions fuels and feedstocks, and other equipment replacement or process redesigns that reduce process- or fuel-related emissions or otherwise contribute to reducing GHG emissions by at least 20 percent.

(ii) Projects in this category may qualify by installing equipment designed to achieve a minimum of a 20 percent reduction in GHG emissions in one or more of the following ways:

- Achieve a direct (Scope 1) GHG emissions reduction of 20 percent facility-wide
- Achieve an indirect fuel- or energy-related (Scope 2) GHG emissions reduction of 20 percent facility-wide
- Achieve a direct or indirect fuel- or energy-related GHG emissions reduction of 20 percent at a facility subunit, such as a particular process step or fuel combustion unit

(iii) While facilities may be eligible under this project category by achieving a 20 percent reduction threshold within a particular element of their process or emissions profile, overall combined Scope 1 and Scope 2 GHG emissions impacts for the full qualifying facility will be taken into account when evaluating each project for the purposes of application scoring. Scope 1 and Scope 2 GHG emissions are further defined in Appendix B, Section III.

Instructions for calculating and demonstrating an emissions reduction of 20 percent is provided in Appendix B, Section V: Additional Instructions on the Data Sheet Submission.

3. Critical Material Projects

A qualifying advanced energy project in this category re-equips, expands, or establishes an industrial facility for the processing, refining, or recycling of critical materials (as defined in § 7002(a) of the Energy Act of 2020 (30 U.S.C. § 1606(a)). For purposes of this Round 1, critical materials will consist of:

a. The currently effective final list of critical minerals as determined by the U.S. Geological Survey (see 2022 Final List of Critical Minerals for the list published in 2022 available at: <https://www.federalregister.gov/documents/2022/02/24/2022-04027/2022-final-list-of-critical-minerals>); and

b. Any additional critical materials as determined by the Secretary of Energy and for which a final determination is posted on the DOE's critical materials page on or before July 31, 2023, available at: <http://www.energy.gov/criticalmaterials>. A proposed determination was posted at this web address prior to the publication of this notice. **Note:** DOE reserves the right to extend the deadline for concept paper submissions based on any changes included in the final determination.

Examples of *eligible* projects in this project category include the processing of raw ore, brines, mine tailings, end-of-life products, waste streams, and other source materials into critical materials. **Note:** These examples have been updated with additional clarifying language since the publication of Notice 2023-18.

Examples of *ineligible* projects under this project category include the subsequent physical or chemical transformation of critical materials into derivative products, including metals manufacturing such as aluminum extrusion and chemical manufacturing such as anode and cathode materials production. However, projects involving such derivative products may be eligible under the Clean Energy Manufacturing and Recycling Projects category. **Note:** These examples have been updated with additional clarifying language since the publication of Notice 2023-18.

APPENDIX B
DOE Application Process

THIS APPENDIX B SUPERSEDES APPENDIX B OF NOTICE 2023-18.

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I. DOE Review Process

A. Overview

i. Program Process

A two-stage technical evaluation process will be used for submissions:

- Stage 1: Concept Paper.
- Stage 2: § 48C(e) Application.

In Stage 1, concept paper application materials will be available for applicants to download from the eXCHANGE portal on May 31, 2023, and concept paper submissions will be accepted in the eXCHANGE portal beginning no later than June 30, 2023. **DOE will only consider concept papers that are submitted by 12:00 PM (noon) Eastern Time on July 31, 2023.** Section 48C(e) applications for Round 1 allocations will not be considered by DOE unless a concept paper submission is received from an applicant by the specified deadline. Potential applicants will not be able to begin or submit concept papers for Round 1 after the deadline.

For Critical Materials Projects, a proposed critical materials determination was posted at the website specified in Appendix A(3) prior to the publication of this notice. DOE reserves the right to extend the deadline for concept paper submissions based on any changes included in DOE's final critical materials determination.

In Stage 2, following DOE's review of concept papers and transmission of letters encouraging or discouraging the applicant to continue in the process, the eXCHANGE portal will reopen to receive § 48C(e) application submissions for subsequent evaluation by DOE. The date on which DOE will begin accepting § 48C(e) applications and the deadline by which they must be submitted will be conveyed to applicants through the eXCHANGE portal on a later date.

In each stage, DOE will review the submitted materials for compliance and eligibility, and perform a thorough, consistent, and objective examination based on technical review criteria and other factors, as described below.

After Stage 2 evaluations of § 48C(e) applications are complete, DOE will transmit allocation recommendations to the IRS for final consideration. **The IRS will notify applicants of final allocation decisions for Round 1 no later than March 31, 2024.**

In conducting its review, DOE may utilize assistance and advice from qualified personnel from other federal agencies and/or contractors. DOE will obtain conflict of interest/non-disclosure acknowledgements from and administer required trainings in advance for all reviewers to assure that application information will be kept confidential and shall be used only for reviewing purposes, in accordance with applicable requirements. Reviewers will be required to report all personal and organizational conflicts of interest.

DOE reserves the right to request clarifications and/or supplemental information from some or all applicants submitting applications through written submissions.

DOE may determine whether to recommend or not recommend an application to the IRS at any time after the § 48C(e) application has been received, without further exchanges or discussions with the applicant.

ii. Program Key Dates

Table: Program Key Dates

Initial Guidance Issue Date	02/13/2023
DOE posts proposed list of critical materials	No later than 5/31/2023
Additional Guidance Issue Date	05/31/2023
Informational Webinar	No later than 06/30/2023
DOE eXCHANGE Portal Opens for registration and concept paper submission	No later than 06/30/2023
DOE posts final list of critical materials	No later than 07/31/2023
Submission Deadline for Concept Papers	07/31/2023 by 12:00 PM (noon) Eastern
Submission Deadline for § 48C(e) Applications	Fall 2023 - Winter 2023/2024
IRS Allocation Decision Notifications	No later than 03/31/2024

iii. Program Priorities

Eligible applications will be evaluated by DOE against technical review criteria reflecting four major priority measures for the program:

- Criterion 1: Commercial Viability
- Criterion 2: Greenhouse Gas Emissions Impacts
- Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy
- Criterion 4: Workforce and Community Engagement

A taxpayer with a qualified investment in any of the projects described as eligible in Appendix A of this guidance may apply for a § 48C(e) allocation. In determining whether to recommend a project for an allocation, DOE will take into consideration in § 48C(e) Round 1 various factors, including whether the project addresses specific **energy supply chain and manufacturing priority areas** identified by this guidance when evaluating the extent to which Clean Energy Manufacturing and Recycling Projects and Critical Materials Projects contribute to strengthening U.S. supply chains and domestic manufacturing for a net-zero economy.

For more details on the energy supply chain and manufacturing priority areas identified by this guidance **for Clean Energy Manufacturing and Recycling Projects**, see **Section III(A)** of this appendix. For more details on the supply chain and manufacturing priority areas identified by this guidance **for Critical Materials Projects**, see **Section III(C)** of this appendix.

In determining whether to recommend a project for an allocation, DOE will also consider whether the proposed project is located in § 48C(e) Energy Communities Census Tracts, as defined in section 5.06 of Notice 2023-18. In Round 1, DOE anticipates recommending approximately \$1.6 billion in § 48C credits to projects located in these communities.

iv. Glossary of Terms

The following terms may be used throughout this appendix describing the DOE application process.

Disadvantaged Community:	A disadvantaged community may be either (1) a group of individuals living in geographic proximity (e.g., such as a census tract identified using the <i>Climate and Economic Justice Screening Tool</i>), or (2) a geographically dispersed set of individuals, where either type of group experiences common conditions.
Scope 1 Emissions:	Direct greenhouse gas emissions that occur from sources at the facility associated with the proposed project (e.g., emissions from fuel combustion or chemical processes).
Scope 2 Emissions:	Indirect greenhouse gas emissions that are associated with the use of energy or fuel at the facility, but do not occur at the facility (e.g., emissions from a power plant that generates electricity for the facility).
Scope 3 Emissions:	Indirect greenhouse gas emissions that are associated with the facility's activities and products but are not covered in Scope 1 or 2, including emissions from the products themselves in their ultimate use, transportation, or other aspects of the value chain upstream or downstream from the facility. In the case of clean energy products, these may also be referred to as "lifecycle emissions."
Specified Advanced Energy Property:	A specific category of property listed in 48C(c)(1)(A) and described in further detail in Appendix A(1). Clean Energy Manufacturing and Recycling Projects under § 48C(e) must either produce or recycle one or more specified advanced energy properties. For example, solar glass would be considered a specified advanced energy property covered under Appendix A(1)(a).
Facility Product:	The direct output of a facility that is sold or leased. A facility product may be a specified advanced energy property, but facility products could also include specialized components, materials, equipment, or other tangible assets that are not considered specified advanced energy properties under § 48C(e). For instance, recycling projects under Clean Energy Manufacturing and Recycling, and Greenhouse Gas Emission Reduction projects, may produce outputs that are not specified advanced energy properties. Facilities may have more than one facility product.

B. Concept Paper

The first stage of DOE review requires applicants to submit concept papers describing the proposed project. Sections II and III of this appendix describe the information applicants must include in concept papers and the format of the submission. Concept papers will undergo a multi-step evaluation by DOE.

i. Compliance and Eligibility Review

DOE will carry out an initial compliance review for concept papers to determine that (1) eligibility requirements have been met, (2) the required information has been submitted, (3) the proposed project is technically valid, and (4) all mandatory requirements of this notice are satisfied. As part of this review, DOE will determine whether the proposed project meets the definition of a qualifying advanced energy project, as described in Appendix A.

If a concept paper fails to meet compliance or eligibility requirements or fails to provide sufficient information for evaluation, DOE reserves the right to request clarifications and/or missing information from some or all applicants through written submissions provided to DOE in a timely manner. Concept papers that fail to meet the compliance or eligibility requirements or do not provide sufficient information for evaluation will be considered non-responsive and will receive a discouragement letter.

ii. Technical Review

Subsequent to the concept paper compliance and eligibility review, DOE will perform a technical review process based on four technical review criteria:

- Criterion 1: Commercial Viability.
- Criterion 2: Greenhouse Gas Emissions Impacts.
- Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy.
- Criterion 4: Workforce and Community Engagement.

See complete details of the technical review criteria in Section III of this appendix. All technical review criteria will be used in a thorough, consistent, and objective examination to develop scores for ranking applications and determining merit of each proposed project. The review of the Commercial Viability criterion will additionally inform eligibility by determining whether the project has a reasonable expectation of commercial viability, as described in § 48C(d)(3)(A). The information requested for each criterion will vary based on the qualifying advanced energy project category, as detailed in Section III.

iii. Final Outcome for Concept Papers

Following the compliance, eligibility, and technical reviews, DOE may also consider program policy factors when determining the final portfolio of recommendations (see Section IV of this appendix).

Subsequent to this review, DOE will issue a letter to applicants either encouraging them to submit a § 48C(e) application or discouraging them from submitting a § 48C(e) application.

An applicant that receives a discouragement letter may still submit a § 48C(e) application in accordance with the § 48C(e) program and additional guidance. Receiving a discouragement letter in response to a submitted concept paper does not disqualify a taxpayer from submitting a § 48C(e) application but represents DOE's feedback that the project, as proposed, is unlikely to receive a recommendation based on the information provided in the concept paper. DOE expects to transmit encouragement and discouragement letters to applicants in the fall of 2023.

In the encouragement and discouragement notifications, DOE will provide feedback to all applicants on areas needing improvement.

C. § 48C(e) Application

The second evaluation stage will consist of a review of § 48C(e) applications submitted after the concept paper stage. Sections II and III of this appendix describe the information applicants must include in a § 48C(e) application and the format of the submission. Applicants may not submit a § 48C(e) application unless they submitted a concept paper by the specified deadline.

The deadline for § 48C(e) applications will be communicated to applicants in the encouragement and discouragement letters and posted on the eXCHANGE portal.

i. Compliance and Eligibility Review

DOE will carry out an initial compliance review for § 48C(e) applications to determine that (1) the eligibility requirements have been met, (2) the required information has been submitted, (3) the proposed project is technically valid, and (4) all mandatory requirements of this notice are satisfied. As part of this review, DOE will determine whether the proposed project meets the definition of a qualifying advanced energy project, as described in Appendix A.

If a § 48C(e) application fails to meet compliance or eligibility requirements or fails to provide sufficient information for evaluation, DOE reserves the right to request clarifications and/or missing information from some or all applicants through written submissions provided to DOE in a timely manner. Section 48C(e) applications that fail to meet the compliance and eligibility requirements or do not provide sufficient information for evaluation will be considered non-responsive, and DOE will recommend a denial of allocation without proceeding to technical review.

The qualifying advanced energy project category, the specified advanced energy property, and the scope of the overall project must be consistent between the applicant's concept paper and § 48C(e) application. Applicants who wish to change the scope of the project, based on the feedback in a discouragement letter or for any other reason, may consider participating in a future round of this program.

ii. Technical Review

After the § 48C(e) application compliance and eligibility review, DOE will perform a technical review process based on four technical review criteria:

- Criterion 1: Commercial Viability
- Criterion 2: Greenhouse Gas Emissions Impacts
- Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy
- Criterion 4: Workforce and Community Engagement

See complete details of the technical review criteria for § 48C(e) applications in Section III of this appendix. All technical review criteria will be used in a thorough, consistent, and objective examination to develop scores for ranking applications and determining merit of each proposed project. The review of the Commercial Viability criterion will additionally inform eligibility by determining whether the project has a reasonable expectation of commercial viability, as described in § 48C(d)(3)(A). The information requested for each criterion will vary based on the qualifying advanced energy project category, as detailed in Section III.

iii. Due Diligence Review

To ensure the § 48C(e) program supports strengthening and securing U.S. supply chains and domestic manufacturing to the greatest extent possible, DOE may conduct a due diligence review to determine if an applicant has a connection with a country of risk that could put these goals at risk.

iv. Final Recommendation for § 48C(e) Applications

Following the compliance, eligibility, and technical reviews, DOE may also consider program policy factors and the results of the due diligence review when determining the final portfolio of recommendations (see Section IV of this appendix).

After this determination of recommendations, DOE will transmit to the IRS its recommendations for allocations and denials of applications, as detailed in the initial § 48C(e) program guidance (Notice 2023-18) and this notice.

v. Requirements for Certification

As described in this notice, applications receiving allocation letters must provide evidence that they have met the requirements for certification, such as all permits necessary to commence construction. Applicants will upload documents providing this evidence to the eXCHANGE portal not later than 2 years from the date the IRS notified the applicant that they have received an allocation.

DOE's recommendation is based in part on commitments and other claims stated by the applicant in the § 48C(e) application. The evidence provided by the applicant for certification must therefore also include documents demonstrating that any commitments or other claims in the § 48C(e) application have been met. These documents could include Community Benefits Agreements, collective bargaining agreements, contracts, offtake agreements, or any other commitments or arrangements claimed in the § 48C(e) applications that may have had an impact on the evaluation of the application. Documents already provided as appendices in the § 48C(e) application do not need to be submitted again for certification.

vi. Request for Debriefing

Upon receiving a denial letter from the IRS, applicants can request a debriefing with DOE on its review of the § 48C(e) application. The denial letter will include instructions for requesting a debriefing.

II. Submission and Registration Information for DOE Recommendation Process

A. General Application Requirements

Applicants must submit a concept paper at Stage 1 and a § 48C(e) application at Stage 2 as described below. All submitted materials must be prepared in accordance with the guidance in this notice to provide a standard basis for review and to ensure that each application will be uniform as to format and sequence.

Concept papers and § 48C(e) applications should clearly address each of the eligibility requirements and applicable technical review criteria to demonstrate the applicant's capability, knowledge, and experience regarding the requirements described herein.

Applicants should fully address the requirements of Notice 2023-18 and this notice and not rely on any presumed background knowledge. DOE will discourage a concept paper or recommend the rejection of a § 48C(e) application that does not follow the instructions regarding the organization and content when the nature of the deviation and/or omission precludes meaningful review of the project.

All concept papers and § 48C(e) applications must be submitted through the eXCHANGE portal to be considered for DOE recommendation under this notice.

Concept papers and § 48C(e) applications received after the stated deadlines will not be reviewed or considered for DOE recommendation.

B. Determining an Application's Project Category

Eligible projects under the § 48C(e) program, as described in Appendix A, are classified into three overarching project categories: Clean Energy Manufacturing and Recycling Projects, Greenhouse Gas Emission Reduction Projects, and Critical Material Projects. Before developing application materials, an applicant must determine which qualifying advanced energy project category is most applicable to their project.

Section III of this guidance contains instructions for content requirements and technical review criteria specific to each project category. Applicants should only complete their application package using the appropriate guidance in Section III, corresponding to the applicant's self-determined qualifying advanced energy project category. It is incumbent upon the applicant to adequately justify their determination of project category through application narratives.

The following table may assist applicants in determining the qualifying advanced energy project category most appropriate for their proposed project.

Project Category	This Category Includes...	Application Materials
Clean Energy Manufacturing and Recycling	<ul style="list-style-type: none">Facilities that produce one or more specified advanced energy properties, or its components or materials, described in Appendix A(1); orFacilities that recycle one or more specified advanced energy properties described in Appendix A(1).	Section III(A)
Greenhouse Gas Emission Reduction	<ul style="list-style-type: none">Projects at existing industrial or manufacturing facilities that reduce GHG emissions by at least 20%.<i>Note:</i> Facilities are not required to produce products or materials with energy applications or those described in Appendix A(1) and Appendix A(3).	Section III(B)
Critical Materials	<ul style="list-style-type: none">Facilities that process, refine, or recycle one or more critical materials described in Appendix A(3).	Section III(C)

C. eXCHANGE Portal for Submission of Application

The eXCHANGE portal, and its successor portal (see Section iv, *Portal Migration*,) will provide a single interface for applicants through all steps of the § 48C(e) application process, including concept paper submission, receipt of concept paper feedback, § 48C(e) application submission, receipt of an allocation or denial letter from the IRS, submission of evidence documents to DOE for certification, receipt of a certification letter from the IRS, submission of notification to DOE that the project has been placed in service or otherwise disposed, and receipt of notification from the IRS that the applicant may claim the credit.

Files required for submission of concept papers, including concept paper templates and data sheets, are available for applicants at <https://48C-exchange.energy.gov> on the date of this notice. The eXCHANGE portal will be open for registration and submission of concept papers no later than June 30, 2023.

i. Submission of Application

All § 48C(e) application materials must be submitted through the eXCHANGE portal at <https://48C-exchange.energy.gov> to be considered by DOE. Section 48C(e) applications submitted by any other means will not be accepted. **Note:** The eXCHANGE portal website address has been modified since Notice 2023-18 was published, and the address specified in this guidance must be used.

The applicant will receive an automated response when the concept paper or § 48C(e) application is received. This will serve as confirmation of receipt. Do not reply to the automated response. For more information, refer to the 48C eXCHANGE Login Guide, which will be available in the Manuals section of the eXCHANGE portal at <https://48C-exchange.energy.gov/> no later than June 30, 2023.

It is the responsibility of the applicant to verify successful transmission prior to the concept paper and § 48C(e) application deadlines.

ii. eXCHANGE Portal Registration Process

In order to submit concept papers and § 48C(e) applications, all applicants must register an account in the eXCHANGE portal at <https://48C-exchange.energy.gov>. It is recommended that each applicant organization designate a primary contact point responsible for each submission. The primary user may specify an additional contact within their organization who may register in the portal as a backup user.

Potential applicants will be required to have a Login.gov account to access the eXCHANGE portal. As part of the eXCHANGE portal registration process, new users will be directed to create an account in Login.gov. **Note:** The email address associated with Login.gov must match the email address associated with the eXCHANGE portal account. For more information, refer to the 48C eXCHANGE Login Guide, which will be available in the Manuals section of the eXCHANGE portal at <https://48C-exchange.energy.gov/> no later than June 30, 2023.

Due to final configuration changes for the eXCHANGE portal, applicants who registered on the eXCHANGE portal prior to May 31, 2023, must register again at <https://48C-exchange.energy.gov>, *on or after the date the portal opens for registration and submission of concept papers*.

iii. Help with eXCHANGE Portal

Applicants may email InfrastructureExchangeSupport@hq.doe.gov for questions regarding the registration process or submitting your application on the eXCHANGE portal.

For questions regarding other non-tax aspects of the § 48C(e) program unrelated to the eXCHANGE portal, see Section VII.

iv. Portal Migration

DOE intends to migrate all § 48C(e) applicants to a successor portal in the future. Detailed timing and instructions for migrating to the new portal will be conveyed to all applicants through the eXCHANGE portal no earlier than the submission deadline for concept papers.

Any reference in this guidance to the applicant portal, and any reference to the eXCHANGE portal, means the eXCHANGE portal or its successor.

D. Application Forms and Format of Submissions

Applicants must log in to the eXCHANGE portal to download all required forms and submit concept papers and § 48C(e) applications to be considered for a § 48C(e) credit allocation. The applicant will have the opportunity to re-submit revised application materials for any reason as long as the revision is submitted by the specified deadline.

i. Format of Concept Paper Submissions

This section outlines the format of the concept paper submission. See Appendix A for a description of the eligibility requirements for the § 48C credit under this notice. See Section III for content requirements and a description of the technical review criteria that will be used to evaluate submitted concept papers.

The applicant's Control Number is used throughout the submitted files. The control number is a unique identifier generated by the eXCHANGE portal for your application and will be determined by the system when the applicant first begins their application process.

The purpose of the concept paper stage is to save applicants the considerable time and expense of preparing § 48C(e) applications for proposed projects that are unlikely to be selected for recommendation. The concept paper must conform to the following requirements:

1. The concept paper must be written in English.
2. All pages must be formatted to fit on 8-1/2 by 11-inch paper with margins not less than one inch on every side. Use Times New Roman typeface, a black font, and a font size of 11 points or larger (except in figures and tables). A symbol font may be used to insert Greek letters or special characters; the font size requirement still applies.
3. References must be included as footnotes or endnotes in a font size of 10 or larger. Footnotes and endnotes are counted toward the maximum page requirement.
4. The control number must be prominently displayed on the upper right corner of the header of every page. Page numbers must be included in the footer of every page.
5. Each must be submitted in Adobe PDF format unless stated otherwise.

Each concept paper should be limited to unique property within a distinct qualifying advanced energy project that does not overlap with a qualifying advanced energy project in any other application submitted by the same applicant:

- For applicants applying under the Clean Energy Manufacturing and Recycling Project category, or the Critical Materials Project category, the applicant may submit more than one application involving the same facility. However, the qualified investment for each project at the same facility may not overlap in Round 1.
- For applicants applying under the Greenhouse Gas Emission Reductions Project Category, the applicant may submit only *one* application at the same facility in Round 1.

If projects involve more than one qualifying advanced energy project listed in Appendix A, then applicants must choose a *primary* specified advanced energy property for their project. The entire concept paper submission includes three components: a narrative, a workforce and community engagement plan, and a data sheet.

The concept paper narrative must not exceed 4 pages when printed using the formatting requirements set forth above and single spaced. Pages in excess of the page limitation will not be considered for review. No material may be incorporated by reference as a means to circumvent the page limitation. The concept paper narrative should be submitted in Adobe PDF format with the title **[ControlNumber]-ConceptPaper.pdf**. For example, for a control number of 1234, the file would be named, "1234-ConceptPaper.pdf".

The workforce and community engagement portion of the concept paper will be submitted in a separate file and must not exceed 1 page when printed using the formatting requirements set forth above and single spaced. Pages in excess of the page limitation will not be considered for review. No material may be incorporated by reference as a means to circumvent the page limitation. The concept paper workforce and community engagement plan should be submitted as separate file in Adobe PDF format with the title **[ControlNumber]-CP-WCE.pdf**.

The Concept Paper Data Sheet should be completed and submitted as a separate Excel document with the title **[ControlNumber]-CP-DataSheet.xlsx**. Additional instructions for completing the Concept Paper Data Sheet submissions are included in Section V.

Note: The maximum file size that can be uploaded to the eXCHANGE portal is 10 MB. Files in excess of 10 MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10 MB but is still within the maximum page limit, it must be broken into parts and denoted to that effect in the naming convention of the file. For example: “[ControlNumber]-ConceptPaper_Part_1.pdf”, “[ControlNumber]-ConceptPaper_Part_2.pdf”.

The full list of required files for concept paper submission is illustrated in the following table.

Table: Files Required for Concept Paper Submission

Component	File Format	Maximum Pages	File Name
Concept Paper	PDF	4	[ControlNumber]-ConceptPaper.pdf
Concept Paper Workforce and Community Engagement Plan	PDF	1	[ControlNumber]-CP-WCE.pdf
Concept Paper Data Sheet	MS Excel	N/A	[ControlNumber]-CP-DataSheet.xlsx

For all files, “[ControlNumber]” should be replaced by the application’s control number. For example, for a control number of 1234, the file would be named, “1234-ConceptPaper.pdf”.

ii. Format of § 48C(e) Application Submission

This section outlines the format of the § 48C(e) application submission. Section 48C(e) applications should be formatted and arranged as described in this section. Strict adherence is required. Content requirements for § 48C(e) applications and the technical review criteria used by DOE to evaluate them are listed in Section III.

The applicant’s Control Number is used throughout the submitted files. The control number is a unique identifier generated by the eXCHANGE portal for your application and will be determined by the system when the applicant first begins your application process.

Section 48C(e) applications must conform to the following requirements:

1. All § 48C(e) applications must be written in English.
2. All pages must be formatted to fit on 8-1/2 by 11-inch paper with margins not less than one inch on every side. Use Times New Roman typeface, a black font, and a font size of 11 points or larger (except in figures and tables). A symbol font may be used to insert Greek letters or special characters; the font size requirement still applies.
3. References must be included as footnotes or endnotes in a font size of 10 or larger. Footnotes and endnotes are counted toward the maximum page requirement.
4. The Control Number, which is the same number used for the concept paper, must be prominently displayed on the upper right corner of the header of every page. Page numbers must be included in the footer of every page.
5. Cash flow models should be submitted as a Microsoft® Excel spreadsheet and must include calculation formulas and assumptions.
6. All § 48C(e) applications must be submitted in Adobe PDF format unless stated otherwise.

Each § 48C(e) application should be limited to a unique project with a distinct qualified investment. If projects involve more than one specified advanced energy property listed in Appendix A, then applicants must choose a *primary* specified advanced energy property for their project. The entire § 48C(e) application submission includes five components: a narrative, a workforce and community engagement plan, a business entity certification, a data sheet, and appendices.

The § 48C(e) application narrative must not exceed 30 pages when printed using the formatting requirements set forth above and single spaced. Pages in excess of the page limitation will not be considered for review. No material may be incorporated by reference as a means to circumvent the page limitation. Section 48C(e) application narratives should be submitted in Adobe PDF format with the file name *[ControlNumber]-48CApplication.pdf*.

The workforce and community engagement portion of the § 48C(e) application will be submitted in a separate file and must not exceed 5 pages when printed using the formatting requirements set forth above and single spaced. Pages in excess of the page limitation will not be considered for review. No material may be incorporated by reference as a means to circumvent the page limitation. The § 48C(e) application workforce and community engagement plan should be submitted as a separate file in Adobe PDF format with the file name *[ControlNumber]-App-WCE.pdf*.

The 48C Business Entity Certification, which supports DOE’s Due Diligence Review, should be completed and submitted as a separate file using the provided template or a comparable format including the same substantive information. Applicants must submit the file as a PDF with the file name **[ControlNumber]-BusinessEntityCertification.pdf**.

The 48C Application Data Sheet should be completed and submitted as a separate Excel document with the file name **[ControlNumber]-App-DataSheet.xlsx**. Additional instructions for completing the 48C Application Data Sheet are included in Section V.

Any supporting documents should be uploaded as separate, individual files, preferably in Adobe PDF format. Content provided as appendices do not count towards any page limits described above.

Note: The maximum file size that can be uploaded to the eXCHANGE portal is 10 MB. Files in excess of 10 MB cannot be uploaded, and hence cannot be submitted for review. If a file exceeds 10 MB but is still within the maximum page limit, it must be broken into parts and denoted to that effect. For example: “48CAApplication_Part_1.pdf”, “48CAApplication_Part_2.pdf”.

The full list of required files for § 48C(e) application submission is illustrated in the following table.

Table: Files Required for § 48C(e) Application Submission

Component	File Format	Maximum Pages	File Name
Section 48C(e) Application	PDF	30	[ControlNumber]-48CAApplication.pdf
Section 48C(e) Application Workforce and Community Engagement Plan	PDF	5	[ControlNumber]-App-WCE.pdf
Business Entity Certification	PDF	N/A	[ControlNumber]-BusinessEntityCertification.pdf
48C Application Data Sheet	MS Excel	N/A	[ControlNumber]-App-DataSheet.xlsx
Appendix Files	Various	N/A	[ControlNumber]-Appendix-[FileNumber].[format] (e.g. 1234-Appendix-1.pdf)

For all files, “[ControlNumber]” should be replaced by the application’s control number. For example, for a control number of 1234, the file would be named, “1234-ConceptPaper.pdf”.

See Section VI for information on which supporting documents should be submitted as appendix materials.

E. Electronic Authorization of Applications

Submission of § 48C(e) application materials through electronic systems used by DOE, including the eXCHANGE portal or its successor, will constitute the authorized representative’s approval and electronic signature.

F. Markings of Confidential Information

If elements of a § 48C(e) application contain information the taxpayer considers to be trade secrets, confidential, privileged, or otherwise exempt from disclosure under the Freedom of Information Act (FOIA, 5 U.S.C. § 552), the taxpayer may assert a claim of exemption at the time of application by placing the following text on the first page of the § 48C(e) application, and specifying the page or pages of the § 48C(e) application to be restricted:

“Pages [list applicable pages] of this document may contain trade secrets, confidential, proprietary, or privileged information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source. [End of Notice]”

The header and footer of every page that contains confidential, proprietary, or privileged information must be marked as follows: “Contains Trade Secrets, Confidential, Proprietary, or Privileged Information Exempt from Public Disclosure.” In addition, each line or paragraph containing proprietary, privileged, or trade secret information must be clearly marked with double brackets or highlighting.

III. Specific Content Requirements and Technical Review Criteria

The following subsections contain detailed guidance for content requirements and technical review criteria for each respective project category—Clean Energy Manufacturing and Recycling Projects, Greenhouse Gas Reduction Projects, and Critical Material Projects—for both the concept paper stage and § 48C(e) application stages.

It is the applicant’s responsibility to determine the most applicable qualifying advanced energy project category (defined in Appendix A), according to the guidance in Section II(B), *Determining an Application’s Project Category*. Applicants should complete their application package using only the guidance in this section for their application’s project category.

Applicants proposing Clean Energy Manufacturing and Recycling Projects, or Critical Materials Projects will be asked to discuss both their project’s specified advanced energy property and their project’s “facility products/outputs.” Facility products/outputs include the equipment, materials, or other products produced in the facility associated with the proposed project, and which are typically sold or leased after production.

Applicants should note that “facility products/outputs” may or may not be the project’s specified advanced energy property. For example, under the Clean Energy Manufacturing and Recycling Project category, the specified advanced energy property of a clean energy **manufacturing** project is likely to be the facility’s primary product/output. In contrast, the specified advanced energy property of a clean energy **recycling** project is an input to the proposed facility, while the facility product/output is typically one or more materials extracted in the recycling process. A **Critical Materials Recycling Project**’s facility product/output is typically also the project’s specified advanced energy property.

A. Clean Energy Manufacturing and Recycling Projects

Priority Areas for Clean Energy Manufacturing and Recycling Projects

All Clean Energy Manufacturing and Recycling Projects described in Appendix A(1) of this guidance are eligible to apply for a § 48C(e) allocation and will be evaluated by DOE against the four technical review criteria reflecting overall program objectives:

- Criterion 1: Commercial Viability
- Criterion 2: Greenhouse Gas Emissions Impacts
- Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy
- Criterion 4: Workforce and Community Engagement

When evaluating the Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy criterion, DOE will take into consideration whether the project addresses the following energy supply chain and manufacturing priority areas. These priority areas have been identified based on analytical criteria including an assessment of current and anticipated supply chain gaps in areas eligible under § 48C(e):

Round 1 Priority Areas (in alphabetical order):

- Clean Hydrogen: Manufacturing of electrolyzers, fuel cells, and associated components (including gas diffusion layers, bipolar plates, and power electronics).
- Electric Grid: Manufacturing of transformers, materials (including electrical steel, amorphous alloy), power electronics, and other grid components and equipment (including MVDC/HVDC converter station components and switchgears).
- Electric Heat Pumps: Manufacturing of air-source or ground-source heat pump components and infrastructure, particularly reversing valves, control circuits, compressors, and heat exchangers.
- Electric Vehicles**: Manufacturing of power electronics (including semiconductors, modules, and circuits for EV motor traction drives, on-board EV chargers, DC/DC converters, and EV charging stations), permanent magnets, and battery components for use in electric vehicle motors.
- Nuclear Energy: Manufacturing of specialized components and equipment for nuclear power reactors or their fuels (including fabrication of fuels, and manufacturing of equipment for conversion, enrichment, and deconversion), for both existing reactors and new reactor deployments.
- Solar Energy**: Polysilicon, wafer production facilities, ingot and wafer production tools, and solar glass production facilities.
- Sustainable Aviation Fuels: Manufacturing of equipment needed for low-carbon aviation fuel production (including feed-stock handling equipment and pre-treatment reactors).

- Wind Energy**: Component production facilities and specialized steel production, particularly for offshore wind, such as monopile-grade steel and towers; recycling of wind components, particularly blades.

*** The production of some products under this section may be eligible for tax credits under § 45X and receiving an allocation under § 48C(e) may preclude an applicant from receiving tax credits under that program. Applicants are encouraged to evaluate which program may be most beneficial to their project before submitting a concept paper for consideration under § 48C(e).*

These priority areas apply to Round 1, and guidance for future rounds under § 48C(e) may include different priority areas.

i. Concept Papers for Clean Energy Manufacturing and Recycling Projects

a) Concept Paper Content for Clean Energy Manufacturing and Recycling Projects

This section describes the specific content that applicants must provide in the concept paper files for applications proposing Clean Energy Manufacturing and Recycling Projects. Template files for submitting this information will be provided through the eXCHANGE portal.

*Table: Concept Paper Content Requirements for
Clean Energy Manufacturing and Recycling Projects*

Section	Information Required
Project Overview	<p>Provide an overview of the proposed project. At a minimum, include:</p> <ul style="list-style-type: none"> • Company Overview: Describe your company, including prior experience manufacturing or recycling qualifying advanced energy technologies relevant to the proposed project. • Project Summary: Describe the eligible manufacturing or recycling facility, including size, location, and other relevant information. Indicate what the investment will accomplish, including the specified advanced energy property detailed in Appendix A(1), whether the facility will manufacture or recycle the specified advanced energy property, and whether the project will establish, re-equip, or expand a facility. If the project involves more than one specified advanced energy property, indicate the project's primary advanced energy property, and any additional advanced energy properties the project will produce or recycle. In the case of a recycling project, describe the facility's products and any clean energy supply chains they will support. Summarize the equipment and processes employed in the proposed facility, and for projects that re-equip or expand facilities, summarize what will be added or changed in the facility.
Commercial Viability	<p>Project Plan: At a minimum, include:</p> <ul style="list-style-type: none"> • <i>Project Timeline:</i> Provide planned dates to begin construction and operation of the project, and how many months the project will take to commence production and achieve full production capacity once certified. • <i>Siting and Permitting:</i> Explain the rationale for selection of the project site, including motivating factors such as suppliers, offtakers, and co-located industries. Indicate the current status of any required siting and permitting. • <i>Risk Management Plan:</i> Identify project risks or challenges and any relevant strategies for risk mitigation and management, such as legal, financial, engineering, procurement, construction, physical climate, and environmental risks. <p>Business Plan:</p> <ul style="list-style-type: none"> • <i>Financial Information:</i> Describe sources of financing for the proposed project, including the amount and strength of funding sources that will provide the equity to be invested in the project, the amount of total debt obligations that will be incurred and the funding sources of all such debt, and the dollar amount of incentives or funds pursued or awarded from local and state governments, as well as other federal incentives pursued or awarded. • <i>Market Information:</i> Describe the market your product will serve and its growth potential, as well as your product's anticipated market share and target consumers. • <i>Cost Information:</i> Provide the estimated cost of your facility's product and how it compares to similar technologies or materials in the same market segment.

Section	Information Required
	<p>Management Plan:</p> <ul style="list-style-type: none"> Describe the key management team members who will design, construct, permit, and operate the facility. Include a description of relevant industry experience of the top-tier executives responsible for the success of the project. Describe any corporate health indicators, including legal claims or liabilities, planned debt restructuring, planned corporate actions, and other factors that could negatively affect the likelihood of project completion.
Greenhouse Gas Emissions Impacts	<p>GHG Emissions Impacts of the Facility’s Products: At a minimum, include:</p> <ul style="list-style-type: none"> End Product Impacts: Describe the end-use application of facility’s products and how their use, whether that is independently (e.g., energy efficiency equipment) or as part of a larger specified advanced energy product (e.g., blade in wind tower) will avoid or reduce GHG emissions. Provide product specifications to verify these claims. <ul style="list-style-type: none"> In the case of specified advanced energy property that provides GHG reduction or avoidance over incumbent technologies or systems, such as clean energy, clean vehicle, or efficiency products, applicants should describe the product’s typical use in the narrative and provide quantitative information in the Data Sheet. In the case of carbon capture or removal equipment, applicants should quantify direct GHG reductions enabled by the product in typical use in the Data Sheet. In the case of electrolyzing, refining, or blending equipment, applicants should describe the fuel, chemical, or product and its production process, including feedstocks, in the narrative and Data Sheet. In the case of specified advanced energy property that provides indirect GHG reduction or avoidance, applicants may wish to qualitatively describe how the facility’s products could contribute to emissions reductions by reducing energy or fuel demand or accelerating adoption of low-emissions technologies (e.g., for enabling technology such as grid components, storage, or charging infrastructure). In the case of recycling projects, applicants should qualitatively describe how the facility’s products are expected to reduce emissions through their use and by reducing raw material needs or emissions associated with end-of-life. Product Performance: Provide any details about the innovation and performance of the end product (e.g., efficiency, range, and economic life) that indicate its ability to facilitate deeper GHG emissions reductions than leading competitors or incumbents. This may not be applicable for facilities whose outputs are materials. <p>Note: For applicants applying for other advanced energy projects under Appendix A(1)(i), “<i>Other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary</i>”, applicants must demonstrate the reduction of GHG emissions is a necessary ultimate outcome from the manufacture of the advanced energy property.</p> <p>GHG Emissions from the Facility: Describe the GHG emissions associated with the facility. At a minimum, include:</p> <ul style="list-style-type: none"> Direct Emissions: Qualitatively and, where possible, quantitatively characterize the anticipated sources of GHG emissions in the manufacturing or recycling process (e.g., fuel use, process emissions). Facility Performance: Provide any details about the manufacturing process (e.g., efficiency and lifetime) that indicate its potential to result in lower emissions than leading competitors or incumbents. Mitigation Efforts: Describe any planned efforts to mitigate GHG emissions at the proposed facility, including the use of best-in-class or innovative manufacturing or recycling approaches and/or low-carbon fuels, processes, or materials.

Section	Information Required
Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy	<p>At a minimum, include:</p> <ul style="list-style-type: none"> • Output of Your Facility: Describe the facility’s products and associated quantities. Indicate whether production from your facility covers multiple supply chain segments—processed material, subcomponents, components, system/end products—and how those segments interact. In the Concept Paper Data Sheet, submit the relevant production capacity information for the facility’s outputs (see Section V for a description of these terms): <ul style="list-style-type: none"> ◦ Annual Production. ◦ Manufacturing Contribution. ◦ Share of Facility Output. ◦ Real-World Annual Performance. ◦ Product Lifetime. • Inputs to Your Facility: Describe key inputs to your manufacturing or recycling process. In the case of recycling facilities, this should include the qualifying energy property being recycled. Describe any known sources for your inputs, including indicating domestic sources and any current or anticipated supply chain vulnerabilities. • Supply Chain Resilience: Describe how your facility’s products will help build resilience of domestic supply chains that are critical for energy products that facilitate progress towards a net-zero economy, from raw materials to end-of-life. • End-Use Applications: Indicate whether the facility’s products will be used in multiple qualifying advanced energy technologies (e.g., wind, solar, and electric grid) or multiple sectors (e.g., transportation, industry, and electricity). Describe any offtake or sales arrangements that help to justify the indicated end-use applications.
Workforce and Community Engagement (submitted as a separate PDF document)	<p>Describe your plan for contributing to job creation and ensuring project viability, timely completion, and ultimate success by fostering a stable and supportive workforce and host community. At a minimum, include:</p> <ul style="list-style-type: none"> • Job Creation and Workforce Continuity: <ul style="list-style-type: none"> ◦ Briefly characterize the jobs (both direct and indirect) your project will create (e.g., mechanics and construction workers), including (a) during completion of the project and (b) after the project is placed in service, and any indicators of job quality. ◦ Describe partnerships with apprenticeship readiness programs, or community-based workforce training and support organizations serving displaced industrial workers, including in the coal, other energy, and automotive sectors, and others facing systematic barriers to employment to facilitate participation in the project’s construction and operations. • Ensuring Timely Project Completion Through Workforce and Community Engagement: <ul style="list-style-type: none"> ◦ Describe current and planned efforts to engage with community and labor stakeholders, including as it relates to the ability to complete the project in the shortest time and with adequate workforce. ◦ Describe current and planned efforts to ensure availability of the workforce needed to successfully complete the project and place it in service in a timely manner, including through training programs that serve workers currently underrepresented in the sector. ◦ Describe any activities to strengthen support of the community such as through benefit-sharing agreements, consideration of environmental impact, and use of local resources. • Energy Community Transition: <ul style="list-style-type: none"> ◦ Describe the extent to which the project will support energy communities, through transition opportunities for workers in the coal, other energy, and automotive sectors, and through the use of existing infrastructure in energy transition communities.

Section	Information Required
	<ul style="list-style-type: none"> • Local Environmental Impacts: <ul style="list-style-type: none"> ◦ Describe the impact of your project on local air, water, and/or land quality, as well as any efforts to mitigate local pollution and waste. <p>Determine whether the location or community qualifies as a disadvantaged community according to the <i>Climate and Economic Justice Screening Tool</i> (CEJST).</p>

b) Concept Paper Technical Review Criteria for Clean Energy Manufacturing and Recycling Projects

This section describes the technical review criteria that DOE will use to evaluate concept papers proposing Clean Energy Manufacturing and Recycling Projects.

Criterion 1: Commercial Viability

- Project schedule and time from certification to completion, based on readiness to proceed with the proposed project and reasonableness of the timeframe required for construction and commissioning of the project.
- The extent to which risk management issues and mitigation strategies are identified and addressed.
 - Strength of the proposed business plan, including market size and growth potential, market share and price competitiveness of the facility's product, strength of existing or prospective offtake arrangements, and the source and certainty of funding that will be invested in the project, including equity, private financing, DOE funding, state and local incentives, and other sources.
- Strength of the proposed management plan, including the management team's track record of success in areas relevant to the project and corporate health of the applicant.

Criterion 2: Greenhouse Gas Emissions Impacts

- End products impact on avoidance or reduction in anthropogenic emissions of GHGs, based on:
 - Potential GHG improvement over higher-emitting incumbent technologies or systems.
 - Potential to capture or remove carbon oxides or other GHGs.
 - Potential to provide indirect emissions reductions or avoidance by enabling a reduction in energy or fuel use or the manufacturing or adoption of other low-emissions technologies (e.g., charging infrastructure to enable the adoption of electric vehicles).
 - Potential of recycling projects to avoid or reduce emissions associated with raw materials, use, or end-of life of advanced energy property
- The extent to which the efficiency, lifetime, recyclability, or other characteristics that reduce overall GHG emissions of the facility's products exceed those of incumbents or competitors.
- Efforts to mitigate GHG emissions from the proposed manufacturing or recycling facility:
 - The extent to which the project involves current best-in-class manufacturing or recycling approaches, including the use of innovative equipment, processes, and low-carbon fuels, as demonstrated through project planning documents or front-end engineering and design studies.
 - The extent to which the project aligns with the long-term strategy of the United States to achieve net-zero emissions.

Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy

- The extent to which the proposed project addresses current and anticipated supply chain vulnerabilities for clean energy products that facilitate progress in line with the long-term strategy of the United States to achieve net-zero emissions.
- The extent to which the project would increase domestic production capacity and availability of clean energy products that facilitate progress towards a net-zero economy, including a qualifying clean energy product itself or associated components or materials.
- The extent to which the proposed project addresses current and anticipated supply chain vulnerabilities for clean energy products that facilitate progress towards a net-zero economy, based on a comparison of the production capacity and the current and anticipated gap between domestic manufacturing capacity and demand for the specified advanced energy property or materials produced by the proposed project.

In the case of recycling projects, these technical review criteria will be evaluated based on which materials are produced at the recycling facility and evidence that those produced materials will serve as inputs to clean energy supply chains.

Criterion 4: Workforce and Community Engagement

- Job Creation and Workforce Continuity:
 - The number of domestic jobs created (both direct and indirect) (a) during completion of the project (the credit period) and (b) during operations of the facility after it is placed in service, including jobs within energy communities (if applicable) attained by locals or individuals previously employed by the local or regional coal industry.

- The quality and manner in which the proposed project will create and/or retain high-quality, good-paying jobs (both direct and indirect) with employer-sponsored benefits for all classifications and phases of work.
- The extent to which the applicant engaged key stakeholders to develop partnerships to better serve local and diverse workforce through training and support.
- Ensuring Timely Project Completion Through Workforce and Community Engagement:
 - The extent of current and planned efforts to engage community and labor stakeholders, including as it relates to the ability to execute the project on schedule and with adequate workforce.
 - The extent to which workforce recruitment and support of the community for the project have been strengthened through benefit-sharing agreements, consideration of environmental impact, use of local resources, and improved access to employment opportunities for the local workforce.
- Energy Community Transition:
 - The extent to which the application includes specific and high-quality actions to support energy communities, including transition opportunities for workers in the coal, other energy, and automotive sectors.
 - The extent to which a project will utilize existing resources or infrastructure that previously supported the local or regional coal industry.
- Local Environmental Impacts:
 - The extent to which the proposed project accounts for its environmental impact to the surrounding community by having clear plans to avoid or reduce local air pollution, land contamination, and/or water contamination.
 - The extent to which the application identifies specific, measurable benefits for disadvantaged communities, including energy communities.

ii. Section 48C(e) Application for Clean Energy Manufacturing and Recycling Projects

a) Section 48C(e) Application Content for Clean Energy Manufacturing and Recycling Projects

This section describes the specific content that applicants must provide in the § 48C(e) application files and appendices for applications proposing Clean Energy Manufacturing and Recycling Projects. Template files for submitting this information will be provided through the eXCHANGE portal.

*Table: Section 48C(e) Application Content Requirements for
Clean Energy Manufacturing and Recycling Projects*

Section	Information Required
Project Overview	<p>Provide an overview of the proposed project. At a minimum, include:</p> <ul style="list-style-type: none"> • Company Overview: <ul style="list-style-type: none"> ○ Describe your company, including prior experience manufacturing or recycling clean energy technologies relevant to the proposed project. • Project Summary: <ul style="list-style-type: none"> ○ Describe the proposed manufacturing or recycling facility, including size, location, and other relevant information. ○ Indicate what the investment will accomplish, including: <ul style="list-style-type: none"> ▪ Whether the project will establish, re-equip, or expand a facility. ▪ The specified advanced energy property, and whether the facility will manufacture or recycle the specified advanced energy property. If the project involves more than one specified advanced energy property, indicate the project's primary advanced energy property, and any additional advanced energy properties the project will produce or recycle. ▪ In the case of a recycling project, describe the facility's products and the clean energy supply chains they will support. ○ Describe in detail the equipment and processes employed at the proposed facility to manufacture or recycle the proposed advanced energy property. <ul style="list-style-type: none"> ▪ If the proposed project re-equips or expands an existing facility, describe clearly what the proposed project will add or change in the existing facility.

Section	Information Required
	<ul style="list-style-type: none"> ▪ To clearly illustrate the proposed facility or proposed changes to an existing facility, applicants are encouraged to submit diagrams and/or images (e.g., a detailed process flow diagram) as appendix materials. ▪ Provide a list of the anticipated eligible property that will make up the qualified investment of the qualifying advanced energy project. ○ Describe any significant changes to the project that have occurred since the concept paper stage.
Commercial Viability	<p>Project Plan:</p> <ul style="list-style-type: none"> • <i>Project Management and Timeline:</i> <ul style="list-style-type: none"> ○ Provide a project schedule through operation and achieving full production capacity, which demonstrates how certification requirements will be met within two (2) years of receiving an allocation decision from the IRS, and how the project will be placed in service within two (2) years of such certification. Documentation supporting the project schedule should be submitted as separate appendix materials. ○ Describe plans to ensure an adequate supply of essential inputs needed for successful operation of the project. ○ For the following contracts and agreements, summarize key terms and conditions in the narrative and submit copies as appendix materials. A Professional Engineer must inspect and certify the project documents for feasibility and may be an employee of the applicant. <ul style="list-style-type: none"> ▪ Operations and Maintenance Agreement. ▪ Shareholders Agreement. ▪ Engineering, Procurement and Construction Agreement, including firm price, liquidated damages, holdbacks, and performance guarantees, for example. • <i>Siting and Permitting:</i> Explain the rationale for selection of the project site and provide documentation supporting the applicant's conclusion that the proposed site can fully meet all environmental, water supply, transmission interconnection, and other necessary requirements. Include a complete list of all federal, state, and local permits, including environmental authorizations (if applicable) or reviews necessary to commence construction of the project. Additional documentation that supports key claims may be provided as appendix materials, such as regulatory approvals and signed agreements, letters of intent, or term sheets for supply and product transportation. • <i>Risk Management Plan:</i> Identify project risks or challenges and any relevant strategies for risk mitigation and management, including legal, financial, engineering, procurement, construction, and risks. Include a discussion of natural disasters (e.g., earthquakes), climate impacts and extreme weather patterns (e.g., tornadoes, hurricanes, heat and freezing temperatures, drought, wildfire, and floods) that may impact the resilience/sustainability of the project. <p>Business Plan: Provide the following financial information for the proposed project, and market and cost information for the facility's products.</p> <ul style="list-style-type: none"> • <i>Financial Information:</i> <ul style="list-style-type: none"> ○ Submit a cash flow model detailing investments in and cash flows anticipated over the facility's expected lifetime, including a description of the methodology and all assumptions used. ○ Describe the payback period, net present value (NPV), adjusted present value (APV) and break-even analysis for the project and other financial metrics including return on investment and return on assets. ○ Estimate the project's amount that will be treated as a qualified investment (as determined under § 48C) if the project is certified to receive a credit. The applicant may use any reasonable methodology and assumptions in estimating this amount. ○ Describe the amount of equity that will be invested in the project, including the sources of such equity and their strengths. Provide any existing equity funding commitments or expressions of interest from equity funding sources for the project as separate appendix materials.

