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10 CFR Part 300

General Guidelines for Voluntary Greenhouse Gas Reporting; Proposed Rule

DEPARTMENT OF ENERGY

10 CFR Part 300

RIN 1901–AB11

General Guidelines for Voluntary Greenhouse Gas Reporting

AGENCY: Office of Policy and International Affairs, U.S. Department of Energy.

ACTION: Proposed rule and opportunity for public comment; proposed revised guidelines.

SUMMARY: Section 1605(b) of the Energy Policy Act of 1992 (EPACT), 42 U.S.C. 13385(b), directed the Department of Energy (DOE or Department) to issue guidelines establishing a voluntary greenhouse gas reporting program. The guidelines issued by the Department in 1994 to establish the Voluntary Reporting of Greenhouse Gases Program were intentionally flexible to encourage the broadest possible participation. On February 14, 2002, the President directed DOE, together with other involved Federal agencies, to recommend reforms to enhance this voluntary reporting program. The purposes of the proposed revised Guidelines are to establish revised procedures and reporting requirements for filing voluntary reports, and encourage corporations, government agencies, non-profit organizations, households and other private and public entities to submit annual reports of their total entity-wide greenhouse gas emissions, net emission reductions, and carbon sequestration activities that are complete, reliable and consistent. Public comments on these proposed revised Guidelines are solicited and a public workshop has been scheduled to encourage an open exchange of views on this subject.

DATES: Interested persons should submit written e-mail or written comments by February 3, 2004 to the addresses given below. You may present oral views and data at a public workshop that will be held at the Washington Plaza Hotel, 10 Thomas Circle, NW., Massachusetts Avenue at 14th Street, Washington, DC 20005, on January 12, 2004, from 8 a.m. to 5 p.m.

ADDRESSES: Send e-mail comments to: *1605bgeneralguidelines.comments@hq.doe.gov.* Alternatively, written comments may be sent to: Mark Friedrichs, PI–40; Office of Policy and International Affairs; U.S. Department of Energy; Room 1E190, 1000 Independence Ave., SW., Washington, DC 20585. DOE will hold a public workshop at the following address: Washington Plaza Hotel, 10 Thomas Circle, NW., Massachusetts Avenue at 14th Street, Washington, DC 20005. You may review comments received by DOE, the workshop transcript, and any other related material at the following Web site: *http://www.pi.energy.gov/enhancingGHGregistry/proposedguidelines/generalguidelines.html.* If you lack access to the Internet, you may access this Web site by visiting the DOE Freedom of Information Reading Room, 1000 Independence Avenue, SW., Washington, DC. See Section III of the **SUPPLEMENTARY INFORMATION** section of this notice for more information about public participation in this proceeding.

FOR FURTHER INFORMATION CONTACT: Mark Friedrichs, PI–40, Office of Policy and International Affairs, U.S. Department of Energy, 1000 Independence Ave., SW., Washington, DC 20585, or email: *1605bgeneralguidelines.comments@hq.doe.gov* [Please indicate if your e-mail is a request for information, rather than a public comment.]

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I. Introduction

A. Background

Section 1605(b) of the Energy Policy Act of 1992 (EPACT) directed the Department of Energy, with the Energy Information Administration (EIA), to establish a voluntary reporting program and database on emissions of greenhouse gases, reductions of these gases, and carbon sequestration activities (42 U.S.C. 13385(b)). Section 1605(b) required that DOE's Guidelines provide for the ''accurate'' and ''voluntary'' reporting of information on: (1) Greenhouse gas emission levels for a baseline period (1987–1990) and thereafter, annually; (2) greenhouse gas emission reductions and carbon sequestration, regardless of the specific method used to achieve them; (3) greenhouse gas emission reductions achieved because of voluntary efforts, plant closings, or state or federal requirements; and (4) the aggregate calculation of greenhouse gas emissions by each reporting entity (42 U.S.C. 13385(b)(1)(A)–(D)). Section 1605(b) contemplates a program whereby voluntary efforts to reduce greenhouse gas emissions can be recorded, with the specific purpose that this record can be used ''by the reporting entity to demonstrate achieved reductions of greenhouse gases'' (42 U.S.C. 13385(b)(4)).

