



Presented by









Welcome

This webinar is being recorded and will be published on the www.energy.gov/infrastructure/48C website.



Notice

- NO NEW INFORMATION OTHER THAN THAT PROVIDED IN THE GUIDANCE WILL BE DISCUSSED IN THE WEBINAR.
- There are no particular advantages or disadvantages to the application evaluation process with respect to participating on the webinar today.
- Your participation is completely voluntary.
- All applicants are strongly encouraged to carefully read the IRS Notice 2023-44 and adhere to the stated submission requirements.
- This presentation summarizes the contents of the Notice. If there are any inconsistencies between the Notice and this presentation or statements from DOE or Treasury personnel, the Notice is the controlling document and applicants should rely on the Notice language and seek clarification by submitting a question.
- There will be no Q&A section of today's webinar. Please submit any programmatic questions to <u>48CQuestions@hq.doe.gov</u>.



Overview of Notice 2023-44

Notice 2023, issued May 31st, 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 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
- 7. the disclosure of certain information



Appendix A: Defining Eligibility





Scope of Eligible Projects (1 of 2)

Clean Energy Manufacturing and Recycling Projects

- Property designed to be used to produce energy from the sun, water, wind, geothermal deposits or other renewable resources
- II. Fuel cells, microturbines, or energy storage systems and components
- III. Electric grid modernization equipment or components
- IV. Property designed to capture, remove, use, or sequester carbon oxide emissions
- V. Equipment designed to refine, electrolyze, or blend any fuel, chemical, or product which is renewable, or low-carbon and low-emission
- VI. Property designed to produce energy conservation technologies (including residential, commercial, and industrial applications)
- VII. 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
- VIII. 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
- IX. Other advanced energy property designed to reduce greenhouse gas emissions as may be determined by the Secretary



Scope of Eligible Projects (2 of 2)

Greenhouse Gas Emission Reduction Projects

- I. Low- or zero-carbon process heat systems
- II. Carbon capture, transport, utilization, and storage systems
- III. Energy efficiency and reduction in waste from industrial processes
- IV. Any other industrial technology designed to reduce greenhouse gas emissions, as determined by the Secretary

Critical Materials Projects

i. The currently effective final list of critical minerals as determined by the U.S. Geological Survey and 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

DOE Draft Critical Materials List: https://www.energy.gov/cmm

USGS 2022 Final List of Critical Materials: 87 FR 10381



Determining Eligibility

For all three project categories, the guidance:

- Defines the scope of eligible projects
- Provides examples of eligible projects
- Provides examples of ineligible projects

Applicants must indicate which advanced energy project category their project qualifies for when submitting a concept paper.



Appendix B: DOE Application Process





Program Timeline

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

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

Key program dates:

Activity	Date
Initial guidance issue date	2/13/2023
DOE posts proposed list of critical materials	5/31/2023
Additional guidance issue date	5/31/2023
Informational webinar	6/27/2023
DOE eXCHANGE portal opens	No later than 6/30/2023
Submission deadline for concept papers	7/31/2023 by 12:00PM ET
Submission deadline for § 48C(e) applications	Fall 2023 - Winter 2023/2024
IRS allocation decision notifications	No later than 3/31/2024



Technical Review Criteria

Eligible applications will be evaluated by DOE against technical review criteria reflecting four major priorities:

- 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

All applicants must submit the first stage concept paper in order to submit a full second stage § 48C(e) Application.

DOE will evaluate concept paper submissions using the category-specific technical review criteria, including whether the project addresses specific energy supply chain and manufacturing priority areas, as well as overarching program policy factors identified by this notice.

In determining allocation recommendations, DOE will also consider whether the proposed project is located in § 48C(e) Energy Communities Census Tracts, detailed in Appendix C. In Round 1, **DOE** anticipates recommending ~\$1.6 billion in § 48C credits to energy community projects.



Review Process

Concept paper

Compliance and eligibility review

- · Have the eligibility requirements been met?
- Has the required information been submitted?
- Is the proposed project technically valid?
- · Have all mandatory requirements of the notice been satisfied?

Technical review

- 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

Final outcome

- Following compliance, eligibility, and technical reviews, DOE may also consider program policy factors
- DOE will issue a letter to applicants either encouraging or discouraging them to submit an application
- As the decision is non-binding, any applicant that receives a discouragement letter may still apply

Full application

Compliance and eligibility review

- · Have the eligibility requirements been met?
- · Has the required information been submitted?
- Is the proposed project technically valid?
- Have all mandatory requirements of the notice been satisfied?