Section	Information Required
	<ul style="list-style-type: none"> ◦ Describe the amount of total debt obligations that will be incurred and the funding sources of all such debt. Include any existing debt funding commitments or expressions of interest from debt funding sources for the project as separate appendix materials. ◦ Describe any local, state, or other federal incentives or funds that are being pursued or have been awarded for the proposed project, such as grants, loan guarantees, or tax credits. Also include a description of any instances where any federal agencies or non-federal governmental entities have entered into an arrangement as a customer or offtaker of the project's products or services, or other federal contracts, including acquisitions, leases, and other arrangements, that may indirectly support the applicant's proposed project. • <i>Market Information:</i> <ul style="list-style-type: none"> ◦ Describe the markets your products will serve, including the existing market size, dollar volume, and growth potential. If the product can be sold in multiple market segments, describe each one. ◦ Discuss the current and anticipated competitiveness of your market, including current competing products and competitors. ◦ Discuss your sales forecast, including details of any offtake agreements you may have to support your project. Identify confirmed or potential customers who will purchase, lease, or otherwise use the facility's product. Offtake agreements and other documents provided as evidence may be included as appendix materials. ◦ Based on the above information, summarize your product's projected market share for the next five years including trends and projections for demand and price, growth potential (short-term and long-term), and strategies to expand your market share (e.g., ways to circumvent market barriers). • <i>Cost Information:</i> <ul style="list-style-type: none"> ◦ Provide the estimated cost of your facility's product and how it compares to similar technologies or materials in the same market segment, including new and recycled products. This should be expressed in the same units as annual production (e.g., \$/watt, \$/kilowatt-hour, and \$/ton) per the instructions in the 48C Application Data Sheet. Applicants should include the absolute difference and percentage change from a reasonable domestic industry average. ◦ Calculate the levelized cost of generated or stored energy, or of measured reduction in energy consumption or GHG emissions (based on costs of the full supply chain). Instructions for calculating levelized cost metrics are provided in Section V. Explain the methodology and assumptions used in the § 48C(e) application narrative. <p>Management Plan: Provide the following information for the company and key management team members:</p> <ul style="list-style-type: none"> • Describe the ownership structure of the company, including all beneficiaries. • List key management and senior personnel for the project, including the names, positions or titles, qualifications, and relevant experience. Resumes may be included as combined appendix materials, preferably in an Adobe PDF document labeled Resumes.pdf. • Describe the unique capabilities and expertise of the applicant and any major project partners, including debt or equity sponsors, contractors/vendors (if known), and any other counterparty that the applicant believes will enable the project to be successful, as well as the prior experience of the applicant and any major project partners in similar undertakings to the proposed project. • Summarize any pending or threatened (in writing) action, suit, proceeding, or investigation, including any action or proceeding by or before any governmental authority, that relates to the senior/key personnel, and the status of any appeals.

Section	Information Required
	<ul style="list-style-type: none"> Describe any corporate health indicators, including legal claims or liabilities, planned debt restructuring, planned corporate actions, and other factors that could negatively affect the likelihood of project completion. Provide a copy of audited financial statements for the applicant and other projected funding sources for the most recently ended three (3) fiscal years, and the unaudited quarterly interim financial statements for the current fiscal year, as separate appendix materials. If all three years of audited statements are not available, provide all available statements and any additional information or appendices that provide similar evidence of corporate health.
Greenhouse Gas Emissions Impacts	<p>Greenhouse Gas Emissions Impacts of the Facility’s Products: At a minimum, include:</p> <ul style="list-style-type: none"> <i>End Product Impacts:</i> Describe the end-use application of facility’s products and how their use, whether that is independently (e.g., energy efficiency equipment) or as part of a larger specified advanced energy product (e.g., blade in wind tower) will avoid or reduce GHG emissions. Provide product specifications to verify these claims. <ul style="list-style-type: none"> In the case of specified advanced energy property that provides GHG reduction or avoidance over incumbent technologies or systems, such as clean energy, clean vehicle, or efficiency products, applicants should describe the product’s typical use in the narrative and provide quantitative information in the Data Sheet. <ul style="list-style-type: none"> In the case of carbon capture or removal equipment, applicants should quantify direct GHG reductions enabled by the product in typical use in the Data Sheet. In the case of electrolyzing, refining, or blending equipment, applicants should describe the fuel, chemical, or product and its production process, including feedstocks, in the narrative and Data Sheet. In the case of specified advanced energy property that provides indirect GHG reduction or avoidance, applicants may wish to qualitatively describe how the facility’s products could contribute to emissions reductions by reducing energy or fuel demand or accelerating adoption of low-emissions technologies (e.g., for enabling technology such as grid components, storage, or charging infrastructure). In the case of recycling projects, applicants should qualitatively describe how the facility’s products are expected to reduce emissions through their use and by reducing raw material needs or emissions associated with end-of-life. <i>Product Performance:</i> Provide any details about the innovation and performance of the end product (e.g., efficiency, range, and economic life) that indicate its ability to facilitate deeper GHG emissions reductions than leading competitors or incumbents. Applicants should substantiate such claims using the product warranty or related information, which should be described in the narrative and may be submitted as separate appendix materials. <p>Note: For applicants applying for other advanced energy projects under Appendix A(1)(i), “<i>Other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary</i>”, applicants must demonstrate the reduction of GHG emissions is a necessary ultimate outcome from the manufacture of the advanced energy property.</p> <p>Greenhouse Gas Emissions from the Facility: At a minimum, include:</p> <ul style="list-style-type: none"> <i>Direct Emissions:</i> Qualitatively and quantitatively characterize the anticipated sources of direct (Scope 1) or indirect fuel- and energy-related (Scope 2) GHG emissions in the manufacturing or recycling process. Emissions estimates should be provided in the 48C Application Data Sheet using the methodology described in Section V; where available, input assumptions should be justified with publicly available data and engineering studies. Explain any significant differences between direct emissions from the facility and industry averages. <i>Facility Performance:</i> Provide any details about the manufacturing or recycling process (e.g., efficiency, lifetime, electrification, low-carbon fuels, etc.) that indicate its potential to result in lower emissions than leading competitors or incumbents. Wherever possible, the applicant should substantiate assessments of process improvements with analysis or engineering studies, which should be described in the narrative and may be submitted as separate appendix materials, which may be submitted as separate appendix materials.

Section	Information Required
	<ul style="list-style-type: none"> • <i>Mitigation Efforts:</i> Describe any planned efforts to mitigate GHG emissions of the proposed facility. • <i>Company Commitments and Track Record:</i> Describe any company commitments or experience reducing GHG emissions of manufacturing or recycling facilities.
Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy	<ul style="list-style-type: none"> • Output of Your Facility: Describe the proposed facility’s products and projected annual output for each product. In the case of retrofitting, re-equipping, or expanding an existing facility, indicate how the project will alter the facility’s annual output. Indicate whether production from the facility covers multiple supply chain segments—processed material, subcomponents, components, systems/end products—and how those segments interact. In the 48C Application Data Sheet, submit the relevant production capacity information for the facility’s outputs (see Section V for a description of these terms) and then justify each in the § 48C(e) Application narrative: <ul style="list-style-type: none"> ◦ Annual Production. ◦ Manufacturing Contribution. ◦ Share of Facility Output. ◦ Real-World Annual Performance. ◦ Product Lifetime. • Supply Chain Resilience: Describe how your facility’s products will help build resilience of domestic supply chains that are critical for energy products that facilitate progress towards a net-zero economy, from raw materials to end-of-life. • Inputs to Your Facility: Describe key inputs needed for your manufacturing or recycling process. Describe any known sources for your inputs, including indicating domestic sources and any current or anticipated supply chain vulnerabilities. • End-Use Applications: Indicate whether the facility’s products will be used in multiple specified advanced energy technologies (e.g., wind, solar, and electric grid) or multiple sectors (e.g., transportation, industry, and electricity). Reference any offtake or sales arrangements provided in the Commercial Viability section to justify the end-use applications and, where possible, include these in the appendix.
Workforce and Community Engagement (Submitted as a separate PDF document)	<p>Describe your plan for contributing to job creation and ensuring project viability, timely completion, and ultimate success by fostering a stable and supportive workforce and host community. Applicants are encouraged to use Specific, Measurable, Achievable, Relevant, and Timely (SMART) milestones wherever possible and where relevant. At a minimum, include:</p> <p>Job Creation and Workforce Continuity: Describe the applicant’s approach to creating and maintaining high-quality jobs for both new and incumbent workers.</p> <ul style="list-style-type: none"> • Characterize and estimate the number of jobs your project will create (e.g., mechanics and construction workers), including both direct and indirect jobs both during completion of the project (the credit period) and during operation of the facility after it is placed in service and any indicators of job quality. • Describe partnerships with apprenticeship readiness programs, or community-based workforce training and support organizations serving displaced industrial workers, including in the coal, other energy, and automotive sectors, and others facing systematic barriers to employment to facilitate participation in the project’s construction and operations.

Section	Information Required
	<ul style="list-style-type: none"> Summarize the applicant’s plan to attract, train, and retain a skilled and well-qualified workforce both during completion of the project (the credit period) and during operation of the facility after it is placed in service. A collective bargaining agreement, labor-management partnership, or other similar agreement would provide evidence of such a plan. Alternatively, applicants may describe: <ul style="list-style-type: none"> Wages, benefits, and other worker supports to be provided as benchmarking against prevailing wages for construction and local median wages for other occupations; Commitments to invest in workforce education and training, including measures to reduce attrition, increase productivity from a committed and engaged workforce, and support the development of a resilient, skilled, and stable workforce for the project; and Efforts to engage employees in the design and execution of workplace safety and health plans. Describe employees’ ability to organize, bargain collectively, and participate, through labor organizations of their choosing, in decisions that affect them. This contributes to the effective conduct of business and facilitates amicable settlements of any potential disputes between employees and employers, providing assurances of project efficiency, continuity, and multiple public benefits. In the description, explain whether workers can form and join unions of their choosing, and how they will have the opportunity to organize with the purposes of exercising collective voice in the workplace. <p>Ensuring Timely Project Completion Through Workforce and Community Engagement: Describe current and planned efforts to engage with community and labor stakeholders, including as it relates to strengthening support of the community, workforce recruitment, and the ability to execute the project on schedule and with adequate workforce.</p> <ul style="list-style-type: none"> Provide a comprehensive list of stakeholders that the project plans to engage from local governments, Tribal governments, labor unions, and community-based organizations. Describe current and planned efforts to engage with listed stakeholders, including as it relates to the ability to complete the project in the shortest time and with adequate workforce. Describe current and planned efforts to ensure availability of the workforce needed to successfully complete the project and place it in service in a timely manner, including through training programs that serve workers currently underrepresented in the sector. Describe any activities to strengthen support of the community such as through benefit-sharing agreements, consideration of environmental impact, and use of local resources. Discussions should reference Workforce and Community Engagement Agreements, or any plans to develop such agreements, from representative organizations reflecting substantive engagement and feedback on applicant’s approach to community and labor engagement. Examples of such agreements are Good Neighbor Agreements/Community Benefits Agreements, Collective Bargaining Agreements, Project Labor Agreements or Community Workforce Agreements. Actual agreements must be provided in the submission package as appendix files. <p>Energy Community Transition: Describe the extent to which the project will support energy communities.</p> <ul style="list-style-type: none"> Describe plans to utilize existing local and regional resources that previously supported the local or regional coal, other energy, or automotive industries, including through transition opportunities for workers in the coal, other energy, and automotive sectors into clean energy industries. If applicable, include discussion on plans to repurpose existing infrastructure/assets that have been abandoned due to the closing of a coal mine or coal plant.

Section	Information Required
	<p>Local Environmental Impacts: Describe the impact of your project on local air, water, and/or land quality, as well as any efforts to mitigate local pollution and waste.</p> <ul style="list-style-type: none"> • Discuss any anticipated negative and cumulative environmental impacts of the project, including impacts on local air, water, and/or land quality. Describe any efforts to mitigate local pollution and waste. • Determine whether the location or community qualifies as a disadvantaged community according to the <i>Climate and Economic Justice Screening Tool</i> (CEJST). • Within the context of cumulative environmental impacts, applicants should use the U.S. Environmental Protection Agency’s Environmental Justice Screening and Mapping (EJSCREEN) tool (https://www.epa.gov/ejscreen) to quantitatively discuss existing environmental impacts in the project area. • If anticipated project benefits will flow to an applicable disadvantaged community, identify applicable benefits that are quantifiable, measurable, and trackable, such as: <ul style="list-style-type: none"> ◦ (1) A decrease in energy burden; ◦ (2) A decrease in environmental exposure and burdens; ◦ (3) An increase in access to low-cost capital; ◦ (4) An increase in high-quality job creation, the clean energy job pipeline, and job training for individuals; ◦ (5) Increases in clean energy enterprise creation and contracting (e.g., through investment in underserved and underrepresented businesses); ◦ (6) Increases in energy democracy, including community ownership; ◦ (7) Increased parity in clean energy technology access and adoption; and ◦ (8) An increase in energy resilience. • In addition, applicants should also discuss how the project will maximize all of the benefits listed above. Describe how and when anticipated benefits are expected to flow to the disadvantaged community. For example, will the benefits be provided directly within the disadvantaged communities identified, or are the benefits expected to flow in another way? Further, will the benefits flow during project development or after project completion, and how will applicant track benefits delivered?

b) Section 48C(e) Application Technical Review Criteria for Clean Energy Manufacturing and Recycling Projects

This section describes the technical review criteria that DOE will use to evaluate § 48C(e) applications proposing Clean Energy Manufacturing and Recycling Projects.

Criterion 1: Commercial Viability

- Project schedule and time from certification to completion:
 - Readiness to proceed with the proposed project as evidenced by firmness of site selection and progress towards securing required permits, contracts, reviews, and agreements; and
 - Reasonableness of the timeframe required for construction and commissioning of the project, including interim milestones and overall timeline.
- The extent to which risk management issues and mitigation strategies are identified and addressed, including the level of contingency proposed to address risk.
- Strength of the proposed business plan, including:
 - The potential for commercial deployment, based on estimates of market share, market growth potential, and price competitiveness of the product.
 - The source and certainty of funding for the equity that will be invested in the project, including private financing, DOE funding, state and local incentives, and other sources.
 - The strength of key arrangements, such as financing, acquisition/supply strategy, and power purchase agreements for the proposed project, as well as offtake (sales) arrangements for the facility’s products.
 - The degree to which the application justifies the proposed project’s economic viability, sustainability, and potential growth.
 - The degree to which the investment is profitable, based on the proposed budget and spend plan, as well as described cash flow analysis of the project.

- The levelized cost of generated or stored energy, or of measured reduction in energy consumption or GHG emission (or similar metric) for the facility's products, compared to similar technologies or materials within the same market segment.
- Strength of the proposed management plan, including the management team's track record of success in areas relevant to the project and corporate health of the applicant.

In assessing each item above, the following will be considered: (a) the comprehensiveness, specificity, and accuracy of the information and plans provided, (b) the reasonableness of assumptions used in making estimations and projections, and (c) the extent to which the applicant demonstrates an understanding of relevant risks and the quality of the strategies put forward to mitigate and manage those risks.

Criterion 2: Greenhouse Gas Emissions Impacts

- The potential for the facility's products to facilitate a reduction in anthropogenic emissions of GHGs, based on: Emissions reductions associated with the potential to displace higher-emitting incumbent technologies, fuels, or materials, or to capture carbon dioxide that would otherwise enter or remain in the atmosphere. The extent to which the product enables the manufacturing or adoption of other low-emissions technologies (e.g., charging infrastructure to enable the adoption of electric vehicles, critical materials to enable the manufacturing of other clean energy technologies, or electric grid modernization equipment to advanced aspects of the clean energy transition). End products impact on avoidance or reduction in anthropogenic emissions of GHGs, based on:
 - Potential GHG improvement over higher-emitting incumbent technologies or systems.
 - Potential to capture or remove carbon oxides.
 - Potential to provide indirect emissions reductions or avoidance by enabling a reduction in energy or fuel use or manufacturing or adoption of other low-emissions technologies (e.g., charging infrastructure to enable the adoption of electric vehicles).
 - Potential of recycling projects to avoid or reduce emissions associated with raw materials, use, or end-of life of advanced energy property
- The extent to which technological innovation in the efficiency, economic life, recyclability, or other characteristics that reduce overall GHG emissions of the facility's products exceed those of incumbents or competitors.
- The extent to which the project involves current best-in-class manufacturing or recycling approaches, including the use of innovative equipment, processes, and low-carbon fuels, as demonstrated through project planning documents, front-end engineering and design studies, or otherwise.
- Plans to align with the national target of net-zero emissions by 2050, including efforts to reduce both direct (Scope 1) and indirect, upstream fuel- and energy-related (Scope 2) emissions over the lifetime of the facility.
- Efforts to reduce emissions in the upstream supply chain (e.g., through contracts with low-emissions suppliers).
- Activities to monitor facility emissions and energy use, including through any relevant voluntary or required reporting protocols (e.g., EPA's Greenhouse Gas Reporting Program).

Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy

- The extent to which the proposed project addresses current and anticipated supply chain vulnerabilities for clean energy products that facilitate progress towards a net-zero economy.
- The extent to which the project would increase domestic production capacity and availability of clean energy products that facilitate progress towards a net-zero economy, including a qualifying clean energy product itself or associated components or materials. The extent to which the proposed project addresses current and anticipated supply chain vulnerabilities for clean energy products that facilitate progress towards a net-zero economy, based on a comparison of the production capacity and the current and anticipated gap between domestic manufacturing capacity and demand for the specified advanced energy property or materials produced by the proposed project.
- The extent to which the project will support and encourage follow-on supply chain investments in the region.
- The extent to which the project supports the development of U.S. capacity to meet federal, state, or local domestic content requirements or incentives, such as those in the §§ 30D, 45/45Y, or 48/48E federal tax credits.
- The extent to which the project promotes long-term U.S. manufacturing competitiveness or technology leadership in the transition to a net-zero economy, based on the projected commercial deployment of the facility's products; the feasibility of delivering market-ready products at the stated annual production levels; the efficiency, emissions, or productivity of the facility beyond the state-of-the-art; and the potential to avoid or reduce end-of-life waste from the facility or final product through the use of alternative processes, technologies, or materials.

Criterion 4: Workforce and Community Engagement

- **Job Creation and Workforce Continuity:**
 - The number of domestic jobs created (both direct and indirect) (a) during completion of the project (the credit period) and (b) during operation of the facility after it is placed in service, including jobs within energy communities (if applicable) attained by locals or individuals previously employed by the local or regional coal industry.

- The quality and manner in which the proposed project will create and/or retain high- quality, good-paying jobs (both direct and indirect) with employer-sponsored benefits for all classifications and phases of work.
- The extent to which the applicant engaged key stakeholders to develop partnerships to better serve local and diverse workforce through training and support.
- The extent to which the project provides employees with the ability to organize, bargain collectively, and participate, through labor organizations of their choosing, in decisions that affect them and that contribute to the effective conduct of business and facilitates amicable settlements of any potential disputes between employees and employers, providing assurances of project efficiency, continuity, and multiple public benefits.
- The extent to which applicant demonstrates that they are a responsible employer, with ready access to a sufficient supply of appropriately skilled labor, and an effective plan to minimize the risk of labor disputes or disruptions.
- **Ensuring Timely Project Completion Through Workforce and Community Engagement:**
 - The extent of current and planned efforts to engage community and labor stakeholders, including as it relates to the ability to execute the project on schedule and with adequate workforce.
 - The extent to which workforce recruitment and support of the community for the project have been strengthened through benefit-sharing agreements, consideration of environmental impact, use of local resources, and improved access to employment opportunities for the local workforce.
 - The extent to which the applicant demonstrates community and labor engagement to date that results in support of the community for the proposed project and availability and maintenance of the necessary workforce.
 - The extent to which the applicant has a clear and appropriately robust plan to engage—ideally through a clear commitment to negotiate an enforceable Workforce and Community Agreements—with labor unions, Tribal entities, and community-based organizations that support or work with disadvantaged communities and other affected stakeholders.
 - The extent to which the applicant has considered accountability to affected workers and community stakeholders, including those most vulnerable to project activities with a plan to publicly share Workforce and Community Engagement plan commitments.
 - Extent to which a project will generate economic prosperity in the local community.
- **Energy Community Transition:**
 - The extent to which the application includes specific and high-quality actions to support energy communities, including through transition opportunities for workers in the coal, other energy, and automotive sectors into clean energy transition opportunities.
 - The extent to which a project will utilize existing local and regional resources that previously supported the local or regional coal industry or repurpose existing infrastructure/assets that have been abandoned due to closing of a coal mines or coal plant.
- **Local Environmental Impacts:**
 - The extent to which the proposed project accounts for its environmental impact to the surrounding community by having clear plans to avoid or reduce local air pollution, land contamination, and/or water contamination.
 - The extent to which the applicant identifies specific, measurable benefits for disadvantaged communities, how the benefits will flow to disadvantaged communities, and how negative environmental impacts affecting disadvantaged communities would be mitigated.

B. Greenhouse Gas Emission Reduction Projects

Priority Areas for Greenhouse Gas Emission Reduction Projects

All Greenhouse Gas Emission Reduction Projects described in Appendix A(2) of this guidance are eligible to apply for a § 48C allocation and will be evaluated by DOE against the four technical review criteria reflecting overall program objectives:

- Criterion 1: Commercial Viability
- Criterion 2: Greenhouse Gas Emissions Impacts
- Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy
- Criterion 4: Workforce and Community Engagement

When evaluating the Greenhouse Gas Emissions Impacts criterion, DOE will give priority to projects that deeply reduce emissions to levels significantly below a reasonable domestic industry average and the 20% reduction eligibility requirement stated in Appendix A(2).

When evaluating the Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy criterion, DOE will give priority to projects that advance the commercial viability and uptake of replicable decarbonization efforts in major industrial

applications (e.g., cement, iron and steel, aluminum, chemicals, and other energy-intensive manufacturing sectors), including innovative solutions, and to projects that align with one or more cross-cutting industrial decarbonization techniques, such as energy efficiency, electrification, low-carbon fuels, feedstocks, and energy sources (LCFFES), material efficiency or substitution, and carbon capture utilization and storage (CCUS).

i. Concept Papers for Greenhouse Gas Emission Reduction Projects

a) Concept Paper Content for Greenhouse Gas Emission Reduction Projects

This section describes the specific content that applicants must provide in the concept paper files for applications proposing Greenhouse Gas Emission Reduction Projects. Template files for submitting this information will be provided through the eXCHANGE portal.

*Table: Concept Paper Content Requirements
for Greenhouse Gas Emission Reduction Projects*

Section	Information Requested
Project Overview	<p>Provide an overview of the proposed project. At a minimum, include:</p> <ul style="list-style-type: none"> • Company Overview: Describe your company and existing industrial or manufacturing capabilities. • Project Scope: Describe the eligible industrial or manufacturing facility to be re-equipped, including size, location, and other relevant information such as equipment and processes employed. Indicate the proposed changes supported by the project, including a list of the anticipated eligible property that will make up the qualified investment of the qualifying advanced energy project: low- or zero-carbon process heating systems; carbon capture, transport, utilization, or storage systems; energy efficiency and reduction in waste; or other industrial technology to be installed to reduce the facility's GHG emissions by at least 20%. Indicate whether the retrofit project will achieve the required 20% reduction in direct (Scope 1) emissions facility-wide, indirect fuel- and energy-related (Scope 2) emissions facility-wide, subunit emissions, or some combination thereof. Describe any anticipated changes to production capacity or output as a result of the retrofit. • Emissions: Describe your baseline annual emissions from the year prior to the retrofit compared to peers in your industry, and the anticipated emissions reductions to be achieved through the measures associated with the proposed project. The latter should be provided in both absolute and percentage terms, relative to your facility's baseline emissions.
Commercial Viability	<p>Project Plan:</p> <ul style="list-style-type: none"> • <i>Project Timeline:</i> Provide planned dates to begin re-equipping the industrial or manufacturing facility, and how many months it will take to commence operations and achieve full production capacity with the reduced emissions profile once certified. • <i>Siting and Permitting:</i> Explain the rationale for selection of the project site and indicate the current status of any required siting and permitting. • <i>Risk Management Plan:</i> Identify project risks or challenges and any relevant strategies for risk mitigation and management, such as legal, financial, engineering, procurement, construction, physical climate, and environmental risks. <p>Business Plan:</p> <ul style="list-style-type: none"> • <i>Financial Information:</i> Describe sources of financing for this project, including the amount and strength of funding sources that will provide the equity to be invested in the project; the amount of total debt obligations that will be incurred and the funding sources of all such debt, and the dollar amount of incentives or funds pursued or awarded from local and state governments, as well as other federal incentives pursued or awarded. If applicable, describe any existing or prospective offtake arrangements for the project's products. • <i>Cost Information:</i> Describe the cost competitiveness of the facility's products, as demonstrated through a comparison of the estimated price of your facility's product against similar products in the same market segment.

Section	Information Requested
	<p>Management Plan:</p> <ul style="list-style-type: none"> Describe the key management team members who will design, construct, permit, and execute the project. Include a description of relevant industry experience of the top-tier executives responsible for the success of the project. Describe any corporate health indicators, including legal claims or liabilities, planned debt restructuring, planned corporate actions, and other factors that could negatively affect the likelihood of project completion.
Greenhouse Gas Emissions Impacts	<ul style="list-style-type: none"> Emissions Impacts: Quantify the direct (Scope 1) and indirect fuel- and energy-related (Scope 2) GHG emissions associated with the qualified investment immediately before and after the retrofit project. Express post-retrofit emissions in both absolute and relative (% reduction) terms. Where possible, justify these estimates with publicly available data (e.g., <i>EPA Greenhouse Gas Reporting Protocol</i> [GHGRP] reporting) and engineering studies. Explain any significant differences between direct emissions from the facility immediately before the retrofit and a reasonable domestic industry average. Process Improvements: Describe the portions of the manufacturing process that will be re-equipped by the project. Best-In-Class Technologies: Describe the equipment used to facilitate the GHG emissions reductions, and the extent to which best-in-class technologies are deployed.
Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy	<ul style="list-style-type: none"> Existing Capacity: Describe and provide the annual output for all of the facility's products prior to the retrofit project. In the Concept Paper Data Sheet, submit the relevant annual production information. Innovation and U.S. Competitiveness: Describe how the retrofit project can pave the way for decarbonizing heavy industry by advancing the commercial viability and uptake of replicable decarbonization approaches in major industrial applications, including innovative solutions. Supporting U.S. Supply Chains: Describe whether the equipment used to facilitate the GHG emissions reductions at your facility is/are produced domestically or the percentage of domestically-sourced materials used in the production of said equipment.
Workforce and Community Engagement (Submitted as a separate PDF document)	<p>Describe your plan for contributing to job creation and ensuring project viability, timely completion, and ultimate success by fostering a stable and supportive workforce and host community. At a minimum, include:</p> <ul style="list-style-type: none"> Job Creation and Workforce Continuity: <ul style="list-style-type: none"> Briefly characterize the jobs (both direct and indirect) your project will create (e.g., mechanics and construction workers), including (a) during completion of the project and (b) after the project is placed in service, and any indicators of job quality. Describe partnerships with apprenticeship readiness programs, or community-based workforce training and support organizations serving displaced industrial workers, including in the coal, other energy, and automotive sectors, and others facing systematic barriers to employment to facilitate participation in the project's construction and operations. Ensuring Timely Project Completion Through Workforce and Community Engagement: <ul style="list-style-type: none"> Describe current and planned efforts to engage with community and labor stakeholders, including as it relates to the ability to complete the project in the shortest time and with adequate workforce. Describe current and planned efforts to ensure availability of the workforce needed to successfully complete the project and place it in service in a timely manner, including through training programs that serve workers currently underrepresented in the sector. Describe any activities to strengthen support of the community such as through benefit-sharing agreements, consideration of environmental impact, and use of local resources.

Section	Information Requested
	<ul style="list-style-type: none"> • Energy Community Transition: <ul style="list-style-type: none"> ◦ Describe the extent to which the project will support energy communities, including through transition opportunities for workers in the coal, other energy, and automotive sectors, and through the use of existing infrastructure in energy transition communities. • Local Environmental Impacts: <ul style="list-style-type: none"> ◦ Describe the impact of your project on local air, water, and/or land quality, as well as any efforts to mitigate local pollution and waste. <p>Determine whether the location or community qualifies as a disadvantaged community according to the <i>Climate and Economic Justice Screening Tool</i> (CEJST).</p>

b) Concept Paper Technical Review Criteria for Greenhouse Gas Emission Reduction Projects

This section describes the technical review criteria that DOE will use to evaluate concept papers proposing Greenhouse Gas Emission Reduction Projects.

Criterion 1: Commercial Viability

- Project schedule and time from certification to completion, based on readiness to proceed with the proposed project and reasonableness of the timeframe required for construction and commissioning of the project.
- The extent to which risk management issues and mitigation strategies are identified and addressed
- Strength of the proposed business plan, including the source and certainty of funding that will be invested in the project, including equity, private financing, DOE funding, state and local incentives, and other sources.
- Strength of the proposed management plan, including the management team's track record of success in areas relevant to the project and corporate health of the applicant.

Criterion 2: Greenhouse Gas Emissions Impacts

- The comprehensiveness, specificity, and reasonableness of the description and quantification of current and anticipated emissions, accounting for any anticipated changes to the facility's production volumes.
- The impact of the retrofit on direct (Scope 1) and indirect fuel- and energy-related (Scope 2) GHG emissions reductions from the facility, in both absolute (tons of carbon dioxide equivalent), percentage emission reductions, and the cost of avoided emissions (dollars per ton of carbon dioxide equivalent, based on tax credit dollars requested).

Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy

- The extent to which the proposed project enhances U.S. leadership in low-emissions manufacturing by advancing the commercial viability and uptake of replicable decarbonization approaches in major industrial applications.
- The extent to which the proposed project aligns with one or more cross-cutting industrial decarbonization techniques, such as energy efficiency, electrification, LCFES, material efficiency or substitution, and CCUS.

Criterion 4: Workforce and Community Engagement

- **Job Creation and Workforce Continuity:**
 - The number of domestic jobs created (both direct and indirect) (a) during completion of the project (the credit period) and (b) during operations of the facility after it is placed in service, including jobs within energy communities (if applicable) attained by locals or individuals previously employed by the local or regional coal industry.
 - The quality and manner in which the proposed project will create and/or retain high-quality, good-paying jobs (both direct and indirect) with employer-sponsored benefits for all classifications and phases of work.
 - The extent to which the applicant engaged key stakeholders to develop partnerships to better serve local and diverse workforce through training and support.
- **Ensuring Timely Project Completion Through Workforce and Community Engagement:**
 - The extent of current and planned efforts to engage community and labor stakeholders, including as it relates to the ability to execute the project on schedule and with adequate workforce.
 - The extent to which workforce recruitment and support of the community for the project have been strengthened through benefit-sharing agreements, consideration of environmental impact, use of local resources, and improved access to employment opportunities for the local workforce.
- **Energy Community Transition:**
 - The extent to which the application includes specific and high-quality actions to support energy communities, including transition opportunities for workers in the coal, other energy, and automotive sectors.

- The extent to which a project will utilize existing resources or infrastructure that previously supported the local or regional coal industry.
- **Local Environmental Impacts:**
 - The extent to which the proposed project accounts for its environmental impact to the surrounding community by having clear plans to avoid or reduce local air pollution, land contamination, and/or water contamination.
 - The extent to which the application identifies specific, measurable benefits for disadvantaged communities, including energy communities.

ii. Section 48C(e) Applications for Greenhouse Gas Emission Reduction Projects

a) Section 48C(e) Application Content for Greenhouse Gas Emission Reduction Projects

This section describes the specific content that applicants must provide in the § 48C(e) application files and appendices for applications proposing Greenhouse Gas Emission Reduction Projects. Template files for submitting this information will be provided through the eXCHANGE portal.

*Table: Section 48C(e) Application Content Requirements
for Greenhouse Gas Emission Reduction Projects*

Section	Information Requested
Project Overview	<p>Provide an overview of the proposed project. At a minimum, include:</p> <ul style="list-style-type: none"> • Company Overview: Describe your company and existing industrial or manufacturing capabilities. • Project Scope: <ul style="list-style-type: none"> ○ Describe the eligible industrial or manufacturing facility to be re-equipped, including size, location, and other relevant information. Include a detailed description of the equipment and processes employed at the proposed facility. Applicants are encouraged to submit diagrams, schematics, and/or images (e.g., a detailed process flow diagram) as appendix materials. ○ Indicate the proposed changes supported by the project, including a list of the anticipated eligible property that will make up the qualified investment of the qualifying advanced energy project: low- or zero-carbon process heating systems; carbon capture, transport, utilization, or storage systems; energy efficiency and reduction in waste; or other industrial technology to be installed to reduce the facility's GHG emissions by at least 20%. ○ Indicate whether the retrofit project will achieve the required 20% reduction in direct (Scope 1) emissions, indirect fuel- and energy-related (Scope 2) emissions, subunit emissions, or some combination thereof. ○ Describe any anticipated changes to production capacity or output as a result of the retrofit. ○ Describe any significant changes to the project scope that have occurred since the concept paper stage. • Emissions: Describe your baseline emissions compared to peers in your industry, and the anticipated emissions reductions to be achieved through the measures associated with the proposed project. The latter should be provided in both absolute and percentage terms, relative to your facility's baseline emissions.
Commercial Viability	<p>Project Plan:</p> <ul style="list-style-type: none"> • <i>Project Management and Timeline:</i> <ul style="list-style-type: none"> ○ Provide a project schedule through operation and achieving full production capacity, which demonstrates how certification requirements will be met within two (2) years of receiving an allocation decision from the IRS, and how the project will be placed in service within two (2) years of such certification. Documentation supporting the project schedule should be submitted as separate appendix materials. ○ Describe plans to ensure an adequate supply of essential inputs needed for successful operation of the project.

Section	Information Requested
	<ul style="list-style-type: none"> ○ For the following contracts and agreements, summarize key terms and conditions in the narrative and submit copies as appendix materials. A Professional Engineer must inspect and certify the project documents for feasibility and may be an employee of the applicant. <ul style="list-style-type: none"> ▪ Operations and Maintenance Agreement. ▪ Shareholders Agreement. ▪ Engineering, Procurement and Construction Agreement, including firm price, liquidated damages, holdbacks, and performance guarantees, for example. • <i>Siting and Permitting</i>: Explain the rationale for selection of the project site and provide documentation supporting the applicant's conclusion that the proposed site can fully meet all environmental, water supply, transmission interconnection, and other necessary requirements. Include a complete list of all federal, state, and local permits, including environmental authorizations (if applicable) or reviews necessary to commence construction of the project. Additional documentation that supports key claims may be provided as appendix materials, such as regulatory approvals and signed agreements, letters of intent, or term sheets for supply and product transportation. • <i>Risk Management Plan</i>: Identify project risks or challenges and any relevant strategies for risk mitigation and management, including legal, financial, engineering, procurement, and construction risks. Include a discussion of natural disasters (e.g., earthquakes), climate impacts, and extreme weather patterns (e.g., tornadoes, hurricanes, heat and freezing temperatures, drought, wildfire, and floods) that may impact the resilience/sustainability of the project. <p>Business Plan: Provide the following financial information for the proposed project, and market information for the facility's product.</p> <ul style="list-style-type: none"> • <i>Financial Information</i>: <ul style="list-style-type: none"> ○ Describe the financial viability of the project and provide supporting metrics such as payback period, net present value (NPV), or return on investment and return on assets. ○ Estimate the project's qualified investment (as determined under § 48C) if the project is certified to receive a credit. The applicant may use any reasonable methodology and assumptions in estimating this amount. ○ Describe the amount of equity that will be invested in the project, including the sources of such equity and their strengths. Provide any existing equity funding commitments or expressions of interest from equity funding sources for the project as separate appendix materials. ○ Describe the amount of total debt obligations that will be incurred and the funding sources of all such debt. Include any existing debt funding commitments or expressions of interest from debt funding sources for the project as separate appendix materials. ○ Describe any local, state, or other federal incentives or funds that are being pursued or have been awarded for the proposed project, such as grants, loan guarantees, or tax credits. Also include a description of any instances where any federal agencies or non-federal governmental entities have entered into an arrangement as a customer or offtaker of the project's products or services, or other federal contracts, including acquisitions, leases, and other arrangements, that may indirectly support the applicant's proposed project. ○ Calculate the levelized cost of measured reduction in GHG emissions (based on costs of the full supply chain) that will be enabled by the project. Instructions for calculating levelized cost metrics are provided in Section V. Explain the methodology and assumptions used in the § 48C(e) application narrative.

Section	Information Requested
	<ul style="list-style-type: none"> • <i>Market Information:</i> <ul style="list-style-type: none"> ◦ Describe the markets your products will serve, including the existing market size, dollar volume, and growth potential. Where applicable, include consideration of federal, state, or local subsidies or procurement requirements that could influence demand for a lower-carbon product. If the product can be sold in multiple market segments, describe each one. ◦ Discuss the current and anticipated competitiveness of your market, including competing products and competitors. ◦ Provide the estimated price of your facility's product after re-equipping and how it compares to similar technologies or materials in the same market segment, including conventional and lower-carbon products. This should be expressed in the same units as annual production (e.g., \$/watt, \$/kilowatt-hour, and \$/ton) per the instructions in the 48C Application Data Sheet. Applicants should include the absolute difference and percentage change from a reasonable domestic industry average. ◦ Discuss your sales forecast, including details of any offtake agreements and including the objectives set forward in the federal Buy Clean Initiative for low-carbon materials. Identify confirmed or potential customers who will purchase, lease, or otherwise use the facility's product. Offtake agreements, environmental product declarations, low-carbon materials certifications, and other documents provided as evidence may be included as appendix materials. ◦ Based on the above information, summarize your product's projected market share for the next five years including trends and projections for demand and price, growth potential (short-term and long-term), and strategies to expand your market share (e.g., ways to circumvent market barriers). <p>Management Plan: Provide the following information for the company and key management team members:</p> <ul style="list-style-type: none"> • Describe the ownership structure of the company, including all beneficiaries. • List key management and senior personnel for the project, including the names, positions or titles, qualifications, and relevant experience. Resumes maybe be included as combined appendix materials, preferably in an Adobe PDF document labeled Resumes.pdf. • Describe the unique capabilities and expertise of the applicant and any major project partners, including debt or equity sponsors, contractors/vendors (if known), and any other counterparty that the applicant believes will enable the project to be successful, as well as the prior experience of the applicant and any major project partners in similar undertakings to the proposed project. • Summarize any pending or threatened (in writing) action, suit, proceeding, or investigation, including any action or proceeding by or before any governmental authority, that relates to the senior/key personnel, and the status of any appeals. • Describe any corporate health indicators, including legal claims or liabilities, planned debt restructuring, planned corporate actions, and other factors that could negatively affect the likelihood of project completion. Provide a copy of audited financial statements for the applicant and other projected funding sources for the most recently ended three (3) fiscal years, and the unaudited quarterly interim financial statements for the current fiscal year, as separate appendix materials. If all three years of audited statements are not available, provide all available statements and any additional information or appendices that provide similar evidence of corporate health.

Section	Information Requested
Greenhouse Gas Emissions Impacts	<ul style="list-style-type: none"> • Emissions Impacts: Quantify the direct (Scope 1) and indirect, upstream fuel- or energy-related (Scope 2) GHG emissions of the facility immediately before and after the retrofit project, both in the application narrative and the 48C Application Data Sheet. Consider how projects may affect other emissions at the facility or in fuel or energy use over the lifetime of the projects (e.g., electrification projects may reduce Scope 1 emissions but increase Scope 2 emissions). Express post-retrofit emissions reductions in both absolute and relative (% reduction) terms, where the latter must be at least 20%. Emissions should be calculated and submitted in the 48C Application Data Sheet using the methodology described in Section V, and, where possible, inputs should be justified with publicly available data (e.g., GHGRP reporting), engineering studies, or other evidence. Explain any significant differences between direct emissions from the facility and a reasonable domestic industry average. • Process Improvements: Describe the portions of the industrial or manufacturing process that will be re-equipped by the project, the nature of the improvements, and how the improvements drive emissions reductions. Wherever possible, the applicant should substantiate these assessments with analysis or engineering studies, which should be described in the narrative and may be submitted as appendix materials. • Best-In-Class Technologies: Describe the equipment used to facilitate the GHG emissions reductions, and the extent to which best-in-class technologies are deployed. Where multiple emissions-reducing technologies are deployed, describe each.
Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy	<ul style="list-style-type: none"> • Output of Your Facility: Describe the products currently produced at the facility and average annual output in appropriate units (e.g., tons of steel). Explain whether the retrofit will alter the capacity or output of the facility, including whether the retrofit will shift output from one product to another. Describe the market these products serve, including whether they align with federal, state, or local Made in America requirements, such as Buy America programs or domestic content-based tax credits. Applicants should provide engineering studies or other analysis to substantiate the impacts of the retrofit on facility output capacity as separate appendix materials. • Supporting Domestic Clean Energy Markets: Describe the extent to which the equipment used to facilitate the GHG emissions reductions at your facility is produced domestically. For instance, a project utilizing carbon capture equipment should explain whether they are sourcing from domestic CCUS companies or manufacturers. • Supporting Domestic Low-Carbon Industry: Describe how your project will help strengthen resilience of critical domestic supply chains that facilitate progress towards a net-zero economy, including by spurring or fulfilling the growing demand for low-carbon construction materials, such as those covered in the Buy Clean Initiative. • Innovation: Describe the extent to which the retrofit project employs innovative solutions that can enhance U.S. leadership and industrial competitiveness. This should include the use of advanced industrial or manufacturing approaches.

Section	Information Requested
Workforce and Community Engagement (Submitted as a separate PDF document)	<p>Describe your plan for contributing to job creation and ensuring project viability, timely completion, and ultimate success by fostering a stable and supportive workforce and host community. Applicants are encouraged to use Specific, Measurable, Achievable, Relevant, and Timely (SMART) milestones wherever possible and where relevant. At a minimum, include:</p> <p>Job Creation and Workforce Continuity: Describe the applicant’s approach to creating and maintaining high-quality jobs for both new and incumbent workers.</p> <ul style="list-style-type: none"> • <i>Characterize and estimate</i> the number of jobs your project will create (e.g., mechanics and construction workers), including both direct and indirect jobs both during completion of the project (the credit period) and during operation of the facility after it is placed in service and any indicators of job quality. • Describe partnerships with apprenticeship readiness programs, or community-based workforce training and support organizations serving displaced industrial workers, including in the coal, other energy, and automotive sectors, and others facing systematic barriers to employment to facilitate participation in the project’s construction and operations. • Summarize the applicant’s plan to attract, train, and retain a skilled and well-qualified workforce both during completion of the project (the credit period) and during operation of the facility after it is placed in service. A collective bargaining agreement, labor-management partnership, or other similar agreement would provide evidence of such a plan. Alternatively, applicants may describe: <ul style="list-style-type: none"> ◦ Wages, benefits, and other worker supports to be provided as benchmarking against prevailing wages for construction and local median wages for other occupations; ◦ Commitments to invest in workforce education and training, including measures to reduce attrition, increase productivity from a committed and engaged workforce, and support the development of a resilient, skilled, and stable workforce for the project; and ◦ Efforts to engage employees in the design and execution of workplace safety and health plans. • Describe employees’ ability to organize, bargain collectively, and participate, through labor organizations of their choosing, in decisions that affect them. This contributes to the effective conduct of business and facilitates amicable settlements of any potential disputes between employees and employers, providing assurances of project efficiency, continuity, and multiple public benefits. In the description, explain whether workers can form and join unions of their choosing, and how they will have the opportunity to organize with the purposes of exercising collective voice in the workplace. <p>Ensuring Timely Project Completion Through Workforce and Community Engagement: Describe current and planned efforts to engage with community and labor stakeholders, including as it relates to strengthening support of the community, workforce recruitment, and the ability to execute the project on schedule and with adequate workforce.</p> <ul style="list-style-type: none"> • Provide a comprehensive list of stakeholders that the project plans to engage from local governments, Tribal governments, labor unions, and community-based organizations. • Describe current and planned efforts to engage with listed stakeholders, including as it relates to the ability to complete the project in the shortest time and with adequate workforce. • Describe current and planned efforts to ensure availability of the workforce needed to successfully complete the project and place it in service in a timely manner, including through training programs that serve workers currently underrepresented in the sector. • Describe any activities to strengthen support of the community such as through benefit-sharing agreements, consideration of environmental impact, and use of local resources. Discussions should reference Workforce and Community Engagement Agreements, or any plans to develop such agreements, from representative organizations reflecting substantive engagement and feedback on applicant’s approach to community and labor engagement. Examples of such agreements are Good Neighbor Agreements/Community Benefits Agreements, Collective Bargaining Agreements, Project Labor Agreements or Community Workforce Agreements. Actual agreements must be provided in the submission package as appendix files.

Section	Information Requested
	<p>Energy Community Transition: Describe the extent to which the project will support energy communities.</p> <ul style="list-style-type: none"> Describe plans to utilize existing local and regional resources that previously supported the local or regional coal, other energy, or automotive industries, including through transition opportunities for workers in the coal, other energy, and automotive sectors into clean energy industries. If applicable, include discussion on plans to repurpose existing infrastructure/assets that have been abandoned due to the closing of a coal mine or coal plant. <p>Local Environmental Impacts: Describe the impact of your project on local air, water, and/or land quality, as well as any efforts to mitigate local pollution and waste.</p> <ul style="list-style-type: none"> Discuss any anticipated negative and cumulative environmental impacts of the project, including impacts on local air, water, and/or land quality. Describe any efforts to mitigate local pollution and waste. Determine whether the location or community qualifies as a disadvantaged community according to the <i>Climate and Economic Justice Screening Tool</i> (CEJST). Within the context of cumulative environmental impacts, applicants should use the U.S. Environmental Protection Agency’s Environmental Justice Screening and Mapping (EJSCREEN) tool (https://www.epa.gov/ejscreen) to quantitatively discuss existing environmental impacts in the project area. If anticipated project benefits will flow to an applicable disadvantaged community, identify applicable benefits that are quantifiable, measurable, and trackable, such as: <ul style="list-style-type: none"> (1) A decrease in energy burden; (2) A decrease in environmental exposure and burdens; (3) An increase in access to low-cost capital; (4) An increase in high-quality job creation, the clean energy job pipeline, and job training for individuals; (5) Increases in clean energy enterprise creation and contracting (e.g., through investment in underserved and underrepresented businesses); (6) Increases in energy democracy, including community ownership; (7) Increased parity in clean energy technology access and adoption; and (8) An increase in energy resilience. In addition, applicants should also discuss how the project will maximize all of the benefits listed above. Describe how and when anticipated benefits are expected to flow to the disadvantaged community. For example, will the benefits be provided directly within the disadvantaged communities identified, or are the benefits expected to flow in another way? Further, will the benefits flow during project development or after project completion, and how will applicant track benefits delivered?

b) Section 48C(e) Application Technical Review Criteria for Greenhouse Gas Emission Reduction Projects

This section describes the technical review criteria that DOE will use to evaluate § 48C(e) applications proposing Greenhouse Gas Emission Reduction Projects.

Criterion 1: Commercial Viability

- Project schedule and time from certification to completion
 - Readiness to proceed with the proposed project as evidenced by firmness of site selection and progress towards securing required permits, contracts, reviews, and agreements; and
 - Reasonableness of the timeframe required for construction and commissioning of the project, including interim milestones and overall timeline.
- The extent to which risk management issues and mitigation strategies are identified and addressed, including the level of contingency proposed to address risk.
- Strength of the proposed business plan, including:
 - The source and certainty of funding for the equity that will be invested in the project, including private financing, DOE funding, state and local incentives, and other sources.
 - The strength of key arrangements, such as financing, acquisition/supply strategy, and power purchase agreements for the proposed project, as well as offtake (sales) arrangements for the facility’s product.

- The degree to which the application justifies the proposed project’s economic viability, sustainability, and potential growth.
- The degree to which the investment is profitable, based on the proposed budget and spend plan, as well as described cash flow analysis of the project.
- The leveled cost of measured reduction in GHG emissions.
- The potential for commercial deployment, based on anticipated demand and cost premiums for lower-carbon industrial or manufacturing products.
- Strength of the proposed management plan, including the management team’s track record of success in areas relevant to the project and corporate health of the applicant.

In assessing each item above, the following will be considered: (a) the comprehensiveness, specificity, and accuracy of the information and plans provided; (b) the reasonableness of assumptions used in making estimations and projections; and (c) the extent to which the applicant demonstrates an understanding of relevant risks and the quality of the strategies put forward to mitigate and manage those risks.

Criterion 2: Greenhouse Gas Emissions Impacts

- The comprehensiveness, specificity, and reasonableness of the description and quantification of current and anticipated emissions, accounting for any anticipated changes to the facility’s production volumes.
- The impact of the retrofit on direct (Scope 1) and indirect fuel- and energy-related (Scope 2) GHG emissions at the facility, in terms of absolute emission reductions (tons of carbon dioxide equivalent), percentage emission reductions from before to after the retrofit, and the cost of reduced emissions (dollars per ton of absolute carbon dioxide equivalent reduced, based on tax credit dollars requested).
- Use of current best-in-class industrial or manufacturing approaches and innovative, low-emissions equipment, fuels, materials, or processes, as demonstrated through project planning documents, front-end engineering and design (FEED) studies, or otherwise.
- Extent to which the retrofit enables the facility to align with the long-term strategy of the United States to reach net-zero emissions by 2050.

Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy

- The extent to which the proposed project enhances U.S. leadership in low-emissions industry or manufacturing by advancing the commercial viability and uptake of replicable decarbonization approaches in major industrial applications.
- The extent to which the proposed project aligns with one or more cross-cutting industrial decarbonization techniques, such as energy efficiency, electrification, LCCFES, material efficiency or substitution, and CCUS. These approaches align with but are not limited to the DOE Industrial Decarbonization Roadmap.
- The extent to which the project supports the development of U.S. capacity to meet federal, state, or local Made in America requirements, such as Buy America requirements or domestic content incentives in the §§ 30D, 45Y, or 48E federal tax credits.
- The extent to which the project promotes the competitiveness of the U.S. industrial base through the adoption of innovative technologies or processes, such as advanced industrial or manufacturing techniques.

Criterion 4: Workforce and Community Engagement

- **Job Creation and Workforce Continuity:**
 - The number of domestic jobs created (both direct and indirect) (a) during completion of the project (the credit period) and (b) during operation of the facility after it is placed in service, including jobs within energy communities (if applicable) attained by locals or individuals previously employed by the local or regional coal industry.
 - The quality and manner in which the proposed project will create and/or retain high- quality, good-paying jobs (both direct and indirect) with employer-sponsored benefits for all classifications and phases of work.
 - The extent to which the applicant engaged key stakeholders to develop partnerships to better serve local and diverse workforce through training and support.
 - The extent to which the project provides employees with the ability to organize, bargain collectively, and participate, through labor organizations of their choosing, in decisions that affect them and that contribute to the effective conduct of business and facilitates amicable settlements of any potential disputes between employees and employers, providing assurances of project efficiency, continuity, and multiple public benefits.
 - The extent to which applicant demonstrates that they are a responsible employer, with ready access to a sufficient supply of appropriately skilled labor, and an effective plan to minimize the risk of labor disputes or disruptions.
- **Ensuring Timely Project Completion Through Workforce and Community Engagement:**
 - The extent of current and planned efforts to engage community and labor stakeholders, including as it relates to the ability to execute the project on schedule and with adequate workforce.