In 1994, after notice and public comment, DOE issued General Guidelines and sector-specific guidelines that established the Voluntary Reporting of Greenhouse Gases Program for recording voluntarily submitted data and information on greenhouse gas emissions and the

results of actions to reduce, avoid or sequester greenhouse gas emissions. The 1994 General Guidelines are appended to today's proposal to provide information with regard to reports that were filed under those Guidelines (The General Guidelines and supporting documents may be accessed at *http://www.eia.doe.gov/oiaf/1605/guidelines.html).* The Guidelines were intentionally flexible to encourage the broadest possible participation. They permit participants to decide which greenhouse gases to report, and allow for a range of reporting options, including reporting of total emissions or emissions reductions or reporting of just a single activity undertaken to reduce part of their emissions. From its establishment in 1995 through the 2001 reporting year, 365 entities, including utilities, manufacturers, coal mines, landfill operators and others, have reported their greenhouse gas emissions and/or their emission reductions to EIA.

On February 14, 2002, the President announced a series of programs and initiatives to address the issue of global climate change, including a greenhouse gas intensity reduction goal, energy technology research programs, targeted tax incentives to advance the development and adoption of new technologies, voluntary programs to promote actions to reduce greenhouse gases, and international initiatives. In addition, the President directed the Secretary of Energy, in consultation with the Secretary of Commerce, the Secretary of Agriculture, and the Administrator of the Environmental Protection Agency, to propose improvements to the current Voluntary Reporting of Greenhouse Gases Program required under section 1605(b) of EPACT. These improvements are to enhance measurement accuracy, reliability, and verifiability, working with and taking into account emerging domestic and international approaches.

On May 6, 2002, DOE published a Notice of Inquiry soliciting public comments on how best to improve the Voluntary Greenhouse Gas Reporting Program (67 FR 30370). Written comments were received from electric utilities, representatives of energy, manufacturing and agricultural sectors, Federal and State legislators, State agencies, waste management companies, and environmental and other non-profit research and advocacy organizations.

On July 8, 2002, after considering public comments, the Secretaries of Energy, Commerce and Agriculture, and the Administrator of the Environmental Protection Agency provided the President with ten recommendations on improvements to the Voluntary Greenhouse Gas Reporting Program. The four agencies also outlined a public process for developing specific revisions to the program Guidelines. Following are the ten recommendations for improving the greenhouse gas reporting program:

- Develop fair, objective and practical methods for reporting baselines, reporting boundaries, calculating real results, and awarding transferable credits for actions that lead to real reductions.
- Standardize widely accepted, transparent accounting methods.
- Support independent verification of registry reports.
- Encourage reporters to report greenhouse gas intensity (emissions per unit of output) as well as emissions or emissions reductions.
- Encourage corporate or entity-wide reporting.
- Provide credits for actions to remove carbon dioxide from the atmosphere as well as actions to reduce emissions.
- Develop a process for evaluating the extent to which past reductions may qualify for credits.
- Assure the voluntary reporting program is an effective tool for reaching the 18 percent goal.
- Factor in international strategies as well as State-level efforts; and
- Minimize transaction costs for reporters and administrative costs for the Government, where possible, without compromising the foregoing recommendations.

DOE held public workshops in Washington, D.C., Chicago, San Francisco and Houston during November and December of 2002 to receive oral views and information from interested persons. In addition, the U.S. Department of Agriculture sponsored two meetings in January 2003 to solicit input on the accounting rules and guidelines for reporting greenhouse gas emissions in the forestry and agriculture sectors. These workshops and meetings explored in greater depth many of the issues raised in the Notice of Inquiry and addressed in the written comments. The public comment covered a broad range of issues and views diverged widely on some key issues. Generally, there was substantial support for revising the current General Guidelines to enhance their utility and to accomplish the President's climate change goals.

DOE today is proposing revised General Guidelines, and subsequently will propose Technical Guidelines, that when effective will modify and replace the guidelines for the Voluntary Reporting of Greenhouse Gases issued by DOE in October 1994. The proposed revised General Guidelines would continue to provide procedures for entities to report their greenhouse gas emissions inventories and a wide range of actions they have taken to reduce, avoid or sequester greenhouse gas emissions. In addition, the proposal would enable entities that meet criteria established by DOE to register such reductions in a database maintained by the Energy Information Administration (EIA). The criteria established by DOE will ensure that units of registered reductions will be comparable with regard to the standards of accuracy, reliability and verifiability. Registered reductions will be recorded in a publicly accessible database.