Technical review

- 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

Due diligence review

 DOE may conduct a due diligence review to determine if an applicant has a connection with a country of risk

Final recommendation

- Following compliance, eligibility, and technical reviews, DOE may also consider program policy factors
- DOE will transmit to the IRS its recommendations for allocations and denials of applications



Note: 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.

The 48C eXCHANGE Portal

- All applicants must register an account in the 48C eXCHANGE portal at https://48C-exchange.energy.gov
- 48C registration and submission capabilities on the portal will be enabled on June 30th.
- 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
- DOE intends to migrate all § 48C(e) applicants to a successor portal in the future

Files required for concept paper submission:

Component	File Format	Max 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

Files required for full application submission:

File Format	Max Pages	File Name
PDF	30	[ControlNumber]- 48CApplication.pdf
PDF	5	[ControlNumber]-App- WCE.pdf
PDF	N/A	[ControlNumber]- BusinessEntityCertification.pdf
MS Excel	N/A	[ControlNumber]-App- DataSheet.xlsx
Various	N/A	[ControlNumber]-Appendix- [FileNumber].[format] (e.g. 1234-Appendix-1.pdf)
	PDF PDF MS Excel	Format Pages PDF 30 PDF 5 PDF N/A MS N/A Excel



Clean Energy Manufacturing and Recycling – Concept Paper Content Requirements

Concept Paper 4 pages max

Project Overview

- Company Overview
- Project Summary

Commercial Viability

- Project Plan
- Business Plan
- Management Plan

Greenhouse Gas Emissions Impacts

- GHG Emissions Impacts of the Facility's Products
 - End Product Impacts
 - Product Performance
- · GHG Emissions from the Facility
 - Direct Emissions
 - Facility Performance
 - Mitigation Efforts

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

- Outputs of Your Facility
- · Inputs to Your Facility
- · Supply Chain Resilience
- End-Use Applications

Concept Paper Workforce and Community Engagement Plan 1 page max

- Job Creation and Workforce Continuity
- Ensuring Timely Project Completion Through Workforce and Community Engagement
- Energy Community Transition
- Local Environmental Impacts

Concept Paper Data Sheet MS Excel File

Project Overview

- Project Overview
- Project/Business Plan
- Jobs

Details on Production Capacity

Submit Details Under Your Specific Primary Technology Area:

- Renewables
- Microturbines
- Fuel Cells
- Energy Storage (non-vehicle)
- Vehicles & Vehicle Components
- Gride Modernization & Charging
- Fuels. Products, and Chemicals
- Energy Conservation
- Carbon Capture
- Recycling
- Other



Clean Energy Manufacturing and Recycling – Concept Paper Technical Review Criteria (1 of 3)

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.



Clean Energy Manufacturing and Recycling – Concept Paper Technical Review Criteria (2 of 3)

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.



Clean Energy Manufacturing and Recycling – Concept Paper Technical Review Criteria (3 of 3)

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.



Note: Criterion 4 is the same across all three project categories

Clean Energy Manufacturing and Recycling – 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 feedstock handling equipment and pretreatment 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.



Greenhouse Gas Emission Reduction – Concept Paper Content Requirements

Concept Paper 4 pages max

- Project Overview
 - Company Overview
 - Project Scope
 - Emissions
- Commercial Viability
 - Project Plan
 - Business Plan
 - Management Plan
- Greenhouse Gas Emissions Impacts
 - Emissions Impacts
 - Process Improvements
 - Best-In-Class Technologies
- Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy
 - Existing Capacity
 - Innovation and U.S. Competitiveness
 - · Supporting U.S. Supply Chains

Concept Paper Workforce and Community Engagement Plan 1 page max

- Job Creation and Workforce Continuity
- Ensuring Timely Project Completion through Workforce and Community Engagement
- Energy Community Transition
- Local Environmental Impacts

Concept Paper Data Sheet MS Excel File

- Project Overview
 - Project Overview
 - Project/Business Plan
 - Jobs



Greenhouse Gas Emission Reduction – Concept Paper Technical Review Criteria

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, LCFFES, material efficiency or substitution, and CCUS.