- The extent to which workforce recruitment and support of the community for the project have been strengthened through benefit-sharing agreements, consideration of environmental impact, use of local resources, and improved access to employment opportunities for the local workforce.
- The extent to which the applicant demonstrates community and labor engagement to date that results in support of the community for the proposed project and availability and maintenance of the necessary workforce.
- The extent to which the applicant has a clear and appropriately robust plan to engage—ideally through a clear commitment to negotiate an enforceable Workforce and Community Agreements—with labor unions, Tribal entities, and community-based organizations that support or work with disadvantaged communities and other affected stakeholders.
- The extent to which the applicant has considered accountability to affected workers and community stakeholders, including those most vulnerable to project activities with a plan to publicly share Workforce and Community Engagement plan commitments.
- Extent to which a project will generate economic prosperity in the local community.
- **Energy Community Transition:**
 - The extent to which the application includes specific and high-quality actions to support energy communities, including transition opportunities for workers in the coal, other energy, and automotive sectors into clean energy transition opportunities.
 - The extent to which a project will utilize existing local and regional resources that previously supported the local or regional coal industry or repurpose existing infrastructure/assets that have been abandoned due to closing of a coal mines or coal plant.
- **Local Environmental Impacts:**
 - The extent to which the proposed project accounts for its environmental impact to the surrounding community by having clear plans to avoid or reduce local air pollution, land contamination, and/or water contamination.
 - The extent to which the applicant identifies specific, measurable benefits for disadvantaged communities, how the benefits will flow to disadvantaged communities, and how negative environmental impacts affecting disadvantaged communities would be mitigated.

C. Critical Material Projects

Priority Areas for Critical Material Projects

All critical materials projects described in Appendix A(3) of this guidance are eligible to apply for a § 48C allocation and will be evaluated by DOE against the four technical review criteria reflecting overall program objectives:

- Criterion 1: Commercial Viability
- Criterion 2: Greenhouse Gas Emissions Impacts
- Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy
- Criterion 4: Workforce and Community Engagement

When evaluating the strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy criterion, DOE will take into consideration whether the project addresses critical materials as determined by the Secretary of Energy, as described in Appendix A(3)(b).

i. Concept Papers for Critical Material Projects

a) *Concept Paper Content for Critical Material Projects*

This section describes the specific content that applicants must provide in the concept paper files for applications proposing Critical Materials Projects. Template files for submitting this information will be provided through the eXCHANGE portal.

Table: Concept Paper Content Requirements for Critical Material Projects

Section	Information Requested
Project Overview	<p>Provide an overview of the proposed project. At a minimum, include:</p> <ul style="list-style-type: none"> • Company Overview: Describe your company, including prior experience processing, refining, or recycling critical materials. • Project Summary: Describe the eligible facility, including size, location, and other relevant information. Indicate what the investment will accomplish, including the specified critical materials; whether the project will establish, re-equip, or expand a facility; and whether the facility will process, refine, or recycle the relevant critical material. If the project involves more than one critical material, indicate the project's primary critical material, and any additional critical materials the project will process, refine, or recycle. Summarize the equipment and processes employed in the proposed facility; and for projects that re-equip or expand facilities, summarize what will be added or changed in the facility.
Commercial Viability	<p>Project Plan:</p> <ul style="list-style-type: none"> • <i>Project Timeline:</i> Provide planned dates to begin construction and operation of the project, and how many months the project will take to commence production and achieve full production capacity once certified. • <i>Siting and Permitting:</i> Explain the rationale for selection of the project site, including motivating factors such as suppliers, offtakers, and co-located industries. Indicate the current status of any required siting and permitting. • <i>Risk Management Plan:</i> Identify project risks or challenges and any relevant strategies for risk mitigation and management, such as legal, financial, engineering, procurement, construction, physical climate, and environmental risks. <p>Business Plan:</p> <ul style="list-style-type: none"> • <i>Financial Information:</i> Describe sources of financing for the proposed project, including the amount and strength of funding sources that will provide the equity to be invested in the project, the amount of total debt obligations that will be incurred and the funding sources of all such debt, and the dollar amount of incentives or funds pursued or awarded from local and state governments, as well as other federal incentives pursued or awarded. • <i>Market Information:</i> Describe the current size and growth potential of the markets your produced critical materials will serve, as well as your anticipated market share and target consumers. • <i>Cost Information:</i> Provide the estimated costs of your facility's products and how they compare to other domestic critical material producers, including new and recycled materials. <p>Management Plan:</p> <ul style="list-style-type: none"> • Describe the key management team members who will design, construct, permit, and operate the facility. Include a description of relevant industry experience of the top-tier executives responsible for the success of the project. • Describe any corporate health indicators, including legal claims or liabilities, planned debt restructuring, planned corporate actions, and other factors that could negatively affect the likelihood of project completion.

Section	Information Requested
Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy	<ul style="list-style-type: none"> • Output of Your Facility: Indicate the critical materials and associated quantities that will be produced by your facility. Describe the proposed facility’s products and projected annual output for each critical material. In the case of retrofitting, re-equipping, or expanding an existing facility, indicate how the project will alter the facility’s annual output. In the Concept Paper Data Sheet, submit the relevant annual production information for each critical material produced in the facility. • Inputs to Your Facility: Describe key inputs needed for your processing, refining, or recycling process, such as source materials (e.g., raw ore, brines, mine tailings, end-of-life products, or waste streams). Describe any known sources for your inputs and indicate domestic sources. Describe any current or anticipated supply chain vulnerabilities. • Supply Chain Resilience: Describe how your facility’s products will help build resilience of domestic supply chains that are critical for energy products that facilitate progress towards a net-zero economy, from raw materials to end-of-life. For instance, critical materials producers intending to serve the battery market should indicate the extent to which their project supports the electric vehicle or stationary energy storage supply chains, as opposed to consumer electronics. Describe whether these products align with U.S. federal, state, or local domestic content requirements, such as those in the § 30D tax credit. • End-Use Applications: Indicate whether the facility’s products will be used in multiple specified advanced energy technologies (e.g., wind, solar, and electric grid) or multiple sectors (e.g., transportation, industry, and electricity).
Greenhouse Gas Emissions Impacts	<ul style="list-style-type: none"> • End Product Impacts: Describe the end-use application of facility’s products and how their use contributes to GHG emissions reduction or avoidance by advancing the adoption of clean energy or other low-carbon products and technologies, such as the advanced energy property described in 48C(c)(1)(A)(i). • Direct Facility Emissions: Qualitatively describe the anticipated sources of GHG emissions in the processing, refining, or recycling process (e.g., fuel use, process emissions). • Facility Performance: Provide any details about the production process (e.g., efficiency and lifetime) that indicate its potential to result in lower emissions than leading competitors or incumbents. • Mitigation Efforts: Describe any planned efforts to mitigate GHG emissions of the proposed facility, including the use of best-in-class or innovative processing, refining, or recycling approaches and/or low-carbon fuels, processes, or materials.
Workforce and Community Engagement (Submitted as a separate PDF document)	<p>Describe your plan for contributing to job creation and ensuring project viability, timely completion, and ultimate success by fostering a stable and supportive workforce and host community. At a minimum, include:</p> <ul style="list-style-type: none"> • Job Creation and Workforce Continuity: • Briefly characterize the jobs (both direct and indirect) your project will create (e.g., mechanics and construction workers), including (a) during completion of the project and (b) after the project is placed in service, and any indicators of job quality. • Describe partnerships with apprenticeship readiness programs, or community-based workforce training and support organizations serving displaced industrial workers, including in the coal, other energy, and automotive sectors, and others facing systematic barriers to employment to facilitate participation in the project’s construction and operations. • Ensuring Timely Project Completion Through Workforce and Community Engagement: • Describe current and planned efforts to engage with community and labor stakeholders, including as it relates to the ability to complete the project in the shortest time and with adequate workforce. • Describe current and planned efforts to ensure availability of the workforce needed to successfully complete the project and place it in service in a timely manner, including through considerations of training programs that serve workers currently underrepresented in the sector. • Describe any activities to strengthen support of the community such as through benefit-sharing agreements, consideration of environmental impact, and use of local resources.

Section	Information Requested
	<ul style="list-style-type: none"> • Energy Community Transition: • Describe the extent to which the project will support energy communities, including through transition opportunities for workers in the coal, other energy, and automotive sectors, and through the use of existing infrastructure in energy transition communities. • Local Environmental Impacts: • Describe the impact of your project on local air, water, and/or land quality, as well as any efforts to mitigate local pollution and waste. <p>Determine whether the location or community qualifies as a disadvantaged community according to the <i>Climate and Economic Justice Screening Tool</i> (CEJST).</p>

b) Concept Paper Technical Review Criteria for Critical Material Projects

This section describes the technical review criteria that DOE will use to evaluate concept papers proposing Critical Materials Projects.

Criterion 1: Commercial Viability

- Project schedule and time from certification to completion, based on readiness to proceed with the proposed project and reasonableness of the timeframe required for construction and commissioning of the project.
- The extent to which risk management issues and mitigation strategies are identified and addressed.
- Strength of the proposed business plan, including:
 - Market size and growth potential for each produced critical material;
 - Market share and price competitiveness of each produced critical material; and
 - The source and certainty of funding that will be invested in the project, including equity, private financing, DOE funding, state and local incentives, and other sources.
- Strength of the proposed management plan, including the management team's track record of success in processing, refining, or recycling critical materials and corporate health of the applicant.

Criterion 2: Greenhouse Gas Emissions Impacts

- The extent to which the project will enable emissions reductions associated with the potential to displace higher-emitting incumbent technologies, based on a demonstration that the produced critical material will be used in the manufacturing of technologies eligible under § 48C(c)(1)(A)(i).
- The extent to which the project involves current best-in-class manufacturing or recycling approaches.
- The extent to which the project involves best-in-class and/or innovative equipment, processes, and low-carbon fuels.
- The extent to which the project aligns with the long-term strategy of the United States to achieve net-zero emissions.

Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy

- The extent to which the project would increase availability of materials critical to clean energy products through expanded domestic production capacity or recycling.
- The extent to which the proposed project addresses a critical supply chain need for clean energy products, based on a comparison of the production capacity and the current and anticipated gap between domestic manufacturing capacity and demand for the relevant critical materials.

Criterion 4: Workforce and Community Engagement

- Job Creation and Workforce Continuity:
 - The number of domestic jobs created (both direct and indirect) (a) during completion of the project (the credit period) and (b) during operations of the facility after it is placed in service, including jobs within energy communities (if applicable) attained by locals or individuals previously employed by the local or regional coal industry.
 - The quality and manner in which the proposed project will create and/or retain high-quality, good-paying jobs (both direct and indirect) with employer-sponsored benefits for all classifications and phases of work.
 - The extent to which the applicant engaged key stakeholders to develop partnerships to better serve local and diverse workforce through training and support.
- Ensuring Timely Project Completion Through Workforce and Community Engagement:
 - The extent of current and planned efforts to engage community and labor stakeholders, including as it relates to the ability to execute the project on schedule and with adequate workforce.

- The extent to which workforce recruitment and support of the community for the project have been strengthened through benefit-sharing agreements, consideration of environmental impact, use of local resources, and improved access to employment opportunities for the local workforce.
- **Energy Community Transition:**
 - The extent to which the application includes specific and high-quality actions to support energy communities, including transition opportunities for workers in the coal, other energy, and automotive sectors.
 - The extent to which a project will utilize existing resources or infrastructure that previously supported the local or regional coal industry.
- **Local Environmental Impacts:**
 - The extent to which the proposed project accounts for its environmental impact to the surrounding community by having clear plans to avoid or reduce local air pollution, land contamination, and/or water contamination.
 - The extent to which the application identifies specific, measurable benefits for disadvantaged communities, including energy communities.

ii. Section 48C(e) Applications for Critical Material Projects

a) Section 48C(e) Application Content for Critical Material Projects

This section describes the specific content that applicants must provide in the § 48C(e) application files and appendices for applications proposing critical materials projects. Template files for submitting this information will be provided through the eXCHANGE portal.

Table: Section 48C(e) Application Content Requirements for Critical Material Projects

Section	Information Requested
Project Overview	<p>Provide an overview of the proposed project. At a minimum, include:</p> <ul style="list-style-type: none"> • Company Overview: Describe your company, including prior experience processing, refining, or recycling critical materials. • Project Summary: <ul style="list-style-type: none"> ◦ Describe the proposed manufacturing or recycling facility, including size, location, and other relevant information. ◦ Indicate what the project will accomplish, including: <ul style="list-style-type: none"> ▪ Whether the project will establish, re-equip, or expand a facility. ▪ The specified critical materials, and whether the facility will process, refine, or recycle the specified materials. If the project involves more than one critical material, indicate the project's primary critical material, and any additional critical materials the project will process, refine, or recycle. ▪ Describe the facility's products, including the produced critical material's purity percentage and the clean energy supply chains they will support. ▪ Describe the associated inputs (e.g., raw ore, mine tailings, end-of-life products, waste streams, or other source materials). ◦ Describe in detail the equipment and processes employed at the proposed facility to manufacture or recycle critical materials. <ul style="list-style-type: none"> ▪ If the proposed project re-equips or expands an existing facility, describe clearly what the proposed project will add or change in the existing facility. ▪ To clearly illustrate the proposed facility or proposed changes to an existing facility, applicants are encouraged to submit diagrams and/or images (e.g., a detailed process flow diagram) as appendix materials. ▪ Provide a list of the anticipated eligible property that will make up the qualified investment of the qualifying advanced energy project. ◦ Describe any significant changes to the project that have occurred since the concept paper stage.

Section	Information Requested
Commercial Viability	<p>Project Plan:</p> <ul style="list-style-type: none"> • <i>Project Management and Timeline:</i> <ul style="list-style-type: none"> ◦ Provide a project schedule through operation and achieving full production capacity, which demonstrates how certification requirements will be met within two (2) years of receiving an allocation decision from the IRS, and how the project will be placed in service within two (2) years of such certification. Documentation supporting the project schedule should be submitted as separate appendix materials. ◦ Describe plans to ensure an adequate supply of essential inputs needed for successful operation of the project. ◦ For the following contracts and agreements, summarize key terms and conditions in the narrative and submit copies as appendix materials. A Professional Engineer must inspect and certify the project documents for feasibility and may be an employee of the applicant. <ul style="list-style-type: none"> ▪ Operations and Maintenance Agreement ▪ Shareholders Agreement ▪ Engineering, Procurement and Construction Agreement, including firm price, liquidated damages, holdbacks, and performance guarantees, for example. • <i>Siting and Permitting:</i> Explain the rationale for selection of the project site and provide documentation supporting the applicant's conclusion that the proposed site can fully meet all environmental, water supply, transmission interconnection, and other necessary requirements. Include a complete list of all federal, state, and local permits, including environmental authorizations (if applicable) or reviews necessary to commence construction of the project. Additional documentation that supports key claims may be provided as appendix materials, such as regulatory approvals and signed agreements, letters of intent, or term sheets for supply and product transportation. • <i>Risk Management Plan:</i> Identify project risks or challenges and any relevant strategies for risk mitigation and management, including legal, financial, engineering, procurement, construction risks. Include a discussion of natural disasters (e.g., earthquakes), climate impacts and extreme weather patterns (e.g., tornadoes, hurricanes, heat and freezing temperatures, drought, wildfire, and floods) that may impact the resilience/sustainability of the project. <p>Business Plan: Provide the following financial information for the proposed project, and market and cost information for the facility's products.</p> <ul style="list-style-type: none"> • <i>Financial Information:</i> <ul style="list-style-type: none"> ◦ Submit a cash flow model detailing investments in and cash flows anticipated over the facility's expected lifetime, including a description of the methodology and all assumptions used. ◦ Describe the payback period, net present value (NPV), adjusted present value (APV), and break-even analysis for the project and other financial metrics including but not limited to return on investment and return on assets. ◦ Estimate the project's qualified investment (as determined under § 48C) if the project is certified to receive a credit. The applicant may use any reasonable methodology and assumptions in estimating this amount. ◦ Describe the amount of equity that will be invested in the project, including the sources of such equity and their strengths. Provide any existing equity funding commitments or expressions of interest from equity funding sources for the project as separate appendix materials.

Section	Information Requested
	<ul style="list-style-type: none"> ○ Describe the amount of total debt obligations that will be incurred and the funding sources of all such debt. Include any existing debt funding commitments or expressions of interest from debt funding sources for the project as separate appendix materials. ○ Describe any local, state, or other federal incentives or funds that are being pursued or have been awarded for the proposed project, such as grants, loan guarantees, or tax credits. Also include a description of any instances where any federal agencies or non-federal governmental entities have entered into an arrangement as a customer or offtaker of the project's products or services, or other federal contracts, including acquisitions, leases, and other arrangements, that may indirectly support the applicant's proposed project. • <i>Market Information:</i> <ul style="list-style-type: none"> ○ Describe the markets your products will serve, including the existing market size, dollar volume, and growth potential. If the product can be sold in multiple market segments, describe each one. ○ Discuss the current and anticipated competitiveness of your market, including competing products and competitors. ○ Discuss your sales forecast, including details of any offtake agreements you may have to support your project. Identify confirmed or potential customers who will purchase, lease, or otherwise use the facility's product. Offtake agreements and other documents provided as evidence may be included as appendix materials. ○ Based on the above information, summarize your products' projected market share for the next five years including trends and projections for demand and price, growth potential (short-term and long-term), and strategies to expand your market share (e.g., ways to circumvent market barriers). • <i>Cost Information:</i> <ul style="list-style-type: none"> ○ Provide the estimated cost of your facility's product and how it compares to similar technologies or materials in the same market segment, including new and recycled products. This should be expressed in the same units as annual production (e.g., \$/watt, \$/kilowatt-hour, and \$/ton) per the instructions in the 48C Application Data Sheet. Applicants should include the absolute difference and percentage change from a reasonable domestic industry average. ○ Calculate the levelized cost of generated critical materials. Instructions for calculating levelized cost metrics are provided in Section V. Explain the methodology and assumptions used in the § 48C(e) application narrative. <p>Management Plan: Provide the following information for the company and key management team members:</p> <ul style="list-style-type: none"> • Describe the ownership structure of the company, including all beneficiaries. • List key management and senior personnel for the project, including the names, positions or titles, qualifications, and relevant experience. Resumes may be included as combined appendix materials, preferably in an Adobe PDF document labeled Resumes.pdf. • Describe the unique capabilities and expertise of the applicant and any major project partners, including debt or equity sponsors, contractors/vendors (if known), and any other counterparty that the applicant believes will enable the project to be successful, as well as the prior experience of the applicant and any major project partners in similar undertakings to the proposed project. • Summarize any pending or threatened (in writing) action, suit, proceeding, or investigation, including any action or proceeding by or before any governmental authority, that relates to the senior/key personnel, and the status of any appeals. • Describe any corporate health indicators, including legal claims or liabilities, planned debt restructuring, planned corporate actions, and other factors that could negatively affect the likelihood of project completion. Provide a copy of audited financial statements for the applicant and other projected funding sources for the most recently ended three (3) fiscal years, and the unaudited quarterly interim financial statements for the current fiscal year, as separate appendix materials. If all three years of audited statements are not available, provide all available statements and any additional information or appendices that provide similar evidence of corporate health.

Section	Information Requested
Greenhouse Gas Emissions Impacts	<p>Greenhouse Gas Emissions Impacts of the Facility's Products:</p> <ul style="list-style-type: none"> • End Product Impacts: Describe the end-use application of facility's products and how their use contributes to GHG emissions reduction or avoidance by advancing the adoption of clean energy or other low-carbon products and technologies, such as the advanced energy property described in 48C(c)(1)(A)(i). Include internal or external analysis to substantiate indirect emissions benefits. <p>Greenhouse Gas Emissions from the Facility: At a minimum, include:</p> <ul style="list-style-type: none"> • <i>Direct Emissions:</i> Qualitatively and quantitatively characterize the anticipated sources of GHG emissions in the processing, refining, or recycling process (e.g., fuel use, process emissions). Emissions should be provided in the 48C Application Data Sheet using the methodology described in Section V, and input assumptions should be justified with publicly available data and engineering studies. Explain any significant differences between direct emissions from the facility and industry averages. • <i>Facility Performance:</i> Provide any details about the processing, refining, or recycling process (e.g., efficiency and lifetime) that indicate its potential to result in lower emissions than leading competitors or incumbents. Wherever possible, the applicant should substantiate assessments of process improvements with analysis or engineering studies, which should be described in the narrative and may be submitted as separate appendix materials. • <i>Mitigation Efforts:</i> Describe any planned efforts to mitigate GHG emissions of the proposed facility. • <i>Company Commitments and Track Record:</i> Describe any company commitments or experience reducing GHG emissions of critical material processing, refining, or recycling facilities.
Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy	<ul style="list-style-type: none"> • Output of Your Facility: Describe the proposed facility's critical material products and projected annual production for each. In the case of retrofitting, re-equipping, or expanding an existing facility, indicate how the project will alter the facility's annual output. In the 48C Application Data Sheet, submit the relevant annual production information for each critical material produced in the proposed facility and then justify each in the § 48C(e) Application narrative. • Inputs to Your Facility: Describe key inputs needed for your processing, refining, or recycling process, such as source materials (e.g., raw ore, brines, mine tailings, end-of-life products, or waste streams). Describe any known sources for your inputs and indicate domestic sources. Describe any current or anticipated supply chain vulnerabilities. • Supply Chain Resilience: Describe how your proposed facility's products will help build resilience of domestic supply chains that are critical for energy products that facilitate progress towards a net-zero economy, from raw materials to end-of-life. For instance, critical materials producers intending to serve the battery market should indicate the extent to which their project supports the electric vehicle or stationary energy storage supply chains, as opposed to consumer electronics. Describe whether these products align with U.S. federal, state, or local domestic content requirements, such as those in the § 30D tax credit. Reference any offtake or sales arrangements provided in the Commercial Viability Criterion section to justify the end-use applications and, where possible, include these in the appendix. • End-Use Applications: Indicate whether the facility's products will be used in multiple clean energy products (e.g., wind, solar, and electric grid) or multiple sectors (e.g., transportation, industry, and electricity) that facilitate progress towards a net-zero economy.

Section	Information Requested
Workforce and Community Engagement (Submitted as a separate PDF document)	<p>Describe your plan for contributing to job creation and ensuring project viability, timely completion, and ultimate success by fostering a stable and supportive workforce and host community. Applicants are encouraged to use Specific, Measurable, Achievable, Relevant, and Timely (SMART) milestones wherever possible and where relevant. At a minimum, include:</p> <p>Job Creation and Workforce Continuity: Describe the applicant’s approach to creating and maintaining high-quality jobs for both new and incumbent workers.</p> <ul style="list-style-type: none"> • <i>Characterize and estimate</i> the number of jobs your project will create (e.g., mechanics and construction workers), including both direct and indirect jobs both during completion of the project (the credit period) and during operation of the facility after it is placed in service and any indicators of job quality. • Describe partnerships with apprenticeship readiness programs, or community-based workforce training and support organizations serving displaced industrial workers, including in the coal, other energy, and automotive sectors, and others facing systematic barriers to employment to facilitate participation in the project’s construction and operations. • Summarize the applicant’s plan to attract, train, and retain a skilled and well-qualified workforce both during completion of the project (the credit period) and during operation of the facility after it is placed in service. A collective bargaining agreement, labor-management partnership, or other similar agreement would provide evidence of such a plan. Alternatively, applicants may describe: <ul style="list-style-type: none"> ◦ Wages, benefits, and other worker supports to be provided as benchmarking against prevailing wages for construction and local median wages for other occupations; ◦ Commitments to invest in workforce education and training, including measures to reduce attrition, increase productivity from a committed and engaged workforce, and support the development of a resilient, skilled, and stable workforce for the project; and ◦ Efforts to engage employees in the design and execution of workplace safety and health plans. • Describe employees’ ability to organize, bargain collectively, and participate, through labor organizations of their choosing, in decisions that affect them. This contributes to the effective conduct of business and facilitates amicable settlements of any potential disputes between employees and employers, providing assurances of project efficiency, continuity, and multiple public benefits. In the description, explain whether workers can form and join unions of their choosing, and how they will have the opportunity to organize with the purposes of exercising collective voice in the workplace. <p>Ensuring Timely Project Completion Through Workforce and Community Engagement: Describe current and planned efforts to engage with community and labor stakeholders, including as it relates to strengthening support of the community, workforce recruitment, and the ability to execute the project on schedule and with adequate workforce.</p> <ul style="list-style-type: none"> • Provide a comprehensive list of stakeholders that the project plans to engage from local governments, Tribal governments, labor unions, and community-based organizations. • Describe current and planned efforts to engage with listed stakeholders, including as it relates to the ability to complete the project in the shortest time and with adequate workforce. • Describe current and planned efforts to ensure availability of the workforce needed to successfully complete the project and place it in service in a timely manner, including through training programs that serve workers currently underrepresented in the sector.

Section	Information Requested
	<ul style="list-style-type: none"> Describe any activities to strengthen support of the community such as through benefit-sharing agreements, consideration of environmental impact, and use of local resources. Discussions should reference Workforce and Community Engagement Agreements, or any plans to develop such agreements, from representative organizations reflecting substantive engagement and feedback on applicant's approach to community and labor engagement. Examples of such agreements are Good Neighbor Agreements/Community Benefits Agreements, Collective Bargaining Agreements, Project Labor Agreements or Community Workforce Agreements. Actual agreements must be provided in the submission package as appendix files. <p>Energy Community Transition: Describe the extent to which the project will support energy communities.</p> <ul style="list-style-type: none"> Describe plans to utilize existing local and regional resources that previously supported the local or regional coal, other energy, or automotive industries, including through transition opportunities for workers in the coal, other energy, and automotive sectors into clean energy industries. If applicable, include discussion on plans to repurpose existing infrastructure/assets that have been abandoned due to the closing of a coal mine or coal plant. <p>Local Environmental Impacts: Describe the impact of your project on local air, water, and/or land quality, as well as any efforts to mitigate local pollution and waste.</p> <ul style="list-style-type: none"> Discuss any anticipated negative and cumulative environmental impacts of the project, including impacts on local air, water, and/or land quality. Describe any efforts to mitigate local pollution and waste. Determine whether the location or community qualifies as a disadvantaged community according to the <i>Climate and Economic Justice Screening Tool</i> (CEJST). Within the context of cumulative environmental impacts, applicants should use the U.S. Environmental Protection Agency's Environmental Justice Screening and Mapping (EJSCREEN) tool (https://www.epa.gov/ejscreen) to quantitatively discuss existing environmental impacts in the project area. If anticipated project benefits will flow to an applicable disadvantaged community, identify applicable benefits that are quantifiable, measurable, and trackable, such as: <ul style="list-style-type: none"> (1) A decrease in energy burden; (2) A decrease in environmental exposure and burdens; (3) An increase in access to low-cost capital; (4) An increase in high-quality job creation, the clean energy job pipeline, and job training for individuals; (5) Increases in clean energy enterprise creation and contracting (e.g., through investment in underserved and underrepresented businesses); (6) Increases in energy democracy, including community ownership; (7) Increased parity in clean energy technology access and adoption; and (8) An increase in energy resilience. In addition, applicants should also discuss how the project will maximize all of the benefits listed above. Describe how and when anticipated benefits are expected to flow to the disadvantaged community. For example, will the benefits be provided directly within the disadvantaged communities identified, or are the benefits expected to flow in another way? Further, will the benefits flow during project development or after project completion, and how will applicant track benefits delivered?

b) Section 48C(e) Application Technical Review Criteria for Critical Material Projects

This section describes the technical review criteria that DOE will use to evaluate § 48C(e) applications proposing Critical Material Projects.

Criterion 1: Commercial Viability

- Project schedule and time from certification to completion
 - Readiness to proceed with the proposed project as evidenced by firmness of site selection and progress towards securing required permits, contracts, reviews, and agreements.
 - Reasonableness of the timeframe required for construction and commissioning of the project, including interim milestones and overall timeline.
- The extent to which risk management issues and mitigation strategies are identified and addressed, including the level of contingency proposed to address risk.
- Strength of the proposed business plan, including:
 - The potential for commercial deployment, based on estimates of market share, market growth potential, and price competitiveness of the product
 - The source and certainty of funding for the equity that will be invested in the project, including private financing, DOE funding, state and local incentives, and other sources
 - The strength of key arrangements, such as financing, acquisition/supply strategy, and power purchase agreements for the proposed project, as well as offtake (sales) arrangements for the facility's products.
 - The degree to which the application justifies the proposed project's economic viability, sustainability, and potential growth.
 - The degree to which the investment is profitable, based on the proposed budget and spend plan, as well as described cash flow analysis of the project.
 - The leveled cost of the produced critical materials, or similar metric, compared to similar critical materials within the same market segment.
- Strength of the proposed management plan, including the management team's track record of success in areas relevant to the project and corporate health of the applicant.

In assessing each item above, the following will be considered: (a) the comprehensiveness, specificity, and accuracy of the information and plans provided; (b) the reasonableness of assumptions used in making estimations and projections; and (c) the extent to which the applicant demonstrates an understanding of relevant risks and the quality of the strategies put forward to mitigate and manage those risks.

Criterion 2: Greenhouse Gas Emissions Impacts

- The extent to which the critical material produced in the facility would facilitate a reduction in anthropogenic emissions of GHGs by being utilized in the production of advanced energy property, such as those technologies eligible under § 48C(c)(1)(A)(i).
- Use of current best-in-class manufacturing approaches and innovative, low-emissions equipment, fuels, materials, or processes, as demonstrated through project planning documents, front-end engineering and design studies, or otherwise.
- Plans to align with the national target of net-zero emissions by 2050, including efforts to reduce both direct (Scope 1) and indirect, upstream fuel- and energy-related (Scope 2) emissions over the lifetime of the facility.
- Efforts to reduce emissions in the upstream supply chain (e.g., through contracts with low-emissions suppliers).
- Activities to monitor facility emissions and energy use, including through any relevant voluntary or required reporting protocols (e.g., EPA's Greenhouse Gas Reporting Program).

Criterion 3: Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy

- The extent to which the project would increase availability of materials critical to clean energy products through expanded domestic production capacity or recycling.
- The extent to which the proposed project addresses a critical supply chain need, based on a comparison of the production capacity and the current and anticipated gap between domestic manufacturing capacity and demand for the relevant critical materials.
- The extent to which the project will support and encourage follow-on supply chain investments in the region.
- The extent to which the project promotes long-term U.S. manufacturing competitiveness, based on projected commercial use cases for the produced critical materials within clean energy technology supply chains; the feasibility of delivering market-ready products at the stated annual production levels, the efficiency, emissions, or productivity of the facility beyond the state-of-the-art; and the potential to avoid or reduce end-of-life waste from the facility or final product through the use of alternative processes, technologies, or materials.

Criterion 4: Workforce and Community Engagement

- **Job Creation and Workforce Continuity:**
 - The number of domestic jobs created (both direct and indirect) (a) during completion of the project (the credit period) and (b) during operation of the facility after it is placed in service, including jobs within energy communities (if applicable) attained by locals or individuals previously employed by the local or regional coal industry.
 - The quality and manner in which the proposed project will create and/or retain high- quality, good-paying jobs (both direct and indirect) with employer-sponsored benefits for all classifications and phases of work.
 - The extent to which the applicant engaged key stakeholders to develop partnerships to better serve local and diverse workforce through training and support.
 - The extent to which the project provides employees with the ability to organize, bargain collectively, and participate, through labor organizations of their choosing, in decisions that affect them and that contribute to the effective conduct of business and facilitates amicable settlements of any potential disputes between employees and employers, providing assurances of project efficiency, continuity, and multiple public benefits.
 - The extent to which applicant demonstrates that they are a responsible employer, with ready access to a sufficient supply of appropriately skilled labor, and an effective plan to minimize the risk of labor disputes or disruptions.
- **Ensuring Timely Project Completion Through Workforce and Community Engagement:**
 - The extent of current and planned efforts to engage community and labor stakeholders, including as it relates to the ability to execute the project on schedule and with adequate workforce.
 - The extent to which workforce recruitment and support of the community for the project have been strengthened through benefit-sharing agreements, consideration of environmental impact, use of local resources, and consideration of workforce and improved access to employment opportunities for the local workforce.
 - The extent to which the applicant demonstrates community and labor engagement to date that results in support of the community for the proposed project and availability and maintenance of the necessary workforce.
 - The extent to which the applicant has a clear and appropriately robust plan to engage—ideally through a clear commitment to negotiate an enforceable Workforce and Community Agreements—with labor unions, Tribal entities, and community-based organizations that support or work with disadvantaged communities and other affected stakeholders.
 - The extent to which the applicant has considered accountability to affected workers and community stakeholders, including those most vulnerable to project activities with a plan to publicly share Workforce and Community Engagement plan commitments.
 - Extent to which a project will generate economic prosperity in the local community.
- **Energy Community Transition:**
 - The extent to which the application includes specific and high-quality actions to support energy communities, including transition opportunities for workers in the coal, other energy, and automotive sectors into clean energy transition opportunities.
 - The extent to which a project will utilize existing local and regional resources that previously supported the local or regional coal industry or repurpose existing infrastructure/assets that have been abandoned due to closing of a coal mines or coal plant.
- **Local Environmental Impacts:**
 - The extent to which the proposed project accounts for its environmental impact to the surrounding community by having clear plans to avoid or reduce local air pollution, land contamination, and/or water contamination.
 - The extent to which the applicant identifies specific, measurable benefits for disadvantaged communities, how the benefits will flow to disadvantaged communities, and how negative environmental impacts affecting disadvantaged communities would be mitigated.

IV. DOE Recommendation Process

The final outcome of each stage of the DOE review process is to develop a recommendation and ranking (DOE recommendation) of projects. DOE will provide a recommendation and ranking for a project only if it determines that the application meets all requirements described in this guidance, and that the project is eligible, has a reasonable expectation of commercial viability, merits a recommendation, and supports program policy factors when considering the full portfolio of recommended projects.

A. Program Policy Factors

In addition to the criteria described in Section III, DOE may also consider the following program policy factors when determining the DOE recommendation.

- The degree to which the proposed project contributes to a portfolio that optimizes the use of available credit amounts to address existing or anticipated gaps, vulnerabilities, or opportunities and to expand domestic manufacturing capacity in priority supply chains in a timely manner.

- The degree to which the proposed project contributes to a portfolio that enables the highest potential for GHG emissions reductions and the enhancement of American competitiveness in a global net-zero economy.
- The degree to which the proposed project exhibits technological and product diversity when compared to other projects recommended for allocation.
- The degree to which the proposed project contributes to portfolio diversity within a project category and across project categories.
- The degree to which the proposed project contributes to a portfolio that supports a diversity of organizational sizes, including small- and medium-sized manufacturers.
- The degree to which the proposed project is likely to contribute to a long-term, place-based, coordinated, and collaborative regional economic development strategy.
- The degree to which the proposed project, or group of projects, represent a desired geographic distribution, when compared to other projects recommended for allocation.
- The degree to which the proposed project will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of financial uncertainty.
- The degree to which the proposed project contributes to a portfolio of recommended projects with at least 40% of credits allocated to projects in energy communities, as described in § 48C(e)(2).
- The degree to which the proposed project, and other projects recommended for allocation, contributes to the total portfolio meeting the goals reflected in the Workforce and Community Engagement technical review criterion.
- The degree to which the proposed project has broad public support from the communities most directly impacted by the project.
- The degree to which the project contributes to a portfolio that meets the goals reflected in the Workforce and Community Engagement technical review criterion by producing additional benefits to communities, particularly disadvantaged communities, such as reducing co-pollutants and other environmental (e.g., air and water) burdens.

B. DOE Recommendations

i. Concept Paper Recommendations

For the concept paper stage, the DOE recommendation will include all projects that are encouraged to submit a § 48C(e) application. Projects that are not included in the DOE recommendation will receive a letter of discouragement. An applicant that receives a letter of discouragement in response to a submitted concept paper may still submit a § 48C(e) application in accordance with this guidance. Receiving such a letter does not disqualify an applicant from submitting a § 48C(e) application but represents DOE's feedback that the project is unlikely to receive a recommendation based on the information provided in the concept paper.

ii. Section 48C(e) Application Recommendations

For the § 48C(e) application stage, the DOE recommendation will include the portfolio of projects that help to achieve the goals of the program. This recommendation will be based on a combination of the numeric score from the technical review process, as well as the application of the above program policy factors.

V. Additional Instructions on the Data Sheet Submission

To capture and process information submitted in the concept paper and § 48C(e) application, applicants are required to fill out and submit the supplementary Concept Paper Data Sheet and 48C Application Data Sheet, respectively. The above sections on content and form of concept papers and § 48C(e) applications indicate which categories of information will be captured in the data sheet. This section provides explanations and examples on select terms for which the applicant may benefit from additional information. This list is not exhaustive, and each project category will have its own Data Sheet template for the concept paper and § 48C(e) application stages. **Refer to the relevant Data Sheet for specific information requested relevant to your project.**

Applicants should substantiate in their narrative any data which is inputted into either Data Sheet. It is essential that applicants conform to this process in order to ensure a competitive review of all proposals.

A. Production Capacity Metrics

Annual production	This term represents projected (not peak) annual product output of the facility in the relevant units. For critical materials and industrial facilities, this is typically represented in tons. For clean energy technologies, the data sheet will provide a section with the appropriate units in terms of energy output or savings (e.g., MW, MWh, and kVA). Applicants are required to justify the claimed production in their narrative by providing yield loss and throughput data wherever applicable and possible.
Share of facility output <i>(Clean Energy Manufacturing and Recycling Projects only)</i>	This term, which applies only to clean energy manufacturing projects, represents the portion of the facility output that produces eligible clean energy products as opposed to other applications. Where possible, applicants manufacturing multiple products or products with multiple applications should utilize offtake agreements to demonstrate the portion that will go to eligible applications. For example, an application for a facility that will produce bearings, 60% of which will be for wind turbines and 40% for diesel-powered heavy machinery would count only the 60% proportion of output for wind turbines as its share of facility output for determining the qualified investment in the qualifying advanced energy project.
Manufacturing contribution <i>(Clean Energy Manufacturing and Recycling Projects only)</i>	This term identifies the value added in the production of the product delivered by the facility, as a fraction. For instance, a c-Si solar cell producer's Manufacturing Contribution would not include the value of inputs (e.g., wafers) or the other components of a solar power installation (e.g., glass, frames, backsheets, inverters, racking, tracking). Applicants should transparently state and justify, with citations wherever possible, current and future pricing assumptions for all significant value chain segments, including the product produced at the proposed facility.
Real-world annual performance <i>(Clean Energy Manufacturing and Recycling Projects only)</i>	This term is a rating factor that applies to the performance of the real-world application into which the products produced by the facility are deployed. It varies by technology but incorporates any necessary de-rating factors, including capacity factors, lifecycle assessments, and degradation rates, such that the claimed performance is reflective of the average annual performance of the clean energy installations. Where appropriate, typical resource and use conditions should be selected from the reference data provided in the Assumptions tab of the 48C Application Data Sheet. If the necessary reference data is not available or representative of the applicant's specific product, the applicant should provide and substantiate assumptions with market reports and/or field data where possible.
Deployed product lifetime <i>(Clean Energy Manufacturing and Recycling Projects only)</i>	This term represents the service lifetime of the products produced by the facility (not the lifetime of the facility itself). The applicant should provide and substantiate assumptions with market reports and/or field data where relevant.

B. Jobs Metrics

Direct construction jobs	<p>This entry will allow applicants to list the type and quantity of direct full-time employees in construction-related jobs. Direct construction jobs are those that are billed to the project and do not include indirect or induced jobs, such as suppliers, producers of equipment or services used in the project, accounting or administrative services, end-use installers, or operating jobs at the facility but unrelated to the project.</p> <p>Applicants will be asked to indicate whether these construction jobs meet the wage and apprenticeship requirements.</p>
Direct operations jobs	<p>This entry will allow applicants to list the type and quantity of direct full-time employees in operations-related jobs at the facility. Direct operations jobs are those that support the eligible manufacturing, recycling, or production activity at the facility, such as technicians, supervisors, engineers, quality control specialists, office staff, and more.</p> <p>In the case of re-equipped facilities, applicants will be asked to indicate both current and future operations jobs (e.g., to capture job loss, retention, or growth).</p>

C. Emissions Metrics

Estimated facility emissions for existing sites	<p>This entry should reflect the most recent assessment of annual emissions from the existing manufacturing, recycling, or industrial facility. Submissions should be provided in total metric tons CO₂e (not normalized to production output) for the most recent year. For facilities with non-CO₂ emissions, these may be converted to CO₂e using EPA’s Greenhouse Gas Equivalencies Calculator (which utilizes global warming potential from IPCC’s Fourth Assessment Report).</p> <ul style="list-style-type: none"> To estimate emissions from a manufacturing facility, applicants are expected to enter direct (Scope 1) and indirect fuel- and energy-related (Scope 2) greenhouse gas emissions information in the appropriate tabs in the Data Sheet, which are based on the <i>EPA Greenhouse Gas Reporting Protocol</i> and EPA’s Simplified GHG Emissions Calculator (https://www.epa.gov/climateleadership/simplified-ghg-emissions-calculator). <ul style="list-style-type: none"> Scope 1 emissions include emissions from fuel combustion and chemical processes. Scope 2 emissions will be calculated on the basis of fuel and electricity consumption. DOE may adjust emissions factors over time to reflect anticipated changes in electricity and fuel characteristics beyond the facility’s control (e.g., grid decarbonization). Applicants that wish to qualify on the basis of a 20% emissions reduction in a particular unit of a facility may also choose to submit current emissions associated with that unit but must still also provide facility-wide metrics. In addition to the Data Sheet, large industrial facilities with existing GHGRP reports are expected to also submit their GHG emissions figures from the most recent calendar year, expressed in metric tons of CO₂ equivalent, as available in the FLIGHT tool (https://ghgdata.epa.gov/ghgp/).
Estimated future facility emissions for new, expanded, or re-equipped facilities	<p>This entry is an estimate of the future annual emissions after the § 48C(e) project. Submissions should be provided in metric tons CO₂e. For facilities with non-CO₂ emissions, these may be converted to CO₂e using EPA’s Greenhouse Gas Equivalencies Calculator.</p> <p>The applicant is expected use the same methodology as in the calculation of the current facility emissions.</p> <p>For GHG Emissions Reduction projects, the retrofit must enable Scope 1, Scope 2, or subunit reductions of at least 20% for a project to be eligible. However, applications will be evaluated on their combined Scope 1 and Scope 2 impacts facility wide.</p>
Emissions reduction (%) (<i>Greenhouse Gas Reduction Projects only</i>)	<p>This entry will be calculated in the Data Sheet by subtracting from 1 the ratio between the estimated future annual facility emissions, after the retrofit, and the current annual facility emissions. The reduction must be greater than 20% in Scope 1, Scope 2, or subunit emissions for a project to be eligible. However, applications will be evaluated on their combined Scope 1 and Scope 2 impacts facility-wide.</p>
Lifecycle analysis, well-to-gate lifecycle emissions rate, and other product details (<i>Clean Energy Manufacturing and Recycling Projects only</i>)	<p>For certain technologies, emissions impacts of the ultimate product may vary significantly based on their ultimate use. For instance, electric vehicle batteries can have very different impacts on the basis of their application and specifications (e.g., vehicle class, lifetime, and range). The Data Sheet will contain default assumptions for all of these figures. However, in many cases, applicants will have an opportunity to enter an alternative figure and justify that in the application narrative.</p> <p>Manufacturers of equipment to refine, blend, or electrolyze renewable and low-carbon and low-emissions fuels, chemicals, and products (§ 48C(c)(1)(A)(i)(V)) will be asked to submit product well-to-gate Lifecycle Analyses (LCAs) in the 48C Application Data Sheet. Assumptions will be provided for many common products, but the applicant may also use a methodology associated with related tax credits (e.g., the § 45V and § 40B tax credit programs), Argonne National Lab’s GREET Model (https://greet.es.anl.gov), or a comparable industry methodology, to calculate an alternative and justify that in the application narrative.</p>
Process changes (<i>Greenhouse Gas Reduction Projects only</i>)	<p>Select whether the retrofit involved energy efficiency, electrification, LCCFES, material efficiency or substitution, CCUS, others, or multiple approaches.</p>

D. Technological or Cost Advantage

The 48C Application Data Sheet requires applicants to identify their technological or cost advantage over competitors with respect to the most relevant figure of merit. Ideally this is an apples-to-apples comparison between similar property of similar function. For example, a wind blade manufacturer might compare the performance and cost of the proposed blade manufacturing to current commercially manufactured blades. For a GHG reduction project that involves a carbon capture retrofit, a manufacturer might compare the performance and cost of their proposed carbon capture system to installed carbon capture systems elsewhere in the market.

Although high level metrics such as levelized costs can capture this cost advantage, applicants are encouraged to select a lower-level metric (i.e., \$/W, \$/Unit, and efficiency) and later discuss the impact this granular cost advantage has upon the levelized cost. If the applicant's manufactured property has multiple advantages over currently manufactured property, the applicant should select and quantify the most significant advantage in the 48C Application Data Spreadsheet while discussing all technological and cost advantages in their narrative.

E. Levelized Cost

The 48C Application Data Sheet requires applicants to identify their levelized cost of energy and/or emissions abatement, where applicable.

The levelized cost of energy (LCOE) and levelized cost of emissions abatement (LCEA) are measures of the average net present cost of advanced energy property over its deployed lifetime. LCOE or LCEA is required only for Clean Energy Manufacturing and Recycling facilities that produce equipment to generate, store, or avoid energy or GHG emissions, and is not relevant for direct greenhouse gas reduction retrofits or critical material projects. The LCOE/LCEA calculation should assume that the facility's products are part of a final clean energy installation and, where appropriate, be based on the financial and resource assumptions provided in the 48C Application Data Sheet or the suggested tools below. The 48C Application Data Sheet will provide stock information, such as inflation rates, taxes and insurance, and depreciation. LCOE should be expressed in nominal terms and should not include any federal, state, or other financial incentives. Further, plant and related cost values and prices of commodity fuels or feedstocks used in the calculation should reflect current national wholesale averages where possible.

The following information should be provided as documentation:

- Brief description of the methodology used as the basis for the calculation. This methodology should be a commonly accepted industry standard.
- Identification and brief rationale for the source of key values used in the calculation, including capital or first costs, operating and maintenance costs, prices of commodity fuels or feedstocks, and carbon emissions associated with the operation of the end-use energy product.
- Justification for any use of a resource-related parameter (e.g., capacity factor) different than the national averages provided.
- In the case of LCEA, identification and brief rationale for the key values associated with the baseline energy mix, including the cost of generation and carbon emissions.
- Explanation of any factors impacting the levelized cost that could not be quantified and included in the calculation, and their potential directional effect on the resulting cost (i.e., increase or decrease).
- Explanation of any relationship between the cost of the manufactured property and the performance of the end use energy product.
- If possible, an "unimproved" levelized cost calculation that does not reflect the input of the manufactured property (e.g., relies on the competitive standard of the day), based on the same financial and resource assumptions used in the "improved" calculation.

Suggested LCOE Tools:

- **System Advisor Model** (<https://sam.nrel.gov>): The National Renewable Energy Laboratory (NREL), in conjunction with Sandia National Laboratory and in partnership with DOE's Solar Program developed the System Advisor Model (SAM). The model evaluates several types of financing (from residential to utility-scale) and a variety of technology-specific cost models for several technologies, including solar photovoltaics, concentrated solar power, solar water heating, wind, geothermal, battery storage, and marine energy.
- **Simple Levelized Cost of Energy (LCOE) Calculator** (<https://www.nrel.gov/analysis/tech-lcoe.html>): The NREL Energy Analysis team's LCOE calculator allows the comparison of capital costs, operations and maintenance, performance, and fuel costs. This does not include more complex financial metrics, discount rates, degradation costs, or other inputs needed for a full LCOE. For more detailed analysis, projects should use the System Advisor Model above.

- **Hydrogen Financial Analysis Scenario Tool** (<https://www.nrel.gov/hydrogen/h2fast.html>): The Hydrogen Financial Analysis Scenario Tool, H2FAST, provides a quick and convenient in-depth financial analysis for hydrogen and nonhydrogen systems and services. H2FAST is available as a downloadable Excel spreadsheet. The model uses a generally accepted accounting principles analysis framework and provides annual projections of income statements, cash flow statements, and balance sheets.

If the applicant chooses to provide an LCOE or LCEA value for the closest comparable end use energy product from a published study, the following information should be provided as documentation:

- Explanation of why a value either could not be calculated or was not appropriate to calculate for the end-use energy product.
- Brief description of the methodology used in the cited study.
- Identification of key assumptions used in the study, including the year basis for which the cost is reported (if the cost is reported in real terms; e.g., \$2011), the year of costs and prices of fuel commodities, the year to which the end cost value is referenced (e.g., could be a future year), the extent of technology improvement assumed for the comparable end use energy product, the regional extent of the baseline assumed (e.g., global, the United States, or a region of United States), the carbon emissions associated with the baseline energy mix and the end-use energy product, the key financial assumptions (e.g., interest rates, taxes, and incentives included), and the resource-related parameters (e.g., capacity factors).
- Explanation of how the above assumptions differ from those provided above for guiding the calculation of the cost of abatement, and the potential directional effect of these differences on the study's cost value (i.e., if the aforementioned assumptions required for cost of abatement calculation had been used, explain whether the study's cost value likely have increased or decreased).

VI. Section 48C(e) Application Appendix Files

In the § 48C(e) application stage, the applicant should include such appendices as are applicable to the project. In addition to items specifically requested in Section III and the 48C Application Data Sheet, examples of appropriate appendix materials include:

- Copy of internal or external engineering reports. An example would be a front-end engineering and design (FEED) study for an industrial retrofit project.
- Copy of site plan, together with evidence that applicant owns or controls a site. Examples of evidence would include a deed, or an executed contract to purchase or lease the site.
- Lists of all federal, state, and local permits, including environmental authorizations or reviews, necessary to commence construction.
- Information supporting applicant's conclusion that the site is fully acceptable as the project site for a qualifying advanced energy project and for its intended use.
- Applicant expressions of interest or commitment letters from equity and debt financing sources.
- Expressions of interest or commitment letters from potential customers.
- Project diagrams e.g., process flow diagrams.
- Financial statements.
- Off-take agreements.
- Workforce and Community Engagement Agreements, such as Good Neighbor Agreements/Community Benefits Agreements, Collective Bargaining Agreements, Project Labor Agreements or Community Workforce Agreements.
- Letter of significant change in plans.

VII. Questions/Comments and Informational Webinar

A. Informational Webinar

DOE will conduct one or more informational webinars during the application process. They will be held after the initial additional guidance is released but before the due date for the § 48C(e) application.

Attendance is not mandatory and will not positively or negatively impact the review of any applicant submissions. As the webinar will be open to all applicants who wish to participate, applicants should refrain from asking questions or communicating information that would reveal confidential and/or proprietary information specific to their project.

The informational webinar will be held no later than June 30, 2023. Additional information including a link for registration can be found at <https://www.energy.gov/infrastructure/48C>.

B. Questions and Comments

Any questions or comments regarding the non-tax aspects of this notice can be submitted to the Department of Energy at 48CQuestions@hq.doe.gov. DOE may post questions and answers related to this notice on the eXCHANGE portal at <https://48C-exchange.energy.gov> (select 48C from the list of options to view questions and answers specific to the notice). Any questions or comments received under this notice are subject to public release pursuant to the Freedom of Information Act. DOE is under no obligation to respond to, or acknowledge receipt of, any questions or comments submitted under this notice and any responses provided do not constitute legal advice provided by either DOE or the IRS.

Questions related to the eXCHANGE portal should be directed to InfrastructureExchangeSupport@hq.doe.gov. This includes questions about account registration or using the portal. Questions regarding application materials, eligibility, the DOE review process, or other programmatic questions not about the portal should not be sent to this email address.

APPENDIX C
Section 48C(e) Energy Communities Census Tracts

Census tracts that have ever had, since December 31, 1999, a closed coal mine or have ever had, since December 31, 2009, a retired coal-fired electric generating unit, and directly adjoining tracts, except for census tracts with applicants that previously received a § 48C credit allocation prior to the date of enactment of the IRA.