Criterion 4: Workforce and Community Engagement

Same across all three project categories



Critical Materials - Concept Paper Content Requirements

Concept Paper 4 pages max

- Project Overview
 - Company Overview
 - Project Summary
- Commercial Viability
 - Project Plan
 - Business Plan
 - Management Plan
- Greenhouse Gas Emissions Impacts
 - End Product Impacts
 - Direct Facility Emissions
 - Facility Performance
 - Mitigation Efforts
- Strengthening U.S. Supply Chains and Domestic Manufacturing for a Net-Zero Economy
 - Output of Your Facility
 - Inputs to Your Facility
 - Supply Chain Resilience
 - End-Use Applications

Concept Paper Workforce and Community Engagement Plan 1 page max

- Job Creation and Workforce Continuity
- Ensuring Timely Project Completion through Workforce and Community Engagement
- Energy Community Transition
- Local Environmental Impacts

Concept Paper Data Sheet MS Excel File

- Project Overview
 - Project Overview
 - Project/Business Plan
 - Jobs
- Critical Materials
 Production
 - Materials Inputs
 - Critical Material Outputs



Critical Materials - Concept Paper Technical Review Criteria

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

Same across all three project categories



DOE Program Policy Factors

DOE may also consider program policy factors such as the degree to which the proposed project or portfolio of projects:

- 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.
- 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.
- exhibits technological and product diversity when compared to other projects recommended for allocation.
- > contributes to portfolio diversity within a project category and across project categories.
- > contributes to a portfolio that **supports a diversity of organizational sizes**, including small- and medium-sized manufacturers.
- > is likely to contribute to a long-term, place-based, coordinated, and collaborative regional economic development strategy.
- represent a desired **geographic distribution**, when compared to other projects recommended for allocation.
- will accelerate transformational technological advances in areas that industry by itself is not likely to undertake because of financial uncertainty.
- 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).
- > contributes to the total portfolio meeting the goals reflected in the Workforce and Community Engagement technical review criterion.
- > has **broad public support** from the communities most directly impacted by 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 burdens**



DOE Recommendation Process

- DOE will provide a recommendation and ranking for a project only if it determines that the
 application meets all requirements described in the 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.
- 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.
- 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 program policy factors.
- 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.

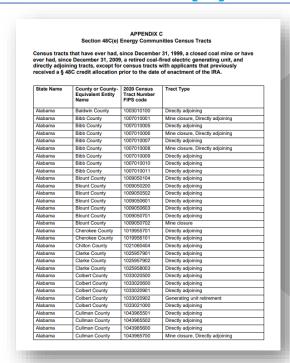


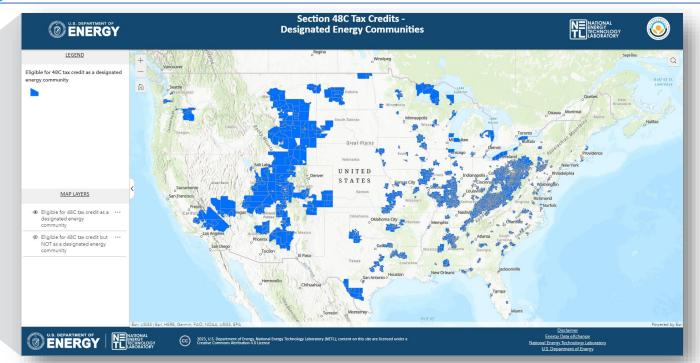
Appendix C: 48C Energy Communities





Section 48C(e) Energy Communities Census Tracts





Of the \$10 billion in tax credits to be allocated, at least \$4 billion must go to qualifying projects in energy communities. As defined in section 5.06 of Notice 2-23-18, 48C energy communities include*:

- Census tracts with coal mines that have closed since December 31, 1999
- Census tracts with coal power plants that have closed since December 31, 2009
- Census tracts immediately adjacent to either of the above

These energy communities have knowledge, infrastructure, resources, and know-how to play a leading role in the move to a clean energy economy.



*Census tracts which have received 48C funding in previous rounds are not eligible for the 40% carve-out

Questions?

For questions or comments regarding the non-tax aspects of this notice email Department of Energy at 48CQuestions@hq.doe.gov.

For applicant registration and/or application submission related questions email lnfrastructureExchangeSupport@hq.doe.gov.

For Tax-related questions, please refer to the IRS contact information in the updated guidance.