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Alabama	Baldwin County	1003010100	Directly adjoining
Alabama	Bibb County	1007010001	Mine closure, Directly adjoining
Alabama	Bibb County	1007010005	Directly adjoining
Alabama	Bibb County	1007010006	Mine closure, Directly adjoining
Alabama	Bibb County	1007010007	Directly adjoining
Alabama	Bibb County	1007010008	Mine closure, Directly adjoining
Alabama	Bibb County	1007010009	Directly adjoining
Alabama	Bibb County	1007010010	Directly adjoining
Alabama	Bibb County	1007010011	Directly adjoining
Alabama	Blount County	1009050104	Directly adjoining
Alabama	Blount County	1009050200	Directly adjoining
Alabama	Blount County	1009050502	Directly adjoining
Alabama	Blount County	1009050601	Directly adjoining
Alabama	Blount County	1009050603	Directly adjoining
Alabama	Blount County	1009050701	Directly adjoining
Alabama	Blount County	1009050702	Mine closure
Alabama	Cherokee County	1019955701	Directly adjoining
Alabama	Cherokee County	1019956101	Directly adjoining
Alabama	Chilton County	1021060404	Directly adjoining
Alabama	Clarke County	1025957901	Directly adjoining
Alabama	Clarke County	1025957902	Directly adjoining
Alabama	Clarke County	1025958003	Directly adjoining
Alabama	Colbert County	1033020500	Directly adjoining
Alabama	Colbert County	1033020600	Directly adjoining
Alabama	Colbert County	1033020901	Directly adjoining
Alabama	Colbert County	1033020902	Generating unit retirement
Alabama	Colbert County	1033021000	Directly adjoining
Alabama	Cullman County	1043965501	Directly adjoining
Alabama	Cullman County	1043965502	Directly adjoining
Alabama	Cullman County	1043965600	Directly adjoining
Alabama	Cullman County	1043965700	Mine closure, Directly adjoining
Alabama	DeKalb County	1049960102	Directly adjoining
Alabama	DeKalb County	1049960200	Directly adjoining
Alabama	Fayette County	1057020000	Directly adjoining
Alabama	Fayette County	1057020100	Directly adjoining
Alabama	Fayette County	1057020300	Directly adjoining
Alabama	Fayette County	1057020400	Mine closure, Directly adjoining
Alabama	Franklin County	1059973100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Alabama	Franklin County	1059973702	Directly adjoining
Alabama	Franklin County	1059973703	Directly adjoining
Alabama	Jackson County	1071950101	Directly adjoining
Alabama	Jackson County	1071950102	Mine closure, Directly adjoining
Alabama	Jackson County	1071950200	Directly adjoining
Alabama	Jackson County	1071950301	Mine closure, Directly adjoining
Alabama	Jackson County	1071950302	Generating unit retirement, Directly adjoining
Alabama	Jackson County	1071950400	Directly adjoining
Alabama	Jackson County	1071950601	Directly adjoining
Alabama	Jackson County	1071950901	Directly adjoining
Alabama	Jackson County	1071951000	Mine closure, Directly adjoining
Alabama	Jackson County	1071951101	Directly adjoining
Alabama	Jefferson County	1073011206	Directly adjoining
Alabama	Jefferson County	1073011301	Directly adjoining
Alabama	Jefferson County	1073011303	Directly adjoining
Alabama	Jefferson County	1073011304	Mine closure, Directly adjoining
Alabama	Jefferson County	1073011401	Directly adjoining
Alabama	Jefferson County	1073011402	Mine closure, Directly adjoining
Alabama	Jefferson County	1073011500	Directly adjoining
Alabama	Jefferson County	1073011600	Mine closure, Directly adjoining
Alabama	Jefferson County	1073011704	Mine closure, Directly adjoining
Alabama	Jefferson County	1073011706	Directly adjoining
Alabama	Jefferson County	1073011707	Directly adjoining
Alabama	Jefferson County	1073011708	Directly adjoining
Alabama	Jefferson County	1073011710	Directly adjoining
Alabama	Jefferson County	1073012001	Directly adjoining
Alabama	Jefferson County	1073012103	Directly adjoining
Alabama	Jefferson County	1073012104	Mine closure, Directly adjoining
Alabama	Jefferson County	1073012200	Directly adjoining
Alabama	Jefferson County	1073012302	Mine closure, Directly adjoining
Alabama	Jefferson County	1073012304	Directly adjoining
Alabama	Jefferson County	1073012307	Directly adjoining
Alabama	Jefferson County	1073012403	Directly adjoining
Alabama	Jefferson County	1073012500	Directly adjoining
Alabama	Jefferson County	1073014001	Directly adjoining
Alabama	Jefferson County	1073014002	Directly adjoining
Alabama	Jefferson County	1073014104	Directly adjoining
Alabama	Jefferson County	1073014106	Mine closure, Directly adjoining
Alabama	Jefferson County	1073014107	Directly adjoining
Alabama	Jefferson County	1073014207	Directly adjoining
Alabama	Lamar County	1075030000	Mine closure
Alabama	Lamar County	1075030101	Directly adjoining
Alabama	Lamar County	1075030102	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Alabama	Lauderdale County	1077011200	Directly adjoining
Alabama	Marion County	1093964001	Mine closure, Directly adjoining
Alabama	Marion County	1093964002	Directly adjoining
Alabama	Marion County	1093964100	Directly adjoining
Alabama	Marion County	1093964300	Directly adjoining
Alabama	Marion County	1093964401	Directly adjoining
Alabama	Marion County	1093964402	Directly adjoining
Alabama	Marion County	1093964500	Mine closure, Directly adjoining
Alabama	Marion County	1093964600	Directly adjoining
Alabama	Marion County	1093964701	Directly adjoining
Alabama	Marion County	1093964702	Mine closure, Directly adjoining
Alabama	Mobile County	1097005702	Directly adjoining
Alabama	Mobile County	1097005800	Generating unit retirement
Alabama	Mobile County	1097005900	Directly adjoining
Alabama	Mobile County	1097006000	Directly adjoining
Alabama	Shelby County	1117030337	Directly adjoining
Alabama	Shelby County	1117030350	Directly adjoining
Alabama	Shelby County	1117030405	Directly adjoining
Alabama	Shelby County	1117030406	Directly adjoining
Alabama	Shelby County	1117030407	Directly adjoining
Alabama	Shelby County	1117030408	Mine closure, Directly adjoining
Alabama	Shelby County	1117030607	Directly adjoining
Alabama	Shelby County	1117030610	Directly adjoining
Alabama	Shelby County	1117030611	Mine closure, Directly adjoining
Alabama	Shelby County	1117030613	Directly adjoining
Alabama	Tuscaloosa County	1125010101	Directly adjoining
Alabama	Tuscaloosa County	1125010102	Mine closure, Directly adjoining
Alabama	Tuscaloosa County	1125010104	Directly adjoining
Alabama	Tuscaloosa County	1125010105	Directly adjoining
Alabama	Tuscaloosa County	1125010203	Directly adjoining
Alabama	Tuscaloosa County	1125010500	Directly adjoining
Alabama	Tuscaloosa County	1125010601	Mine closure, Directly adjoining
Alabama	Tuscaloosa County	1125010603	Directly adjoining
Alabama	Tuscaloosa County	1125010604	Directly adjoining
Alabama	Tuscaloosa County	1125010703	Directly adjoining
Alabama	Tuscaloosa County	1125010706	Mine closure, Directly adjoining
Alabama	Tuscaloosa County	1125010707	Directly adjoining
Alabama	Tuscaloosa County	1125010802	Directly adjoining
Alabama	Tuscaloosa County	1125010803	Directly adjoining
Alabama	Tuscaloosa County	1125010804	Directly adjoining
Alabama	Walker County	1127020100	Mine closure, Directly adjoining
Alabama	Walker County	1127020200	Directly adjoining
Alabama	Walker County	1127020302	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Alabama	Walker County	1127020400	Directly adjoining
Alabama	Walker County	1127020600	Directly adjoining
Alabama	Walker County	1127020700	Directly adjoining
Alabama	Walker County	1127020801	Directly adjoining
Alabama	Walker County	1127020802	Mine closure, Directly adjoining
Alabama	Walker County	1127020900	Mine closure, Directly adjoining
Alabama	Walker County	1127021000	Mine closure, Directly adjoining
Alabama	Walker County	1127021100	Mine closure, Directly adjoining
Alabama	Walker County	1127021200	Mine closure, Directly adjoining
Alabama	Walker County	1127021300	Mine closure, Directly adjoining
Alabama	Walker County	1127021400	Mine closure, Directly adjoining
Alabama	Walker County	1127021500	Mine closure, Generating unit retirement, Directly adjoining
Alabama	Walker County	1127021600	Mine closure, Directly adjoining
Alabama	Walker County	1127021700	Mine closure, Directly adjoining
Alabama	Walker County	1127021800	Mine closure, Directly adjoining
Alabama	Walker County	1127021900	Mine closure, Directly adjoining
Alabama	Washington County	1129044000	Directly adjoining
Alabama	Washington County	1129044100	Generating unit retirement
Alabama	Washington County	1129044200	Directly adjoining
Alabama	Washington County	1129044300	Directly adjoining
Alabama	Winston County	1133965501	Directly adjoining
Alabama	Winston County	1133965502	Directly adjoining
Alabama	Winston County	1133965503	Directly adjoining
Alabama	Winston County	1133965601	Mine closure, Directly adjoining
Alabama	Winston County	1133965602	Directly adjoining
Alabama	Winston County	1133965700	Directly adjoining
Alabama	Winston County	1133965800	Mine closure, Directly adjoining
Alabama	Winston County	1133965900	Mine closure, Directly adjoining
Arizona	Apache County	4001970201	Directly adjoining
Arizona	Apache County	4001970300	Directly adjoining
Arizona	Apache County	4001970502	Directly adjoining
Arizona	Coconino County	4005001500	Directly adjoining
Arizona	Coconino County	4005002000	Directly adjoining
Arizona	Coconino County	4005002101	Directly adjoining
Arizona	Coconino County	4005002102	Directly adjoining
Arizona	Coconino County	4005942201	Directly adjoining
Arizona	Coconino County	4005942202	Generating unit retirement
Arizona	Mohave County	4015950103	Directly adjoining
Arizona	Mohave County	4015951404	Directly adjoining
Arizona	Mohave County	4015951601	Directly adjoining
Arizona	Mohave County	4015951602	Directly adjoining
Arizona	Mohave County	4015951702	Directly adjoining
Arizona	Navajo County	4017940014	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Arizona	Navajo County	4017940015	Directly adjoining
Arizona	Navajo County	4017942300	Directly adjoining
Arizona	Navajo County	4017960100	Directly adjoining
Arizona	Navajo County	4017960200	Directly adjoining
Arizona	Navajo County	4017960400	Directly adjoining
Arizona	Navajo County	4017960500	Generating unit retirement, Directly adjoining
Arizona	Navajo County	4017960600	Directly adjoining
Arizona	Navajo County	4017963300	Generating unit retirement, Directly adjoining
Arizona	Navajo County	4017963400	Directly adjoining
Arizona	Navajo County	4017963800	Directly adjoining
Arizona	Navajo County	4017964202	Directly adjoining
Arkansas	Crittenden County	5035030602	Directly adjoining
Arkansas	Franklin County	5047950201	Directly adjoining
Arkansas	Johnson County	5071951700	Directly adjoining
Arkansas	Johnson County	5071951800	Mine closure
Arkansas	Johnson County	5071951900	Directly adjoining
Arkansas	Johnson County	5071952000	Directly adjoining
Arkansas	Logan County	5083950100	Directly adjoining
Arkansas	Logan County	5083950200	Directly adjoining
Arkansas	Scott County	5127950100	Directly adjoining
Arkansas	Sebastian County	5131010102	Directly adjoining
Arkansas	Sebastian County	5131010202	Directly adjoining
Arkansas	Sebastian County	5131010301	Directly adjoining
Arkansas	Sebastian County	5131010303	Mine closure, Directly adjoining
Arkansas	Sebastian County	5131010304	Mine closure, Directly adjoining
California	Inyo County	6027000800	Directly adjoining
California	Kern County	6029000102	Directly adjoining
California	Kern County	6029000104	Directly adjoining
California	Kern County	6029000105	Directly adjoining
California	Kern County	6029000106	Directly adjoining
California	Kern County	6029000201	Directly adjoining
California	Kern County	6029000300	Directly adjoining
California	Kern County	6029000400	Directly adjoining
California	Kern County	6029000601	Directly adjoining
California	Kern County	6029000702	Directly adjoining
California	Kern County	6029000800	Directly adjoining
California	Kern County	6029000902	Directly adjoining
California	Kern County	6029000914	Directly adjoining
California	Kern County	6029003900	Directly adjoining
California	Kern County	6029004605	Directly adjoining
California	Kern County	6029005103	Generating unit retirement, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
California	Kern County	6029005104	Directly adjoining
California	Kern County	6029005205	Directly adjoining
California	Kern County	6029005206	Directly adjoining
California	Kern County	6029005207	Directly adjoining
California	Kern County	6029005208	Generating unit retirement, Directly adjoining
California	Kern County	6029005300	Directly adjoining
California	Kern County	6029005410	Directly adjoining
California	Kern County	6029005509	Directly adjoining
California	Kern County	6029006500	Directly adjoining
California	Riverside County	6065030104	Directly adjoining
California	Riverside County	6065040101	Directly adjoining
California	Riverside County	6065042300	Directly adjoining
California	San Bernardino County	6071003606	Directly adjoining
California	San Bernardino County	6071003609	Directly adjoining
California	San Bernardino County	6071003612	Directly adjoining
California	San Bernardino County	6071004001	Directly adjoining
California	San Bernardino County	6071004003	Directly adjoining
California	San Bernardino County	6071004004	Generating unit retirement
California	San Bernardino County	6071006601	Directly adjoining
California	San Bernardino County	6071007107	Directly adjoining
California	San Bernardino County	6071008901	Generating unit retirement
California	San Bernardino County	6071010300	Directly adjoining
California	San Bernardino County	6071011602	Directly adjoining
California	San Bernardino County	6071012500	Directly adjoining
California	San Bernardino County	6071025000	Directly adjoining
California	San Joaquin County	6077002100	Directly adjoining
California	San Joaquin County	6077002201	Directly adjoining
California	San Joaquin County	6077002202	Directly adjoining
California	San Joaquin County	6077002300	Directly adjoining
California	San Joaquin County	6077002800	Generating unit retirement
California	San Joaquin County	6077003700	Directly adjoining
California	San Joaquin County	6077003803	Directly adjoining
California	Tulare County	6107002701	Directly adjoining
California	Tulare County	6107004301	Directly adjoining
California	Tulare County	6107004500	Directly adjoining
Colorado	Adams County	8001008802	Directly adjoining
Colorado	Adams County	8001008901	Directly adjoining
Colorado	Adams County	8001009001	Directly adjoining
Colorado	Adams County	8001009003	Directly adjoining
Colorado	Adams County	8001009004	Directly adjoining
Colorado	Adams County	8001009103	Directly adjoining
Colorado	Adams County	8001009104	Directly adjoining
Colorado	Adams County	8001009307	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Colorado	Adams County	8001009553	Directly adjoining
Colorado	Adams County	8001015000	Generating unit retirement
Colorado	Arapahoe County	8005005551	Directly adjoining
Colorado	Arapahoe County	8005005701	Directly adjoining
Colorado	Baca County	8009964600	Directly adjoining
Colorado	Baca County	8009964700	Directly adjoining
Colorado	Bent County	8011966702	Directly adjoining
Colorado	Boulder County	8013012207	Directly adjoining
Colorado	Boulder County	8013012208	Directly adjoining
Colorado	Boulder County	8013012603	Directly adjoining
Colorado	Boulder County	8013012701	Directly adjoining
Colorado	Boulder County	8013012705	Directly adjoining
Colorado	Boulder County	8013012707	Generating unit retirement
Colorado	Boulder County	8013012708	Directly adjoining
Colorado	Boulder County	8013012709	Directly adjoining
Colorado	Boulder County	8013012710	Directly adjoining
Colorado	Boulder County	8013012801	Directly adjoining
Colorado	Boulder County	8013012802	Directly adjoining
Colorado	Boulder County	8013012903	Directly adjoining
Colorado	Boulder County	8013013003	Directly adjoining
Colorado	Costilla County	8023972700	Directly adjoining
Colorado	Custer County	8027970101	Directly adjoining
Colorado	Custer County	8027970102	Directly adjoining
Colorado	Delta County	8029964600	Mine closure, Directly adjoining
Colorado	Delta County	8029964700	Directly adjoining
Colorado	Delta County	8029964800	Directly adjoining
Colorado	Delta County	8029965001	Directly adjoining
Colorado	Delta County	8029965002	Directly adjoining
Colorado	Delta County	8029965202	Directly adjoining
Colorado	Denver County	8031001402	Directly adjoining
Colorado	Denver County	8031001403	Directly adjoining
Colorado	Denver County	8031001500	Directly adjoining
Colorado	Denver County	8031004602	Directly adjoining
Colorado	Denver County	8031004603	Directly adjoining
Colorado	Denver County	8031015600	Generating unit retirement
Colorado	Denver County	8031015700	Directly adjoining
Colorado	Dolores County	8033000100	Directly adjoining
Colorado	El Paso County	8041001500	Directly adjoining
Colorado	El Paso County	8041001600	Directly adjoining
Colorado	El Paso County	8041001700	Directly adjoining
Colorado	El Paso County	8041002200	Directly adjoining
Colorado	El Paso County	8041002300	Generating unit retirement
Colorado	El Paso County	8041002802	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Colorado	El Paso County	8041003001	Directly adjoining
Colorado	Fremont County	8043978100	Directly adjoining
Colorado	Fremont County	8043978200	Directly adjoining
Colorado	Fremont County	8043978300	Mine closure
Colorado	Fremont County	8043978400	Directly adjoining
Colorado	Fremont County	8043978500	Directly adjoining
Colorado	Fremont County	8043978600	Directly adjoining
Colorado	Fremont County	8043978800	Directly adjoining
Colorado	Fremont County	8043979001	Directly adjoining
Colorado	Fremont County	8043979002	Directly adjoining
Colorado	Fremont County	8043979100	Directly adjoining
Colorado	Fremont County	8043979200	Generating unit retirement
Colorado	Fremont County	8043979400	Directly adjoining
Colorado	Fremont County	8043980100	Directly adjoining
Colorado	Fremont County	8043980300	Directly adjoining
Colorado	Garfield County	8045951901	Directly adjoining
Colorado	Garfield County	8045952003	Directly adjoining
Colorado	Garfield County	8045952100	Mine closure, Directly adjoining
Colorado	Gunnison County	8051963601	Directly adjoining
Colorado	Gunnison County	8051963800	Directly adjoining
Colorado	Gunnison County	8051963900	Mine closure, Directly adjoining
Colorado	Hinsdale County	8053973100	Directly adjoining
Colorado	Huerfano County	8055960902	Directly adjoining
Colorado	Jefferson County	8059009806	Directly adjoining
Colorado	Jefferson County	8059009842	Directly adjoining
Colorado	Jefferson County	8059009852	Directly adjoining
Colorado	Jefferson County	8059009854	Directly adjoining
Colorado	Jefferson County	8059009855	Directly adjoining
Colorado	Jefferson County	8059009857	Directly adjoining
Colorado	Jefferson County	8059009901	Generating unit retirement
Colorado	Jefferson County	8059010001	Directly adjoining
Colorado	Jefferson County	8059980800	Directly adjoining
Colorado	Kiowa County	8061960100	Directly adjoining
Colorado	La Plata County	8067940400	Directly adjoining
Colorado	La Plata County	8067970701	Mine closure
Colorado	La Plata County	8067970703	Directly adjoining
Colorado	La Plata County	8067970705	Directly adjoining
Colorado	La Plata County	8067970900	Directly adjoining
Colorado	La Plata County	8067971000	Directly adjoining
Colorado	La Plata County	8067971100	Directly adjoining
Colorado	Las Animas County	8071000100	Directly adjoining
Colorado	Las Animas County	8071000200	Directly adjoining
Colorado	Las Animas County	8071000300	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Colorado	Las Animas County	8071000400	Directly adjoining
Colorado	Las Animas County	8071000500	Generating unit retirement
Colorado	Las Animas County	8071000800	Directly adjoining
Colorado	Mesa County	8077001102	Directly adjoining
Colorado	Mesa County	8077001200	Directly adjoining
Colorado	Mesa County	8077001502	Directly adjoining
Colorado	Mesa County	8077001600	Directly adjoining
Colorado	Mesa County	8077001702	Generating unit retirement, Directly adjoining
Colorado	Mesa County	8077001703	Directly adjoining
Colorado	Mesa County	8077001705	Directly adjoining
Colorado	Mesa County	8077001706	Directly adjoining
Colorado	Mesa County	8077001800	Mine closure, Directly adjoining
Colorado	Mesa County	8077001900	Directly adjoining
Colorado	Moffat County	8081000300	Directly adjoining
Colorado	Moffat County	8081000600	Mine closure, Directly adjoining
Colorado	Montezuma County	8083941100	Directly adjoining
Colorado	Montezuma County	8083969000	Directly adjoining
Colorado	Montezuma County	8083969100	Directly adjoining
Colorado	Montrose County	8085966100	Mine closure, Generating unit retirement
Colorado	Montrose County	8085966201	Directly adjoining
Colorado	Montrose County	8085966202	Directly adjoining
Colorado	Montrose County	8085966501	Directly adjoining
Colorado	Montrose County	8085966602	Directly adjoining
Colorado	Ouray County	8091967601	Directly adjoining
Colorado	Ouray County	8091967602	Directly adjoining
Colorado	Pitkin County	8097000101	Directly adjoining
Colorado	Pitkin County	8097000102	Directly adjoining
Colorado	Prowers County	8099000100	Directly adjoining
Colorado	Prowers County	8099000200	Directly adjoining
Colorado	Prowers County	8099000300	Directly adjoining
Colorado	Prowers County	8099000600	Directly adjoining
Colorado	Prowers County	8099000700	Generating unit retirement
Colorado	Pueblo County	8101002804	Directly adjoining
Colorado	Pueblo County	8101003103	Directly adjoining
Colorado	Pueblo County	8101003104	Directly adjoining
Colorado	Pueblo County	8101003105	Directly adjoining
Colorado	Pueblo County	8101003106	Generating unit retirement
Colorado	Pueblo County	8101003200	Directly adjoining
Colorado	Rio Blanco County	8103951100	Directly adjoining
Colorado	Rio Blanco County	8103951200	Directly adjoining
Colorado	Routt County	8107000100	Directly adjoining
Colorado	Routt County	8107000200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Colorado	Routt County	8107000300	Mine closure, Directly adjoining
Colorado	Routt County	8107000400	Directly adjoining
Colorado	Routt County	8107000500	Directly adjoining
Colorado	Routt County	8107000800	Directly adjoining
Colorado	Saguache County	8109977600	Directly adjoining
Colorado	San Juan County	8111972600	Directly adjoining
Colorado	San Miguel County	8113968103	Directly adjoining
Colorado	San Miguel County	8113968200	Directly adjoining
Colorado	Teller County	8119010203	Directly adjoining
Connecticut	Fairfield County	9001070400	Directly adjoining
Connecticut	Fairfield County	9001070500	Directly adjoining
Connecticut	Fairfield County	9001070600	Generating unit retirement
Connecticut	Fairfield County	9001070900	Directly adjoining
Connecticut	Fairfield County	9001071200	Directly adjoining
Connecticut	Fairfield County	9001071300	Directly adjoining
Connecticut	Fairfield County	9001071600	Directly adjoining
Connecticut	Fairfield County	9001073900	Directly adjoining
Connecticut	Fairfield County	9001074000	Directly adjoining
Connecticut	Fairfield County	9001074400	Directly adjoining
Connecticut	Fairfield County	9001257200	Directly adjoining
Connecticut	New London County	9011693600	Directly adjoining
Connecticut	New London County	9011693700	Directly adjoining
Connecticut	New London County	9011695201	Directly adjoining
Connecticut	New London County	9011701200	Directly adjoining
Connecticut	New London County	9011870501	Directly adjoining
Connecticut	New London County	9011870502	Generating unit retirement
Delaware	New Castle County	10003990100	Directly adjoining
Delaware	Sussex County	10005050601	Directly adjoining
Delaware	Sussex County	10005050604	Directly adjoining
Delaware	Sussex County	10005050703	Directly adjoining
Delaware	Sussex County	10005051308	Directly adjoining
Delaware	Sussex County	10005051400	Directly adjoining
Delaware	Sussex County	10005051501	Directly adjoining
Delaware	Sussex County	10005051502	Generating unit retirement
Delaware	Sussex County	10005051702	Directly adjoining
District of Columbia	District of Columbia	11001007301	Directly adjoining
District of Columbia	District of Columbia	11001010900	Directly adjoining
Florida	Bay County	12005000201	Directly adjoining
Florida	Bay County	12005000203	Directly adjoining
Florida	Bay County	12005000204	Generating unit retirement
Florida	Bay County	12005000402	Directly adjoining
Florida	Bay County	12005001403	Directly adjoining
Florida	Bay County	12005001404	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Florida	Bay County	12005001501	Directly adjoining
Florida	Bay County	12005002500	Directly adjoining
Florida	Bay County	12005002609	Directly adjoining
Florida	Bay County	12005002703	Directly adjoining
Florida	Bay County	12005002706	Directly adjoining
Florida	Bay County	12005002709	Directly adjoining
Florida	Bay County	12005002710	Directly adjoining
Florida	Calhoun County	12013010100	Directly adjoining
Florida	Citrus County	12017450305	Directly adjoining
Florida	Citrus County	12017450401	Directly adjoining
Florida	Citrus County	12017450402	Generating unit retirement
Florida	Citrus County	12017450501	Directly adjoining
Florida	Citrus County	12017990000	Directly adjoining
Florida	Duval County	12031000101	Directly adjoining
Florida	Duval County	12031010101	Directly adjoining
Florida	Duval County	12031010104	Generating unit retirement
Florida	Duval County	12031010105	Directly adjoining
Florida	Duval County	12031010106	Directly adjoining
Florida	Duval County	12031010202	Generating unit retirement
Florida	Duval County	12031010203	Directly adjoining
Florida	Duval County	12031010204	Directly adjoining
Florida	Duval County	12031010307	Directly adjoining
Florida	Duval County	12031010402	Directly adjoining
Florida	Duval County	12031014601	Directly adjoining
Florida	Duval County	12031014703	Directly adjoining
Florida	Gadsden County	12039020400	Directly adjoining
Florida	Hillsborough County	12057013604	Directly adjoining
Florida	Hillsborough County	12057013801	Generating unit retirement
Florida	Hillsborough County	12057013802	Directly adjoining
Florida	Hillsborough County	12057013803	Directly adjoining
Florida	Hillsborough County	12057013804	Directly adjoining
Florida	Hillsborough County	12057014106	Directly adjoining
Florida	Hillsborough County	12057014117	Directly adjoining
Florida	Hillsborough County	12057014119	Directly adjoining
Florida	Hillsborough County	12057990000	Directly adjoining
Florida	Jackson County	12063210901	Generating unit retirement
Florida	Jackson County	12063210902	Directly adjoining
Florida	Jackson County	12063211000	Directly adjoining
Florida	Levy County	12075970700	Directly adjoining
Florida	Liberty County	12077950202	Directly adjoining
Florida	Martin County	12085001803	Directly adjoining
Florida	Martin County	12085001804	Generating unit retirement
Florida	Martin County	12085001805	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Florida	Martin County	12085001806	Directly adjoining
Florida	Polk County	12105010300	Directly adjoining
Florida	Polk County	12105011300	Directly adjoining
Florida	Polk County	12105011400	Directly adjoining
Florida	Polk County	12105011501	Directly adjoining
Florida	Polk County	12105011502	Generating unit retirement
Florida	Polk County	12105011605	Directly adjoining
Florida	Polk County	12105011606	Directly adjoining
Florida	Polk County	12105012207	Directly adjoining
Florida	Polk County	12105012209	Directly adjoining
Florida	Polk County	12105012304	Directly adjoining
Florida	Walton County	12131950501	Directly adjoining
Florida	Walton County	12131950610	Directly adjoining
Georgia	Baldwin County	13009970202	Directly adjoining
Georgia	Baldwin County	13009970301	Directly adjoining
Georgia	Burke County	13033950102	Directly adjoining
Georgia	Butts County	13035150102	Directly adjoining
Georgia	Carroll County	13045910800	Directly adjoining
Georgia	Chatham County	13051010601	Directly adjoining
Georgia	Chatham County	13051010603	Directly adjoining
Georgia	Chatham County	13051010701	Generating unit retirement, Directly adjoining
Georgia	Chatham County	13051010702	Directly adjoining
Georgia	Chatham County	13051010703	Directly adjoining
Georgia	Chatham County	13051010704	Directly adjoining
Georgia	Chatham County	13051010811	Directly adjoining
Georgia	Chatham County	13051980000	Directly adjoining
Georgia	Chattooga County	13055010600	Directly adjoining
Georgia	Cobb County	13067031213	Directly adjoining
Georgia	Cobb County	13067031214	Generating unit retirement
Georgia	Cobb County	13067031215	Directly adjoining
Georgia	Cobb County	13067031314	Directly adjoining
Georgia	Coweta County	13077170101	Generating unit retirement
Georgia	Coweta County	13077170102	Directly adjoining
Georgia	Coweta County	13077170200	Directly adjoining
Georgia	Coweta County	13077170303	Directly adjoining
Georgia	Coweta County	13077170304	Directly adjoining
Georgia	Dougherty County	13095000101	Directly adjoining
Georgia	Dougherty County	13095000102	Directly adjoining
Georgia	Dougherty County	13095000200	Directly adjoining
Georgia	Dougherty County	13095010302	Directly adjoining
Georgia	Dougherty County	13095010602	Directly adjoining
Georgia	Dougherty County	13095010900	Directly adjoining
Georgia	Dougherty County	13095011000	Generating unit retirement

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Georgia	Dougherty County	13095011200	Generating unit retirement
Georgia	Dougherty County	13095011300	Directly adjoining
Georgia	Dougherty County	13095011600	Directly adjoining
Georgia	Effingham County	13103030303	Directly adjoining
Georgia	Effingham County	13103030306	Directly adjoining
Georgia	Effingham County	13103030307	Directly adjoining
Georgia	Effingham County	13103030308	Directly adjoining
Georgia	Effingham County	13103030309	Generating unit retirement, Directly adjoining
Georgia	Floyd County	13115000300	Directly adjoining
Georgia	Floyd County	13115000402	Directly adjoining
Georgia	Floyd County	13115001200	Directly adjoining
Georgia	Floyd County	13115001301	Directly adjoining
Georgia	Floyd County	13115001302	Directly adjoining
Georgia	Floyd County	13115001400	Generating unit retirement
Georgia	Floyd County	13115002000	Directly adjoining
Georgia	Floyd County	13115002100	Directly adjoining
Georgia	Fulton County	13121008701	Directly adjoining
Georgia	Fulton County	13121008801	Directly adjoining
Georgia	Fulton County	13121008802	Directly adjoining
Georgia	Fulton County	13121008903	Directly adjoining
Georgia	Fulton County	13121010402	Directly adjoining
Georgia	Hancock County	13141480300	Directly adjoining
Georgia	Jasper County	13159010503	Directly adjoining
Georgia	Jones County	13169030101	Directly adjoining
Georgia	Jones County	13169030200	Directly adjoining
Georgia	Lee County	13177020101	Directly adjoining
Georgia	Mitchell County	13205090100	Directly adjoining
Georgia	Monroe County	13207050101	Directly adjoining
Georgia	Monroe County	13207050102	Generating unit retirement
Georgia	Monroe County	13207050200	Directly adjoining
Georgia	Monroe County	13207050302	Directly adjoining
Georgia	Putnam County	13237960101	Directly adjoining
Georgia	Putnam County	13237960301	Directly adjoining
Georgia	Putnam County	13237960302	Generating unit retirement
Georgia	Worth County	13321950100	Directly adjoining
Georgia	Worth County	13321950201	Directly adjoining
Georgia	Worth County	13321950500	Directly adjoining
Hawaii	Honolulu County	15003008502	Directly adjoining
Hawaii	Honolulu County	15003008610	Directly adjoining
Hawaii	Honolulu County	15003980300	Generating unit retirement
Hawaii	Honolulu County	15003990001	Directly adjoining
Illinois	Adams County	17001010200	Directly adjoining
Illinois	Bond County	17005951200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Illinois	Bond County	17005951400	Directly adjoining
Illinois	Brown County	17009970400	Directly adjoining
Illinois	Bureau County	17011965000	Directly adjoining
Illinois	Bureau County	17011965500	Directly adjoining
Illinois	Calhoun County	17013951200	Directly adjoining
Illinois	Cass County	17017960100	Directly adjoining
Illinois	Cass County	17017960200	Directly adjoining
Illinois	Cass County	17017960300	Directly adjoining
Illinois	Champaign County	17019010400	Directly adjoining
Illinois	Champaign County	17019010702	Directly adjoining
Illinois	Clark County	17023060100	Directly adjoining
Illinois	Clark County	17023060400	Directly adjoining
Illinois	Clay County	17025971900	Directly adjoining
Illinois	Cook County	17031301600	Directly adjoining
Illinois	Cook County	17031301702	Directly adjoining
Illinois	Cook County	17031301801	Directly adjoining
Illinois	Cook County	17031301803	Directly adjoining
Illinois	Cook County	17031310200	Directly adjoining
Illinois	Cook County	17031310300	Directly adjoining
Illinois	Cook County	17031310400	Directly adjoining
Illinois	Cook County	17031310500	Directly adjoining
Illinois	Cook County	17031310600	Directly adjoining
Illinois	Cook County	17031310700	Directly adjoining
Illinois	Cook County	17031310800	Directly adjoining
Illinois	Cook County	17031310900	Directly adjoining
Illinois	Cook County	17031330200	Directly adjoining
Illinois	Cook County	17031520100	Directly adjoining
Illinois	Cook County	17031520400	Directly adjoining
Illinois	Cook County	17031520500	Directly adjoining
Illinois	Cook County	17031550100	Directly adjoining
Illinois	Cook County	17031560100	Directly adjoining
Illinois	Cook County	17031570100	Directly adjoining
Illinois	Cook County	17031570200	Directly adjoining
Illinois	Cook County	17031580200	Directly adjoining
Illinois	Cook County	17031580300	Directly adjoining
Illinois	Cook County	17031600600	Directly adjoining
Illinois	Cook County	17031600700	Directly adjoining
Illinois	Cook County	17031814200	Directly adjoining
Illinois	Cook County	17031825700	Directly adjoining
Illinois	Cook County	17031830500	Generating unit retirement
Illinois	Cook County	17031840200	Directly adjoining
Illinois	Cook County	17031840300	Directly adjoining
Illinois	Cook County	17031840400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Illinois	Cook County	17031840800	Directly adjoining
Illinois	Cook County	17031841100	Directly adjoining
Illinois	Cook County	17031841200	Directly adjoining
Illinois	Cook County	17031841300	Directly adjoining
Illinois	Cook County	17031841900	Directly adjoining
Illinois	Cook County	17031843200	Generating unit retirement
Illinois	Cook County	17031843500	Directly adjoining
Illinois	Crawford County	17033880100	Generating unit retirement
Illinois	Crawford County	17033880200	Directly adjoining
Illinois	Crawford County	17033880300	Directly adjoining
Illinois	Crawford County	17033880500	Directly adjoining
Illinois	Crawford County	17033880600	Directly adjoining
Illinois	Edgar County	17045070500	Directly adjoining
Illinois	Edwards County	17047956900	Directly adjoining
Illinois	Edwards County	17047957000	Directly adjoining
Illinois	Effingham County	17049950100	Directly adjoining
Illinois	Effingham County	17049950500	Directly adjoining
Illinois	Fayette County	17051950700	Directly adjoining
Illinois	Franklin County	17055040100	Directly adjoining
Illinois	Franklin County	17055040200	Directly adjoining
Illinois	Franklin County	17055040400	Directly adjoining
Illinois	Franklin County	17055040500	Directly adjoining
Illinois	Franklin County	17055040700	Directly adjoining
Illinois	Franklin County	17055040800	Mine closure, Directly adjoining
Illinois	Franklin County	17055040900	Directly adjoining
Illinois	Franklin County	17055041000	Directly adjoining
Illinois	Franklin County	17055041100	Directly adjoining
Illinois	Franklin County	17055041200	Directly adjoining
Illinois	Fulton County	17057952900	Directly adjoining
Illinois	Fulton County	17057953100	Directly adjoining
Illinois	Fulton County	17057953200	Directly adjoining
Illinois	Fulton County	17057953500	Directly adjoining
Illinois	Fulton County	17057953600	Directly adjoining
Illinois	Fulton County	17057953700	Generating unit retirement, Directly adjoining
Illinois	Fulton County	17057953800	Directly adjoining
Illinois	Fulton County	17057953900	Directly adjoining
Illinois	Gallatin County	17059972700	Mine closure, Directly adjoining
Illinois	Gallatin County	17059972800	Mine closure, Directly adjoining
Illinois	Greene County	17061973800	Directly adjoining
Illinois	Hamilton County	17065973200	Directly adjoining
Illinois	Hancock County	17067953700	Directly adjoining
Illinois	Hancock County	17067954300	Directly adjoining
Illinois	Hardin County	17069970900	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Illinois	Hardin County	17069971000	Directly adjoining
Illinois	Jackson County	17077010100	Directly adjoining
Illinois	Jackson County	17077010200	Mine closure, Directly adjoining
Illinois	Jackson County	17077010400	Directly adjoining
Illinois	Jackson County	17077010800	Directly adjoining
Illinois	Jackson County	17077010900	Directly adjoining
Illinois	Jackson County	17077011200	Directly adjoining
Illinois	Jackson County	17077011600	Directly adjoining
Illinois	Jasper County	17079977300	Directly adjoining
Illinois	Jasper County	17079977400	Directly adjoining
Illinois	Jasper County	17079977500	Generating unit retirement
Illinois	Jefferson County	17081050100	Directly adjoining
Illinois	Jefferson County	17081050300	Mine closure, Directly adjoining
Illinois	Jefferson County	17081050400	Directly adjoining
Illinois	Jefferson County	17081050500	Directly adjoining
Illinois	Jefferson County	17081051100	Directly adjoining
Illinois	Jo Daviess County	17085020200	Directly adjoining
Illinois	Johnson County	17087977600	Directly adjoining
Illinois	Johnson County	17087977700	Directly adjoining
Illinois	Johnson County	17087977800	Directly adjoining
Illinois	Lake County	17097861701	Directly adjoining
Illinois	Lake County	17097861702	Directly adjoining
Illinois	Lake County	17097862100	Directly adjoining
Illinois	Lake County	17097862200	Generating unit retirement
Illinois	Lake County	17097862300	Directly adjoining
Illinois	Lake County	17097862401	Directly adjoining
Illinois	Lake County	17097862402	Directly adjoining
Illinois	Lake County	17097866000	Directly adjoining
Illinois	Lake County	17097990000	Directly adjoining
Illinois	LaSalle County	17099964100	Directly adjoining
Illinois	Lawrence County	17101880800	Directly adjoining
Illinois	McDonough County	17109010200	Directly adjoining
Illinois	McDonough County	17109010300	Directly adjoining
Illinois	McDonough County	17109011000	Directly adjoining
Illinois	McDonough County	17109011100	Mine closure, Directly adjoining
Illinois	Madison County	17119401200	Directly adjoining
Illinois	Madison County	17119401300	Directly adjoining
Illinois	Madison County	17119401500	Directly adjoining
Illinois	Madison County	17119402100	Directly adjoining
Illinois	Madison County	17119402200	Directly adjoining
Illinois	Madison County	17119402300	Directly adjoining
Illinois	Madison County	17119402400	Generating unit retirement
Illinois	Madison County	17119402500	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Illinois	Madison County	17119402600	Directly adjoining
Illinois	Marshall County	17123961100	Directly adjoining
Illinois	Marshall County	17123961200	Directly adjoining
Illinois	Marshall County	17123961300	Directly adjoining
Illinois	Mason County	17125956400	Directly adjoining
Illinois	Mason County	17125956500	Directly adjoining
Illinois	Mason County	17125956600	Generating unit retirement
Illinois	Mason County	17125956700	Directly adjoining
Illinois	Massac County	17127970100	Generating unit retirement, Directly adjoining
Illinois	Massac County	17127970200	Directly adjoining
Illinois	Massac County	17127970300	Directly adjoining
Illinois	Massac County	17127970400	Directly adjoining
Illinois	Menard County	17129010300	Directly adjoining
Illinois	Monroe County	17133600102	Directly adjoining
Illinois	Monroe County	17133600402	Directly adjoining
Illinois	Monroe County	17133600502	Directly adjoining
Illinois	Montgomery County	17135957400	Directly adjoining
Illinois	Montgomery County	17135957600	Directly adjoining
Illinois	Montgomery County	17135957900	Directly adjoining
Illinois	Montgomery County	17135958000	Generating unit retirement
Illinois	Morgan County	17137951400	Generating unit retirement
Illinois	Morgan County	17137951500	Directly adjoining
Illinois	Morgan County	17137951600	Directly adjoining
Illinois	Morgan County	17137951700	Directly adjoining
Illinois	Morgan County	17137951800	Directly adjoining
Illinois	Morgan County	17137951900	Directly adjoining
Illinois	Morgan County	17137952000	Generating unit retirement
Illinois	Morgan County	17137952100	Directly adjoining
Illinois	Morgan County	17137952200	Directly adjoining
Illinois	Peoria County	17143000200	Directly adjoining
Illinois	Peoria County	17143000300	Directly adjoining
Illinois	Peoria County	17143000600	Directly adjoining
Illinois	Peoria County	17143000900	Directly adjoining
Illinois	Peoria County	17143004600	Directly adjoining
Illinois	Peoria County	17143004801	Directly adjoining
Illinois	Peoria County	17143004802	Directly adjoining
Illinois	Peoria County	17143004901	Generating unit retirement, Directly adjoining
Illinois	Peoria County	17143004902	Directly adjoining
Illinois	Peoria County	17143005000	Directly adjoining
Illinois	Peoria County	17143005100	Generating unit retirement
Illinois	Perry County	17145030100	Directly adjoining
Illinois	Perry County	17145030200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Illinois	Perry County	17145030300	Mine closure, Directly adjoining
Illinois	Perry County	17145030400	Mine closure, Directly adjoining
Illinois	Perry County	17145030500	Directly adjoining
Illinois	Perry County	17145030600	Mine closure, Directly adjoining
Illinois	Pike County	17149952400	Directly adjoining
Illinois	Pike County	17149952500	Directly adjoining
Illinois	Pike County	17149952600	Directly adjoining
Illinois	Pike County	17149952700	Directly adjoining
Illinois	Pike County	17149952800	Generating unit retirement
Illinois	Pope County	17151971200	Directly adjoining
Illinois	Pope County	17151971300	Directly adjoining
Illinois	Pulaski County	17153971000	Directly adjoining
Illinois	Putnam County	17155954500	Directly adjoining
Illinois	Putnam County	17155954600	Generating unit retirement
Illinois	Randolph County	17157950500	Directly adjoining
Illinois	Randolph County	17157950600	Directly adjoining
Illinois	Randolph County	17157950700	Mine closure, Generating unit retirement, Directly adjoining
Illinois	Randolph County	17157950800	Directly adjoining
Illinois	Randolph County	17157950900	Directly adjoining
Illinois	Randolph County	17157951000	Directly adjoining
Illinois	Randolph County	17157951100	Directly adjoining
Illinois	Richland County	17159977900	Directly adjoining
Illinois	Richland County	17159978300	Directly adjoining
Illinois	Rock Island County	17161020302	Directly adjoining
Illinois	Rock Island County	17161020400	Directly adjoining
Illinois	Rock Island County	17161020600	Generating unit retirement, Directly adjoining
Illinois	Rock Island County	17161020700	Directly adjoining
Illinois	Rock Island County	17161020800	Directly adjoining
Illinois	Rock Island County	17161021400	Directly adjoining
Illinois	Rock Island County	17161024103	Directly adjoining
Illinois	St. Clair County	17163504002	Directly adjoining
Illinois	Saline County	17165955100	Directly adjoining
Illinois	Saline County	17165955500	Directly adjoining
Illinois	Saline County	17165955600	Mine closure, Directly adjoining
Illinois	Saline County	17165955700	Mine closure, Directly adjoining
Illinois	Saline County	17165955800	Directly adjoining
Illinois	Saline County	17165955900	Directly adjoining
Illinois	Saline County	17165956000	Directly adjoining
Illinois	Saline County	17165956100	Directly adjoining
Illinois	Saline County	17165956200	Mine closure, Directly adjoining
Illinois	Sangamon County	17167000600	Directly adjoining
Illinois	Sangamon County	17167002400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Illinois	Sangamon County	17167002500	Directly adjoining
Illinois	Sangamon County	17167002700	Directly adjoining
Illinois	Sangamon County	17167003000	Directly adjoining
Illinois	Sangamon County	17167003100	Generating unit retirement
Illinois	Sangamon County	17167003201	Directly adjoining
Illinois	Sangamon County	17167003203	Directly adjoining
Illinois	Sangamon County	17167003901	Directly adjoining
Illinois	Sangamon County	17167003902	Directly adjoining
Illinois	Schuyler County	17169970100	Mine closure, Directly adjoining
Illinois	Schuyler County	17169970200	Directly adjoining
Illinois	Schuyler County	17169970300	Directly adjoining
Illinois	Scott County	17171970600	Directly adjoining
Illinois	Scott County	17171970700	Directly adjoining
Illinois	Tazewell County	17179020100	Directly adjoining
Illinois	Tazewell County	17179020400	Directly adjoining
Illinois	Tazewell County	17179020500	Directly adjoining
Illinois	Tazewell County	17179020800	Directly adjoining
Illinois	Tazewell County	17179020900	Directly adjoining
Illinois	Tazewell County	17179021802	Directly adjoining
Illinois	Union County	17181950100	Directly adjoining
Illinois	Vermilion County	17183000100	Directly adjoining
Illinois	Vermilion County	17183000200	Generating unit retirement
Illinois	Vermilion County	17183000300	Directly adjoining
Illinois	Vermilion County	17183000500	Directly adjoining
Illinois	Vermilion County	17183000600	Directly adjoining
Illinois	Vermilion County	17183000700	Directly adjoining
Illinois	Vermilion County	17183000800	Directly adjoining
Illinois	Vermilion County	17183000900	Directly adjoining
Illinois	Vermilion County	17183001300	Directly adjoining
Illinois	Vermilion County	17183010100	Directly adjoining
Illinois	Vermilion County	17183010300	Generating unit retirement
Illinois	Vermilion County	17183010400	Directly adjoining
Illinois	Vermilion County	17183010500	Directly adjoining
Illinois	Vermilion County	17183010702	Directly adjoining
Illinois	Vermilion County	17183010800	Directly adjoining
Illinois	Wabash County	17185957200	Mine closure, Directly adjoining
Illinois	Wabash County	17185957300	Directly adjoining
Illinois	Wabash County	17185957400	Directly adjoining
Illinois	Wabash County	17185957500	Directly adjoining
Illinois	Washington County	17189950100	Directly adjoining
Illinois	Washington County	17189950200	Directly adjoining
Illinois	Washington County	17189950300	Directly adjoining
Illinois	Washington County	17189950400	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Illinois	Wayne County	17191954900	Directly adjoining
Illinois	White County	17193958000	Directly adjoining
Illinois	White County	17193958100	Directly adjoining
Illinois	White County	17193958200	Mine closure, Directly adjoining
Illinois	White County	17193958300	Directly adjoining
Illinois	White County	17193958400	Directly adjoining
Illinois	Will County	17197880202	Directly adjoining
Illinois	Will County	17197880203	Directly adjoining
Illinois	Will County	17197880426	Directly adjoining
Illinois	Will County	17197880428	Directly adjoining
Illinois	Will County	17197880502	Directly adjoining
Illinois	Will County	17197880503	Directly adjoining
Illinois	Will County	17197880508	Directly adjoining
Illinois	Will County	17197880509	Directly adjoining
Illinois	Will County	17197880510	Directly adjoining
Illinois	Will County	17197880511	Directly adjoining
Illinois	Will County	17197880602	Directly adjoining
Illinois	Will County	17197880901	Directly adjoining
Illinois	Will County	17197884101	Generating unit retirement
Illinois	Will County	17197884103	Directly adjoining
Illinois	Williamson County	17199020100	Mine closure, Directly adjoining
Illinois	Williamson County	17199020201	Directly adjoining
Illinois	Williamson County	17199020202	Directly adjoining
Illinois	Williamson County	17199020300	Directly adjoining
Illinois	Williamson County	17199020600	Directly adjoining
Illinois	Williamson County	17199020700	Directly adjoining
Illinois	Williamson County	17199020801	Mine closure, Directly adjoining
Illinois	Williamson County	17199020802	Mine closure, Directly adjoining
Illinois	Williamson County	17199020900	Directly adjoining
Illinois	Williamson County	17199021002	Directly adjoining
Illinois	Williamson County	17199021200	Directly adjoining
Illinois	Williamson County	17199021300	Directly adjoining
Illinois	Williamson County	17199021400	Mine closure, Generating unit retirement, Directly adjoining
Indiana	Cass County	18017950900	Directly adjoining
Indiana	Cass County	18017951200	Directly adjoining
Indiana	Cass County	18017951400	Directly adjoining
Indiana	Cass County	18017951500	Generating unit retirement
Indiana	Cass County	18017951600	Directly adjoining
Indiana	Cass County	18017951700	Directly adjoining
Indiana	Clay County	18021040300	Directly adjoining
Indiana	Clay County	18021040400	Directly adjoining
Indiana	Clay County	18021040500	Mine closure, Directly adjoining
Indiana	Clay County	18021040600	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Indiana	Daviess County	18027954300	Directly adjoining
Indiana	Daviess County	18027954400	Mine closure, Directly adjoining
Indiana	Daviess County	18027954501	Directly adjoining
Indiana	Daviess County	18027954502	Mine closure, Directly adjoining
Indiana	Daviess County	18027954600	Directly adjoining
Indiana	Daviess County	18027954700	Directly adjoining
Indiana	Daviess County	18027954800	Directly adjoining
Indiana	Daviess County	18027954900	Directly adjoining
Indiana	Dearborn County	18029080301	Generating unit retirement
Indiana	Dearborn County	18029080302	Directly adjoining
Indiana	Dearborn County	18029080400	Directly adjoining
Indiana	Dearborn County	18029080500	Directly adjoining
Indiana	Dubois County	18037953200	Mine closure, Directly adjoining
Indiana	Dubois County	18037953301	Directly adjoining
Indiana	Dubois County	18037953302	Directly adjoining
Indiana	Dubois County	18037953400	Generating unit retirement, Directly adjoining
Indiana	Dubois County	18037953500	Directly adjoining
Indiana	Dubois County	18037953701	Mine closure, Directly adjoining
Indiana	Dubois County	18037953702	Directly adjoining
Indiana	Dubois County	18037953800	Directly adjoining
Indiana	Floyd County	18043070500	Directly adjoining
Indiana	Floyd County	18043070600	Generating unit retirement
Indiana	Floyd County	18043070700	Directly adjoining
Indiana	Floyd County	18043070801	Directly adjoining
Indiana	Floyd County	18043071104	Directly adjoining
Indiana	Floyd County	18043071200	Directly adjoining
Indiana	Gibson County	18051050100	Directly adjoining
Indiana	Gibson County	18051050201	Directly adjoining
Indiana	Gibson County	18051050202	Directly adjoining
Indiana	Gibson County	18051050300	Mine closure, Directly adjoining
Indiana	Gibson County	18051050401	Mine closure, Directly adjoining
Indiana	Gibson County	18051050402	Mine closure, Directly adjoining
Indiana	Gibson County	18051050501	Directly adjoining
Indiana	Gibson County	18051050502	Directly adjoining
Indiana	Greene County	18055954701	Directly adjoining
Indiana	Greene County	18055954702	Directly adjoining
Indiana	Greene County	18055954800	Directly adjoining
Indiana	Greene County	18055954900	Mine closure, Directly adjoining
Indiana	Greene County	18055955000	Directly adjoining
Indiana	Greene County	18055955100	Directly adjoining
Indiana	Greene County	18055955200	Directly adjoining
Indiana	Greene County	18055955300	Mine closure, Directly adjoining
Indiana	Greene County	18055955400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Indiana	Harrison County	18061060601	Directly adjoining
Indiana	Jasper County	18073100800	Generating unit retirement
Indiana	Jasper County	18073100901	Directly adjoining
Indiana	Jasper County	18073101000	Directly adjoining
Indiana	Jasper County	18073101200	Directly adjoining
Indiana	Knox County	18083955000	Directly adjoining
Indiana	Knox County	18083955100	Mine closure, Generating unit retirement, Directly adjoining
Indiana	Knox County	18083955201	Directly adjoining
Indiana	Knox County	18083955202	Directly adjoining
Indiana	Knox County	18083955700	Directly adjoining
Indiana	Knox County	18083955800	Mine closure, Directly adjoining
Indiana	Knox County	18083955900	Directly adjoining
Indiana	Lake County	18089010203	Directly adjoining
Indiana	Lake County	18089010302	Directly adjoining
Indiana	Lake County	18089010304	Generating unit retirement
Indiana	Lake County	18089011000	Directly adjoining
Indiana	Lake County	18089020100	Directly adjoining
Indiana	Lake County	18089020200	Directly adjoining
Indiana	Lake County	18089020300	Generating unit retirement
Indiana	Lake County	18089020400	Directly adjoining
Indiana	Lake County	18089021000	Directly adjoining
Indiana	Lake County	18089030100	Directly adjoining
Indiana	Lake County	18089030300	Directly adjoining
Indiana	Lake County	18089030400	Directly adjoining
Indiana	Lake County	18089030500	Directly adjoining
Indiana	Lake County	18089030700	Directly adjoining
Indiana	Lake County	18089030900	Directly adjoining
Indiana	Lake County	18089040100	Directly adjoining
Indiana	Lake County	18089990000	Directly adjoining
Indiana	LaPorte County	18091042900	Directly adjoining
Indiana	Martin County	18101950100	Directly adjoining
Indiana	Martin County	18101950200	Directly adjoining
Indiana	Martin County	18101950300	Directly adjoining
Indiana	Miami County	18103952100	Directly adjoining
Indiana	Miami County	18103952200	Directly adjoining
Indiana	Miami County	18103952300	Directly adjoining
Indiana	Miami County	18103952400	Generating unit retirement
Indiana	Miami County	18103952500	Directly adjoining
Indiana	Miami County	18103952700	Directly adjoining
Indiana	Montgomery County	18107956800	Directly adjoining
Indiana	Montgomery County	18107956900	Directly adjoining
Indiana	Montgomery County	18107957000	Generating unit retirement
Indiana	Montgomery County	18107957200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Indiana	Morgan County	18109510500	Directly adjoining
Indiana	Morgan County	18109510701	Directly adjoining
Indiana	Morgan County	18109510703	Generating unit retirement
Indiana	Morgan County	18109510704	Directly adjoining
Indiana	Morgan County	18109510800	Directly adjoining
Indiana	Morgan County	18109510900	Directly adjoining
Indiana	Morgan County	18109511001	Directly adjoining
Indiana	Owen County	18119955600	Directly adjoining
Indiana	Owen County	18119955701	Directly adjoining
Indiana	Owen County	18119955702	Mine closure, Directly adjoining
Indiana	Owen County	18119955900	Directly adjoining
Indiana	Parke County	18121030100	Directly adjoining
Indiana	Parke County	18121030200	Directly adjoining
Indiana	Parke County	18121030300	Directly adjoining
Indiana	Parke County	18121030401	Mine closure
Indiana	Parke County	18121030402	Directly adjoining
Indiana	Perry County	18123952300	Directly adjoining
Indiana	Perry County	18123952400	Directly adjoining
Indiana	Pike County	18125953900	Mine closure, Directly adjoining
Indiana	Pike County	18125954000	Directly adjoining
Indiana	Pike County	18125954100	Mine closure, Generating unit retirement, Directly adjoining
Indiana	Pike County	18125954200	Mine closure, Directly adjoining
Indiana	Porter County	18127050302	Directly adjoining
Indiana	Porter County	18127051102	Directly adjoining
Indiana	Porter County	18127980001	Directly adjoining
Indiana	Porter County	18127980002	Generating unit retirement
Indiana	Porter County	18127990000	Directly adjoining
Indiana	Posey County	18129040100	Directly adjoining
Indiana	Posey County	18129040200	Directly adjoining
Indiana	Posey County	18129040400	Directly adjoining
Indiana	Posey County	18129040500	Generating unit retirement, Directly adjoining
Indiana	Posey County	18129040600	Directly adjoining
Indiana	Posey County	18129040700	Directly adjoining
Indiana	Pulaski County	18131959100	Directly adjoining
Indiana	Pulaski County	18131959200	Directly adjoining
Indiana	Putnam County	18133956100	Directly adjoining
Indiana	Putnam County	18133956600	Directly adjoining
Indiana	Spencer County	18147952701	Directly adjoining
Indiana	Spencer County	18147952702	Mine closure, Directly adjoining
Indiana	Spencer County	18147952800	Directly adjoining
Indiana	Spencer County	18147952900	Directly adjoining
Indiana	Spencer County	18147953000	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Indiana	Spencer County	18147953100	Directly adjoining
Indiana	Starke County	18149954200	Directly adjoining
Indiana	Sullivan County	18153050101	Mine closure, Directly adjoining
Indiana	Sullivan County	18153050102	Mine closure, Directly adjoining
Indiana	Sullivan County	18153050200	Directly adjoining
Indiana	Sullivan County	18153050301	Directly adjoining
Indiana	Sullivan County	18153050302	Directly adjoining
Indiana	Sullivan County	18153050400	Mine closure, Directly adjoining
Indiana	Sullivan County	18153050501	Directly adjoining
Indiana	Sullivan County	18153050502	Mine closure, Directly adjoining
Indiana	Vanderburgh County	18163010701	Directly adjoining
Indiana	Vermillion County	18165020400	Directly adjoining
Indiana	Vigo County	18167000300	Directly adjoining
Indiana	Vigo County	18167000900	Directly adjoining
Indiana	Vigo County	18167001000	Directly adjoining
Indiana	Vigo County	18167010201	Directly adjoining
Indiana	Vigo County	18167010202	Directly adjoining
Indiana	Vigo County	18167010300	Mine closure, Generating unit retirement
Indiana	Vigo County	18167010400	Directly adjoining
Indiana	Vigo County	18167010601	Directly adjoining
Indiana	Vigo County	18167010602	Directly adjoining
Indiana	Vigo County	18167010702	Mine closure, Directly adjoining
Indiana	Vigo County	18167010703	Directly adjoining
Indiana	Vigo County	18167010704	Directly adjoining
Indiana	Vigo County	18167011000	Directly adjoining
Indiana	Vigo County	18167011202	Directly adjoining
Indiana	Warren County	18171951100	Directly adjoining
Indiana	Warrick County	18173030100	Mine closure, Directly adjoining
Indiana	Warrick County	18173030200	Mine closure, Directly adjoining
Indiana	Warrick County	18173030300	Directly adjoining
Indiana	Warrick County	18173030400	Directly adjoining
Indiana	Warrick County	18173030501	Mine closure, Directly adjoining
Indiana	Warrick County	18173030502	Mine closure, Directly adjoining
Indiana	Warrick County	18173030601	Directly adjoining
Indiana	Warrick County	18173030602	Directly adjoining
Indiana	Warrick County	18173030704	Directly adjoining
Indiana	Warrick County	18173030706	Directly adjoining
Indiana	Warrick County	18173030801	Directly adjoining
Iowa	Allamakee County	19005960100	Generating unit retirement, Directly adjoining
Iowa	Allamakee County	19005960200	Directly adjoining
Iowa	Allamakee County	19005960400	Directly adjoining
Iowa	Allamakee County	19005960500	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Iowa	Cedar County	19031450400	Directly adjoining
Iowa	Cedar County	19031450500	Directly adjoining
Iowa	Clayton County	19043070400	Directly adjoining
Iowa	Clayton County	19043070500	Directly adjoining
Iowa	Dubuque County	19061000100	Generating unit retirement, Directly adjoining
Iowa	Dubuque County	19061000300	Directly adjoining
Iowa	Dubuque County	19061000400	Directly adjoining
Iowa	Dubuque County	19061000500	Directly adjoining
Iowa	Dubuque County	19061000600	Directly adjoining
Iowa	Dubuque County	19061000701	Directly adjoining
Iowa	Dubuque County	19061000702	Directly adjoining
Iowa	Dubuque County	19061000801	Directly adjoining
Iowa	Dubuque County	19061001104	Directly adjoining
Iowa	Dubuque County	19061010103	Generating unit retirement, Directly adjoining
Iowa	Dubuque County	19061010104	Directly adjoining
Iowa	Dubuque County	19061010600	Directly adjoining
Iowa	Linn County	19113000800	Directly adjoining
Iowa	Linn County	19113000902	Directly adjoining
Iowa	Linn County	19113001102	Directly adjoining
Iowa	Linn County	19113001200	Directly adjoining
Iowa	Linn County	19113001300	Generating unit retirement
Iowa	Linn County	19113001400	Directly adjoining
Iowa	Linn County	19113001800	Directly adjoining
Iowa	Linn County	19113001900	Directly adjoining
Iowa	Linn County	19113002900	Directly adjoining
Iowa	Linn County	19113003003	Directly adjoining
Iowa	Linn County	19113003004	Generating unit retirement
Iowa	Linn County	19113003005	Directly adjoining
Iowa	Linn County	19113010700	Directly adjoining
Iowa	Marion County	19125030101	Directly adjoining
Iowa	Marion County	19125030202	Directly adjoining
Iowa	Marion County	19125030300	Generating unit retirement
Iowa	Marshall County	19127950100	Directly adjoining
Iowa	Marshall County	19127950400	Directly adjoining
Iowa	Marshall County	19127950500	Directly adjoining
Iowa	Marshall County	19127950600	Directly adjoining
Iowa	Marshall County	19127950900	Generating unit retirement
Iowa	Marshall County	19127951000	Directly adjoining
Iowa	Mills County	19129040201	Directly adjoining
Iowa	Mills County	19129040202	Directly adjoining
Iowa	Monona County	19133960100	Directly adjoining
Iowa	Monona County	19133960200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Iowa	Muscatine County	19139050100	Generating unit retirement
Iowa	Muscatine County	19139050200	Directly adjoining
Iowa	Muscatine County	19139050700	Directly adjoining
Iowa	Pottawattamie County	19155021400	Directly adjoining
Iowa	Pottawattamie County	19155021602	Directly adjoining
Iowa	Pottawattamie County	19155031300	Directly adjoining
Iowa	Pottawattamie County	19155031400	Directly adjoining
Iowa	Pottawattamie County	19155031601	Directly adjoining
Iowa	Pottawattamie County	19155031602	Directly adjoining
Iowa	Pottawattamie County	19155031800	Directly adjoining
Iowa	Pottawattamie County	19155031900	Generating unit retirement
Iowa	Scott County	19163010103	Directly adjoining
Iowa	Scott County	19163010300	Directly adjoining
Iowa	Scott County	19163010401	Directly adjoining
Iowa	Scott County	19163013300	Directly adjoining
Iowa	Scott County	19163013400	Directly adjoining
Iowa	Scott County	19163013500	Directly adjoining
Iowa	Scott County	19163013702	Generating unit retirement, Directly adjoining
Iowa	Scott County	19163013705	Directly adjoining
Iowa	Scott County	19163013706	Directly adjoining
Iowa	Woodbury County	19193003100	Directly adjoining
Iowa	Woodbury County	19193003200	Directly adjoining
Iowa	Woodbury County	19193003301	Directly adjoining
Iowa	Woodbury County	19193003302	Directly adjoining
Iowa	Woodbury County	19193003500	Generating unit retirement
Iowa	Woodbury County	19193003600	Directly adjoining
Iowa	Woodbury County	19193940200	Directly adjoining
Iowa	Wright County	19197680200	Directly adjoining
Iowa	Wright County	19197680500	Generating unit retirement
Kansas	Allen County	20001952600	Directly adjoining
Kansas	Anderson County	20003953700	Directly adjoining
Kansas	Bourbon County	20011955600	Directly adjoining
Kansas	Bourbon County	20011955700	Mine closure
Kansas	Bourbon County	20011955800	Directly adjoining
Kansas	Bourbon County	20011955900	Directly adjoining
Kansas	Cherokee County	20021958100	Directly adjoining
Kansas	Cherokee County	20021958200	Directly adjoining
Kansas	Cherokee County	20021958300	Directly adjoining
Kansas	Cherokee County	20021958400	Generating unit retirement, Directly adjoining
Kansas	Cherokee County	20021958500	Directly adjoining
Kansas	Cherokee County	20021958600	Directly adjoining
Kansas	Crawford County	20037956600	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kansas	Crawford County	20037956700	Directly adjoining
Kansas	Crawford County	20037957601	Directly adjoining
Kansas	Douglas County	20045000100	Directly adjoining
Kansas	Douglas County	20045000501	Directly adjoining
Kansas	Douglas County	20045000603	Directly adjoining
Kansas	Douglas County	20045000604	Directly adjoining
Kansas	Douglas County	20045001400	Directly adjoining
Kansas	Douglas County	20045001500	Generating unit retirement, Directly adjoining
Kansas	Jefferson County	20087020101	Directly adjoining
Kansas	Jefferson County	20087020102	Directly adjoining
Kansas	Jefferson County	20087020300	Directly adjoining
Kansas	Labette County	20099950600	Directly adjoining
Kansas	Labette County	20099950800	Directly adjoining
Kansas	Linn County	20107955101	Directly adjoining
Kansas	Linn County	20107955102	Directly adjoining
Kansas	Linn County	20107955200	Mine closure, Directly adjoining
Kansas	Miami County	20121100400	Directly adjoining
Kansas	Neosho County	20133951600	Directly adjoining
Kansas	Shawnee County	20177000900	Directly adjoining
Kansas	Shawnee County	20177003002	Directly adjoining
Kansas	Shawnee County	20177003100	Directly adjoining
Kansas	Shawnee County	20177003901	Generating unit retirement, Directly adjoining
Kansas	Shawnee County	20177003902	Directly adjoining
Kentucky	Anderson County	21005950102	Directly adjoining
Kentucky	Ballard County	21007950100	Directly adjoining
Kentucky	Bell County	21013960100	Mine closure, Directly adjoining
Kentucky	Bell County	21013960200	Directly adjoining
Kentucky	Bell County	21013960300	Mine closure, Directly adjoining
Kentucky	Bell County	21013960400	Mine closure, Directly adjoining
Kentucky	Bell County	21013960500	Directly adjoining
Kentucky	Bell County	21013960600	Mine closure, Directly adjoining
Kentucky	Bell County	21013960700	Directly adjoining
Kentucky	Bell County	21013960800	Mine closure, Directly adjoining
Kentucky	Bell County	21013961100	Mine closure, Directly adjoining
Kentucky	Boone County	21015070403	Directly adjoining
Kentucky	Boone County	21015070405	Directly adjoining
Kentucky	Boone County	21015070502	Directly adjoining
Kentucky	Boyd County	21019030900	Directly adjoining
Kentucky	Boyd County	21019031001	Directly adjoining
Kentucky	Boyd County	21019031004	Directly adjoining
Kentucky	Boyd County	21019031101	Directly adjoining
Kentucky	Boyd County	21019031102	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kentucky	Boyd County	21019031200	Directly adjoining
Kentucky	Boyle County	21021930100	Directly adjoining
Kentucky	Bracken County	21023950200	Directly adjoining
Kentucky	Breathitt County	21025920200	Mine closure, Directly adjoining
Kentucky	Breathitt County	21025920301	Directly adjoining
Kentucky	Breathitt County	21025920302	Directly adjoining
Kentucky	Breathitt County	21025920500	Mine closure, Directly adjoining
Kentucky	Breathitt County	21025920600	Mine closure, Directly adjoining
Kentucky	Breathitt County	21025920700	Mine closure, Directly adjoining
Kentucky	Breathitt County	21025920800	Mine closure, Directly adjoining
Kentucky	Breckinridge County	21027960400	Directly adjoining
Kentucky	Butler County	21031930100	Mine closure, Directly adjoining
Kentucky	Butler County	21031930200	Directly adjoining
Kentucky	Butler County	21031930301	Directly adjoining
Kentucky	Butler County	21031930302	Directly adjoining
Kentucky	Butler County	21031930400	Directly adjoining
Kentucky	Butler County	21031930500	Mine closure, Directly adjoining
Kentucky	Caldwell County	21033920100	Directly adjoining
Kentucky	Caldwell County	21033920302	Directly adjoining
Kentucky	Campbell County	21037051901	Directly adjoining
Kentucky	Carter County	21043960300	Directly adjoining
Kentucky	Carter County	21043960500	Directly adjoining
Kentucky	Carter County	21043960601	Directly adjoining
Kentucky	Carter County	21043960602	Directly adjoining
Kentucky	Carter County	21043960700	Mine closure, Directly adjoining
Kentucky	Christian County	21047200902	Directly adjoining
Kentucky	Christian County	21047201000	Mine closure, Directly adjoining
Kentucky	Christian County	21047201100	Directly adjoining
Kentucky	Clark County	21049020103	Directly adjoining
Kentucky	Clark County	21049020105	Directly adjoining
Kentucky	Clark County	21049020400	Directly adjoining
Kentucky	Clark County	21049020500	Generating unit retirement
Kentucky	Clark County	21049020600	Directly adjoining
Kentucky	Clay County	21051950100	Mine closure, Directly adjoining
Kentucky	Clay County	21051950201	Mine closure, Directly adjoining
Kentucky	Clay County	21051950202	Mine closure, Directly adjoining
Kentucky	Clay County	21051950301	Directly adjoining
Kentucky	Clay County	21051950302	Mine closure, Directly adjoining
Kentucky	Clay County	21051950400	Mine closure, Directly adjoining
Kentucky	Clay County	21051950500	Mine closure, Directly adjoining
Kentucky	Clay County	21051950600	Mine closure, Directly adjoining
Kentucky	Crittenden County	21055930100	Directly adjoining
Kentucky	Daviess County	21059000100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kentucky	Daviess County	21059000200	Directly adjoining
Kentucky	Daviess County	21059000401	Directly adjoining
Kentucky	Daviess County	21059000402	Directly adjoining
Kentucky	Daviess County	21059000600	Directly adjoining
Kentucky	Daviess County	21059001300	Mine closure, Directly adjoining
Kentucky	Daviess County	21059001401	Generating unit retirement
Kentucky	Daviess County	21059001402	Directly adjoining
Kentucky	Daviess County	21059001501	Directly adjoining
Kentucky	Daviess County	21059001502	Mine closure, Directly adjoining
Kentucky	Daviess County	21059001601	Directly adjoining
Kentucky	Daviess County	21059001602	Directly adjoining
Kentucky	Daviess County	21059001701	Directly adjoining
Kentucky	Daviess County	21059001703	Directly adjoining
Kentucky	Daviess County	21059001800	Mine closure, Directly adjoining
Kentucky	Elliott County	21063920101	Directly adjoining
Kentucky	Elliott County	21063920102	Mine closure, Directly adjoining
Kentucky	Elliott County	21063920200	Mine closure, Directly adjoining
Kentucky	Estill County	21065920100	Directly adjoining
Kentucky	Estill County	21065920400	Directly adjoining
Kentucky	Fayette County	21067003701	Directly adjoining
Kentucky	Fayette County	21067003918	Directly adjoining
Kentucky	Fayette County	21067004007	Directly adjoining
Kentucky	Floyd County	21071920100	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920200	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920301	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920302	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920401	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920402	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920500	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920600	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920700	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920801	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920802	Mine closure, Directly adjoining
Kentucky	Floyd County	21071920900	Mine closure, Directly adjoining
Kentucky	Floyd County	21071921001	Mine closure, Directly adjoining
Kentucky	Floyd County	21071921002	Mine closure, Directly adjoining
Kentucky	Franklin County	21073070703	Directly adjoining
Kentucky	Franklin County	21073071001	Directly adjoining
Kentucky	Garrard County	21079970101	Directly adjoining
Kentucky	Garrard County	21079970102	Directly adjoining
Kentucky	Grayson County	21085950600	Directly adjoining
Kentucky	Grayson County	21085950700	Directly adjoining
Kentucky	Greenup County	21089040100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kentucky	Greenup County	21089040202	Directly adjoining
Kentucky	Greenup County	21089040300	Directly adjoining
Kentucky	Greenup County	21089040400	Mine closure, Directly adjoining
Kentucky	Greenup County	21089040502	Directly adjoining
Kentucky	Hancock County	21091960100	Directly adjoining
Kentucky	Hancock County	21091960200	Generating unit retirement
Kentucky	Hancock County	21091960300	Directly adjoining
Kentucky	Harlan County	21095970100	Mine closure, Directly adjoining
Kentucky	Harlan County	21095970200	Mine closure, Directly adjoining
Kentucky	Harlan County	21095970300	Mine closure, Directly adjoining
Kentucky	Harlan County	21095970400	Mine closure, Directly adjoining
Kentucky	Harlan County	21095970500	Mine closure, Directly adjoining
Kentucky	Harlan County	21095970600	Mine closure, Directly adjoining
Kentucky	Harlan County	21095970700	Mine closure, Directly adjoining
Kentucky	Harlan County	21095970800	Directly adjoining
Kentucky	Harlan County	21095970900	Mine closure, Directly adjoining
Kentucky	Harlan County	21095971000	Mine closure, Directly adjoining
Kentucky	Harlan County	21095971300	Mine closure, Directly adjoining
Kentucky	Henderson County	21101020602	Directly adjoining
Kentucky	Henderson County	21101020701	Directly adjoining
Kentucky	Henderson County	21101020703	Directly adjoining
Kentucky	Henderson County	21101020704	Mine closure, Directly adjoining
Kentucky	Henderson County	21101020800	Mine closure, Directly adjoining
Kentucky	Henderson County	21101020901	Directly adjoining
Kentucky	Henderson County	21101020902	Directly adjoining
Kentucky	Hopkins County	21107970100	Mine closure, Directly adjoining
Kentucky	Hopkins County	21107970200	Mine closure, Directly adjoining
Kentucky	Hopkins County	21107970301	Directly adjoining
Kentucky	Hopkins County	21107970302	Directly adjoining
Kentucky	Hopkins County	21107970400	Directly adjoining
Kentucky	Hopkins County	21107970500	Mine closure, Directly adjoining
Kentucky	Hopkins County	21107970600	Directly adjoining
Kentucky	Hopkins County	21107970700	Mine closure, Directly adjoining
Kentucky	Hopkins County	21107970800	Directly adjoining
Kentucky	Hopkins County	21107970900	Directly adjoining
Kentucky	Hopkins County	21107971000	Directly adjoining
Kentucky	Hopkins County	21107971100	Directly adjoining
Kentucky	Hopkins County	21107971300	Mine closure, Directly adjoining
Kentucky	Jackson County	21109960101	Mine closure, Directly adjoining
Kentucky	Jackson County	21109960102	Mine closure, Directly adjoining
Kentucky	Jackson County	21109960200	Directly adjoining
Kentucky	Jackson County	21109960301	Mine closure, Directly adjoining
Kentucky	Jackson County	21109960302	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kentucky	Jefferson County	21111000400	Directly adjoining
Kentucky	Jefferson County	21111000800	Directly adjoining
Kentucky	Jefferson County	21111012103	Directly adjoining
Kentucky	Jefferson County	21111012407	Directly adjoining
Kentucky	Jefferson County	21111012409	Directly adjoining
Kentucky	Jefferson County	21111012412	Directly adjoining
Kentucky	Jefferson County	21111012413	Directly adjoining
Kentucky	Jefferson County	21111012503	Directly adjoining
Kentucky	Jefferson County	21111012702	Directly adjoining
Kentucky	Jefferson County	21111012703	Generating unit retirement
Kentucky	Jessamine County	21113060402	Directly adjoining
Kentucky	Johnson County	21115960100	Mine closure, Directly adjoining
Kentucky	Johnson County	21115960200	Mine closure, Directly adjoining
Kentucky	Johnson County	21115960300	Mine closure, Directly adjoining
Kentucky	Johnson County	21115960401	Mine closure, Directly adjoining
Kentucky	Johnson County	21115960402	Mine closure, Directly adjoining
Kentucky	Johnson County	21115960500	Mine closure, Directly adjoining
Kentucky	Johnson County	21115960600	Mine closure, Directly adjoining
Kentucky	Knott County	21119960100	Mine closure, Directly adjoining
Kentucky	Knott County	21119960200	Mine closure, Directly adjoining
Kentucky	Knott County	21119960300	Mine closure, Directly adjoining
Kentucky	Knott County	21119960400	Mine closure, Directly adjoining
Kentucky	Knott County	21119960500	Mine closure, Directly adjoining
Kentucky	Knox County	21121930100	Mine closure, Directly adjoining
Kentucky	Knox County	21121930200	Mine closure, Directly adjoining
Kentucky	Knox County	21121930300	Mine closure, Directly adjoining
Kentucky	Knox County	21121930401	Directly adjoining
Kentucky	Knox County	21121930402	Directly adjoining
Kentucky	Knox County	21121930501	Mine closure, Directly adjoining
Kentucky	Knox County	21121930502	Mine closure, Directly adjoining
Kentucky	Knox County	21121930602	Mine closure, Directly adjoining
Kentucky	Knox County	21121930603	Directly adjoining
Kentucky	Knox County	21121930604	Mine closure, Directly adjoining
Kentucky	Knox County	21121930700	Mine closure, Directly adjoining
Kentucky	Laurel County	21125970100	Mine closure, Directly adjoining
Kentucky	Laurel County	21125970201	Directly adjoining
Kentucky	Laurel County	21125970202	Directly adjoining
Kentucky	Laurel County	21125970300	Directly adjoining
Kentucky	Laurel County	21125970400	Directly adjoining
Kentucky	Laurel County	21125970500	Mine closure, Directly adjoining
Kentucky	Laurel County	21125970600	Directly adjoining
Kentucky	Laurel County	21125970700	Directly adjoining
Kentucky	Laurel County	21125970800	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kentucky	Laurel County	21125970900	Mine closure, Directly adjoining
Kentucky	Laurel County	21125971001	Directly adjoining
Kentucky	Laurel County	21125971004	Directly adjoining
Kentucky	Laurel County	21125971101	Directly adjoining
Kentucky	Laurel County	21125971104	Directly adjoining
Kentucky	Lawrence County	21127930101	Generating unit retirement, Directly adjoining
Kentucky	Lawrence County	21127930102	Mine closure, Directly adjoining
Kentucky	Lawrence County	21127930200	Mine closure, Directly adjoining
Kentucky	Lawrence County	21127930300	Mine closure, Directly adjoining
Kentucky	Lawrence County	21127930400	Mine closure, Directly adjoining
Kentucky	Lawrence County	21127930500	Mine closure, Directly adjoining
Kentucky	Lee County	21129950100	Mine closure, Directly adjoining
Kentucky	Lee County	21129950200	Mine closure, Directly adjoining
Kentucky	Lee County	21129950300	Directly adjoining
Kentucky	Leslie County	21131920101	Mine closure, Directly adjoining
Kentucky	Leslie County	21131920102	Mine closure, Directly adjoining
Kentucky	Leslie County	21131920200	Mine closure, Directly adjoining
Kentucky	Leslie County	21131920300	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950100	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950201	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950202	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950300	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950401	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950403	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950404	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950500	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950601	Mine closure, Directly adjoining
Kentucky	Letcher County	21133950602	Mine closure, Directly adjoining
Kentucky	Lewis County	21135930300	Directly adjoining
Kentucky	Logan County	21141960200	Directly adjoining
Kentucky	McCracken County	21145031401	Directly adjoining
Kentucky	McCracken County	21145031501	Generating unit retirement, Directly adjoining
Kentucky	McCracken County	21145031502	Directly adjoining
Kentucky	McCreary County	21147960100	Directly adjoining
Kentucky	McCreary County	21147960200	Directly adjoining
Kentucky	McCreary County	21147960301	Directly adjoining
Kentucky	McCreary County	21147960302	Directly adjoining
Kentucky	McCreary County	21147960401	Directly adjoining
Kentucky	McCreary County	21147960402	Mine closure, Directly adjoining
Kentucky	McLean County	21149970100	Directly adjoining
Kentucky	McLean County	21149970200	Mine closure, Directly adjoining
Kentucky	McLean County	21149970500	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kentucky	Madison County	21151010101	Directly adjoining
Kentucky	Madison County	21151010104	Directly adjoining
Kentucky	Magoffin County	21153970100	Mine closure, Directly adjoining
Kentucky	Magoffin County	21153970201	Directly adjoining
Kentucky	Magoffin County	21153970202	Directly adjoining
Kentucky	Magoffin County	21153970300	Mine closure, Directly adjoining
Kentucky	Magoffin County	21153970400	Mine closure, Directly adjoining
Kentucky	Martin County	21159950100	Mine closure, Directly adjoining
Kentucky	Martin County	21159950201	Mine closure, Directly adjoining
Kentucky	Martin County	21159950202	Mine closure, Directly adjoining
Kentucky	Martin County	21159950300	Mine closure, Directly adjoining
Kentucky	Mason County	21161960100	Directly adjoining
Kentucky	Menifee County	21165960100	Directly adjoining
Kentucky	Mercer County	21167960100	Directly adjoining
Kentucky	Mercer County	21167960400	Directly adjoining
Kentucky	Mercer County	21167960500	Generating unit retirement
Kentucky	Morgan County	21175950100	Mine closure, Directly adjoining
Kentucky	Morgan County	21175950200	Directly adjoining
Kentucky	Morgan County	21175950300	Directly adjoining
Kentucky	Morgan County	21175950400	Mine closure, Directly adjoining
Kentucky	Morgan County	21175950500	Directly adjoining
Kentucky	Muhlenberg County	21177960100	Mine closure, Directly adjoining
Kentucky	Muhlenberg County	21177960201	Directly adjoining
Kentucky	Muhlenberg County	21177960202	Generating unit retirement, Directly adjoining
Kentucky	Muhlenberg County	21177960300	Mine closure, Directly adjoining
Kentucky	Muhlenberg County	21177960400	Mine closure, Directly adjoining
Kentucky	Muhlenberg County	21177960500	Directly adjoining
Kentucky	Muhlenberg County	21177960600	Mine closure, Directly adjoining
Kentucky	Muhlenberg County	21177960700	Generating unit retirement, Directly adjoining
Kentucky	Muhlenberg County	21177960800	Directly adjoining
Kentucky	Muhlenberg County	21177960900	Directly adjoining
Kentucky	Ohio County	21183920100	Mine closure, Directly adjoining
Kentucky	Ohio County	21183920200	Mine closure, Directly adjoining
Kentucky	Ohio County	21183920300	Directly adjoining
Kentucky	Ohio County	21183920400	Directly adjoining
Kentucky	Ohio County	21183920501	Directly adjoining
Kentucky	Ohio County	21183920502	Mine closure, Directly adjoining
Kentucky	Ohio County	21183920600	Mine closure, Directly adjoining
Kentucky	Ohio County	21183920700	Mine closure, Directly adjoining
Kentucky	Owsley County	21189930100	Mine closure, Directly adjoining
Kentucky	Owsley County	21189930200	Mine closure, Directly adjoining
Kentucky	Pendleton County	21191930101	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kentucky	Perry County	21193970300	Mine closure, Directly adjoining
Kentucky	Perry County	21193970400	Mine closure, Directly adjoining
Kentucky	Perry County	21193970501	Mine closure, Directly adjoining
Kentucky	Perry County	21193970502	Directly adjoining
Kentucky	Perry County	21193970601	Mine closure, Directly adjoining
Kentucky	Perry County	21193970602	Directly adjoining
Kentucky	Perry County	21193970700	Mine closure, Directly adjoining
Kentucky	Perry County	21193970800	Mine closure, Directly adjoining
Kentucky	Perry County	21193970900	Mine closure, Directly adjoining
Kentucky	Perry County	21193971000	Mine closure, Directly adjoining
Kentucky	Pike County	21195930100	Mine closure, Directly adjoining
Kentucky	Pike County	21195930201	Mine closure, Directly adjoining
Kentucky	Pike County	21195930202	Mine closure, Directly adjoining
Kentucky	Pike County	21195930301	Directly adjoining
Kentucky	Pike County	21195930302	Directly adjoining
Kentucky	Pike County	21195930400	Mine closure, Directly adjoining
Kentucky	Pike County	21195930500	Mine closure, Directly adjoining
Kentucky	Pike County	21195930600	Mine closure, Directly adjoining
Kentucky	Pike County	21195930700	Mine closure, Directly adjoining
Kentucky	Pike County	21195930800	Mine closure, Directly adjoining
Kentucky	Pike County	21195930900	Mine closure, Directly adjoining
Kentucky	Pike County	21195931000	Mine closure, Directly adjoining
Kentucky	Pike County	21195931101	Mine closure, Directly adjoining
Kentucky	Pike County	21195931102	Mine closure, Directly adjoining
Kentucky	Pike County	21195931200	Mine closure, Directly adjoining
Kentucky	Pike County	21195931300	Mine closure, Directly adjoining
Kentucky	Pike County	21195931400	Mine closure, Directly adjoining
Kentucky	Pike County	21195931500	Mine closure, Directly adjoining
Kentucky	Pike County	21195931600	Mine closure, Directly adjoining
Kentucky	Pike County	21195931700	Mine closure, Directly adjoining
Kentucky	Pike County	21195931800	Mine closure, Directly adjoining
Kentucky	Pike County	21195931900	Mine closure, Directly adjoining
Kentucky	Powell County	21197970101	Directly adjoining
Kentucky	Pulaski County	21199930102	Directly adjoining
Kentucky	Pulaski County	21199930404	Directly adjoining
Kentucky	Pulaski County	21199930802	Directly adjoining
Kentucky	Pulaski County	21199930900	Mine closure
Kentucky	Pulaski County	21199931000	Directly adjoining
Kentucky	Pulaski County	21199931101	Directly adjoining
Kentucky	Pulaski County	21199931103	Mine closure
Kentucky	Pulaski County	21199931104	Directly adjoining
Kentucky	Rockcastle County	21203950300	Directly adjoining
Kentucky	Rockcastle County	21203950400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Kentucky	Rowan County	21205950400	Directly adjoining
Kentucky	Trigg County	21221970100	Directly adjoining
Kentucky	Union County	21225950100	Mine closure, Directly adjoining
Kentucky	Union County	21225950201	Mine closure, Directly adjoining
Kentucky	Union County	21225950202	Mine closure, Directly adjoining
Kentucky	Union County	21225950300	Mine closure, Directly adjoining
Kentucky	Wayne County	21231920702	Directly adjoining
Kentucky	Webster County	21233960100	Mine closure, Generating unit retirement, Directly adjoining
Kentucky	Webster County	21233960200	Directly adjoining
Kentucky	Webster County	21233960300	Mine closure, Directly adjoining
Kentucky	Webster County	21233960400	Mine closure, Directly adjoining
Kentucky	Whitley County	21235920200	Directly adjoining
Kentucky	Whitley County	21235920301	Directly adjoining
Kentucky	Whitley County	21235920302	Mine closure, Directly adjoining
Kentucky	Whitley County	21235920401	Directly adjoining
Kentucky	Whitley County	21235920402	Directly adjoining
Kentucky	Whitley County	21235920501	Mine closure, Directly adjoining
Kentucky	Whitley County	21235920502	Mine closure, Directly adjoining
Kentucky	Whitley County	21235920601	Directly adjoining
Kentucky	Whitley County	21235920602	Mine closure, Directly adjoining
Kentucky	Whitley County	21235920700	Mine closure, Directly adjoining
Kentucky	Whitley County	21235920800	Mine closure, Directly adjoining
Kentucky	Wolfe County	21237930100	Mine closure, Directly adjoining
Kentucky	Wolfe County	21237930200	Directly adjoining
Kentucky	Woodford County	21239050103	Directly adjoining
Kentucky	Woodford County	21239050104	Directly adjoining
Kentucky	Woodford County	21239050107	Directly adjoining
Kentucky	Woodford County	21239050200	Directly adjoining
Kentucky	Woodford County	21239050300	Generating unit retirement
Kentucky	Woodford County	21239050400	Directly adjoining
Louisiana	Bienville Parish	22013970300	Directly adjoining
Louisiana	Bienville Parish	22013970400	Directly adjoining
Louisiana	Bossier Parish	22015011002	Directly adjoining
Louisiana	Caddo Parish	22017024002	Directly adjoining
Louisiana	De Soto Parish	22031950101	Directly adjoining
Louisiana	De Soto Parish	22031950102	Directly adjoining
Louisiana	De Soto Parish	22031950200	Directly adjoining
Louisiana	De Soto Parish	22031950300	Generating unit retirement, Directly adjoining
Louisiana	De Soto Parish	22031950400	Directly adjoining
Louisiana	De Soto Parish	22031950600	Directly adjoining
Louisiana	De Soto Parish	22031950700	Directly adjoining
Louisiana	Natchitoches Parish	22069000100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Louisiana	Natchitoches Parish	22069000200	Directly adjoining
Louisiana	Natchitoches Parish	22069000300	Directly adjoining
Louisiana	Red River Parish	22081960100	Mine closure, Directly adjoining
Louisiana	Red River Parish	22081960300	Directly adjoining
Maryland	Allegany County	24001001401	Directly adjoining
Maryland	Allegany County	24001001502	Directly adjoining
Maryland	Allegany County	24001001503	Directly adjoining
Maryland	Allegany County	24001001600	Directly adjoining
Maryland	Allegany County	24001001700	Directly adjoining
Maryland	Allegany County	24001001800	Directly adjoining
Maryland	Allegany County	24001001900	Mine closure, Directly adjoining
Maryland	Allegany County	24001002000	Directly adjoining
Maryland	Allegany County	24001002100	Mine closure, Directly adjoining
Maryland	Allegany County	24001002200	Mine closure, Generating unit retirement, Directly adjoining
Maryland	Anne Arundel County	24003730101	Directly adjoining
Maryland	Anne Arundel County	24003730102	Generating unit retirement
Maryland	Anne Arundel County	24003730204	Directly adjoining
Maryland	Anne Arundel County	24003730206	Directly adjoining
Maryland	Anne Arundel County	24003731308	Directly adjoining
Maryland	Anne Arundel County	24003731309	Directly adjoining
Maryland	Anne Arundel County	24003751102	Directly adjoining
Maryland	Anne Arundel County	24003751103	Directly adjoining
Maryland	Anne Arundel County	24003990000	Directly adjoining
Maryland	Baltimore County	24005451801	Directly adjoining
Maryland	Baltimore County	24005451802	Directly adjoining
Maryland	Baltimore County	24005451803	Generating unit retirement
Maryland	Calvert County	24009860200	Directly adjoining
Maryland	Calvert County	24009860600	Directly adjoining
Maryland	Calvert County	24009860701	Directly adjoining
Maryland	Charles County	24017850201	Generating unit retirement
Maryland	Charles County	24017850202	Directly adjoining
Maryland	Charles County	24017850300	Directly adjoining
Maryland	Charles County	24017850400	Directly adjoining
Maryland	Charles County	24017850802	Directly adjoining
Maryland	Charles County	24017851100	Directly adjoining
Maryland	Charles County	24017851200	Generating unit retirement
Maryland	Charles County	24017851301	Directly adjoining
Maryland	Charles County	24017851401	Directly adjoining
Maryland	Charles County	24017851402	Directly adjoining
Maryland	Charles County	24017851403	Directly adjoining
Maryland	Charles County	24017990000	Directly adjoining
Maryland	Frederick County	24021752201	Directly adjoining
Maryland	Frederick County	24021752302	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Maryland	Garrett County	24023000100	Directly adjoining
Maryland	Garrett County	24023000200	Directly adjoining
Maryland	Garrett County	24023000300	Mine closure, Directly adjoining
Maryland	Garrett County	24023000400	Mine closure, Directly adjoining
Maryland	Garrett County	24023000501	Directly adjoining
Maryland	Garrett County	24023000502	Directly adjoining
Maryland	Garrett County	24023000601	Mine closure, Directly adjoining
Maryland	Garrett County	24023000602	Directly adjoining
Maryland	Garrett County	24023000700	Mine closure, Directly adjoining
Maryland	Montgomery County	24031700400	Directly adjoining
Maryland	Montgomery County	24031700500	Generating unit retirement
Maryland	Montgomery County	24031700604	Directly adjoining
Maryland	Montgomery County	24031700611	Directly adjoining
Maryland	Prince George's County	24033800800	Directly adjoining
Maryland	Prince George's County	24033800900	Generating unit retirement
Maryland	Prince George's County	24033801003	Directly adjoining
Maryland	St. Mary's County	24037875202	Directly adjoining
Maryland	St. Mary's County	24037875300	Directly adjoining
Maryland	Washington County	24043001001	Directly adjoining
Maryland	Washington County	24043001002	Directly adjoining
Maryland	Washington County	24043010802	Generating unit retirement
Maryland	Washington County	24043010803	Directly adjoining
Maryland	Washington County	24043010901	Directly adjoining
Maryland	Washington County	24043010902	Directly adjoining
Maryland	Washington County	24043011700	Directly adjoining
Maryland	Baltimore city	24510250500	Directly adjoining
Massachusetts	Bristol County	25005640300	Directly adjoining
Massachusetts	Bristol County	25005640400	Directly adjoining
Massachusetts	Bristol County	25005640500	Directly adjoining
Massachusetts	Bristol County	25005641000	Directly adjoining
Massachusetts	Bristol County	25005642000	Directly adjoining
Massachusetts	Bristol County	25005642100	Directly adjoining
Massachusetts	Bristol County	25005644101	Directly adjoining
Massachusetts	Bristol County	25005644200	Generating unit retirement
Massachusetts	Bristol County	25005645101	Directly adjoining
Massachusetts	Bristol County	25005645102	Directly adjoining
Massachusetts	Essex County	25009203200	Directly adjoining
Massachusetts	Essex County	25009203301	Directly adjoining
Massachusetts	Essex County	25009203302	Directly adjoining
Massachusetts	Essex County	25009204300	Directly adjoining
Massachusetts	Essex County	25009204400	Generating unit retirement
Massachusetts	Essex County	25009204500	Directly adjoining
Massachusetts	Essex County	25009217402	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Massachusetts	Essex County	25009217500	Directly adjoining
Massachusetts	Essex County	25009217602	Directly adjoining
Massachusetts	Essex County	25009990100	Directly adjoining
Massachusetts	Hampden County	25013811700	Directly adjoining
Massachusetts	Hampden County	25013811800	Directly adjoining
Massachusetts	Hampden County	25013811900	Generating unit retirement
Massachusetts	Hampden County	25013812001	Directly adjoining
Massachusetts	Hampden County	25013812002	Directly adjoining
Massachusetts	Hampden County	25013812101	Directly adjoining
Massachusetts	Hampshire County	25015821101	Directly adjoining
Massachusetts	Hampshire County	25015821300	Directly adjoining
Massachusetts	Hampshire County	25015821400	Directly adjoining
Massachusetts	Hampshire County	25015822300	Directly adjoining
Massachusetts	Hampshire County	25015822401	Directly adjoining
Michigan	Bay County	26017285100	Directly adjoining
Michigan	Bay County	26017285201	Directly adjoining
Michigan	Bay County	26017285202	Generating unit retirement
Michigan	Bay County	26017285900	Directly adjoining
Michigan	Bay County	26017990000	Directly adjoining
Michigan	Branch County	26023950100	Directly adjoining
Michigan	Branch County	26023950800	Directly adjoining
Michigan	Calhoun County	26025003000	Directly adjoining
Michigan	Calhoun County	26025003100	Directly adjoining
Michigan	Delta County	26041970400	Directly adjoining
Michigan	Delta County	26041970500	Directly adjoining
Michigan	Delta County	26041970700	Directly adjoining
Michigan	Delta County	26041970800	Directly adjoining
Michigan	Delta County	26041970900	Generating unit retirement
Michigan	Delta County	26041971000	Directly adjoining
Michigan	Delta County	26041971100	Directly adjoining
Michigan	Delta County	26041990000	Directly adjoining
Michigan	Eaton County	26045020102	Directly adjoining
Michigan	Eaton County	26045020103	Directly adjoining
Michigan	Eaton County	26045020201	Directly adjoining
Michigan	Eaton County	26045020202	Directly adjoining
Michigan	Eaton County	26045020302	Directly adjoining
Michigan	Eaton County	26045020303	Generating unit retirement
Michigan	Eaton County	26045020305	Directly adjoining
Michigan	Eaton County	26045020306	Directly adjoining
Michigan	Eaton County	26045021401	Directly adjoining
Michigan	Hillsdale County	26059050200	Directly adjoining
Michigan	Hillsdale County	26059050300	Generating unit retirement
Michigan	Hillsdale County	26059050400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Michigan	Hillsdale County	26059050500	Directly adjoining
Michigan	Huron County	26063950200	Directly adjoining
Michigan	Huron County	26063950900	Directly adjoining
Michigan	Huron County	26063951200	Generating unit retirement
Michigan	Huron County	26063990000	Directly adjoining
Michigan	Ingham County	26065000400	Directly adjoining
Michigan	Ingham County	26065001703	Directly adjoining
Michigan	Ingham County	26065002000	Directly adjoining
Michigan	Ingham County	26065003400	Directly adjoining
Michigan	Ingham County	26065003500	Directly adjoining
Michigan	Ingham County	26065006700	Directly adjoining
Michigan	Ingham County	26065006800	Directly adjoining
Michigan	Ingham County	26065007000	Directly adjoining
Michigan	Ingham County	26065980200	Generating unit retirement
Michigan	Jackson County	26075006403	Directly adjoining
Michigan	Marquette County	26103000200	Directly adjoining
Michigan	Marquette County	26103000300	Directly adjoining
Michigan	Marquette County	26103000500	Directly adjoining
Michigan	Marquette County	26103000600	Generating unit retirement
Michigan	Marquette County	26103000700	Directly adjoining
Michigan	Marquette County	26103001100	Directly adjoining
Michigan	Marquette County	26103001300	Directly adjoining
Michigan	Marquette County	26103002801	Directly adjoining
Michigan	Marquette County	26103002802	Generating unit retirement
Michigan	Marquette County	26103002901	Directly adjoining
Michigan	Marquette County	26103990000	Directly adjoining
Michigan	Menominee County	26109960500	Directly adjoining
Michigan	Menominee County	26109960600	Directly adjoining
Michigan	Menominee County	26109960700	Generating unit retirement
Michigan	Menominee County	26109990000	Directly adjoining
Michigan	Monroe County	26115832600	Directly adjoining
Michigan	Monroe County	26115833600	Directly adjoining
Michigan	Monroe County	26115833700	Generating unit retirement
Michigan	Monroe County	26115990000	Directly adjoining
Michigan	Muskegon County	26121000900	Directly adjoining
Michigan	Muskegon County	26121001000	Generating unit retirement
Michigan	Muskegon County	26121001500	Directly adjoining
Michigan	Muskegon County	26121001600	Directly adjoining
Michigan	Muskegon County	26121001700	Directly adjoining
Michigan	Muskegon County	26121001800	Generating unit retirement
Michigan	Muskegon County	26121001901	Directly adjoining
Michigan	Muskegon County	26121002300	Directly adjoining
Michigan	Muskegon County	26121003200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Michigan	Muskegon County	26121003300	Directly adjoining
Michigan	Muskegon County	26121003400	Directly adjoining
Michigan	Muskegon County	26121004200	Directly adjoining
Michigan	Muskegon County	26121990000	Directly adjoining
Michigan	Ontonagon County	26131970100	Directly adjoining
Michigan	Ontonagon County	26131970200	Generating unit retirement
Michigan	Ontonagon County	26131970300	Directly adjoining
Michigan	Ontonagon County	26131990100	Directly adjoining
Michigan	Ottawa County	26139020600	Directly adjoining
Michigan	Ottawa County	26139020900	Generating unit retirement
Michigan	Ottawa County	26139021000	Directly adjoining
Michigan	Ottawa County	26139021100	Directly adjoining
Michigan	Ottawa County	26139021203	Directly adjoining
Michigan	Ottawa County	26139024901	Directly adjoining
Michigan	Ottawa County	26139024902	Generating unit retirement
Michigan	Ottawa County	26139025101	Directly adjoining
Michigan	St. Clair County	26147620000	Directly adjoining
Michigan	St. Clair County	26147637100	Directly adjoining
Michigan	St. Clair County	26147637200	Directly adjoining
Michigan	St. Clair County	26147637300	Generating unit retirement
Michigan	St. Clair County	26147640100	Directly adjoining
Michigan	St. Clair County	26147640200	Directly adjoining
Michigan	St. Clair County	26147641000	Directly adjoining
Michigan	St. Clair County	26147642000	Directly adjoining
Michigan	St. Clair County	26147643000	Generating unit retirement
Michigan	St. Clair County	26147644000	Directly adjoining
Michigan	Sanilac County	26151970100	Directly adjoining
Michigan	Sanilac County	26151970200	Directly adjoining
Michigan	Sanilac County	26151990000	Directly adjoining
Michigan	Tuscola County	26157000300	Directly adjoining
Michigan	Tuscola County	26157990000	Directly adjoining
Michigan	Wayne County	26163524600	Directly adjoining
Michigan	Wayne County	26163579100	Directly adjoining
Michigan	Wayne County	26163579200	Directly adjoining
Michigan	Wayne County	26163594401	Directly adjoining
Michigan	Wayne County	26163596100	Directly adjoining
Michigan	Wayne County	26163596300	Directly adjoining
Michigan	Wayne County	26163597000	Directly adjoining
Michigan	Wayne County	26163982301	Generating unit retirement
Michigan	Wayne County	26163982302	Directly adjoining
Michigan	Wayne County	26163984100	Directly adjoining
Michigan	Wayne County	26163985600	Generating unit retirement
Michigan	Wayne County	26163987000	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Minnesota	Benton County	27009020202	Directly adjoining
Minnesota	Benton County	27009020205	Directly adjoining
Minnesota	Benton County	27009020206	Generating unit retirement
Minnesota	Benton County	27009020300	Directly adjoining
Minnesota	Benton County	27009021103	Directly adjoining
Minnesota	Benton County	27009021104	Directly adjoining
Minnesota	Cass County	27021960100	Directly adjoining
Minnesota	Cook County	27031480101	Directly adjoining
Minnesota	Cook County	27031480102	Generating unit retirement
Minnesota	Cook County	27031480200	Directly adjoining
Minnesota	Cook County	27031990000	Directly adjoining
Minnesota	Crow Wing County	27035950901	Directly adjoining
Minnesota	Crow Wing County	27035951000	Directly adjoining
Minnesota	Crow Wing County	27035951100	Directly adjoining
Minnesota	Crow Wing County	27035951200	Generating unit retirement
Minnesota	Crow Wing County	27035951301	Directly adjoining
Minnesota	Crow Wing County	27035951303	Directly adjoining
Minnesota	Crow Wing County	27035951304	Directly adjoining
Minnesota	Dakota County	27037060710	Directly adjoining
Minnesota	Dakota County	27037060711	Directly adjoining
Minnesota	Dakota County	27037060714	Directly adjoining
Minnesota	Dakota County	27037060721	Directly adjoining
Minnesota	Dakota County	27037060725	Directly adjoining
Minnesota	Dakota County	27037060737	Directly adjoining
Minnesota	Dakota County	27037060738	Directly adjoining
Minnesota	Dakota County	27037060747	Directly adjoining
Minnesota	Dakota County	27037060748	Generating unit retirement
Minnesota	Hennepin County	27053025100	Directly adjoining
Minnesota	Hennepin County	27053025301	Directly adjoining
Minnesota	Hennepin County	27053025801	Directly adjoining
Minnesota	Houston County	27055020200	Directly adjoining
Minnesota	Houston County	27055020900	Directly adjoining
Minnesota	Itasca County	27061480301	Directly adjoining
Minnesota	Itasca County	27061480302	Directly adjoining
Minnesota	Itasca County	27061480701	Directly adjoining
Minnesota	Itasca County	27061480702	Generating unit retirement
Minnesota	Itasca County	27061480801	Directly adjoining
Minnesota	Itasca County	27061480804	Directly adjoining
Minnesota	Itasca County	27061480805	Directly adjoining
Minnesota	Itasca County	27061480902	Directly adjoining
Minnesota	Itasca County	27061940000	Directly adjoining
Minnesota	Lake County	27075370101	Directly adjoining
Minnesota	Olmsted County	27109000100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Minnesota	Olmsted County	27109000200	Directly adjoining
Minnesota	Olmsted County	27109000500	Directly adjoining
Minnesota	Olmsted County	27109000600	Generating unit retirement
Minnesota	Olmsted County	27109001301	Directly adjoining
Minnesota	Olmsted County	27109001401	Directly adjoining
Minnesota	Olmsted County	27109001502	Directly adjoining
Minnesota	Olmsted County	27109001503	Directly adjoining
Minnesota	Olmsted County	27109001601	Directly adjoining
Minnesota	Olmsted County	27109002300	Directly adjoining
Minnesota	Otter Tail County	27111960800	Directly adjoining
Minnesota	Otter Tail County	27111960900	Directly adjoining
Minnesota	Otter Tail County	27111961000	Directly adjoining
Minnesota	Otter Tail County	27111961100	Generating unit retirement
Minnesota	Otter Tail County	27111961700	Directly adjoining
Minnesota	Stearns County	27145010101	Directly adjoining
Minnesota	Stearns County	27145010103	Directly adjoining
Minnesota	Wabasha County	27157490100	Directly adjoining
Minnesota	Wabasha County	27157490200	Directly adjoining
Mississippi	DeSoto County	28033070101	Directly adjoining
Mississippi	Forrest County	28035000800	Directly adjoining
Mississippi	Forrest County	28035010601	Directly adjoining
Mississippi	Kemper County	28069030100	Directly adjoining
Mississippi	Kemper County	28069030200	Mine closure
Mississippi	Lamar County	28073020203	Directly adjoining
Mississippi	Lamar County	28073020204	Directly adjoining
Mississippi	Lamar County	28073020206	Directly adjoining
Mississippi	Lamar County	28073020303	Generating unit retirement
Mississippi	Lamar County	28073020304	Directly adjoining
Mississippi	Lamar County	28073020305	Directly adjoining
Mississippi	Lamar County	28073020402	Directly adjoining
Mississippi	Lauderdale County	28075010205	Directly adjoining
Mississippi	Lauderdale County	28075010301	Directly adjoining
Mississippi	Lauderdale County	28075010304	Directly adjoining
Mississippi	Monroe County	28095950101	Directly adjoining
Mississippi	Monroe County	28095950501	Directly adjoining
Mississippi	Monroe County	28095950502	Directly adjoining
Mississippi	Neshoba County	28099010101	Directly adjoining
Mississippi	Neshoba County	28099010102	Directly adjoining
Mississippi	Neshoba County	28099010600	Directly adjoining
Mississippi	Newton County	28101050100	Directly adjoining
Mississippi	Noxubee County	28103950100	Directly adjoining
Mississippi	Noxubee County	28103950200	Directly adjoining
Mississippi	Winston County	28159950500	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Missouri	Barton County	29011960200	Directly adjoining
Missouri	Bates County	29013070100	Directly adjoining
Missouri	Bates County	29013070200	Mine closure, Directly adjoining
Missouri	Bates County	29013070300	Directly adjoining
Missouri	Bates County	29013070400	Directly adjoining
Missouri	Benton County	29015460702	Directly adjoining
Missouri	Boone County	29019000200	Directly adjoining
Missouri	Boone County	29019000700	Directly adjoining
Missouri	Boone County	29019000900	Generating unit retirement
Missouri	Boone County	29019001001	Directly adjoining
Missouri	Boone County	29019001402	Directly adjoining
Missouri	Boone County	29019001507	Directly adjoining
Missouri	Boone County	29019002100	Directly adjoining
Missouri	Callaway County	29027070200	Directly adjoining
Missouri	Callaway County	29027070602	Directly adjoining
Missouri	Callaway County	29027070701	Directly adjoining
Missouri	Cass County	29037061100	Directly adjoining
Missouri	Christian County	29043020202	Directly adjoining
Missouri	Christian County	29043020207	Directly adjoining
Missouri	Christian County	29043020307	Directly adjoining
Missouri	Clay County	29047021401	Directly adjoining
Missouri	Clay County	29047021403	Directly adjoining
Missouri	Clay County	29047021601	Directly adjoining
Missouri	Clay County	29047021602	Generating unit retirement, Directly adjoining
Missouri	Clay County	29047021701	Directly adjoining
Missouri	Clay County	29047021704	Directly adjoining
Missouri	Clay County	29047021811	Directly adjoining
Missouri	Clay County	29047022301	Directly adjoining
Missouri	Cole County	29051020198	Directly adjoining
Missouri	Gasconade County	29073960200	Directly adjoining
Missouri	Greene County	29077003801	Directly adjoining
Missouri	Greene County	29077004002	Directly adjoining
Missouri	Greene County	29077004003	Generating unit retirement
Missouri	Greene County	29077004004	Directly adjoining
Missouri	Greene County	29077004005	Directly adjoining
Missouri	Greene County	29077004108	Directly adjoining
Missouri	Greene County	29077004109	Directly adjoining
Missouri	Henry County	29083950200	Directly adjoining
Missouri	Henry County	29083950300	Directly adjoining
Missouri	Henry County	29083950400	Generating unit retirement
Missouri	Henry County	29083950500	Directly adjoining
Missouri	Henry County	29083950600	Directly adjoining
Missouri	Jackson County	29095014902	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Missouri	Jackson County	29095014903	Directly adjoining
Missouri	Jackson County	29095015000	Generating unit retirement, Directly adjoining
Missouri	Jackson County	29095015100	Directly adjoining
Missouri	Jackson County	29095017700	Directly adjoining
Missouri	Jasper County	29097011202	Directly adjoining
Missouri	Jasper County	29097011301	Directly adjoining
Missouri	Jasper County	29097011302	Directly adjoining
Missouri	Jasper County	29097011502	Directly adjoining
Missouri	Jasper County	29097012201	Generating unit retirement, Directly adjoining
Missouri	Jasper County	29097012202	Directly adjoining
Missouri	Jefferson County	29099700111	Directly adjoining
Missouri	Jefferson County	29099700115	Directly adjoining
Missouri	Lafayette County	29107090100	Directly adjoining
Missouri	Montgomery County	29139970300	Directly adjoining
Missouri	Newton County	29145020601	Directly adjoining
Missouri	Osage County	29151490100	Generating unit retirement
Missouri	Osage County	29151490200	Directly adjoining
Missouri	Osage County	29151490300	Directly adjoining
Missouri	Phelps County	29161890401	Generating unit retirement
Missouri	Phelps County	29161890402	Directly adjoining
Missouri	Phelps County	29161890500	Directly adjoining
Missouri	Phelps County	29161890700	Directly adjoining
Missouri	Phelps County	29161890800	Directly adjoining
Missouri	Pike County	29163460100	Directly adjoining
Missouri	Pike County	29163460200	Generating unit retirement
Missouri	Pike County	29163460300	Directly adjoining
Missouri	Pike County	29163460400	Directly adjoining
Missouri	Pike County	29163460500	Directly adjoining
Missouri	Ralls County	29173470100	Directly adjoining
Missouri	Ralls County	29173470200	Directly adjoining
Missouri	Ray County	29177080300	Directly adjoining
Missouri	St. Charles County	29183310100	Directly adjoining
Missouri	St. Clair County	29185480100	Directly adjoining
Missouri	St. Clair County	29185480300	Directly adjoining
Missouri	St. Louis County	29189220445	Directly adjoining
Missouri	St. Louis County	29189220446	Directly adjoining
Missouri	St. Louis County	29189220451	Directly adjoining
Missouri	St. Louis County	29189220452	Generating unit retirement
Missouri	Saline County	29195090200	Directly adjoining
Missouri	Saline County	29195090300	Generating unit retirement
Missouri	Saline County	29195090400	Directly adjoining
Missouri	Saline County	29195090500	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Missouri	Saline County	29195090600	Directly adjoining
Missouri	Vernon County	29217950200	Directly adjoining
Missouri	Vernon County	29217950500	Directly adjoining
Montana	Big Horn County	30003000100	Directly adjoining
Montana	Big Horn County	30003940400	Directly adjoining
Montana	Big Horn County	30003940500	Directly adjoining
Montana	Big Horn County	30003940700	Directly adjoining
Montana	Custer County	30017961300	Directly adjoining
Montana	Fergus County	30027030100	Directly adjoining
Montana	Golden Valley County	30037000100	Directly adjoining
Montana	Musselshell County	30065000100	Mine closure
Montana	Musselshell County	30065000200	Directly adjoining
Montana	Petroleum County	30069000100	Directly adjoining
Montana	Powder River County	30075000100	Directly adjoining
Montana	Richland County	30083070100	Directly adjoining
Montana	Richland County	30083070200	Directly adjoining
Montana	Richland County	30083070301	Directly adjoining
Montana	Richland County	30083070302	Directly adjoining
Montana	Richland County	30083070400	Generating unit retirement
Montana	Rosebud County	30087000100	Directly adjoining
Montana	Rosebud County	30087000200	Mine closure, Generating unit retirement
Montana	Rosebud County	30087000300	Directly adjoining
Montana	Rosebud County	30087940400	Directly adjoining
Montana	Treasure County	30103963500	Directly adjoining
Montana	Yellowstone County	30111000200	Directly adjoining
Montana	Yellowstone County	30111000300	Generating unit retirement
Montana	Yellowstone County	30111000401	Directly adjoining
Montana	Yellowstone County	30111000402	Directly adjoining
Montana	Yellowstone County	30111000800	Directly adjoining
Montana	Yellowstone County	30111000901	Directly adjoining
Montana	Yellowstone County	30111000902	Directly adjoining
Montana	Yellowstone County	30111001000	Directly adjoining
Montana	Yellowstone County	30111001402	Directly adjoining
Montana	Yellowstone County	30111001502	Directly adjoining
Montana	Yellowstone County	30111940001	Directly adjoining
Nebraska	Dakota County	31043010400	Directly adjoining
Nebraska	Douglas County	31055000200	Generating unit retirement
Nebraska	Douglas County	31055000300	Directly adjoining
Nebraska	Douglas County	31055000400	Directly adjoining
Nebraska	Douglas County	31055006202	Directly adjoining
Nebraska	Douglas County	31055007303	Directly adjoining
Nebraska	Douglas County	31055007304	Directly adjoining
Nebraska	Sarpy County	31153010103	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Nebraska	Thurston County	31173940200	Directly adjoining
Nevada	Clark County	32003003314	Directly adjoining
Nevada	Clark County	32003003316	Directly adjoining
Nevada	Clark County	32003003649	Directly adjoining
Nevada	Clark County	32003003657	Directly adjoining
Nevada	Clark County	32003005613	Directly adjoining
Nevada	Clark County	32003005702	Generating unit retirement
Nevada	Clark County	32003005704	Directly adjoining
Nevada	Clark County	32003005705	Directly adjoining
Nevada	Clark County	32003005818	Directly adjoining
Nevada	Clark County	32003005902	Generating unit retirement
Nevada	Clark County	32003005904	Directly adjoining
Nevada	Clark County	32003007500	Directly adjoining
Nevada	Clark County	32003007600	Directly adjoining
Nevada	Clark County	32003007802	Directly adjoining
Nevada	Lincoln County	32017950200	Directly adjoining
Nevada	Nye County	32023960411	Directly adjoining
Nevada	Nye County	32023980500	Directly adjoining
New Jersey	Atlantic County	34001011600	Directly adjoining
New Jersey	Atlantic County	34001011804	Directly adjoining
New Jersey	Atlantic County	34001012702	Directly adjoining
New Jersey	Atlantic County	34001012802	Directly adjoining
New Jersey	Burlington County	34005701502	Directly adjoining
New Jersey	Burlington County	34005701700	Directly adjoining
New Jersey	Burlington County	34005704202	Directly adjoining
New Jersey	Cape May County	34009020203	Directly adjoining
New Jersey	Cape May County	34009020205	Directly adjoining
New Jersey	Cape May County	34009020206	Directly adjoining
New Jersey	Cape May County	34009020301	Generating unit retirement
New Jersey	Cape May County	34009020302	Directly adjoining
New Jersey	Cape May County	34009020400	Directly adjoining
New Jersey	Gloucester County	34015500500	Directly adjoining
New Jersey	Gloucester County	34015500602	Directly adjoining
New Jersey	Gloucester County	34015502201	Directly adjoining
New Jersey	Gloucester County	34015502202	Directly adjoining
New Jersey	Gloucester County	34015502204	Directly adjoining
New Jersey	Gloucester County	34015502400	Generating unit retirement
New Jersey	Mercer County	34021000100	Directly adjoining
New Jersey	Mercer County	34021000200	Directly adjoining
New Jersey	Mercer County	34021000300	Directly adjoining
New Jersey	Mercer County	34021002500	Generating unit retirement
New Jersey	Mercer County	34021002601	Directly adjoining
New Jersey	Mercer County	34021002602	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
New Jersey	Mercer County	34021003003	Directly adjoining
New Jersey	Mercer County	34021003004	Directly adjoining
New Jersey	Salem County	34033020100	Directly adjoining
New Jersey	Salem County	34033020300	Directly adjoining
New Jersey	Salem County	34033020400	Directly adjoining
New Jersey	Salem County	34033020500	Directly adjoining
New Jersey	Salem County	34033020600	Generating unit retirement
New Jersey	Salem County	34033020700	Directly adjoining
New Jersey	Salem County	34033021300	Directly adjoining
New Jersey	Salem County	34033021400	Directly adjoining
New Jersey	Salem County	34033021500	Directly adjoining
New Jersey	Warren County	34041031200	Directly adjoining
New Jersey	Warren County	34041031601	Directly adjoining
New Jersey	Warren County	34041031700	Directly adjoining
New Mexico	Catron County	35003976401	Directly adjoining
New Mexico	Catron County	35003976402	Mine closure
New Mexico	Cibola County	35006974701	Directly adjoining
New Mexico	Cibola County	35006974702	Directly adjoining
New Mexico	Colfax County	35007950500	Directly adjoining
New Mexico	Colfax County	35007950600	Mine closure, Generating unit retirement, Directly adjoining
New Mexico	Colfax County	35007950700	Directly adjoining
New Mexico	Grant County	35017964100	Directly adjoining
New Mexico	McKinley County	35031943500	Directly adjoining
New Mexico	McKinley County	35031943602	Directly adjoining
New Mexico	McKinley County	35031944000	Directly adjoining
New Mexico	McKinley County	35031946001	Directly adjoining
New Mexico	McKinley County	35031946002	Directly adjoining
New Mexico	McKinley County	35031946003	Generating unit retirement
New Mexico	San Juan County	35045000202	Directly adjoining
New Mexico	San Juan County	35045000401	Directly adjoining
New Mexico	San Juan County	35045000402	Directly adjoining
New Mexico	San Juan County	35045000503	Directly adjoining
New Mexico	San Juan County	35045000504	Mine closure, Generating unit retirement, Directly adjoining
New Mexico	San Juan County	35045000506	Directly adjoining
New Mexico	San Juan County	35045000507	Directly adjoining
New Mexico	San Juan County	35045000611	Directly adjoining
New Mexico	San Juan County	35045000613	Directly adjoining
New Mexico	San Juan County	35045942801	Directly adjoining
New Mexico	San Juan County	35045942802	Directly adjoining
New Mexico	San Juan County	35045942900	Directly adjoining
New Mexico	San Juan County	35045943000	Generating unit retirement, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
New Mexico	San Juan County	35045943100	Directly adjoining
New Mexico	San Juan County	35045943201	Directly adjoining
New Mexico	San Juan County	35045943300	Mine closure, Directly adjoining
New Mexico	Sierra County	35051962402	Directly adjoining
New Mexico	Socorro County	35053940000	Directly adjoining
New Mexico	Socorro County	35053978200	Directly adjoining
New York	Broome County	36007012900	Directly adjoining
New York	Broome County	36007013000	Generating unit retirement
New York	Broome County	36007013100	Directly adjoining
New York	Broome County	36007013201	Directly adjoining
New York	Broome County	36007013202	Directly adjoining
New York	Broome County	36007013304	Directly adjoining
New York	Broome County	36007013900	Directly adjoining
New York	Broome County	36007014100	Directly adjoining
New York	Broome County	36007014200	Directly adjoining
New York	Broome County	36007014301	Directly adjoining
New York	Cayuga County	36011040900	Directly adjoining
New York	Cayuga County	36011041001	Directly adjoining
New York	Chautauqua County	36013035500	Directly adjoining
New York	Chautauqua County	36013035600	Generating unit retirement
New York	Chautauqua County	36013035700	Directly adjoining
New York	Chautauqua County	36013036000	Directly adjoining
New York	Chautauqua County	36013990000	Directly adjoining
New York	Erie County	36029005600	Directly adjoining
New York	Erie County	36029005801	Directly adjoining
New York	Erie County	36029005802	Directly adjoining
New York	Erie County	36029005900	Directly adjoining
New York	Erie County	36029007304	Directly adjoining
New York	Erie County	36029007306	Directly adjoining
New York	Erie County	36029008202	Directly adjoining
New York	Erie County	36029008300	Directly adjoining
New York	Erie County	36029008400	Generating unit retirement
New York	Erie County	36029008800	Directly adjoining
New York	Niagara County	36063024101	Directly adjoining
New York	Niagara County	36063024102	Generating unit retirement
New York	Niagara County	36063024201	Directly adjoining
New York	Niagara County	36063024202	Directly adjoining
New York	Niagara County	36063990000	Directly adjoining
New York	Onondaga County	36067000100	Directly adjoining
New York	Onondaga County	36067002000	Directly adjoining
New York	Onondaga County	36067011500	Directly adjoining
New York	Onondaga County	36067011800	Directly adjoining
New York	Onondaga County	36067011900	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
New York	Onondaga County	36067012100	Directly adjoining
New York	Onondaga County	36067012700	Directly adjoining
New York	Onondaga County	36067012800	Generating unit retirement
New York	Onondaga County	36067012900	Directly adjoining
New York	Onondaga County	36067013400	Directly adjoining
New York	Onondaga County	36067013701	Directly adjoining
New York	Orleans County	36073040200	Directly adjoining
New York	Orleans County	36073401200	Directly adjoining
New York	Orleans County	36073990000	Directly adjoining
New York	Seneca County	36099951000	Directly adjoining
New York	Tompkins County	36109001500	Directly adjoining
New York	Tompkins County	36109001600	Directly adjoining
New York	Tompkins County	36109002100	Directly adjoining
New York	Tompkins County	36109002200	Directly adjoining
New York	Tompkins County	36109002300	Generating unit retirement
North Carolina	Bladen County	37017950200	Directly adjoining
North Carolina	Bladen County	37017950301	Directly adjoining
North Carolina	Bladen County	37017950401	Generating unit retirement
North Carolina	Bladen County	37017950402	Directly adjoining
North Carolina	Brunswick County	37019020101	Directly adjoining
North Carolina	Brunswick County	37019020108	Directly adjoining
North Carolina	Brunswick County	37019020205	Directly adjoining
North Carolina	Buncombe County	37021002203	Generating unit retirement
North Carolina	Buncombe County	37021002204	Directly adjoining
North Carolina	Buncombe County	37021002205	Directly adjoining
North Carolina	Buncombe County	37021002303	Directly adjoining
North Carolina	Chatham County	37037020104	Directly adjoining
North Carolina	Chatham County	37037020600	Directly adjoining
North Carolina	Chatham County	37037020702	Generating unit retirement
North Carolina	Chatham County	37037020703	Directly adjoining
North Carolina	Chatham County	37037020704	Directly adjoining
North Carolina	Chatham County	37037020803	Directly adjoining
North Carolina	Cleveland County	37045951501	Directly adjoining
North Carolina	Cleveland County	37045951502	Generating unit retirement
North Carolina	Cleveland County	37045951503	Directly adjoining
North Carolina	Cleveland County	37045951601	Directly adjoining
North Carolina	Davidson County	37057061704	Directly adjoining
North Carolina	Davidson County	37057061807	Directly adjoining
North Carolina	Davidson County	37057062001	Directly adjoining
North Carolina	Edgecombe County	37065020400	Directly adjoining
North Carolina	Edgecombe County	37065020600	Generating unit retirement
North Carolina	Edgecombe County	37065020700	Directly adjoining
North Carolina	Edgecombe County	37065021100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
North Carolina	Edgecombe County	37065021300	Directly adjoining
North Carolina	Gaston County	37071030103	Directly adjoining
North Carolina	Gaston County	37071030104	Generating unit retirement
North Carolina	Gaston County	37071030106	Directly adjoining
North Carolina	Gaston County	37071032405	Directly adjoining
North Carolina	Gaston County	37071032406	Generating unit retirement
North Carolina	Gaston County	37071032510	Directly adjoining
North Carolina	Granville County	37077970101	Directly adjoining
North Carolina	Halifax County	37083930100	Generating unit retirement
North Carolina	Halifax County	37083930200	Directly adjoining
North Carolina	Halifax County	37083930400	Directly adjoining
North Carolina	Halifax County	37083930600	Directly adjoining
North Carolina	Halifax County	37083931000	Directly adjoining
North Carolina	Harnett County	37085071002	Directly adjoining
North Carolina	Henderson County	37089930600	Directly adjoining
North Carolina	Henderson County	37089930701	Directly adjoining
North Carolina	Lee County	37105030702	Directly adjoining
North Carolina	Lee County	37105030703	Directly adjoining
North Carolina	Lee County	37105030704	Directly adjoining
North Carolina	Lincoln County	37109071102	Directly adjoining
North Carolina	Mecklenburg County	37119005908	Directly adjoining
North Carolina	Mecklenburg County	37119005919	Directly adjoining
North Carolina	Mecklenburg County	37119005920	Directly adjoining
North Carolina	Mecklenburg County	37119005922	Directly adjoining
North Carolina	Mecklenburg County	37119006014	Directly adjoining
North Carolina	Mecklenburg County	37119006103	Directly adjoining
North Carolina	Mecklenburg County	37119006222	Directly adjoining
North Carolina	Nash County	37127010400	Directly adjoining
North Carolina	Nash County	37127010603	Directly adjoining
North Carolina	Nash County	37127010604	Directly adjoining
North Carolina	Nash County	37127010700	Directly adjoining
North Carolina	New Hanover County	37129010900	Directly adjoining
North Carolina	New Hanover County	37129011300	Directly adjoining
North Carolina	New Hanover County	37129011400	Directly adjoining
North Carolina	New Hanover County	37129011503	Generating unit retirement
North Carolina	New Hanover County	37129011504	Directly adjoining
North Carolina	Northampton County	37131920301	Directly adjoining
North Carolina	Northampton County	37131920401	Directly adjoining
North Carolina	Pender County	37141920502	Directly adjoining
North Carolina	Pender County	37141920602	Directly adjoining
North Carolina	Robeson County	37155960802	Directly adjoining
North Carolina	Robeson County	37155961000	Directly adjoining
North Carolina	Robeson County	37155961100	Generating unit retirement

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
North Carolina	Robeson County	37155961200	Directly adjoining
North Carolina	Robeson County	37155961302	Directly adjoining
North Carolina	Robeson County	37155961500	Directly adjoining
North Carolina	Rockingham County	37157040101	Directly adjoining
North Carolina	Rockingham County	37157040200	Generating unit retirement
North Carolina	Rockingham County	37157040300	Directly adjoining
North Carolina	Rockingham County	37157040400	Directly adjoining
North Carolina	Rockingham County	37157041100	Directly adjoining
North Carolina	Rowan County	37159050800	Directly adjoining
North Carolina	Rowan County	37159050901	Generating unit retirement
North Carolina	Rowan County	37159050903	Directly adjoining
North Carolina	Rowan County	37159050904	Directly adjoining
North Carolina	Rutherford County	37161961102	Directly adjoining
North Carolina	Rutherford County	37161961103	Directly adjoining
North Carolina	Vance County	37181960100	Directly adjoining
North Carolina	Vance County	37181960200	Directly adjoining
North Carolina	Wake County	37183053209	Directly adjoining
North Carolina	Wake County	37183053410	Directly adjoining
North Carolina	Wake County	37183053411	Directly adjoining
North Carolina	Wake County	37183053426	Directly adjoining
North Carolina	Wake County	37183053427	Directly adjoining
North Carolina	Wake County	37183053428	Directly adjoining
North Carolina	Warren County	37185950101	Directly adjoining
North Carolina	Warren County	37185950201	Directly adjoining
North Carolina	Warren County	37185950202	Directly adjoining
North Carolina	Wayne County	37191000601	Directly adjoining
North Carolina	Wayne County	37191000901	Generating unit retirement
North Carolina	Wayne County	37191000902	Directly adjoining
North Carolina	Wayne County	37191001000	Directly adjoining
North Carolina	Wayne County	37191001103	Directly adjoining
North Carolina	Wayne County	37191001500	Directly adjoining
North Carolina	Wayne County	37191002000	Directly adjoining
North Dakota	Burleigh County	38015011103	Directly adjoining
North Dakota	Burleigh County	38015011105	Directly adjoining
North Dakota	Cavalier County	38019951100	Directly adjoining
North Dakota	Dunn County	38025962200	Directly adjoining
North Dakota	McKenzie County	38053962500	Directly adjoining
North Dakota	McLean County	38055940100	Directly adjoining
North Dakota	McLean County	38055960800	Directly adjoining
North Dakota	McLean County	38055961001	Directly adjoining
North Dakota	Mercer County	38057961600	Directly adjoining
North Dakota	Mercer County	38057961700	Directly adjoining
North Dakota	Mercer County	38057961800	Generating unit retirement

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
North Dakota	Morton County	38059020100	Directly adjoining
North Dakota	Morton County	38059020200	Generating unit retirement
North Dakota	Morton County	38059020301	Directly adjoining
North Dakota	Morton County	38059020303	Directly adjoining
North Dakota	Morton County	38059020400	Directly adjoining
North Dakota	Morton County	38059020500	Directly adjoining
North Dakota	Oliver County	38065961200	Directly adjoining
North Dakota	Pembina County	38067950100	Directly adjoining
North Dakota	Pembina County	38067950200	Generating unit retirement
North Dakota	Pembina County	38067950600	Directly adjoining
North Dakota	Stark County	38089963300	Directly adjoining
Ohio	Adams County	39001770302	Directly adjoining
Ohio	Adams County	39001770400	Directly adjoining
Ohio	Adams County	39001770500	Directly adjoining
Ohio	Adams County	39001770600	Generating unit retirement
Ohio	Ashtabula County	39007000200	Directly adjoining
Ohio	Ashtabula County	39007000300	Generating unit retirement
Ohio	Ashtabula County	39007000400	Directly adjoining
Ohio	Ashtabula County	39007000500	Directly adjoining
Ohio	Ashtabula County	39007000704	Directly adjoining
Ohio	Ashtabula County	39007001201	Directly adjoining
Ohio	Ashtabula County	39007990000	Directly adjoining
Ohio	Athens County	39009972600	Mine closure, Directly adjoining
Ohio	Athens County	39009972700	Directly adjoining
Ohio	Athens County	39009973400	Directly adjoining
Ohio	Athens County	39009973500	Mine closure, Directly adjoining
Ohio	Athens County	39009973600	Directly adjoining
Ohio	Athens County	39009973700	Directly adjoining
Ohio	Belmont County	39013010100	Directly adjoining
Ohio	Belmont County	39013010300	Directly adjoining
Ohio	Belmont County	39013010600	Mine closure, Directly adjoining
Ohio	Belmont County	39013010700	Mine closure, Directly adjoining
Ohio	Belmont County	39013010802	Directly adjoining
Ohio	Belmont County	39013010901	Directly adjoining
Ohio	Belmont County	39013010902	Mine closure, Directly adjoining
Ohio	Belmont County	39013011000	Mine closure, Directly adjoining
Ohio	Belmont County	39013011200	Generating unit retirement, Directly adjoining
Ohio	Belmont County	39013011300	Directly adjoining
Ohio	Belmont County	39013011400	Directly adjoining
Ohio	Belmont County	39013012201	Mine closure, Directly adjoining
Ohio	Belmont County	39013012202	Mine closure, Directly adjoining
Ohio	Belmont County	39013012300	Directly adjoining
Ohio	Belmont County	39013012400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Ohio	Brown County	39015951600	Directly adjoining
Ohio	Butler County	39017001001	Directly adjoining
Ohio	Butler County	39017001002	Directly adjoining
Ohio	Butler County	39017001100	Directly adjoining
Ohio	Butler County	39017010301	Directly adjoining
Ohio	Butler County	39017010302	Directly adjoining
Ohio	Butler County	39017010500	Directly adjoining
Ohio	Butler County	39017010600	Generating unit retirement
Ohio	Butler County	39017011005	Directly adjoining
Ohio	Butler County	39017011006	Directly adjoining
Ohio	Butler County	39017012100	Directly adjoining
Ohio	Butler County	39017012200	Generating unit retirement
Ohio	Butler County	39017012300	Directly adjoining
Ohio	Butler County	39017012400	Directly adjoining
Ohio	Butler County	39017012700	Directly adjoining
Ohio	Butler County	39017013000	Directly adjoining
Ohio	Butler County	39017014300	Directly adjoining
Ohio	Butler County	39017014400	Directly adjoining
Ohio	Butler County	39017014600	Directly adjoining
Ohio	Butler County	39017014700	Generating unit retirement
Ohio	Butler County	39017015000	Directly adjoining
Ohio	Butler County	39017015100	Directly adjoining
Ohio	Carroll County	39019720100	Directly adjoining
Ohio	Carroll County	39019720200	Directly adjoining
Ohio	Carroll County	39019720300	Mine closure, Directly adjoining
Ohio	Carroll County	39019720400	Mine closure, Directly adjoining
Ohio	Carroll County	39019720500	Directly adjoining
Ohio	Carroll County	39019720600	Mine closure, Directly adjoining
Ohio	Carroll County	39019720700	Directly adjoining
Ohio	Clermont County	39025041201	Directly adjoining
Ohio	Clermont County	39025041503	Directly adjoining
Ohio	Clermont County	39025041504	Directly adjoining
Ohio	Clermont County	39025041505	Directly adjoining
Ohio	Clermont County	39025041506	Generating unit retirement
Ohio	Clermont County	39025041600	Directly adjoining
Ohio	Clermont County	39025041702	Directly adjoining
Ohio	Clermont County	39025041900	Directly adjoining
Ohio	Clermont County	39025042001	Directly adjoining
Ohio	Clermont County	39025042002	Generating unit retirement
Ohio	Columbiana County	39029950100	Mine closure, Directly adjoining
Ohio	Columbiana County	39029950200	Directly adjoining
Ohio	Columbiana County	39029950300	Directly adjoining
Ohio	Columbiana County	39029950400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Ohio	Columbiana County	39029950900	Directly adjoining
Ohio	Columbiana County	39029951000	Directly adjoining
Ohio	Columbiana County	39029951100	Mine closure, Directly adjoining
Ohio	Columbiana County	39029951200	Mine closure, Directly adjoining
Ohio	Columbiana County	39029951300	Mine closure, Directly adjoining
Ohio	Columbiana County	39029951401	Directly adjoining
Ohio	Columbiana County	39029951402	Mine closure, Directly adjoining
Ohio	Columbiana County	39029951500	Mine closure, Directly adjoining
Ohio	Columbiana County	39029951600	Mine closure, Directly adjoining
Ohio	Columbiana County	39029951700	Mine closure, Directly adjoining
Ohio	Columbiana County	39029951800	Directly adjoining
Ohio	Columbiana County	39029951900	Directly adjoining
Ohio	Columbiana County	39029952000	Directly adjoining
Ohio	Columbiana County	39029952400	Directly adjoining
Ohio	Coshocton County	39031960900	Mine closure, Directly adjoining
Ohio	Coshocton County	39031961000	Directly adjoining
Ohio	Coshocton County	39031961100	Directly adjoining
Ohio	Coshocton County	39031961200	Mine closure, Generating unit retirement, Directly adjoining
Ohio	Coshocton County	39031961300	Mine closure, Directly adjoining
Ohio	Coshocton County	39031961400	Directly adjoining
Ohio	Coshocton County	39031961500	Directly adjoining
Ohio	Coshocton County	39031961600	Directly adjoining
Ohio	Coshocton County	39031961700	Directly adjoining
Ohio	Coshocton County	39031961800	Directly adjoining
Ohio	Cuyahoga County	39035108301	Directly adjoining
Ohio	Cuyahoga County	39035111202	Generating unit retirement
Ohio	Cuyahoga County	39035111401	Directly adjoining
Ohio	Cuyahoga County	39035111700	Directly adjoining
Ohio	Cuyahoga County	39035112100	Directly adjoining
Ohio	Cuyahoga County	39035192800	Directly adjoining
Ohio	Cuyahoga County	39035198900	Directly adjoining
Ohio	Cuyahoga County	39035199000	Directly adjoining
Ohio	Cuyahoga County	39035990000	Directly adjoining
Ohio	Franklin County	39049009590	Directly adjoining
Ohio	Franklin County	39049009753	Directly adjoining
Ohio	Franklin County	39049010300	Directly adjoining
Ohio	Gallia County	39053953500	Directly adjoining
Ohio	Gallia County	39053953600	Mine closure
Ohio	Gallia County	39053953700	Directly adjoining
Ohio	Gallia County	39053953901	Directly adjoining
Ohio	Gallia County	39053954100	Directly adjoining
Ohio	Guernsey County	39059977100	Mine closure, Directly adjoining
Ohio	Guernsey County	39059977200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Ohio	Guernsey County	39059977300	Directly adjoining
Ohio	Guernsey County	39059977600	Directly adjoining
Ohio	Guernsey County	39059977700	Directly adjoining
Ohio	Guernsey County	39059977800	Directly adjoining
Ohio	Guernsey County	39059977900	Mine closure
Ohio	Guernsey County	39059978000	Directly adjoining
Ohio	Hamilton County	39061020401	Directly adjoining
Ohio	Hamilton County	39061020403	Generating unit retirement
Ohio	Hamilton County	39061020404	Directly adjoining
Ohio	Hamilton County	39061020501	Directly adjoining
Ohio	Hamilton County	39061020603	Directly adjoining
Ohio	Hamilton County	39061021101	Directly adjoining
Ohio	Hamilton County	39061021102	Directly adjoining
Ohio	Hamilton County	39061026002	Directly adjoining
Ohio	Hamilton County	39061026200	Directly adjoining
Ohio	Hamilton County	39061027500	Directly adjoining
Ohio	Harrison County	39067975600	Mine closure, Directly adjoining
Ohio	Harrison County	39067975700	Directly adjoining
Ohio	Harrison County	39067975800	Directly adjoining
Ohio	Harrison County	39067975900	Mine closure, Directly adjoining
Ohio	Harrison County	39067976000	Mine closure, Directly adjoining
Ohio	Hocking County	39073965500	Directly adjoining
Ohio	Holmes County	39075976301	Directly adjoining
Ohio	Holmes County	39075976302	Mine closure, Directly adjoining
Ohio	Holmes County	39075976403	Directly adjoining
Ohio	Holmes County	39075976600	Directly adjoining
Ohio	Holmes County	39075976700	Directly adjoining
Ohio	Holmes County	39075976801	Directly adjoining
Ohio	Holmes County	39075976802	Mine closure
Ohio	Jackson County	39079957700	Directly adjoining
Ohio	Jackson County	39079957800	Directly adjoining
Ohio	Jefferson County	39081000200	Directly adjoining
Ohio	Jefferson County	39081001200	Directly adjoining
Ohio	Jefferson County	39081001300	Directly adjoining
Ohio	Jefferson County	39081001400	Directly adjoining
Ohio	Jefferson County	39081011000	Generating unit retirement, Directly adjoining
Ohio	Jefferson County	39081011100	Mine closure, Directly adjoining
Ohio	Jefferson County	39081011401	Directly adjoining
Ohio	Jefferson County	39081011402	Mine closure, Directly adjoining
Ohio	Jefferson County	39081011500	Mine closure, Directly adjoining
Ohio	Jefferson County	39081011700	Directly adjoining
Ohio	Jefferson County	39081011800	Mine closure, Directly adjoining
Ohio	Jefferson County	39081011900	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Ohio	Jefferson County	39081012000	Directly adjoining
Ohio	Jefferson County	39081012100	Mine closure, Directly adjoining
Ohio	Jefferson County	39081012200	Mine closure, Directly adjoining
Ohio	Jefferson County	39081012300	Directly adjoining
Ohio	Jefferson County	39081012400	Directly adjoining
Ohio	Lake County	39085201500	Directly adjoining
Ohio	Lake County	39085201600	Directly adjoining
Ohio	Lake County	39085201900	Directly adjoining
Ohio	Lake County	39085202000	Generating unit retirement
Ohio	Lake County	39085202100	Directly adjoining
Ohio	Lake County	39085206600	Directly adjoining
Ohio	Lake County	39085990000	Directly adjoining
Ohio	Lawrence County	39087050400	Directly adjoining
Ohio	Lawrence County	39087050501	Directly adjoining
Ohio	Lawrence County	39087050502	Directly adjoining
Ohio	Lawrence County	39087050600	Mine closure, Directly adjoining
Ohio	Lawrence County	39087050700	Mine closure, Directly adjoining
Ohio	Lawrence County	39087050800	Directly adjoining
Ohio	Lorain County	39093010200	Directly adjoining
Ohio	Lorain County	39093010300	Directly adjoining
Ohio	Lorain County	39093010400	Generating unit retirement
Ohio	Lorain County	39093013101	Directly adjoining
Ohio	Lorain County	39093013202	Directly adjoining
Ohio	Lorain County	39093021100	Directly adjoining
Ohio	Lorain County	39093028100	Directly adjoining
Ohio	Lorain County	39093097401	Directly adjoining
Ohio	Lorain County	39093990200	Directly adjoining
Ohio	Lucas County	39095001201	Directly adjoining
Ohio	Lucas County	39095004600	Directly adjoining
Ohio	Lucas County	39095005501	Directly adjoining
Ohio	Lucas County	39095005502	Directly adjoining
Ohio	Lucas County	39095005601	Directly adjoining
Ohio	Lucas County	39095005602	Directly adjoining
Ohio	Lucas County	39095009800	Directly adjoining
Ohio	Lucas County	39095009901	Directly adjoining
Ohio	Lucas County	39095009902	Generating unit retirement
Ohio	Lucas County	39095010001	Directly adjoining
Ohio	Lucas County	39095010002	Directly adjoining
Ohio	Mahoning County	39099810900	Directly adjoining
Ohio	Mahoning County	39099811001	Directly adjoining
Ohio	Mahoning County	39099811002	Directly adjoining
Ohio	Mahoning County	39099811902	Directly adjoining
Ohio	Mahoning County	39099812001	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Ohio	Mahoning County	39099812002	Directly adjoining
Ohio	Mahoning County	39099812101	Directly adjoining
Ohio	Mahoning County	39099812102	Directly adjoining
Ohio	Mahoning County	39099812400	Directly adjoining
Ohio	Mahoning County	39099812500	Directly adjoining
Ohio	Mahoning County	39099813501	Mine closure
Ohio	Mahoning County	39099813502	Directly adjoining
Ohio	Mahoning County	39099813601	Directly adjoining
Ohio	Mahoning County	39099813602	Directly adjoining
Ohio	Mahoning County	39099814100	Directly adjoining
Ohio	Medina County	39103417300	Directly adjoining
Ohio	Meigs County	39105964300	Directly adjoining
Ohio	Meigs County	39105964500	Directly adjoining
Ohio	Meigs County	39105964600	Directly adjoining
Ohio	Monroe County	39111966600	Mine closure, Directly adjoining
Ohio	Monroe County	39111966700	Directly adjoining
Ohio	Monroe County	39111966800	Directly adjoining
Ohio	Monroe County	39111966900	Directly adjoining
Ohio	Montgomery County	39113050301	Directly adjoining
Ohio	Montgomery County	39113050302	Directly adjoining
Ohio	Montgomery County	39113050402	Directly adjoining
Ohio	Montgomery County	39113050502	Directly adjoining
Ohio	Montgomery County	39113050600	Generating unit retirement
Ohio	Montgomery County	39113060100	Directly adjoining
Ohio	Montgomery County	39113060200	Directly adjoining
Ohio	Montgomery County	39113070101	Directly adjoining
Ohio	Montgomery County	39113070201	Directly adjoining
Ohio	Montgomery County	39113140100	Directly adjoining
Ohio	Montgomery County	39113150100	Directly adjoining
Ohio	Montgomery County	39113165000	Directly adjoining
Ohio	Morgan County	39115968800	Generating unit retirement
Ohio	Morgan County	39115968900	Directly adjoining
Ohio	Morgan County	39115969000	Directly adjoining
Ohio	Morgan County	39115969100	Directly adjoining
Ohio	Muskingum County	39119911000	Mine closure, Directly adjoining
Ohio	Muskingum County	39119911100	Directly adjoining
Ohio	Muskingum County	39119911601	Directly adjoining
Ohio	Muskingum County	39119911900	Directly adjoining
Ohio	Muskingum County	39119912600	Directly adjoining
Ohio	Muskingum County	39119912700	Directly adjoining
Ohio	Muskingum County	39119912800	Directly adjoining
Ohio	Noble County	39121968300	Mine closure, Directly adjoining
Ohio	Noble County	39121968401	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Ohio	Noble County	39121968500	Directly adjoining
Ohio	Perry County	39127965902	Directly adjoining
Ohio	Perry County	39127966000	Directly adjoining
Ohio	Perry County	39127966100	Mine closure, Directly adjoining
Ohio	Perry County	39127966200	Directly adjoining
Ohio	Perry County	39127966301	Directly adjoining
Ohio	Perry County	39127966302	Mine closure, Directly adjoining
Ohio	Pickaway County	39129021101	Directly adjoining
Ohio	Pickaway County	39129021201	Directly adjoining
Ohio	Pickaway County	39129021202	Generating unit retirement
Ohio	Pickaway County	39129021403	Directly adjoining
Ohio	Pickaway County	39129021404	Directly adjoining
Ohio	Pickaway County	39129021500	Directly adjoining
Ohio	Richland County	39139002500	Directly adjoining
Ohio	Richland County	39139002600	Generating unit retirement
Ohio	Richland County	39139002700	Directly adjoining
Ohio	Richland County	39139002800	Directly adjoining
Ohio	Scioto County	39145002600	Directly adjoining
Ohio	Scioto County	39145002700	Directly adjoining
Ohio	Scioto County	39145002800	Directly adjoining
Ohio	Stark County	39151700200	Directly adjoining
Ohio	Stark County	39151700400	Directly adjoining
Ohio	Stark County	39151700701	Directly adjoining
Ohio	Stark County	39151700702	Directly adjoining
Ohio	Stark County	39151711700	Directly adjoining
Ohio	Stark County	39151712102	Directly adjoining
Ohio	Stark County	39151712201	Directly adjoining
Ohio	Stark County	39151712202	Directly adjoining
Ohio	Stark County	39151712300	Mine closure
Ohio	Stark County	39151712400	Directly adjoining
Ohio	Stark County	39151712700	Directly adjoining
Ohio	Stark County	39151712800	Directly adjoining
Ohio	Stark County	39151712900	Mine closure, Directly adjoining
Ohio	Stark County	39151713000	Directly adjoining
Ohio	Stark County	39151713201	Directly adjoining
Ohio	Stark County	39151714801	Directly adjoining
Ohio	Stark County	39151714802	Directly adjoining
Ohio	Stark County	39151714901	Directly adjoining
Ohio	Stark County	39151714902	Mine closure, Directly adjoining
Ohio	Trumbull County	39155932500	Directly adjoining
Ohio	Trumbull County	39155932600	Directly adjoining
Ohio	Trumbull County	39155932802	Directly adjoining
Ohio	Trumbull County	39155933301	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Ohio	Trumbull County	39155933302	Generating unit retirement
Ohio	Trumbull County	39155933900	Directly adjoining
Ohio	Tuscarawas County	39157020100	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157020200	Directly adjoining
Ohio	Tuscarawas County	39157020300	Directly adjoining
Ohio	Tuscarawas County	39157020400	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157020500	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157020600	Directly adjoining
Ohio	Tuscarawas County	39157020700	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157020900	Directly adjoining
Ohio	Tuscarawas County	39157021000	Directly adjoining
Ohio	Tuscarawas County	39157021100	Directly adjoining
Ohio	Tuscarawas County	39157021200	Directly adjoining
Ohio	Tuscarawas County	39157021300	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157021400	Directly adjoining
Ohio	Tuscarawas County	39157021501	Directly adjoining
Ohio	Tuscarawas County	39157021502	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157021503	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157021600	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157021700	Directly adjoining
Ohio	Tuscarawas County	39157021800	Mine closure, Directly adjoining
Ohio	Tuscarawas County	39157021900	Directly adjoining
Ohio	Tuscarawas County	39157022001	Directly adjoining
Ohio	Tuscarawas County	39157022002	Mine closure, Directly adjoining
Ohio	Vinton County	39163953200	Directly adjoining
Ohio	Warren County	39165030101	Directly adjoining
Ohio	Warren County	39165030102	Directly adjoining
Ohio	Warren County	39165030501	Directly adjoining
Ohio	Washington County	39167020201	Directly adjoining
Ohio	Washington County	39167020300	Generating unit retirement
Ohio	Washington County	39167020400	Directly adjoining
Ohio	Washington County	39167020500	Directly adjoining
Ohio	Washington County	39167021100	Directly adjoining
Ohio	Washington County	39167021201	Directly adjoining
Ohio	Washington County	39167021202	Directly adjoining
Ohio	Washington County	39167021300	Directly adjoining
Ohio	Washington County	39167021500	Directly adjoining
Ohio	Washington County	39167021600	Directly adjoining
Ohio	Washington County	39167021700	Directly adjoining
Ohio	Wayne County	39169001700	Directly adjoining
Ohio	Wayne County	39169002500	Directly adjoining
Ohio	Wayne County	39169002902	Directly adjoining
Ohio	Wayne County	39169003000	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Ohio	Wayne County	39169003400	Generating unit retirement
Ohio	Wayne County	39169003500	Directly adjoining
Oklahoma	Craig County	40035373100	Mine closure, Directly adjoining
Oklahoma	Craig County	40035373200	Mine closure, Directly adjoining
Oklahoma	Craig County	40035373300	Directly adjoining
Oklahoma	Craig County	40035373400	Directly adjoining
Oklahoma	Craig County	40035373500	Directly adjoining
Oklahoma	Haskell County	40061279100	Directly adjoining
Oklahoma	Haskell County	40061279300	Directly adjoining
Oklahoma	Haskell County	40061279400	Directly adjoining
Oklahoma	Jackson County	40065968100	Directly adjoining
Oklahoma	Jackson County	40065968300	Directly adjoining
Oklahoma	Latimer County	40077087100	Mine closure, Directly adjoining
Oklahoma	Latimer County	40077087200	Directly adjoining
Oklahoma	Latimer County	40077087300	Directly adjoining
Oklahoma	Le Flore County	40079040299	Directly adjoining
Oklahoma	Le Flore County	40079040301	Mine closure, Directly adjoining
Oklahoma	Le Flore County	40079040302	Directly adjoining
Oklahoma	Le Flore County	40079040303	Directly adjoining
Oklahoma	Le Flore County	40079040401	Directly adjoining
Oklahoma	Le Flore County	40079040402	Directly adjoining
Oklahoma	Le Flore County	40079040500	Mine closure, Directly adjoining
Oklahoma	Le Flore County	40079040601	Directly adjoining
Oklahoma	Le Flore County	40079040602	Mine closure, Directly adjoining
Oklahoma	Le Flore County	40079040700	Directly adjoining
Oklahoma	Mayes County	40097040700	Directly adjoining
Oklahoma	Mayes County	40097040801	Directly adjoining
Oklahoma	Nowata County	40105172100	Directly adjoining
Oklahoma	Nowata County	40105172200	Directly adjoining
Oklahoma	Nowata County	40105172300	Mine closure, Directly adjoining
Oklahoma	Nowata County	40105172400	Directly adjoining
Oklahoma	Ottawa County	40115574100	Directly adjoining
Oklahoma	Ottawa County	40115574700	Directly adjoining
Oklahoma	Ottawa County	40115574800	Directly adjoining
Oklahoma	Rogers County	40131050301	Directly adjoining
Oklahoma	Rogers County	40131050304	Directly adjoining
Oklahoma	Rogers County	40131050403	Directly adjoining
Oklahoma	Rogers County	40131050702	Directly adjoining
Oklahoma	Rogers County	40131050801	Generating unit retirement
Oklahoma	Rogers County	40131050802	Directly adjoining
Oklahoma	Tillman County	40141070100	Directly adjoining
Oklahoma	Tulsa County	40143005404	Directly adjoining
Oklahoma	Washington County	40147001000	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Oklahoma	Washington County	40147001100	Directly adjoining
Oklahoma	Washington County	40147001200	Directly adjoining
Oklahoma	Washington County	40147001300	Directly adjoining
Oregon	Gilliam County	41021960100	Directly adjoining
Oregon	Morrow County	41049970101	Generating unit retirement
Oregon	Morrow County	41049970102	Directly adjoining
Oregon	Morrow County	41049970200	Directly adjoining
Pennsylvania	Allegheny County	42003405000	Directly adjoining
Pennsylvania	Allegheny County	42003415001	Directly adjoining
Pennsylvania	Allegheny County	42003415002	Directly adjoining
Pennsylvania	Allegheny County	42003416000	Directly adjoining
Pennsylvania	Allegheny County	42003417100	Directly adjoining
Pennsylvania	Allegheny County	42003417200	Generating unit retirement
Pennsylvania	Allegheny County	42003418000	Directly adjoining
Pennsylvania	Allegheny County	42003419000	Mine closure
Pennsylvania	Allegheny County	42003421100	Directly adjoining
Pennsylvania	Allegheny County	42003422000	Directly adjoining
Pennsylvania	Allegheny County	42003451300	Directly adjoining
Pennsylvania	Allegheny County	42003452000	Directly adjoining
Pennsylvania	Allegheny County	42003453003	Mine closure, Directly adjoining
Pennsylvania	Allegheny County	42003453004	Directly adjoining
Pennsylvania	Allegheny County	42003455000	Mine closure, Directly adjoining
Pennsylvania	Allegheny County	42003456001	Directly adjoining
Pennsylvania	Allegheny County	42003456003	Directly adjoining
Pennsylvania	Allegheny County	42003457100	Directly adjoining
Pennsylvania	Allegheny County	42003457200	Directly adjoining
Pennsylvania	Allegheny County	42003458001	Mine closure, Directly adjoining
Pennsylvania	Allegheny County	42003458002	Mine closure, Directly adjoining
Pennsylvania	Allegheny County	42003459101	Directly adjoining
Pennsylvania	Allegheny County	42003459102	Mine closure
Pennsylvania	Allegheny County	42003459201	Directly adjoining
Pennsylvania	Allegheny County	42003460001	Directly adjoining
Pennsylvania	Allegheny County	42003460002	Directly adjoining
Pennsylvania	Allegheny County	42003468800	Directly adjoining
Pennsylvania	Allegheny County	42003470300	Directly adjoining
Pennsylvania	Allegheny County	42003470400	Directly adjoining
Pennsylvania	Allegheny County	42003470600	Directly adjoining
Pennsylvania	Allegheny County	42003471000	Directly adjoining
Pennsylvania	Allegheny County	42003475304	Directly adjoining
Pennsylvania	Allegheny County	42003475401	Directly adjoining
Pennsylvania	Allegheny County	42003475402	Directly adjoining
Pennsylvania	Allegheny County	42003480101	Directly adjoining
Pennsylvania	Allegheny County	42003480102	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Allegheny County	42003489001	Directly adjoining
Pennsylvania	Allegheny County	42003489002	Directly adjoining
Pennsylvania	Allegheny County	42003490002	Directly adjoining
Pennsylvania	Allegheny County	42003490003	Mine closure, Directly adjoining
Pennsylvania	Allegheny County	42003490004	Directly adjoining
Pennsylvania	Allegheny County	42003491101	Mine closure, Directly adjoining
Pennsylvania	Allegheny County	42003491200	Directly adjoining
Pennsylvania	Allegheny County	42003494000	Directly adjoining
Pennsylvania	Allegheny County	42003496101	Directly adjoining
Pennsylvania	Allegheny County	42003496102	Directly adjoining
Pennsylvania	Allegheny County	42003496200	Directly adjoining
Pennsylvania	Allegheny County	42003525200	Directly adjoining
Pennsylvania	Allegheny County	42003525300	Directly adjoining
Pennsylvania	Allegheny County	42003526101	Directly adjoining
Pennsylvania	Allegheny County	42003526102	Mine closure
Pennsylvania	Allegheny County	42003526201	Directly adjoining
Pennsylvania	Allegheny County	42003526202	Directly adjoining
Pennsylvania	Allegheny County	42003526301	Directly adjoining
Pennsylvania	Allegheny County	42003564000	Directly adjoining
Pennsylvania	Allegheny County	42003564500	Directly adjoining
Pennsylvania	Armstrong County	42005950100	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005950200	Mine closure, Generating unit retirement, Directly adjoining
Pennsylvania	Armstrong County	42005950300	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005950400	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005950500	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005950600	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005950700	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005950800	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005950900	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005951000	Directly adjoining
Pennsylvania	Armstrong County	42005951100	Directly adjoining
Pennsylvania	Armstrong County	42005951200	Directly adjoining
Pennsylvania	Armstrong County	42005951300	Directly adjoining
Pennsylvania	Armstrong County	42005951400	Directly adjoining
Pennsylvania	Armstrong County	42005951500	Directly adjoining
Pennsylvania	Armstrong County	42005951600	Mine closure, Directly adjoining
Pennsylvania	Armstrong County	42005951700	Mine closure, Directly adjoining
Pennsylvania	Beaver County	42007600601	Directly adjoining
Pennsylvania	Beaver County	42007600602	Directly adjoining
Pennsylvania	Beaver County	42007602300	Directly adjoining
Pennsylvania	Beaver County	42007602400	Directly adjoining
Pennsylvania	Beaver County	42007602500	Directly adjoining
Pennsylvania	Beaver County	42007602701	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Beaver County	42007602702	Directly adjoining
Pennsylvania	Beaver County	42007602800	Directly adjoining
Pennsylvania	Beaver County	42007602900	Generating unit retirement, Directly adjoining
Pennsylvania	Beaver County	42007603000	Directly adjoining
Pennsylvania	Beaver County	42007603202	Directly adjoining
Pennsylvania	Beaver County	42007603300	Directly adjoining
Pennsylvania	Beaver County	42007603400	Directly adjoining
Pennsylvania	Beaver County	42007605002	Directly adjoining
Pennsylvania	Beaver County	42007605300	Directly adjoining
Pennsylvania	Beaver County	42007605500	Generating unit retirement, Directly adjoining
Pennsylvania	Bedford County	42009960100	Directly adjoining
Pennsylvania	Bedford County	42009960200	Directly adjoining
Pennsylvania	Bedford County	42009960300	Directly adjoining
Pennsylvania	Bedford County	42009960400	Directly adjoining
Pennsylvania	Bedford County	42009960500	Mine closure, Directly adjoining
Pennsylvania	Bedford County	42009960600	Directly adjoining
Pennsylvania	Bedford County	42009960900	Directly adjoining
Pennsylvania	Bedford County	42009961001	Directly adjoining
Pennsylvania	Bedford County	42009961100	Directly adjoining
Pennsylvania	Berks County	42011002002	Directly adjoining
Pennsylvania	Berks County	42011002100	Directly adjoining
Pennsylvania	Berks County	42011002200	Directly adjoining
Pennsylvania	Berks County	42011002900	Directly adjoining
Pennsylvania	Berks County	42011010100	Directly adjoining
Pennsylvania	Berks County	42011011300	Directly adjoining
Pennsylvania	Berks County	42011011601	Directly adjoining
Pennsylvania	Berks County	42011011602	Directly adjoining
Pennsylvania	Berks County	42011011603	Generating unit retirement
Pennsylvania	Berks County	42011011702	Directly adjoining
Pennsylvania	Berks County	42011011704	Directly adjoining
Pennsylvania	Berks County	42011011705	Directly adjoining
Pennsylvania	Berks County	42011012003	Directly adjoining
Pennsylvania	Berks County	42011012200	Directly adjoining
Pennsylvania	Blair County	42013010101	Generating unit retirement, Directly adjoining
Pennsylvania	Blair County	42013010102	Directly adjoining
Pennsylvania	Blair County	42013010103	Directly adjoining
Pennsylvania	Blair County	42013010403	Directly adjoining
Pennsylvania	Blair County	42013010404	Directly adjoining
Pennsylvania	Blair County	42013010500	Directly adjoining
Pennsylvania	Blair County	42013010701	Generating unit retirement
Pennsylvania	Blair County	42013010702	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Blair County	42013010800	Directly adjoining
Pennsylvania	Blair County	42013011001	Directly adjoining
Pennsylvania	Blair County	42013011300	Directly adjoining
Pennsylvania	Blair County	42013011600	Directly adjoining
Pennsylvania	Blair County	42013100700	Directly adjoining
Pennsylvania	Blair County	42013100800	Directly adjoining
Pennsylvania	Blair County	42013100900	Directly adjoining
Pennsylvania	Blair County	42013101700	Directly adjoining
Pennsylvania	Blair County	42013101800	Directly adjoining
Pennsylvania	Bradford County	42015951200	Directly adjoining
Pennsylvania	Bradford County	42015951300	Directly adjoining
Pennsylvania	Bucks County	42017980000	Directly adjoining
Pennsylvania	Butler County	42019902600	Directly adjoining
Pennsylvania	Butler County	42019902900	Directly adjoining
Pennsylvania	Butler County	42019903100	Directly adjoining
Pennsylvania	Butler County	42019910100	Mine closure, Directly adjoining
Pennsylvania	Butler County	42019910200	Mine closure, Directly adjoining
Pennsylvania	Butler County	42019910301	Directly adjoining
Pennsylvania	Butler County	42019910302	Directly adjoining
Pennsylvania	Butler County	42019910600	Mine closure, Directly adjoining
Pennsylvania	Butler County	42019910700	Directly adjoining
Pennsylvania	Butler County	42019910800	Directly adjoining
Pennsylvania	Butler County	42019911000	Directly adjoining
Pennsylvania	Butler County	42019911200	Mine closure
Pennsylvania	Butler County	42019911300	Directly adjoining
Pennsylvania	Butler County	42019911400	Directly adjoining
Pennsylvania	Butler County	42019911501	Directly adjoining
Pennsylvania	Butler County	42019911600	Directly adjoining
Pennsylvania	Cambria County	42021000100	Directly adjoining
Pennsylvania	Cambria County	42021000300	Directly adjoining
Pennsylvania	Cambria County	42021000500	Directly adjoining
Pennsylvania	Cambria County	42021010100	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021010200	Directly adjoining
Pennsylvania	Cambria County	42021010300	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021010500	Directly adjoining
Pennsylvania	Cambria County	42021010700	Directly adjoining
Pennsylvania	Cambria County	42021010801	Directly adjoining
Pennsylvania	Cambria County	42021011100	Directly adjoining
Pennsylvania	Cambria County	42021011400	Directly adjoining
Pennsylvania	Cambria County	42021011500	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021011600	Directly adjoining
Pennsylvania	Cambria County	42021011700	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021011800	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Cambria County	42021011900	Directly adjoining
Pennsylvania	Cambria County	42021012000	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021012100	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021012200	Directly adjoining
Pennsylvania	Cambria County	42021012300	Directly adjoining
Pennsylvania	Cambria County	42021012400	Directly adjoining
Pennsylvania	Cambria County	42021012600	Directly adjoining
Pennsylvania	Cambria County	42021012700	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021012800	Directly adjoining
Pennsylvania	Cambria County	42021012900	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021013000	Directly adjoining
Pennsylvania	Cambria County	42021013100	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021013200	Directly adjoining
Pennsylvania	Cambria County	42021013300	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021013400	Directly adjoining
Pennsylvania	Cambria County	42021013500	Mine closure, Directly adjoining
Pennsylvania	Cambria County	42021013600	Directly adjoining
Pennsylvania	Cambria County	42021013700	Directly adjoining
Pennsylvania	Cameron County	42023960100	Directly adjoining
Pennsylvania	Cameron County	42023960200	Mine closure, Directly adjoining
Pennsylvania	Carbon County	42025020102	Directly adjoining
Pennsylvania	Carbon County	42025020106	Directly adjoining
Pennsylvania	Carbon County	42025020201	Directly adjoining
Pennsylvania	Carbon County	42025020202	Directly adjoining
Pennsylvania	Carbon County	42025020301	Directly adjoining
Pennsylvania	Carbon County	42025020302	Mine closure
Pennsylvania	Carbon County	42025020400	Directly adjoining
Pennsylvania	Carbon County	42025020501	Directly adjoining
Pennsylvania	Centre County	42027010100	Directly adjoining
Pennsylvania	Centre County	42027010200	Mine closure, Directly adjoining
Pennsylvania	Centre County	42027010300	Directly adjoining
Pennsylvania	Centre County	42027010400	Mine closure, Directly adjoining
Pennsylvania	Centre County	42027010500	Directly adjoining
Pennsylvania	Centre County	42027010600	Directly adjoining
Pennsylvania	Centre County	42027011504	Directly adjoining
Pennsylvania	Centre County	42027011600	Directly adjoining
Pennsylvania	Centre County	42027012100	Directly adjoining
Pennsylvania	Centre County	42027012200	Generating unit retirement
Pennsylvania	Centre County	42027012300	Directly adjoining
Pennsylvania	Centre County	42027012400	Directly adjoining
Pennsylvania	Centre County	42027012500	Directly adjoining
Pennsylvania	Chester County	42029300502	Directly adjoining
Pennsylvania	Chester County	42029300600	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Chester County	42029300800	Directly adjoining
Pennsylvania	Chester County	42029301001	Directly adjoining
Pennsylvania	Chester County	42029301002	Generating unit retirement
Pennsylvania	Chester County	42029301100	Directly adjoining
Pennsylvania	Chester County	42029311000	Directly adjoining
Pennsylvania	Clarion County	42031160101	Directly adjoining
Pennsylvania	Clarion County	42031160103	Directly adjoining
Pennsylvania	Clarion County	42031160104	Directly adjoining
Pennsylvania	Clarion County	42031160201	Directly adjoining
Pennsylvania	Clarion County	42031160202	Mine closure, Directly adjoining
Pennsylvania	Clarion County	42031160300	Mine closure, Directly adjoining
Pennsylvania	Clarion County	42031160400	Directly adjoining
Pennsylvania	Clarion County	42031160500	Mine closure, Generating unit retirement, Directly adjoining
Pennsylvania	Clarion County	42031160600	Directly adjoining
Pennsylvania	Clarion County	42031160701	Directly adjoining
Pennsylvania	Clarion County	42031160702	Mine closure, Directly adjoining
Pennsylvania	Clarion County	42031160800	Directly adjoining
Pennsylvania	Clarion County	42031160900	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033330100	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033330200	Directly adjoining
Pennsylvania	Clearfield County	42033330300	Directly adjoining
Pennsylvania	Clearfield County	42033330400	Directly adjoining
Pennsylvania	Clearfield County	42033330500	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033330600	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033330700	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033330800	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033330900	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033331000	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033331100	Directly adjoining
Pennsylvania	Clearfield County	42033331200	Directly adjoining
Pennsylvania	Clearfield County	42033331300	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033331401	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033331402	Directly adjoining
Pennsylvania	Clearfield County	42033331500	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033331600	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033331700	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033331800	Mine closure, Directly adjoining
Pennsylvania	Clearfield County	42033331900	Mine closure, Directly adjoining
Pennsylvania	Clinton County	42035030100	Directly adjoining
Pennsylvania	Clinton County	42035030200	Mine closure, Directly adjoining
Pennsylvania	Clinton County	42035030300	Directly adjoining
Pennsylvania	Clinton County	42035030500	Directly adjoining
Pennsylvania	Clinton County	42035030800	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Columbia County	42037050200	Directly adjoining
Pennsylvania	Columbia County	42037050300	Directly adjoining
Pennsylvania	Columbia County	42037051300	Directly adjoining
Pennsylvania	Columbia County	42037051400	Directly adjoining
Pennsylvania	Columbia County	42037051500	Mine closure, Directly adjoining
Pennsylvania	Dauphin County	42043024700	Directly adjoining
Pennsylvania	Dauphin County	42043024801	Directly adjoining
Pennsylvania	Dauphin County	42043024900	Mine closure, Directly adjoining
Pennsylvania	Dauphin County	42043025000	Mine closure, Directly adjoining
Pennsylvania	Dauphin County	42043025100	Mine closure, Directly adjoining
Pennsylvania	Dauphin County	42043025200	Directly adjoining
Pennsylvania	Dauphin County	42043025300	Directly adjoining
Pennsylvania	Delaware County	42045404102	Directly adjoining
Pennsylvania	Delaware County	42045404103	Directly adjoining
Pennsylvania	Delaware County	42045404300	Generating unit retirement
Pennsylvania	Delaware County	42045404800	Directly adjoining
Pennsylvania	Delaware County	42045406500	Directly adjoining
Pennsylvania	Delaware County	42045406600	Directly adjoining
Pennsylvania	Delaware County	42045410700	Directly adjoining
Pennsylvania	Elk County	42047950100	Directly adjoining
Pennsylvania	Elk County	42047950200	Directly adjoining
Pennsylvania	Elk County	42047950900	Mine closure, Directly adjoining
Pennsylvania	Elk County	42047951000	Mine closure, Directly adjoining
Pennsylvania	Elk County	42047951100	Directly adjoining
Pennsylvania	Elk County	42047951200	Directly adjoining
Pennsylvania	Elk County	42047951300	Directly adjoining
Pennsylvania	Fayette County	42051260200	Directly adjoining
Pennsylvania	Fayette County	42051260300	Directly adjoining
Pennsylvania	Fayette County	42051260402	Directly adjoining
Pennsylvania	Fayette County	42051260500	Mine closure, Directly adjoining
Pennsylvania	Fayette County	42051260600	Directly adjoining
Pennsylvania	Fayette County	42051260900	Directly adjoining
Pennsylvania	Fayette County	42051261000	Mine closure
Pennsylvania	Fayette County	42051261100	Directly adjoining
Pennsylvania	Fayette County	42051261300	Directly adjoining
Pennsylvania	Fayette County	42051261401	Directly adjoining
Pennsylvania	Fayette County	42051261402	Directly adjoining
Pennsylvania	Fayette County	42051261500	Directly adjoining
Pennsylvania	Fayette County	42051261600	Directly adjoining
Pennsylvania	Fayette County	42051261700	Directly adjoining
Pennsylvania	Fayette County	42051261900	Directly adjoining
Pennsylvania	Fayette County	42051262000	Mine closure, Directly adjoining
Pennsylvania	Fayette County	42051262100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Fayette County	42051262200	Directly adjoining
Pennsylvania	Fayette County	42051262400	Directly adjoining
Pennsylvania	Fayette County	42051262500	Directly adjoining
Pennsylvania	Fayette County	42051262600	Directly adjoining
Pennsylvania	Fayette County	42051262701	Mine closure, Directly adjoining
Pennsylvania	Fayette County	42051262702	Mine closure, Directly adjoining
Pennsylvania	Fayette County	42051262800	Mine closure, Directly adjoining
Pennsylvania	Fayette County	42051262900	Mine closure, Directly adjoining
Pennsylvania	Fayette County	42051263000	Directly adjoining
Pennsylvania	Fayette County	42051263100	Mine closure, Directly adjoining
Pennsylvania	Fayette County	42051263200	Mine closure, Directly adjoining
Pennsylvania	Fayette County	42051263300	Directly adjoining
Pennsylvania	Forest County	42053530100	Directly adjoining
Pennsylvania	Fulton County	42057960200	Directly adjoining
Pennsylvania	Greene County	42059970101	Directly adjoining
Pennsylvania	Greene County	42059970102	Directly adjoining
Pennsylvania	Greene County	42059970200	Mine closure, Directly adjoining
Pennsylvania	Greene County	42059970300	Mine closure, Directly adjoining
Pennsylvania	Greene County	42059970400	Directly adjoining
Pennsylvania	Greene County	42059970501	Directly adjoining
Pennsylvania	Greene County	42059970502	Mine closure, Directly adjoining
Pennsylvania	Greene County	42059970600	Directly adjoining
Pennsylvania	Greene County	42059970700	Mine closure, Directly adjoining
Pennsylvania	Greene County	42059970800	Mine closure, Generating unit retirement, Directly adjoining
Pennsylvania	Huntingdon County	42061950200	Directly adjoining
Pennsylvania	Huntingdon County	42061950600	Directly adjoining
Pennsylvania	Huntingdon County	42061950800	Directly adjoining
Pennsylvania	Huntingdon County	42061951200	Directly adjoining
Pennsylvania	Huntingdon County	42061951300	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063960100	Directly adjoining
Pennsylvania	Indiana County	42063960200	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063960300	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063960400	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063960500	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063960600	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063960700	Directly adjoining
Pennsylvania	Indiana County	42063960800	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063960900	Directly adjoining
Pennsylvania	Indiana County	42063961000	Mine closure
Pennsylvania	Indiana County	42063961102	Directly adjoining
Pennsylvania	Indiana County	42063961103	Directly adjoining
Pennsylvania	Indiana County	42063961104	Directly adjoining
Pennsylvania	Indiana County	42063961200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Indiana County	42063961300	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063961400	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063961500	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063961600	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063961700	Directly adjoining
Pennsylvania	Indiana County	42063961800	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063961900	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063962000	Mine closure, Directly adjoining
Pennsylvania	Indiana County	42063962100	Directly adjoining
Pennsylvania	Indiana County	42063962200	Directly adjoining
Pennsylvania	Jefferson County	42065950100	Directly adjoining
Pennsylvania	Jefferson County	42065950200	Mine closure, Directly adjoining
Pennsylvania	Jefferson County	42065950300	Mine closure, Directly adjoining
Pennsylvania	Jefferson County	42065950400	Directly adjoining
Pennsylvania	Jefferson County	42065950500	Directly adjoining
Pennsylvania	Jefferson County	42065950600	Mine closure, Directly adjoining
Pennsylvania	Jefferson County	42065950700	Mine closure
Pennsylvania	Jefferson County	42065950800	Directly adjoining
Pennsylvania	Jefferson County	42065950900	Mine closure, Directly adjoining
Pennsylvania	Jefferson County	42065951000	Mine closure, Directly adjoining
Pennsylvania	Jefferson County	42065951100	Directly adjoining
Pennsylvania	Lackawanna County	42069101800	Directly adjoining
Pennsylvania	Lackawanna County	42069101900	Directly adjoining
Pennsylvania	Lackawanna County	42069102100	Directly adjoining
Pennsylvania	Lackawanna County	42069102200	Directly adjoining
Pennsylvania	Lackawanna County	42069102300	Directly adjoining
Pennsylvania	Lackawanna County	42069103000	Directly adjoining
Pennsylvania	Lackawanna County	42069103100	Directly adjoining
Pennsylvania	Lackawanna County	42069111200	Directly adjoining
Pennsylvania	Lackawanna County	42069111300	Directly adjoining
Pennsylvania	Lackawanna County	42069111400	Mine closure
Pennsylvania	Lackawanna County	42069111500	Directly adjoining
Pennsylvania	Lackawanna County	42069111700	Directly adjoining
Pennsylvania	Lackawanna County	42069111801	Directly adjoining
Pennsylvania	Lackawanna County	42069111802	Directly adjoining
Pennsylvania	Lackawanna County	42069112400	Directly adjoining
Pennsylvania	Lackawanna County	42069112500	Mine closure
Pennsylvania	Lackawanna County	42069112600	Directly adjoining
Pennsylvania	Lackawanna County	42069112700	Directly adjoining
Pennsylvania	Lackawanna County	42069112800	Directly adjoining
Pennsylvania	Lackawanna County	42069112901	Directly adjoining
Pennsylvania	Lawrence County	42073001000	Directly adjoining
Pennsylvania	Lawrence County	42073010201	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Lawrence County	42073010400	Directly adjoining
Pennsylvania	Lawrence County	42073010500	Mine closure, Directly adjoining
Pennsylvania	Lawrence County	42073010600	Directly adjoining
Pennsylvania	Lawrence County	42073011100	Directly adjoining
Pennsylvania	Lawrence County	42073011200	Directly adjoining
Pennsylvania	Lawrence County	42073011300	Mine closure, Directly adjoining
Pennsylvania	Lawrence County	42073011400	Directly adjoining
Pennsylvania	Lawrence County	42073011500	Directly adjoining
Pennsylvania	Lebanon County	42075002000	Directly adjoining
Pennsylvania	Lebanon County	42075002100	Directly adjoining
Pennsylvania	Luzerne County	42079210100	Mine closure, Directly adjoining
Pennsylvania	Luzerne County	42079210200	Mine closure, Directly adjoining
Pennsylvania	Luzerne County	42079210300	Directly adjoining
Pennsylvania	Luzerne County	42079210400	Directly adjoining
Pennsylvania	Luzerne County	42079210500	Mine closure, Directly adjoining
Pennsylvania	Luzerne County	42079210600	Directly adjoining
Pennsylvania	Luzerne County	42079210700	Directly adjoining
Pennsylvania	Luzerne County	42079210800	Directly adjoining
Pennsylvania	Luzerne County	42079211101	Directly adjoining
Pennsylvania	Luzerne County	42079211102	Directly adjoining
Pennsylvania	Luzerne County	42079211302	Directly adjoining
Pennsylvania	Luzerne County	42079211701	Directly adjoining
Pennsylvania	Luzerne County	42079211702	Mine closure
Pennsylvania	Luzerne County	42079211900	Directly adjoining
Pennsylvania	Luzerne County	42079213900	Directly adjoining
Pennsylvania	Luzerne County	42079215400	Directly adjoining
Pennsylvania	Luzerne County	42079215600	Directly adjoining
Pennsylvania	Luzerne County	42079215701	Generating unit retirement
Pennsylvania	Luzerne County	42079215702	Directly adjoining
Pennsylvania	Luzerne County	42079215800	Directly adjoining
Pennsylvania	Luzerne County	42079216200	Directly adjoining
Pennsylvania	Luzerne County	42079216400	Mine closure, Directly adjoining
Pennsylvania	Luzerne County	42079216501	Directly adjoining
Pennsylvania	Luzerne County	42079216502	Mine closure, Directly adjoining
Pennsylvania	Luzerne County	42079216601	Directly adjoining
Pennsylvania	Luzerne County	42079216602	Directly adjoining
Pennsylvania	Luzerne County	42079216700	Directly adjoining
Pennsylvania	Luzerne County	42079216800	Mine closure, Directly adjoining
Pennsylvania	Luzerne County	42079216900	Mine closure, Directly adjoining
Pennsylvania	Luzerne County	42079217001	Directly adjoining
Pennsylvania	Luzerne County	42079217002	Mine closure, Directly adjoining
Pennsylvania	Luzerne County	42079217100	Directly adjoining
Pennsylvania	Luzerne County	42079217200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Luzerne County	42079217300	Directly adjoining
Pennsylvania	Luzerne County	42079217700	Directly adjoining
Pennsylvania	Luzerne County	42079217800	Directly adjoining
Pennsylvania	Luzerne County	42079217900	Directly adjoining
Pennsylvania	Lycoming County	42081010600	Directly adjoining
Pennsylvania	Lycoming County	42081010800	Directly adjoining
Pennsylvania	McKean County	42083420700	Directly adjoining
Pennsylvania	McKean County	42083420800	Directly adjoining
Pennsylvania	McKean County	42083420900	Directly adjoining
Pennsylvania	Mercer County	42085031200	Directly adjoining
Pennsylvania	Mercer County	42085031300	Directly adjoining
Pennsylvania	Mercer County	42085032300	Directly adjoining
Pennsylvania	Mercer County	42085032401	Directly adjoining
Pennsylvania	Mercer County	42085032403	Directly adjoining
Pennsylvania	Mercer County	42085032502	Directly adjoining
Pennsylvania	Mercer County	42085032503	Directly adjoining
Pennsylvania	Mercer County	42085032504	Mine closure
Pennsylvania	Mercer County	42085032505	Directly adjoining
Pennsylvania	Mercer County	42085032601	Mine closure
Pennsylvania	Mercer County	42085032602	Directly adjoining
Pennsylvania	Mercer County	42085032702	Directly adjoining
Pennsylvania	Mercer County	42085033100	Directly adjoining
Pennsylvania	Montgomery County	42091206105	Directly adjoining
Pennsylvania	Montgomery County	42091206106	Directly adjoining
Pennsylvania	Montour County	42093050100	Generating unit retirement
Pennsylvania	Montour County	42093050400	Directly adjoining
Pennsylvania	Northampton County	42095015300	Directly adjoining
Pennsylvania	Northampton County	42095015400	Directly adjoining
Pennsylvania	Northampton County	42095018200	Generating unit retirement
Pennsylvania	Northampton County	42095018300	Directly adjoining
Pennsylvania	Northumberland County	42097080100	Directly adjoining
Pennsylvania	Northumberland County	42097080400	Directly adjoining
Pennsylvania	Northumberland County	42097080500	Directly adjoining
Pennsylvania	Northumberland County	42097080800	Directly adjoining
Pennsylvania	Northumberland County	42097080900	Mine closure, Directly adjoining
Pennsylvania	Northumberland County	42097081000	Directly adjoining
Pennsylvania	Northumberland County	42097081100	Mine closure, Directly adjoining
Pennsylvania	Northumberland County	42097081200	Mine closure, Directly adjoining
Pennsylvania	Northumberland County	42097081300	Directly adjoining
Pennsylvania	Northumberland County	42097081400	Mine closure, Directly adjoining
Pennsylvania	Northumberland County	42097081500	Directly adjoining
Pennsylvania	Northumberland County	42097081600	Directly adjoining
Pennsylvania	Northumberland County	42097081700	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Northumberland County	42097081800	Mine closure, Directly adjoining
Pennsylvania	Northumberland County	42097081900	Directly adjoining
Pennsylvania	Northumberland County	42097082300	Directly adjoining
Pennsylvania	Northumberland County	42097082400	Directly adjoining
Pennsylvania	Potter County	42105950402	Directly adjoining
Pennsylvania	Schuylkill County	42107000100	Directly adjoining
Pennsylvania	Schuylkill County	42107000200	Directly adjoining
Pennsylvania	Schuylkill County	42107000300	Mine closure, Generating unit retirement, Directly adjoining
Pennsylvania	Schuylkill County	42107000400	Mine closure, Generating unit retirement, Directly adjoining
Pennsylvania	Schuylkill County	42107000500	Directly adjoining
Pennsylvania	Schuylkill County	42107000601	Directly adjoining
Pennsylvania	Schuylkill County	42107000602	Directly adjoining
Pennsylvania	Schuylkill County	42107000700	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107000800	Directly adjoining
Pennsylvania	Schuylkill County	42107000901	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107000902	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107001000	Directly adjoining
Pennsylvania	Schuylkill County	42107001100	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107001200	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107001300	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107001400	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107001500	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107001600	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107001700	Directly adjoining
Pennsylvania	Schuylkill County	42107001800	Directly adjoining
Pennsylvania	Schuylkill County	42107001902	Directly adjoining
Pennsylvania	Schuylkill County	42107002000	Directly adjoining
Pennsylvania	Schuylkill County	42107002100	Directly adjoining
Pennsylvania	Schuylkill County	42107002200	Directly adjoining
Pennsylvania	Schuylkill County	42107002300	Directly adjoining
Pennsylvania	Schuylkill County	42107002400	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107002500	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107002600	Directly adjoining
Pennsylvania	Schuylkill County	42107002700	Directly adjoining
Pennsylvania	Schuylkill County	42107002800	Directly adjoining
Pennsylvania	Schuylkill County	42107002900	Directly adjoining
Pennsylvania	Schuylkill County	42107003000	Directly adjoining
Pennsylvania	Schuylkill County	42107003200	Directly adjoining
Pennsylvania	Schuylkill County	42107003400	Directly adjoining
Pennsylvania	Schuylkill County	42107003500	Mine closure, Directly adjoining
Pennsylvania	Schuylkill County	42107003600	Directly adjoining
Pennsylvania	Schuylkill County	42107003700	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Schuylkill County	42107003800	Directly adjoining
Pennsylvania	Schuylkill County	42107003900	Mine closure, Directly adjoining
Pennsylvania	Snyder County	42109070100	Generating unit retirement
Pennsylvania	Snyder County	42109070200	Directly adjoining
Pennsylvania	Snyder County	42109070701	Directly adjoining
Pennsylvania	Somerset County	42111020101	Directly adjoining
Pennsylvania	Somerset County	42111020102	Directly adjoining
Pennsylvania	Somerset County	42111020200	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111020300	Directly adjoining
Pennsylvania	Somerset County	42111020400	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111020500	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111020601	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111020602	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111020700	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111020801	Directly adjoining
Pennsylvania	Somerset County	42111020802	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111020900	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111021000	Directly adjoining
Pennsylvania	Somerset County	42111021100	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111021200	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111021300	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111021400	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111021500	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111021600	Directly adjoining
Pennsylvania	Somerset County	42111021700	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111021800	Mine closure, Directly adjoining
Pennsylvania	Somerset County	42111021902	Directly adjoining
Pennsylvania	Somerset County	42111021903	Directly adjoining
Pennsylvania	Somerset County	42111021904	Directly adjoining
Pennsylvania	Sullivan County	42113960101	Directly adjoining
Pennsylvania	Sullivan County	42113960102	Mine closure
Pennsylvania	Sullivan County	42113960201	Directly adjoining
Pennsylvania	Union County	42119090400	Directly adjoining
Pennsylvania	Venango County	42121200201	Directly adjoining
Pennsylvania	Venango County	42121200202	Directly adjoining
Pennsylvania	Venango County	42121201100	Directly adjoining
Pennsylvania	Venango County	42121201200	Directly adjoining
Pennsylvania	Venango County	42121201300	Directly adjoining
Pennsylvania	Venango County	42121201400	Directly adjoining
Pennsylvania	Venango County	42121201500	Mine closure, Directly adjoining
Pennsylvania	Washington County	42125711000	Mine closure, Directly adjoining
Pennsylvania	Washington County	42125712700	Directly adjoining
Pennsylvania	Washington County	42125713700	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Washington County	42125714000	Mine closure, Directly adjoining
Pennsylvania	Washington County	42125715700	Directly adjoining
Pennsylvania	Washington County	42125721000	Directly adjoining
Pennsylvania	Washington County	42125722700	Directly adjoining
Pennsylvania	Washington County	42125741100	Directly adjoining
Pennsylvania	Washington County	42125745200	Directly adjoining
Pennsylvania	Washington County	42125746301	Directly adjoining
Pennsylvania	Washington County	42125746302	Directly adjoining
Pennsylvania	Washington County	42125755200	Directly adjoining
Pennsylvania	Washington County	42125755700	Directly adjoining
Pennsylvania	Washington County	42125761000	Mine closure, Directly adjoining
Pennsylvania	Washington County	42125762000	Directly adjoining
Pennsylvania	Washington County	42125763700	Directly adjoining
Pennsylvania	Washington County	42125764000	Directly adjoining
Pennsylvania	Washington County	42125771100	Mine closure, Generating unit retirement, Directly adjoining
Pennsylvania	Washington County	42125771200	Mine closure, Directly adjoining
Pennsylvania	Washington County	42125772700	Mine closure, Directly adjoining
Pennsylvania	Washington County	42125773100	Directly adjoining
Pennsylvania	Washington County	42125773200	Directly adjoining
Pennsylvania	Washington County	42125774700	Directly adjoining
Pennsylvania	Washington County	42125781700	Directly adjoining
Pennsylvania	Washington County	42125795700	Mine closure, Directly adjoining
Pennsylvania	Washington County	42125795900	Directly adjoining
Pennsylvania	Washington County	42125796000	Directly adjoining
Pennsylvania	Westmoreland County	42129801200	Directly adjoining
Pennsylvania	Westmoreland County	42129801600	Directly adjoining
Pennsylvania	Westmoreland County	42129801701	Directly adjoining
Pennsylvania	Westmoreland County	42129801702	Directly adjoining
Pennsylvania	Westmoreland County	42129801703	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129801801	Directly adjoining
Pennsylvania	Westmoreland County	42129801802	Directly adjoining
Pennsylvania	Westmoreland County	42129801901	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129801902	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129802001	Directly adjoining
Pennsylvania	Westmoreland County	42129802003	Directly adjoining
Pennsylvania	Westmoreland County	42129802004	Directly adjoining
Pennsylvania	Westmoreland County	42129802101	Directly adjoining
Pennsylvania	Westmoreland County	42129802400	Directly adjoining
Pennsylvania	Westmoreland County	42129803302	Directly adjoining
Pennsylvania	Westmoreland County	42129803400	Directly adjoining
Pennsylvania	Westmoreland County	42129803501	Directly adjoining
Pennsylvania	Westmoreland County	42129803800	Directly adjoining
Pennsylvania	Westmoreland County	42129804400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	Westmoreland County	42129804501	Mine closure
Pennsylvania	Westmoreland County	42129804503	Directly adjoining
Pennsylvania	Westmoreland County	42129804504	Directly adjoining
Pennsylvania	Westmoreland County	42129804600	Directly adjoining
Pennsylvania	Westmoreland County	42129804701	Directly adjoining
Pennsylvania	Westmoreland County	42129804705	Directly adjoining
Pennsylvania	Westmoreland County	42129804706	Directly adjoining
Pennsylvania	Westmoreland County	42129804901	Directly adjoining
Pennsylvania	Westmoreland County	42129804902	Directly adjoining
Pennsylvania	Westmoreland County	42129805000	Directly adjoining
Pennsylvania	Westmoreland County	42129805100	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129805800	Directly adjoining
Pennsylvania	Westmoreland County	42129805901	Directly adjoining
Pennsylvania	Westmoreland County	42129805903	Directly adjoining
Pennsylvania	Westmoreland County	42129805904	Directly adjoining
Pennsylvania	Westmoreland County	42129806000	Directly adjoining
Pennsylvania	Westmoreland County	42129806100	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129806200	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129806500	Directly adjoining
Pennsylvania	Westmoreland County	42129806600	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129806700	Directly adjoining
Pennsylvania	Westmoreland County	42129806900	Directly adjoining
Pennsylvania	Westmoreland County	42129807000	Directly adjoining
Pennsylvania	Westmoreland County	42129807100	Directly adjoining
Pennsylvania	Westmoreland County	42129807201	Directly adjoining
Pennsylvania	Westmoreland County	42129807202	Directly adjoining
Pennsylvania	Westmoreland County	42129807300	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129807401	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129807403	Directly adjoining
Pennsylvania	Westmoreland County	42129807404	Directly adjoining
Pennsylvania	Westmoreland County	42129807500	Directly adjoining
Pennsylvania	Westmoreland County	42129807600	Directly adjoining
Pennsylvania	Westmoreland County	42129807800	Directly adjoining
Pennsylvania	Westmoreland County	42129807901	Directly adjoining
Pennsylvania	Westmoreland County	42129807902	Directly adjoining
Pennsylvania	Westmoreland County	42129808100	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129808200	Directly adjoining
Pennsylvania	Westmoreland County	42129808300	Mine closure, Directly adjoining
Pennsylvania	Westmoreland County	42129808401	Directly adjoining
Pennsylvania	Westmoreland County	42129808402	Directly adjoining
Pennsylvania	Westmoreland County	42129808600	Directly adjoining
Pennsylvania	York County	42133020522	Directly adjoining
Pennsylvania	York County	42133020523	Generating unit retirement

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Pennsylvania	York County	42133020524	Directly adjoining
Pennsylvania	York County	42133021712	Directly adjoining
Rhode Island	Newport County	44005990000	Directly adjoining
South Carolina	Aiken County	45003021902	Directly adjoining
South Carolina	Aiken County	45003022001	Directly adjoining
South Carolina	Aiken County	45003022004	Directly adjoining
South Carolina	Aiken County	45003022100	Directly adjoining
South Carolina	Aiken County	45003980100	Generating unit retirement
South Carolina	Anderson County	45007010403	Directly adjoining
South Carolina	Anderson County	45007010405	Directly adjoining
South Carolina	Anderson County	45007010406	Generating unit retirement
South Carolina	Anderson County	45007011203	Directly adjoining
South Carolina	Anderson County	45007011204	Directly adjoining
South Carolina	Anderson County	45007011302	Directly adjoining
South Carolina	Anderson County	45007011401	Directly adjoining
South Carolina	Anderson County	45007011402	Directly adjoining
South Carolina	Barnwell County	45011970102	Directly adjoining
South Carolina	Barnwell County	45011980100	Directly adjoining
South Carolina	Berkeley County	45015020101	Directly adjoining
South Carolina	Berkeley County	45015020201	Directly adjoining
South Carolina	Berkeley County	45015020202	Directly adjoining
South Carolina	Berkeley County	45015020301	Directly adjoining
South Carolina	Berkeley County	45015020303	Directly adjoining
South Carolina	Berkeley County	45015020304	Generating unit retirement
South Carolina	Berkeley County	45015020401	Directly adjoining
South Carolina	Berkeley County	45015020503	Directly adjoining
South Carolina	Berkeley County	45015020504	Directly adjoining
South Carolina	Berkeley County	45015020506	Directly adjoining
South Carolina	Cherokee County	45021970101	Directly adjoining
South Carolina	Cherokee County	45021970203	Directly adjoining
South Carolina	Cherokee County	45021970204	Directly adjoining
South Carolina	Cherokee County	45021970401	Directly adjoining
South Carolina	Chesterfield County	45025950701	Directly adjoining
South Carolina	Chesterfield County	45025950800	Directly adjoining
South Carolina	Colleton County	45029970100	Directly adjoining
South Carolina	Colleton County	45029970200	Directly adjoining
South Carolina	Colleton County	45029970301	Directly adjoining
South Carolina	Colleton County	45029970401	Generating unit retirement
South Carolina	Colleton County	45029970402	Directly adjoining
South Carolina	Colleton County	45029970502	Directly adjoining
South Carolina	Colleton County	45029970601	Directly adjoining
South Carolina	Colleton County	45029970702	Directly adjoining
South Carolina	Darlington County	45031010100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
South Carolina	Darlington County	45031010200	Generating unit retirement
South Carolina	Darlington County	45031010300	Directly adjoining
South Carolina	Darlington County	45031010400	Directly adjoining
South Carolina	Darlington County	45031010600	Directly adjoining
South Carolina	Darlington County	45031010902	Directly adjoining
South Carolina	Dorchester County	45035010100	Directly adjoining
South Carolina	Greenville County	45045003202	Directly adjoining
South Carolina	Greenville County	45045003301	Directly adjoining
South Carolina	Horry County	45051060101	Directly adjoining
South Carolina	Horry County	45051060403	Directly adjoining
South Carolina	Horry County	45051070200	Directly adjoining
South Carolina	Horry County	45051070300	Generating unit retirement
South Carolina	Horry County	45051070400	Directly adjoining
South Carolina	Horry County	45051070500	Directly adjoining
South Carolina	Horry County	45051070701	Directly adjoining
South Carolina	Horry County	45051070702	Directly adjoining
South Carolina	Jasper County	45053950100	Directly adjoining
South Carolina	Jasper County	45053950301	Directly adjoining
South Carolina	Jasper County	45053950302	Directly adjoining
South Dakota	Custer County	46033965100	Directly adjoining
South Dakota	Lawrence County	46081966601	Directly adjoining
South Dakota	Meade County	46093020200	Directly adjoining
South Dakota	Meade County	46093020302	Directly adjoining
South Dakota	Meade County	46093020303	Directly adjoining
South Dakota	Meade County	46093020500	Directly adjoining
South Dakota	Pennington County	46103010202	Directly adjoining
South Dakota	Pennington County	46103010300	Directly adjoining
South Dakota	Pennington County	46103010400	Directly adjoining
South Dakota	Pennington County	46103010906	Directly adjoining
South Dakota	Pennington County	46103010908	Directly adjoining
South Dakota	Pennington County	46103011200	Directly adjoining
South Dakota	Pennington County	46103011300	Directly adjoining
South Dakota	Pennington County	46103011400	Generating unit retirement
South Dakota	Pennington County	46103011700	Directly adjoining
South Dakota	Pennington County	46103011800	Directly adjoining
Tennessee	Anderson County	47001020400	Directly adjoining
Tennessee	Anderson County	47001020700	Mine closure, Directly adjoining
Tennessee	Anderson County	47001020800	Directly adjoining
Tennessee	Anderson County	47001020901	Directly adjoining
Tennessee	Anderson County	47001021001	Mine closure, Directly adjoining
Tennessee	Anderson County	47001021002	Directly adjoining
Tennessee	Anderson County	47001021100	Directly adjoining
Tennessee	Anderson County	47001021201	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Tennessee	Benton County	47005963100	Directly adjoining
Tennessee	Benton County	47005963200	Directly adjoining
Tennessee	Benton County	47005963400	Directly adjoining
Tennessee	Bledsoe County	47007953000	Directly adjoining
Tennessee	Bledsoe County	47007953101	Directly adjoining
Tennessee	Bledsoe County	47007953102	Directly adjoining
Tennessee	Bledsoe County	47007953200	Mine closure, Directly adjoining
Tennessee	Campbell County	47013950100	Mine closure, Directly adjoining
Tennessee	Campbell County	47013950200	Mine closure, Directly adjoining
Tennessee	Campbell County	47013950300	Mine closure, Directly adjoining
Tennessee	Campbell County	47013950400	Mine closure, Directly adjoining
Tennessee	Campbell County	47013950500	Directly adjoining
Tennessee	Campbell County	47013950601	Directly adjoining
Tennessee	Campbell County	47013950701	Directly adjoining
Tennessee	Campbell County	47013950800	Directly adjoining
Tennessee	Campbell County	47013951100	Directly adjoining
Tennessee	Claiborne County	47025970200	Directly adjoining
Tennessee	Claiborne County	47025970300	Directly adjoining
Tennessee	Claiborne County	47025970400	Mine closure, Directly adjoining
Tennessee	Claiborne County	47025970500	Mine closure, Directly adjoining
Tennessee	Claiborne County	47025970600	Directly adjoining
Tennessee	Cumberland County	47035970101	Directly adjoining
Tennessee	Cumberland County	47035970104	Directly adjoining
Tennessee	Cumberland County	47035970201	Directly adjoining
Tennessee	Cumberland County	47035970603	Directly adjoining
Tennessee	Cumberland County	47035970702	Directly adjoining
Tennessee	Cumberland County	47035970800	Mine closure
Tennessee	Davidson County	47037014400	Directly adjoining
Tennessee	Davidson County	47037016400	Directly adjoining
Tennessee	Davidson County	47037016500	Generating unit retirement
Tennessee	Davidson County	47037016600	Directly adjoining
Tennessee	Davidson County	47037016800	Directly adjoining
Tennessee	Davidson County	47037019501	Directly adjoining
Tennessee	Fentress County	47049965000	Directly adjoining
Tennessee	Fentress County	47049965100	Directly adjoining
Tennessee	Fentress County	47049965201	Mine closure
Tennessee	Fentress County	47049965202	Directly adjoining
Tennessee	Fentress County	47049965300	Directly adjoining
Tennessee	Franklin County	47051960600	Directly adjoining
Tennessee	Franklin County	47051960700	Directly adjoining
Tennessee	Greene County	47059091200	Directly adjoining
Tennessee	Greene County	47059091300	Directly adjoining
Tennessee	Greene County	47059091400	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Tennessee	Grundy County	47061955000	Directly adjoining
Tennessee	Grundy County	47061955200	Mine closure, Directly adjoining
Tennessee	Grundy County	47061955300	Directly adjoining
Tennessee	Hamblen County	47063101000	Directly adjoining
Tennessee	Hawkins County	47073050100	Directly adjoining
Tennessee	Hawkins County	47073050200	Directly adjoining
Tennessee	Hawkins County	47073050301	Directly adjoining
Tennessee	Hawkins County	47073050302	Directly adjoining
Tennessee	Hawkins County	47073050400	Directly adjoining
Tennessee	Hawkins County	47073050700	Directly adjoining
Tennessee	Hawkins County	47073050800	Generating unit retirement
Tennessee	Hawkins County	47073050900	Directly adjoining
Tennessee	Humphreys County	47085130200	Directly adjoining
Tennessee	Humphreys County	47085130300	Directly adjoining
Tennessee	Humphreys County	47085130400	Directly adjoining
Tennessee	Humphreys County	47085130500	Generating unit retirement
Tennessee	Marion County	47115050102	Directly adjoining
Tennessee	Marion County	47115050203	Directly adjoining
Tennessee	Marion County	47115050302	Directly adjoining
Tennessee	Meigs County	47121960100	Directly adjoining
Tennessee	Meigs County	47121960200	Directly adjoining
Tennessee	Morgan County	47129110100	Directly adjoining
Tennessee	Morgan County	47129110200	Directly adjoining
Tennessee	Morgan County	47129110300	Directly adjoining
Tennessee	Morgan County	47129110400	Mine closure, Directly adjoining
Tennessee	Morgan County	47129110500	Directly adjoining
Tennessee	Rhea County	47143975000	Directly adjoining
Tennessee	Rhea County	47143975100	Generating unit retirement
Tennessee	Rhea County	47143975200	Directly adjoining
Tennessee	Roane County	47145030500	Directly adjoining
Tennessee	Roane County	47145030802	Directly adjoining
Tennessee	Roane County	47145030900	Directly adjoining
Tennessee	Scott County	47151975000	Directly adjoining
Tennessee	Scott County	47151975101	Directly adjoining
Tennessee	Scott County	47151975102	Directly adjoining
Tennessee	Scott County	47151975200	Directly adjoining
Tennessee	Scott County	47151975300	Mine closure, Directly adjoining
Tennessee	Scott County	47151975400	Directly adjoining
Tennessee	Sequatchie County	47153060102	Mine closure, Directly adjoining
Tennessee	Sequatchie County	47153060103	Directly adjoining
Tennessee	Sequatchie County	47153060104	Directly adjoining
Tennessee	Shelby County	47157004300	Directly adjoining
Tennessee	Shelby County	47157005300	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Tennessee	Shelby County	47157011700	Directly adjoining
Tennessee	Shelby County	47157022210	Directly adjoining
Tennessee	Shelby County	47157022220	Directly adjoining
Tennessee	Shelby County	47157980200	Generating unit retirement, Directly adjoining
Tennessee	Shelby County	47157980300	Generating unit retirement, Directly adjoining
Tennessee	Union County	47173040300	Directly adjoining
Tennessee	Van Buren County	47175925000	Directly adjoining
Tennessee	Warren County	47177930900	Directly adjoining
Texas	Anderson County	48001950402	Directly adjoining
Texas	Anderson County	48001951100	Directly adjoining
Texas	Archer County	48009020200	Directly adjoining
Texas	Baylor County	48023950302	Directly adjoining
Texas	Bexar County	48029131401	Directly adjoining
Texas	Bexar County	48029131402	Directly adjoining
Texas	Bexar County	48029131801	Directly adjoining
Texas	Bexar County	48029131802	Directly adjoining
Texas	Bexar County	48029141700	Directly adjoining
Texas	Bexar County	48029141800	Directly adjoining
Texas	Bexar County	48029141900	Generating unit retirement
Texas	Brazos County	48041000106	Directly adjoining
Texas	Brazos County	48041002010	Directly adjoining
Texas	Brazos County	48041002016	Directly adjoining
Texas	Camp County	48063950101	Directly adjoining
Texas	Camp County	48063950102	Directly adjoining
Texas	Dimmit County	48127950202	Directly adjoining
Texas	Dimmit County	48127950400	Directly adjoining
Texas	Duval County	48131950200	Directly adjoining
Texas	Duval County	48131950500	Directly adjoining
Texas	Falls County	48145000800	Directly adjoining
Texas	Foard County	48155950100	Directly adjoining
Texas	Franklin County	48159950101	Directly adjoining
Texas	Franklin County	48159950102	Directly adjoining
Texas	Franklin County	48159950300	Directly adjoining
Texas	Freestone County	48161000101	Directly adjoining
Texas	Freestone County	48161000102	Mine closure, Generating unit retirement
Texas	Freestone County	48161000200	Directly adjoining
Texas	Freestone County	48161000300	Directly adjoining
Texas	Freestone County	48161000600	Directly adjoining
Texas	Freestone County	48161000900	Directly adjoining
Texas	Gregg County	48183000201	Directly adjoining
Texas	Gregg County	48183001100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Texas	Gregg County	48183001400	Directly adjoining
Texas	Gregg County	48183001500	Directly adjoining
Texas	Gregg County	48183010501	Directly adjoining
Texas	Gregg County	48183010502	Directly adjoining
Texas	Grimes County	48185180202	Directly adjoining
Texas	Grimes County	48185180302	Directly adjoining
Texas	Grimes County	48185180303	Mine closure, Directly adjoining
Texas	Grimes County	48185180304	Generating unit retirement, Directly adjoining
Texas	Hardeman County	48197950100	Directly adjoining
Texas	Harrison County	48203020103	Mine closure, Directly adjoining
Texas	Harrison County	48203020104	Directly adjoining
Texas	Harrison County	48203020106	Directly adjoining
Texas	Harrison County	48203020301	Directly adjoining
Texas	Harrison County	48203020401	Directly adjoining
Texas	Harrison County	48203020402	Generating unit retirement, Directly adjoining
Texas	Harrison County	48203020501	Directly adjoining
Texas	Harrison County	48203020502	Directly adjoining
Texas	Harrison County	48203020603	Directly adjoining
Texas	Harrison County	48203020604	Mine closure, Generating unit retirement, Directly adjoining
Texas	Harrison County	48203020605	Directly adjoining
Texas	Harrison County	48203020606	Directly adjoining
Texas	Henderson County	48213950902	Directly adjoining
Texas	Hopkins County	48223950200	Directly adjoining
Texas	Hopkins County	48223950301	Directly adjoining
Texas	Hopkins County	48223950302	Mine closure
Texas	Hopkins County	48223950401	Directly adjoining
Texas	Hopkins County	48223950402	Directly adjoining
Texas	Hopkins County	48223950500	Directly adjoining
Texas	Hopkins County	48223950600	Directly adjoining
Texas	Hopkins County	48223950700	Directly adjoining
Texas	Hopkins County	48223950800	Directly adjoining
Texas	Kinney County	48271950100	Directly adjoining
Texas	La Salle County	48283950302	Directly adjoining
Texas	Lee County	48287000100	Directly adjoining
Texas	Limestone County	48293970800	Directly adjoining
Texas	McMullen County	48311950100	Directly adjoining
Texas	Madison County	48313000200	Directly adjoining
Texas	Madison County	48313000300	Directly adjoining
Texas	Maverick County	48323950207	Directly adjoining
Texas	Maverick County	48323950500	Directly adjoining
Texas	Maverick County	48323950701	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Texas	Maverick County	48323950702	Mine closure
Texas	Milam County	48331950100	Directly adjoining
Texas	Milam County	48331950300	Directly adjoining
Texas	Milam County	48331950800	Mine closure, Generating unit retirement
Texas	Morris County	48343950100	Directly adjoining
Texas	Morris County	48343950200	Directly adjoining
Texas	Navarro County	48349970600	Directly adjoining
Texas	Panola County	48365950100	Directly adjoining
Texas	Panola County	48365950200	Mine closure, Directly adjoining
Texas	Panola County	48365950300	Directly adjoining
Texas	Panola County	48365950500	Directly adjoining
Texas	Robertson County	48395960100	Mine closure
Texas	Robertson County	48395960200	Directly adjoining
Texas	Robertson County	48395960300	Directly adjoining
Texas	Rusk County	48401950101	Directly adjoining
Texas	Rusk County	48401950102	Mine closure, Directly adjoining
Texas	Rusk County	48401950200	Directly adjoining
Texas	Rusk County	48401950501	Mine closure, Directly adjoining
Texas	Rusk County	48401950502	Directly adjoining
Texas	Rusk County	48401950600	Directly adjoining
Texas	Rusk County	48401950700	Directly adjoining
Texas	Rusk County	48401950800	Directly adjoining
Texas	Rusk County	48401950900	Directly adjoining
Texas	Rusk County	48401951000	Directly adjoining
Texas	Rusk County	48401951100	Directly adjoining
Texas	Titus County	48449950100	Directly adjoining
Texas	Titus County	48449950200	Mine closure, Generating unit retirement
Texas	Titus County	48449950301	Directly adjoining
Texas	Titus County	48449950302	Directly adjoining
Texas	Titus County	48449950400	Generating unit retirement
Texas	Titus County	48449950500	Directly adjoining
Texas	Titus County	48449950800	Directly adjoining
Texas	Webb County	48479001710	Mine closure
Texas	Webb County	48479001711	Directly adjoining
Texas	Webb County	48479001714	Directly adjoining
Texas	Webb County	48479001726	Directly adjoining
Texas	Webb County	48479001727	Directly adjoining
Texas	Webb County	48479001815	Directly adjoining
Texas	Webb County	48479001816	Directly adjoining
Texas	Wichita County	48485013700	Directly adjoining
Texas	Wichita County	48485013800	Directly adjoining
Texas	Wilbarger County	48487950300	Generating unit retirement

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Texas	Wilbarger County	48487950500	Directly adjoining
Texas	Wilbarger County	48487950600	Directly adjoining
Texas	Wilbarger County	48487950700	Directly adjoining
Texas	Williamson County	48491020900	Directly adjoining
Texas	Williamson County	48491021300	Directly adjoining
Texas	Wilson County	48493000103	Directly adjoining
Texas	Wilson County	48493000201	Directly adjoining
Texas	Wilson County	48493000405	Directly adjoining
Texas	Wilson County	48493000406	Directly adjoining
Utah	Carbon County	49007000100	Directly adjoining
Utah	Carbon County	49007000200	Directly adjoining
Utah	Carbon County	49007000300	Mine closure, Directly adjoining
Utah	Carbon County	49007000500	Mine closure, Directly adjoining
Utah	Carbon County	49007000600	Mine closure, Generating unit retirement, Directly adjoining
Utah	Daggett County	49009960100	Directly adjoining
Utah	Duchesne County	49013940300	Directly adjoining
Utah	Duchesne County	49013940600	Directly adjoining
Utah	Emery County	49015976200	Mine closure, Directly adjoining
Utah	Emery County	49015976300	Mine closure, Directly adjoining
Utah	Emery County	49015976500	Mine closure, Directly adjoining
Utah	Garfield County	49017000300	Directly adjoining
Utah	Garfield County	49017000400	Directly adjoining
Utah	Grand County	49019000302	Directly adjoining
Utah	Iron County	49021110100	Directly adjoining
Utah	Iron County	49021110602	Directly adjoining
Utah	Kane County	49025130100	Mine closure
Utah	Kane County	49025130200	Directly adjoining
Utah	Salt Lake County	49035113105	Directly adjoining
Utah	Salt Lake County	49035113526	Directly adjoining
Utah	Salt Lake County	49035113540	Directly adjoining
Utah	Salt Lake County	49035113541	Directly adjoining
Utah	Salt Lake County	49035113542	Directly adjoining
Utah	Salt Lake County	49035113545	Directly adjoining
Utah	Salt Lake County	49035113905	Directly adjoining
Utah	Salt Lake County	49035113906	Directly adjoining
Utah	Salt Lake County	49035113908	Directly adjoining
Utah	Salt Lake County	49035113909	Generating unit retirement
Utah	Salt Lake County	49035114303	Directly adjoining
Utah	San Juan County	49037942100	Directly adjoining
Utah	San Juan County	49037978100	Directly adjoining
Utah	San Juan County	49037978200	Directly adjoining
Utah	Sanpete County	49039972101	Directly adjoining
Utah	Sanpete County	49039972102	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Utah	Sanpete County	49039972500	Directly adjoining
Utah	Sevier County	49041975100	Directly adjoining
Utah	Sevier County	49041975200	Directly adjoining
Utah	Tooele County	49045130701	Directly adjoining
Utah	Uintah County	49047940201	Directly adjoining
Utah	Uintah County	49047968201	Directly adjoining
Utah	Utah County	49049010900	Directly adjoining
Utah	Washington County	49053270102	Directly adjoining
Utah	Wayne County	49055979100	Directly adjoining
Virginia	Alleghany County	51005080201	Directly adjoining
Virginia	Alleghany County	51005080202	Directly adjoining
Virginia	Alleghany County	51005080301	Generating unit retirement
Virginia	Alleghany County	51005080302	Directly adjoining
Virginia	Augusta County	51015070500	Directly adjoining
Virginia	Augusta County	51015071201	Directly adjoining
Virginia	Augusta County	51015071202	Directly adjoining
Virginia	Bath County	51017920102	Directly adjoining
Virginia	Bland County	51021040100	Directly adjoining
Virginia	Brunswick County	51025930302	Directly adjoining
Virginia	Buchanan County	51027010100	Mine closure, Directly adjoining
Virginia	Buchanan County	51027010200	Mine closure, Directly adjoining
Virginia	Buchanan County	51027010300	Mine closure, Directly adjoining
Virginia	Buchanan County	51027010400	Mine closure, Directly adjoining
Virginia	Buchanan County	51027010500	Mine closure, Directly adjoining
Virginia	Buchanan County	51027010600	Mine closure, Directly adjoining
Virginia	Buchanan County	51027010700	Mine closure, Directly adjoining
Virginia	Charles City County	51036600100	Directly adjoining
Virginia	Chesterfield County	51041100300	Directly adjoining
Virginia	Chesterfield County	51041100403	Generating unit retirement
Virginia	Chesterfield County	51041100404	Directly adjoining
Virginia	Chesterfield County	51041100407	Directly adjoining
Virginia	Chesterfield County	51041100409	Directly adjoining
Virginia	Chesterfield County	51041100505	Directly adjoining
Virginia	Chesterfield County	51041100509	Directly adjoining
Virginia	Chesterfield County	51041100510	Directly adjoining
Virginia	Dickenson County	51051040100	Mine closure, Directly adjoining
Virginia	Dickenson County	51051040200	Mine closure, Directly adjoining
Virginia	Dickenson County	51051040300	Mine closure, Directly adjoining
Virginia	Dickenson County	51051040400	Mine closure, Directly adjoining
Virginia	Giles County	51071930200	Directly adjoining
Virginia	Giles County	51071930300	Generating unit retirement
Virginia	Giles County	51071930400	Directly adjoining
Virginia	Gloucester County	51073100500	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Virginia	Henrico County	51087201601	Directly adjoining
Virginia	Henrico County	51087201602	Directly adjoining
Virginia	Henry County	51089010500	Directly adjoining
Virginia	King George County	51099040301	Directly adjoining
Virginia	King George County	51099040302	Generating unit retirement
Virginia	King George County	51099040400	Directly adjoining
Virginia	Lee County	51105950100	Mine closure, Directly adjoining
Virginia	Lee County	51105950200	Directly adjoining
Virginia	Lee County	51105950301	Directly adjoining
Virginia	Lee County	51105950500	Directly adjoining
Virginia	Lee County	51105950600	Directly adjoining
Virginia	Loudoun County	51107610300	Directly adjoining
Virginia	Loudoun County	51107610503	Directly adjoining
Virginia	Loudoun County	51107610507	Directly adjoining
Virginia	Loudoun County	51107611002	Directly adjoining
Virginia	Loudoun County	51107611009	Directly adjoining
Virginia	Loudoun County	51107611010	Directly adjoining
Virginia	Loudoun County	51107611101	Directly adjoining
Virginia	Loudoun County	51107611102	Directly adjoining
Virginia	Loudoun County	51107611202	Directly adjoining
Virginia	Loudoun County	51107611206	Directly adjoining
Virginia	Loudoun County	51107611208	Directly adjoining
Virginia	Mecklenburg County	51117930103	Directly adjoining
Virginia	Mecklenburg County	51117930104	Directly adjoining
Virginia	Mecklenburg County	51117930300	Directly adjoining
Virginia	Mecklenburg County	51117930600	Directly adjoining
Virginia	Mecklenburg County	51117930700	Generating unit retirement
Virginia	Mecklenburg County	51117930800	Directly adjoining
Virginia	Pittsylvania County	51143011100	Directly adjoining
Virginia	Prince George County	51149850302	Directly adjoining
Virginia	Russell County	51167030100	Mine closure, Directly adjoining
Virginia	Russell County	51167030201	Mine closure, Directly adjoining
Virginia	Russell County	51167030202	Directly adjoining
Virginia	Russell County	51167030300	Directly adjoining
Virginia	Russell County	51167030402	Directly adjoining
Virginia	Russell County	51167030403	Directly adjoining
Virginia	Russell County	51167030404	Directly adjoining
Virginia	Russell County	51167030500	Directly adjoining
Virginia	Russell County	51167030600	Mine closure, Generating unit retirement, Directly adjoining
Virginia	Scott County	51169030200	Directly adjoining
Virginia	Scott County	51169030300	Mine closure, Directly adjoining
Virginia	Scott County	51169030400	Directly adjoining
Virginia	Stafford County	51179010106	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Virginia	Stafford County	51179010503	Directly adjoining
Virginia	Stafford County	51179010504	Directly adjoining
Virginia	Tazewell County	51185020100	Directly adjoining
Virginia	Tazewell County	51185020301	Mine closure, Directly adjoining
Virginia	Tazewell County	51185020302	Mine closure, Directly adjoining
Virginia	Tazewell County	51185020400	Mine closure, Directly adjoining
Virginia	Tazewell County	51185020500	Mine closure, Directly adjoining
Virginia	Tazewell County	51185020600	Directly adjoining
Virginia	Tazewell County	51185020800	Directly adjoining
Virginia	Tazewell County	51185020900	Mine closure, Directly adjoining
Virginia	Tazewell County	51185021000	Directly adjoining
Virginia	Tazewell County	51185021101	Directly adjoining
Virginia	Wise County	51195930700	Mine closure, Directly adjoining
Virginia	Wise County	51195930800	Mine closure, Directly adjoining
Virginia	Wise County	51195930900	Mine closure, Directly adjoining
Virginia	Wise County	51195931000	Mine closure, Directly adjoining
Virginia	Wise County	51195931100	Mine closure, Directly adjoining
Virginia	Wise County	51195931200	Directly adjoining
Virginia	Wise County	51195931300	Directly adjoining
Virginia	Wise County	51195931400	Mine closure, Directly adjoining
Virginia	Wise County	51195931500	Mine closure, Directly adjoining
Virginia	Wise County	51195931600	Mine closure, Directly adjoining
Virginia	Wise County	51195931700	Mine closure, Directly adjoining
Virginia	York County	51199050303	Directly adjoining
Virginia	York County	51199050306	Directly adjoining
Virginia	York County	51199050401	Generating unit retirement
Virginia	York County	51199050402	Directly adjoining
Virginia	York County	51199050500	Directly adjoining
Virginia	York County	51199990100	Directly adjoining
Virginia	Alexandria city	51510201601	Directly adjoining
Virginia	Alexandria city	51510201602	Directly adjoining
Virginia	Alexandria city	51510201802	Directly adjoining
Virginia	Alexandria city	51510201803	Directly adjoining
Virginia	Alexandria city	51510201805	Generating unit retirement
Virginia	Alexandria city	51510980000	Directly adjoining
Virginia	Chesapeake city	51550020200	Directly adjoining
Virginia	Chesapeake city	51550020300	Directly adjoining
Virginia	Chesapeake city	51550020400	Generating unit retirement
Virginia	Chesapeake city	51550020500	Directly adjoining
Virginia	Chesapeake city	51550020600	Directly adjoining
Virginia	Chesapeake city	51550020903	Directly adjoining
Virginia	Chesapeake city	51550020910	Directly adjoining
Virginia	Chesapeake city	51550021301	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Virginia	Chesapeake city	51550021304	Directly adjoining
Virginia	Chesapeake city	51550021401	Directly adjoining
Virginia	Chesapeake city	51550021402	Generating unit retirement
Virginia	Chesapeake city	51550021403	Directly adjoining
Virginia	Chesapeake city	51550021405	Directly adjoining
Virginia	Covington city	51580060100	Directly adjoining
Virginia	Covington city	51580060200	Directly adjoining
Virginia	Hampton city	51650011100	Directly adjoining
Virginia	Hopewell city	51670820100	Directly adjoining
Virginia	Hopewell city	51670820300	Directly adjoining
Virginia	Hopewell city	51670820700	Directly adjoining
Virginia	Hopewell city	51670980100	Generating unit retirement
Virginia	Newport News city	51700030100	Directly adjoining
Virginia	Norfolk city	51710000902	Directly adjoining
Virginia	Norfolk city	51710002400	Directly adjoining
Virginia	Norfolk city	51710980100	Directly adjoining
Virginia	Norton city	51720960100	Directly adjoining
Virginia	Portsmouth city	51740210200	Directly adjoining
Virginia	Portsmouth city	51740210300	Directly adjoining
Virginia	Portsmouth city	51740210400	Directly adjoining
Virginia	Portsmouth city	51740213001	Generating unit retirement
Virginia	Portsmouth city	51740213002	Directly adjoining
Virginia	Portsmouth city	51740213103	Directly adjoining
Virginia	Portsmouth city	51740213104	Directly adjoining
Virginia	Richmond city	51760060800	Directly adjoining
Virginia	Richmond city	51760060900	Generating unit retirement
Virginia	Richmond city	51760070901	Directly adjoining
Virginia	Suffolk city	51800075106	Directly adjoining
Virginia	Waynesboro city	51820003100	Directly adjoining
Virginia	Waynesboro city	51820003200	Generating unit retirement
Virginia	Waynesboro city	51820003300	Directly adjoining
Virginia	Waynesboro city	51820003400	Directly adjoining
Virginia	Waynesboro city	51820003500	Directly adjoining
Washington	Benton County	53005011600	Directly adjoining
Washington	King County	53033031202	Directly adjoining
Washington	King County	53033031204	Directly adjoining
Washington	King County	53033031501	Directly adjoining
Washington	King County	53033031603	Mine closure
Washington	King County	53033031604	Directly adjoining
Washington	King County	53033031605	Directly adjoining
Washington	King County	53033032003	Directly adjoining
Washington	King County	53033032010	Directly adjoining
Washington	King County	53033032011	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Washington	Klickitat County	53039950101	Directly adjoining
Washington	Lewis County	53041970400	Directly adjoining
Washington	Lewis County	53041970700	Directly adjoining
Washington	Lewis County	53041970800	Directly adjoining
Washington	Lewis County	53041971000	Directly adjoining
Washington	Lewis County	53041971100	Generating unit retirement
Washington	Lewis County	53041971200	Directly adjoining
Washington	Lewis County	53041971300	Directly adjoining
Washington	Lewis County	53041971400	Directly adjoining
Washington	Lewis County	53041971800	Directly adjoining
Washington	Thurston County	53067012531	Directly adjoining
Washington	Thurston County	53067012620	Directly adjoining
West Virginia	Barbour County	54001965500	Mine closure, Directly adjoining
West Virginia	Barbour County	54001965600	Mine closure, Directly adjoining
West Virginia	Barbour County	54001965700	Directly adjoining
West Virginia	Barbour County	54001965800	Mine closure, Directly adjoining
West Virginia	Berkeley County	54003971101	Directly adjoining
West Virginia	Berkeley County	54003971103	Directly adjoining
West Virginia	Boone County	54005958200	Mine closure, Directly adjoining
West Virginia	Boone County	54005958300	Mine closure, Directly adjoining
West Virginia	Boone County	54005958400	Directly adjoining
West Virginia	Boone County	54005958501	Mine closure, Directly adjoining
West Virginia	Boone County	54005958502	Mine closure, Directly adjoining
West Virginia	Boone County	54005958600	Mine closure, Directly adjoining
West Virginia	Boone County	54005958700	Mine closure, Directly adjoining
West Virginia	Boone County	54005958800	Mine closure, Directly adjoining
West Virginia	Braxton County	54007967900	Directly adjoining
West Virginia	Braxton County	54007968000	Directly adjoining
West Virginia	Braxton County	54007968100	Mine closure, Directly adjoining
West Virginia	Brooke County	54009031102	Mine closure, Directly adjoining
West Virginia	Brooke County	54009031103	Directly adjoining
West Virginia	Brooke County	54009031104	Directly adjoining
West Virginia	Brooke County	54009031200	Directly adjoining
West Virginia	Brooke County	54009031401	Directly adjoining
West Virginia	Brooke County	54009031402	Directly adjoining
West Virginia	Brooke County	54009031600	Directly adjoining
West Virginia	Brooke County	54009031700	Mine closure, Directly adjoining
West Virginia	Cabell County	54011010500	Directly adjoining
West Virginia	Calhoun County	54013962600	Directly adjoining
West Virginia	Calhoun County	54013962700	Directly adjoining
West Virginia	Clay County	54015957900	Directly adjoining
West Virginia	Clay County	54015958000	Mine closure, Directly adjoining
West Virginia	Clay County	54015958100	Mine closure, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
West Virginia	Doddridge County	54017965000	Directly adjoining
West Virginia	Fayette County	54019020101	Mine closure, Directly adjoining
West Virginia	Fayette County	54019020102	Directly adjoining
West Virginia	Fayette County	54019020201	Directly adjoining
West Virginia	Fayette County	54019020202	Directly adjoining
West Virginia	Fayette County	54019020400	Directly adjoining
West Virginia	Fayette County	54019020500	Directly adjoining
West Virginia	Fayette County	54019020600	Mine closure, Directly adjoining
West Virginia	Fayette County	54019020700	Mine closure, Directly adjoining
West Virginia	Fayette County	54019020800	Mine closure, Generating unit retirement, Directly adjoining
West Virginia	Fayette County	54019020900	Mine closure, Directly adjoining
West Virginia	Fayette County	54019021000	Mine closure, Directly adjoining
West Virginia	Fayette County	54019021100	Mine closure, Directly adjoining
West Virginia	Gilmer County	54021967701	Mine closure, Directly adjoining
West Virginia	Gilmer County	54021967800	Directly adjoining
West Virginia	Gilmer County	54021980000	Directly adjoining
West Virginia	Grant County	54023969400	Mine closure, Generating unit retirement, Directly adjoining
West Virginia	Grant County	54023969500	Directly adjoining
West Virginia	Greenbrier County	54025950102	Directly adjoining
West Virginia	Greenbrier County	54025950200	Mine closure, Directly adjoining
West Virginia	Greenbrier County	54025950300	Mine closure, Directly adjoining
West Virginia	Greenbrier County	54025950401	Directly adjoining
West Virginia	Greenbrier County	54025950402	Directly adjoining
West Virginia	Greenbrier County	54025950500	Directly adjoining
West Virginia	Greenbrier County	54025950600	Mine closure
West Virginia	Greenbrier County	54025950701	Directly adjoining
West Virginia	Greenbrier County	54025950702	Directly adjoining
West Virginia	Hampshire County	54027968401	Directly adjoining
West Virginia	Hancock County	54029020600	Directly adjoining
West Virginia	Hancock County	54029020700	Directly adjoining
West Virginia	Hancock County	54029020900	Directly adjoining
West Virginia	Hancock County	54029021100	Directly adjoining
West Virginia	Hancock County	54029021200	Directly adjoining
West Virginia	Hancock County	54029021300	Directly adjoining
West Virginia	Hancock County	54029021400	Directly adjoining
West Virginia	Hancock County	54029021500	Directly adjoining
West Virginia	Hardy County	54031970102	Directly adjoining
West Virginia	Hardy County	54031970300	Directly adjoining
West Virginia	Harrison County	54033030300	Directly adjoining
West Virginia	Harrison County	54033030501	Mine closure, Directly adjoining
West Virginia	Harrison County	54033030502	Directly adjoining
West Virginia	Harrison County	54033030601	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
West Virginia	Harrison County	54033030603	Directly adjoining
West Virginia	Harrison County	54033030604	Directly adjoining
West Virginia	Harrison County	54033030700	Mine closure, Directly adjoining
West Virginia	Harrison County	54033030801	Directly adjoining
West Virginia	Harrison County	54033030802	Directly adjoining
West Virginia	Harrison County	54033031000	Directly adjoining
West Virginia	Harrison County	54033031100	Mine closure, Directly adjoining
West Virginia	Harrison County	54033031200	Mine closure, Directly adjoining
West Virginia	Harrison County	54033031300	Mine closure, Directly adjoining
West Virginia	Harrison County	54033031400	Mine closure, Directly adjoining
West Virginia	Harrison County	54033031500	Mine closure, Directly adjoining
West Virginia	Harrison County	54033031600	Directly adjoining
West Virginia	Harrison County	54033031700	Mine closure, Directly adjoining
West Virginia	Harrison County	54033031800	Mine closure, Directly adjoining
West Virginia	Harrison County	54033031900	Directly adjoining
West Virginia	Harrison County	54033032000	Mine closure, Directly adjoining
West Virginia	Harrison County	54033032103	Directly adjoining
West Virginia	Harrison County	54033032104	Directly adjoining
West Virginia	Jackson County	54035963400	Directly adjoining
West Virginia	Kanawha County	54039001100	Directly adjoining
West Virginia	Kanawha County	54039001700	Directly adjoining
West Virginia	Kanawha County	54039001800	Directly adjoining
West Virginia	Kanawha County	54039010100	Directly adjoining
West Virginia	Kanawha County	54039010200	Directly adjoining
West Virginia	Kanawha County	54039010300	Directly adjoining
West Virginia	Kanawha County	54039010400	Generating unit retirement
West Virginia	Kanawha County	54039010500	Directly adjoining
West Virginia	Kanawha County	54039010602	Directly adjoining
West Virginia	Kanawha County	54039011000	Directly adjoining
West Virginia	Kanawha County	54039011200	Directly adjoining
West Virginia	Kanawha County	54039011301	Mine closure, Directly adjoining
West Virginia	Kanawha County	54039011302	Directly adjoining
West Virginia	Kanawha County	54039011401	Directly adjoining
West Virginia	Kanawha County	54039011402	Mine closure, Directly adjoining
West Virginia	Kanawha County	54039011500	Directly adjoining
West Virginia	Kanawha County	54039011800	Mine closure, Generating unit retirement, Directly adjoining
West Virginia	Kanawha County	54039012100	Mine closure, Directly adjoining
West Virginia	Kanawha County	54039012200	Mine closure, Directly adjoining
West Virginia	Kanawha County	54039012301	Directly adjoining
West Virginia	Kanawha County	54039012302	Mine closure, Directly adjoining
West Virginia	Kanawha County	54039013200	Directly adjoining
West Virginia	Kanawha County	54039013400	Directly adjoining
West Virginia	Kanawha County	54039013500	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
West Virginia	Kanawha County	54039013701	Directly adjoining
West Virginia	Lewis County	54041967200	Directly adjoining
West Virginia	Lewis County	54041967300	Mine closure, Directly adjoining
West Virginia	Lewis County	54041967400	Directly adjoining
West Virginia	Lewis County	54041967500	Directly adjoining
West Virginia	Lewis County	54041967600	Mine closure, Directly adjoining
West Virginia	Lincoln County	54043955401	Mine closure, Directly adjoining
West Virginia	Lincoln County	54043955402	Directly adjoining
West Virginia	Lincoln County	54043955500	Directly adjoining
West Virginia	Lincoln County	54043955600	Directly adjoining
West Virginia	Lincoln County	54043955700	Directly adjoining
West Virginia	Lincoln County	54043955800	Mine closure, Directly adjoining
West Virginia	Logan County	54045956102	Directly adjoining
West Virginia	Logan County	54045956103	Directly adjoining
West Virginia	Logan County	54045956104	Directly adjoining
West Virginia	Logan County	54045956200	Mine closure, Directly adjoining
West Virginia	Logan County	54045956400	Mine closure, Directly adjoining
West Virginia	Logan County	54045956500	Mine closure, Directly adjoining
West Virginia	Logan County	54045956600	Mine closure, Directly adjoining
West Virginia	Logan County	54045956700	Mine closure, Directly adjoining
West Virginia	Logan County	54045956800	Mine closure, Directly adjoining
West Virginia	Logan County	54045956900	Directly adjoining
West Virginia	McDowell County	54047953600	Mine closure, Directly adjoining
West Virginia	McDowell County	54047953800	Mine closure, Directly adjoining
West Virginia	McDowell County	54047953900	Mine closure, Directly adjoining
West Virginia	McDowell County	54047954000	Mine closure, Directly adjoining
West Virginia	McDowell County	54047954200	Mine closure, Directly adjoining
West Virginia	McDowell County	54047954501	Mine closure, Directly adjoining
West Virginia	McDowell County	54047954503	Mine closure, Directly adjoining
West Virginia	McDowell County	54047954504	Mine closure, Directly adjoining
West Virginia	Marion County	54049020200	Directly adjoining
West Virginia	Marion County	54049020300	Directly adjoining
West Virginia	Marion County	54049020400	Mine closure, Directly adjoining
West Virginia	Marion County	54049020600	Directly adjoining
West Virginia	Marion County	54049020700	Directly adjoining
West Virginia	Marion County	54049020900	Directly adjoining
West Virginia	Marion County	54049021001	Directly adjoining
West Virginia	Marion County	54049021002	Mine closure
West Virginia	Marion County	54049021201	Directly adjoining
West Virginia	Marion County	54049021202	Directly adjoining
West Virginia	Marion County	54049021300	Mine closure, Directly adjoining
West Virginia	Marion County	54049021400	Directly adjoining
West Virginia	Marion County	54049021500	Mine closure, Generating unit retirement, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
West Virginia	Marion County	54049021601	Directly adjoining
West Virginia	Marion County	54049021602	Mine closure, Directly adjoining
West Virginia	Marion County	54049021700	Directly adjoining
West Virginia	Marion County	54049021800	Mine closure, Directly adjoining
West Virginia	Marshall County	54051020200	Directly adjoining
West Virginia	Marshall County	54051020702	Directly adjoining
West Virginia	Marshall County	54051020800	Directly adjoining
West Virginia	Marshall County	54051020900	Generating unit retirement, Directly adjoining
West Virginia	Marshall County	54051021001	Directly adjoining
West Virginia	Marshall County	54051021002	Directly adjoining
West Virginia	Mason County	54053954801	Directly adjoining
West Virginia	Mason County	54053954802	Mine closure, Generating unit retirement
West Virginia	Mason County	54053954901	Directly adjoining
West Virginia	Mason County	54053954902	Directly adjoining
West Virginia	Mercer County	54055000900	Directly adjoining
West Virginia	Mercer County	54055001000	Directly adjoining
West Virginia	Mercer County	54055001100	Directly adjoining
West Virginia	Mercer County	54055001500	Directly adjoining
West Virginia	Mercer County	54055001600	Mine closure, Directly adjoining
West Virginia	Mercer County	54055001700	Directly adjoining
West Virginia	Mercer County	54055001800	Directly adjoining
West Virginia	Mercer County	54055002400	Directly adjoining
West Virginia	Mineral County	54057010400	Directly adjoining
West Virginia	Mineral County	54057010500	Directly adjoining
West Virginia	Mineral County	54057010600	Directly adjoining
West Virginia	Mineral County	54057010700	Mine closure, Directly adjoining
West Virginia	Mingo County	54059957100	Mine closure, Directly adjoining
West Virginia	Mingo County	54059957200	Mine closure, Directly adjoining
West Virginia	Mingo County	54059957300	Mine closure, Directly adjoining
West Virginia	Mingo County	54059957400	Directly adjoining
West Virginia	Mingo County	54059957500	Mine closure, Directly adjoining
West Virginia	Mingo County	54059957600	Mine closure, Directly adjoining
West Virginia	Mingo County	54059957700	Mine closure, Directly adjoining
West Virginia	Monongalia County	54061010101	Directly adjoining
West Virginia	Monongalia County	54061010103	Directly adjoining
West Virginia	Monongalia County	54061010104	Generating unit retirement
West Virginia	Monongalia County	54061010202	Directly adjoining
West Virginia	Monongalia County	54061010203	Directly adjoining
West Virginia	Monongalia County	54061010204	Directly adjoining
West Virginia	Monongalia County	54061010400	Directly adjoining
West Virginia	Monongalia County	54061010601	Directly adjoining
West Virginia	Monongalia County	54061010602	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
West Virginia	Monongalia County	54061010700	Directly adjoining
West Virginia	Monongalia County	54061010901	Directly adjoining
West Virginia	Monongalia County	54061011000	Directly adjoining
West Virginia	Monongalia County	54061011100	Directly adjoining
West Virginia	Monongalia County	54061011200	Mine closure, Directly adjoining
West Virginia	Monongalia County	54061011300	Mine closure, Directly adjoining
West Virginia	Monongalia County	54061011400	Mine closure, Directly adjoining
West Virginia	Monongalia County	54061011500	Mine closure, Directly adjoining
West Virginia	Monongalia County	54061011601	Directly adjoining
West Virginia	Monongalia County	54061011602	Directly adjoining
West Virginia	Monongalia County	54061011700	Directly adjoining
West Virginia	Monongalia County	54061011803	Directly adjoining
West Virginia	Monongalia County	54061011804	Directly adjoining
West Virginia	Monongalia County	54061011805	Directly adjoining
West Virginia	Monongalia County	54061011806	Directly adjoining
West Virginia	Monongalia County	54061011900	Mine closure, Directly adjoining
West Virginia	Monongalia County	54061012000	Mine closure
West Virginia	Monroe County	54063950300	Directly adjoining
West Virginia	Nicholas County	54067950100	Mine closure, Directly adjoining
West Virginia	Nicholas County	54067950201	Mine closure, Directly adjoining
West Virginia	Nicholas County	54067950202	Directly adjoining
West Virginia	Nicholas County	54067950300	Mine closure, Directly adjoining
West Virginia	Nicholas County	54067950400	Mine closure, Directly adjoining
West Virginia	Nicholas County	54067950500	Directly adjoining
West Virginia	Nicholas County	54067950600	Mine closure, Directly adjoining
West Virginia	Nicholas County	54067950700	Mine closure, Directly adjoining
West Virginia	Ohio County	54069000200	Directly adjoining
West Virginia	Ohio County	54069000300	Directly adjoining
West Virginia	Ohio County	54069000400	Directly adjoining
West Virginia	Ohio County	54069000500	Directly adjoining
West Virginia	Ohio County	54069000600	Directly adjoining
West Virginia	Ohio County	54069000700	Directly adjoining
West Virginia	Ohio County	54069001400	Directly adjoining
West Virginia	Ohio County	54069001500	Directly adjoining
West Virginia	Ohio County	54069001600	Directly adjoining
West Virginia	Ohio County	54069001700	Directly adjoining
West Virginia	Ohio County	54069001800	Directly adjoining
West Virginia	Ohio County	54069002000	Mine closure, Directly adjoining
West Virginia	Ohio County	54069002100	Directly adjoining
West Virginia	Ohio County	54069002600	Directly adjoining
West Virginia	Ohio County	54069002700	Mine closure
West Virginia	Pendleton County	54071970400	Directly adjoining
West Virginia	Pleasants County	54073962100	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
West Virginia	Pleasants County	54073962200	Generating unit retirement
West Virginia	Pocahontas County	54075960102	Directly adjoining
West Virginia	Pocahontas County	54075960201	Directly adjoining
West Virginia	Pocahontas County	54075960300	Directly adjoining
West Virginia	Preston County	54077963801	Directly adjoining
West Virginia	Preston County	54077963802	Mine closure, Directly adjoining
West Virginia	Preston County	54077963900	Mine closure, Directly adjoining
West Virginia	Preston County	54077964000	Mine closure, Generating unit retirement, Directly adjoining
West Virginia	Preston County	54077964101	Mine closure, Directly adjoining
West Virginia	Preston County	54077964102	Directly adjoining
West Virginia	Preston County	54077964103	Mine closure, Directly adjoining
West Virginia	Preston County	54077964200	Mine closure, Directly adjoining
West Virginia	Preston County	54077964300	Mine closure, Directly adjoining
West Virginia	Preston County	54077964400	Mine closure, Directly adjoining
West Virginia	Preston County	54077964500	Mine closure, Directly adjoining
West Virginia	Putnam County	54079020700	Directly adjoining
West Virginia	Raleigh County	54081000300	Directly adjoining
West Virginia	Raleigh County	54081000500	Directly adjoining
West Virginia	Raleigh County	54081000600	Directly adjoining
West Virginia	Raleigh County	54081000700	Directly adjoining
West Virginia	Raleigh County	54081000802	Directly adjoining
West Virginia	Raleigh County	54081000804	Directly adjoining
West Virginia	Raleigh County	54081000900	Mine closure, Directly adjoining
West Virginia	Raleigh County	54081001001	Directly adjoining
West Virginia	Raleigh County	54081001002	Mine closure, Directly adjoining
West Virginia	Raleigh County	54081001100	Mine closure, Directly adjoining
West Virginia	Raleigh County	54081001200	Mine closure, Directly adjoining
West Virginia	Raleigh County	54081001300	Mine closure, Directly adjoining
West Virginia	Raleigh County	54081001400	Directly adjoining
West Virginia	Raleigh County	54081001500	Directly adjoining
West Virginia	Randolph County	54083965900	Mine closure, Directly adjoining
West Virginia	Randolph County	54083966000	Directly adjoining
West Virginia	Randolph County	54083966200	Directly adjoining
West Virginia	Randolph County	54083966300	Mine closure, Directly adjoining
West Virginia	Randolph County	54083966400	Directly adjoining
West Virginia	Randolph County	54083966500	Mine closure, Directly adjoining
West Virginia	Ritchie County	54085962300	Directly adjoining
West Virginia	Ritchie County	54085962400	Directly adjoining
West Virginia	Ritchie County	54085962500	Directly adjoining
West Virginia	Summers County	54089000500	Directly adjoining
West Virginia	Summers County	54089000600	Directly adjoining
West Virginia	Summers County	54089000800	Directly adjoining
West Virginia	Taylor County	54091964600	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
West Virginia	Taylor County	54091964700	Directly adjoining
West Virginia	Taylor County	54091964800	Mine closure, Directly adjoining
West Virginia	Taylor County	54091964900	Mine closure, Directly adjoining
West Virginia	Tucker County	54093965200	Directly adjoining
West Virginia	Tucker County	54093965300	Mine closure, Directly adjoining
West Virginia	Tucker County	54093965400	Directly adjoining
West Virginia	Upshur County	54097966600	Mine closure, Directly adjoining
West Virginia	Upshur County	54097966700	Directly adjoining
West Virginia	Upshur County	54097966800	Directly adjoining
West Virginia	Upshur County	54097966900	Mine closure, Directly adjoining
West Virginia	Upshur County	54097967000	Mine closure, Directly adjoining
West Virginia	Upshur County	54097967100	Mine closure, Directly adjoining
West Virginia	Wayne County	54099020500	Directly adjoining
West Virginia	Wayne County	54099020600	Directly adjoining
West Virginia	Wayne County	54099020700	Directly adjoining
West Virginia	Wayne County	54099020800	Directly adjoining
West Virginia	Wayne County	54099020900	Mine closure, Directly adjoining
West Virginia	Wayne County	54099021000	Mine closure, Directly adjoining
West Virginia	Webster County	54101970101	Mine closure, Directly adjoining
West Virginia	Webster County	54101970102	Directly adjoining
West Virginia	Webster County	54101970200	Mine closure, Directly adjoining
West Virginia	Webster County	54101970300	Directly adjoining
West Virginia	Wetzel County	54103004900	Directly adjoining
West Virginia	Wetzel County	54103030400	Directly adjoining
West Virginia	Wetzel County	54103030500	Directly adjoining
West Virginia	Wetzel County	54103030700	Directly adjoining
West Virginia	Wood County	54107010101	Directly adjoining
West Virginia	Wood County	54107010200	Directly adjoining
West Virginia	Wood County	54107010400	Directly adjoining
West Virginia	Wood County	54107010601	Directly adjoining
West Virginia	Wood County	54107010602	Directly adjoining
West Virginia	Wyoming County	54109002800	Mine closure, Directly adjoining
West Virginia	Wyoming County	54109002901	Mine closure, Directly adjoining
West Virginia	Wyoming County	54109002902	Mine closure, Directly adjoining
West Virginia	Wyoming County	54109003000	Directly adjoining
West Virginia	Wyoming County	54109003100	Mine closure, Directly adjoining
West Virginia	Wyoming County	54109003200	Mine closure, Directly adjoining
Wisconsin	Brown County	55009000100	Generating unit retirement, Directly adjoining
Wisconsin	Brown County	55009000200	Directly adjoining
Wisconsin	Brown County	55009000500	Directly adjoining
Wisconsin	Brown County	55009000700	Directly adjoining
Wisconsin	Brown County	55009000800	Generating unit retirement, Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Wisconsin	Brown County	55009000900	Directly adjoining
Wisconsin	Brown County	55009001000	Directly adjoining
Wisconsin	Brown County	55009001802	Directly adjoining
Wisconsin	Brown County	55009020502	Directly adjoining
Wisconsin	Brown County	55009020800	Directly adjoining
Wisconsin	Brown County	55009020900	Directly adjoining
Wisconsin	Brown County	55009021303	Directly adjoining
Wisconsin	Buffalo County	55011960100	Directly adjoining
Wisconsin	Buffalo County	55011960300	Generating unit retirement
Wisconsin	Buffalo County	55011960400	Directly adjoining
Wisconsin	Calumet County	55015020308	Directly adjoining
Wisconsin	Crawford County	55023960200	Directly adjoining
Wisconsin	Dane County	55025001706	Directly adjoining
Wisconsin	Dane County	55025001707	Directly adjoining
Wisconsin	Dane County	55025001802	Directly adjoining
Wisconsin	Dane County	55025001804	Directly adjoining
Wisconsin	Dane County	55025001901	Generating unit retirement
Wisconsin	Dane County	55025001902	Directly adjoining
Wisconsin	Dane County	55025002100	Directly adjoining
Wisconsin	Dane County	55025991703	Directly adjoining
Wisconsin	Grant County	55043960300	Directly adjoining
Wisconsin	Grant County	55043960400	Directly adjoining
Wisconsin	Grant County	55043960500	Generating unit retirement
Wisconsin	Grant County	55043960600	Directly adjoining
Wisconsin	Grant County	55043960700	Directly adjoining
Wisconsin	Grant County	55043960800	Directly adjoining
Wisconsin	Grant County	55043961100	Directly adjoining
Wisconsin	Grant County	55043961200	Directly adjoining
Wisconsin	Kenosha County	55059001402	Directly adjoining
Wisconsin	Kenosha County	55059002500	Directly adjoining
Wisconsin	Kenosha County	55059002603	Directly adjoining
Wisconsin	Kenosha County	55059002604	Directly adjoining
Wisconsin	Kenosha County	55059002605	Generating unit retirement
Wisconsin	Kenosha County	55059002606	Directly adjoining
Wisconsin	Kenosha County	55059002700	Directly adjoining
Wisconsin	La Crosse County	55063010700	Directly adjoining
Wisconsin	Marathon County	55073001000	Directly adjoining
Wisconsin	Marathon County	55073001103	Directly adjoining
Wisconsin	Marathon County	55073001104	Directly adjoining
Wisconsin	Marathon County	55073001105	Directly adjoining
Wisconsin	Marathon County	55073001106	Generating unit retirement
Wisconsin	Marathon County	55073001203	Directly adjoining
Wisconsin	Marathon County	55073001204	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Wisconsin	Marathon County	55073001300	Directly adjoining
Wisconsin	Marathon County	55073001600	Directly adjoining
Wisconsin	Marathon County	55073001700	Directly adjoining
Wisconsin	Marinette County	55075961300	Directly adjoining
Wisconsin	Marinette County	55075961400	Directly adjoining
Wisconsin	Marinette County	55075961500	Directly adjoining
Wisconsin	Milwaukee County	55079012800	Directly adjoining
Wisconsin	Milwaukee County	55079090300	Directly adjoining
Wisconsin	Milwaukee County	55079090600	Directly adjoining
Wisconsin	Milwaukee County	55079090700	Directly adjoining
Wisconsin	Milwaukee County	55079091200	Directly adjoining
Wisconsin	Milwaukee County	55079091300	Directly adjoining
Wisconsin	Milwaukee County	55079185300	Generating unit retirement
Wisconsin	Pepin County	55091950100	Directly adjoining
Wisconsin	Pepin County	55091950200	Directly adjoining
Wisconsin	Portage County	55097960200	Directly adjoining
Wisconsin	Portage County	55097960701	Directly adjoining
Wisconsin	Portage County	55097960702	Directly adjoining
Wisconsin	Portage County	55097960800	Directly adjoining
Wisconsin	Portage County	55097960900	Directly adjoining
Wisconsin	Portage County	55097961000	Directly adjoining
Wisconsin	Portage County	55097961101	Directly adjoining
Wisconsin	Portage County	55097961102	Generating unit retirement
Wisconsin	Sheboygan County	55117000800	Directly adjoining
Wisconsin	Sheboygan County	55117001000	Directly adjoining
Wisconsin	Sheboygan County	55117001100	Generating unit retirement
Wisconsin	Sheboygan County	55117010800	Directly adjoining
Wisconsin	Sheboygan County	55117990000	Directly adjoining
Wisconsin	Vernon County	55123960500	Directly adjoining
Wisconsin	Vernon County	55123960600	Directly adjoining
Wisconsin	Vernon County	55123960700	Generating unit retirement, Directly adjoining
Wisconsin	Waukesha County	55133200901	Directly adjoining
Wisconsin	Waukesha County	55133201002	Directly adjoining
Wisconsin	Winnebago County	55139002401	Directly adjoining
Wisconsin	Winnebago County	55139002800	Directly adjoining
Wisconsin	Winnebago County	55139002900	Directly adjoining
Wisconsin	Winnebago County	55139003000	Generating unit retirement
Wisconsin	Winnebago County	55139003100	Directly adjoining
Wisconsin	Winnebago County	55139003400	Directly adjoining
Wyoming	Albany County	56001963900	Directly adjoining
Wyoming	Big Horn County	56003962600	Directly adjoining
Wyoming	Big Horn County	56003962700	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Wyoming	Big Horn County	56003962800	Directly adjoining
Wyoming	Campbell County	56005000101	Mine closure, Directly adjoining
Wyoming	Campbell County	56005000102	Directly adjoining
Wyoming	Campbell County	56005000103	Directly adjoining
Wyoming	Campbell County	56005000200	Directly adjoining
Wyoming	Campbell County	56005000300	Generating unit retirement, Directly adjoining
Wyoming	Campbell County	56005000400	Directly adjoining
Wyoming	Campbell County	56005000500	Directly adjoining
Wyoming	Campbell County	56005000600	Directly adjoining
Wyoming	Campbell County	56005000701	Directly adjoining
Wyoming	Campbell County	56005000702	Mine closure, Directly adjoining
Wyoming	Carbon County	56007967600	Directly adjoining
Wyoming	Carbon County	56007968000	Directly adjoining
Wyoming	Carbon County	56007968100	Mine closure
Wyoming	Converse County	56009956600	Directly adjoining
Wyoming	Crook County	56011950200	Directly adjoining
Wyoming	Crook County	56011950300	Directly adjoining
Wyoming	Fremont County	56013000302	Directly adjoining
Wyoming	Fremont County	56013000400	Directly adjoining
Wyoming	Fremont County	56013940100	Directly adjoining
Wyoming	Fremont County	56013940201	Directly adjoining
Wyoming	Hot Springs County	56017967800	Directly adjoining
Wyoming	Hot Springs County	56017967900	Mine closure
Wyoming	Johnson County	56019955100	Directly adjoining
Wyoming	Natrona County	56025001801	Directly adjoining
Wyoming	Natrona County	56025001802	Directly adjoining
Wyoming	Niobrara County	56027957200	Directly adjoining
Wyoming	Park County	56029965302	Directly adjoining
Wyoming	Sheridan County	56033000100	Directly adjoining
Wyoming	Sheridan County	56033000200	Directly adjoining
Wyoming	Sheridan County	56033000300	Directly adjoining
Wyoming	Sheridan County	56033000400	Directly adjoining
Wyoming	Sheridan County	56033000501	Directly adjoining
Wyoming	Sheridan County	56033000502	Directly adjoining
Wyoming	Sheridan County	56033000600	Mine closure
Wyoming	Sweetwater County	56037970800	Mine closure
Wyoming	Sweetwater County	56037970902	Directly adjoining
Wyoming	Sweetwater County	56037970903	Directly adjoining
Wyoming	Sweetwater County	56037970904	Directly adjoining
Wyoming	Sweetwater County	56037971000	Directly adjoining
Wyoming	Sweetwater County	56037971100	Directly adjoining
Wyoming	Sweetwater County	56037971200	Directly adjoining

State Name	County or County-Equivalent Entity Name	2020 Census Tract Number FIPS code	Tract Type
Wyoming	Sweetwater County	56037971600	Directly adjoining
Wyoming	Washakie County	56043000200	Directly adjoining
Wyoming	Weston County	56045951100	Generating unit retirement, Directly adjoining
Wyoming	Weston County	56045951300	Directly adjoining

Definition of Terms

Revenue rulings and revenue procedures (hereinafter referred to as "rulings") that have an effect on previous rulings use the following defined terms to describe the effect:

Amplified describes a situation where no change is being made in a prior published position, but the prior position is being extended to apply to a variation of the fact situation set forth therein. Thus, if an earlier ruling held that a principle applied to A, and the new ruling holds that the same principle also applies to B, the earlier ruling is amplified. (Compare with *modified*, below).

Clarified is used in those instances where the language in a prior ruling is being made clear because the language has caused, or may cause, some confusion. It is not used where a position in a prior ruling is being changed.

Distinguished describes a situation where a ruling mentions a previously published ruling and points out an essential difference between them.

Modified is used where the substance of a previously published position is being changed. Thus, if a prior ruling held that a principle applied to A but not to B, and the

new ruling holds that it applies to both A and B, the prior ruling is modified because it corrects a published position. (Compare with *amplified* and *clarified*, above).

Obsoleted describes a previously published ruling that is not considered determinative with respect to future transactions. This term is most commonly used in a ruling that lists previously published rulings that are obsoleted because of changes in laws or regulations. A ruling may also be obsoleted because the substance has been included in regulations subsequently adopted.

Revoked describes situations where the position in the previously published ruling is not correct and the correct position is being stated in a new ruling.

Superseded describes a situation where the new ruling does nothing more than restate the substance and situation of a previously published ruling (or rulings). Thus, the term is used to republish under the 1986 Code and regulations the same position published under the 1939 Code and regulations. The term is also used when it is desired to republish in a single ruling a series of situations, names, etc., that were previously published over a period of time in separate rulings. If the

new ruling does more than restate the substance of a prior ruling, a combination of terms is used. For example, *modified* and *superseded* describes a situation where the substance of a previously published ruling is being changed in part and is continued without change in part and it is desired to restate the valid portion of the previously published ruling in a new ruling that is self contained. In this case, the previously published ruling is first modified and then, as modified, is superseded.

Supplemented is used in situations in which a list, such as a list of the names of countries, is published in a ruling and that list is expanded by adding further names in subsequent rulings. After the original ruling has been supplemented several times, a new ruling may be published that includes the list in the original ruling and the additions, and supersedes all prior rulings in the series.

Suspended is used in rare situations to show that the previous published rulings will not be applied pending some future action such as the issuance of new or amended regulations, the outcome of cases in litigation, or the outcome of a Service study.

Abbreviations

The following abbreviations in current use and formerly used will appear in material published in the Bulletin.

A—Individual.
Acq.—Acquiescence.
B—Individual.
BE—Beneficiary.
BK—Bank.
B.T.A.—Board of Tax Appeals.
C—Individual.
C.B.—Cumulative Bulletin.
CFR—Code of Federal Regulations.
CI—City.
COOP—Cooperative.
Ct.D.—Court Decision.
CY—County.
D—Decedent.
DC—Dummy Corporation.
DE—Donee.
Del. Order—Delegation Order.
DISC—Domestic International Sales Corporation.
DR—Donor.
E—Estate.
EE—Employee.
E.O.—Executive Order.
ER—Employer.

ERISA—Employee Retirement Income Security Act.
EX—Executor.
F—Fiduciary.
FC—Foreign Country.
FICA—Federal Insurance Contributions Act.
FISC—Foreign International Sales Company.
FPH—Foreign Personal Holding Company.
FR—Federal Register.
FUTA—Federal Unemployment Tax Act.
FX—Foreign corporation.
G.C.M.—Chief Counsel's Memorandum.
GE—Grantee.
GP—General Partner.
GR—Grantor.
IC—Insurance Company.
I.R.B.—Internal Revenue Bulletin.
LE—Lessee.
LP—Limited Partner.
LR—Lessor.
M—Minor.
Nonacq.—Nonacquiescence.
O—Organization.
P—Parent Corporation.
PHC—Personal Holding Company.
PO—Possession of the U.S.
PR—Partner.
PRS—Partnership.

PTE—Prohibited Transaction Exemption.
Pub. L.—Public Law.
REIT—Real Estate Investment Trust.
Rev. Proc.—Revenue Procedure.
Rev. Rul.—Revenue Ruling.
S—Subsidiary.
S.P.R.—Statement of Procedural Rules.
Stat.—Statutes at Large.
T—Target Corporation.
T.C.—Tax Court.
T.D.—Treasury Decision.
TFE—Transferee.
TFR—Transferor.
T.I.R.—Technical Information Release.
TP—Taxpayer.
TR—Trust.
TT—Trustee.
U.S.C.—United States Code.
X—Corporation.
Y—Corporation.
Z—Corporation.

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¹ A cumulative list of all revenue rulings, revenue procedures, Treasury decisions, etc., published in Internal Revenue Bulletins 2022–27 through 2022–52 is in Internal Revenue Bulletin 2022–52, dated December 27, 2022.

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INTERNAL REVENUE BULLETIN

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