The Secretary of Energy has approved issuance of this notice.

B. Process for Finalizing and Implementing Guidelines

After full consideration of the public comments received, DOE will develop and issue final revised General Guidelines. In parallel, DOE intends to propose Technical Guidelines that will, when finalized, specify the methods and factors to be used in measuring and estimating greenhouse gas emissions, emission reductions, and carbon sequestration. Concurrently with development of the General and Technical Guidelines, DOE's Energy Information Administration will, pursuant to the Paperwork Reduction Act of 1995 (44 U.S.C. Chapter 35), solicit public comment on the reporting elements to be contained in the reporting forms to be used under the revised program Guidelines. With respect to the existing 1994 General Guidelines, DOE intends to publish a **Federal Register** notice of termination on the same day that DOE publishes the notice of final rulemaking setting forth the revised guidelines under section 1605(b) of EPACT. Both the notice of termination and the notice of final rulemaking will contain an effective date, which will be the beginning of a future reporting period.

II. Discussion of Proposal and Requests for Comments

The following section describes the proposed revised General Guidelines, summarizes the rationale for the key elements of the proposal and solicits public comments on a wide range of specific issues.

A. Overview

The proposed revisions to the General Guidelines are designed to enhance the measurement accuracy, reliability and verifiability of information reported

under the 1605(b) program and to contribute to the President's climate change goals. The proposed revised Guidelines will continue to provide considerable flexibility to entities that wish to report emissions or emission reductions in the future, as they have in the past. In addition, the revised Guidelines will provide a means for entities that are able to meet additional requirements to register emission reductions achieved after 2002. This registry will provide special recognition to such emission reductions.

To register emission reductions, reporting entities with substantial emissions (average annual emissions of over 10,000 tons of carbon dioxide (CO_2) equivalent) will need to provide an inventory of their total emissions and calculate the net reductions associated with entity-wide efforts to reduce emissions or sequester carbon. Entities with average annual emissions of less than 10,000 tons of CO_2 equivalent (small emitters) would be eligible, under certain conditions, to register emission reductions associated with specific activities even without completing an entity-wide inventory or reduction assessment.

The proposed revised Guidelines would enable and encourage entities to report (but not register) emission reductions achieved prior to 2003. The revised Guidelines would also permit entities to report (but not necessarily register) emission reductions associated with specific actions or with specific parts of the entity, even if these reports were not accompanied by entity-wide emissions and reductions reports.

The chief executive officer of the company or institution, an agency head, head of household or other responsible official would be required to certify that the reporting entity accurately followed the revised Guidelines for determining emissions, emission reductions and sequestration. Entities would be encouraged to obtain independent verification of the accuracy of their reports, and their compliance with DOE Guidelines.

For convenience, the basic elements of the proposed revised guidelines are graphically represented in Figure 1. DOE solicits public comments on this approach and any suggestions of alternative means of achieving the objectives outlined above.

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FIGURE 1
VOLUNTARY REPORTING OF GREENHOUSE GASES
REPORTING AND REGISTERING EMISSIONS AND EMISSIONS REDUCTIONS

All Reports.

All voluntary reporting entities provide:

1. Baseline Entity Statement (ES) fully documenting operational boundaries on the basis of: **§ 300.5**
   - Legal structure, managerial structure, and financial structure; **§ 300.4(a)(1)**
   - Examines ownership and control of leased and partially owned facilities; **§ 300.5(a)(6)**
   - Confers with other entities to ensure no double-counting; and **§ 300.5(a)(6)**
   - Statement of changes to the entity statement for each reporting year. **§ 300.5(c)**
2. Certification statement indicating: **§ 300.10**
   - Report is accurate and complete on the basis of the ES and consistent with all prior year reports;
   - All information reported follows the calculation methods described in the revised General and Technical Guidelines;
   - Verifiable records will be kept for a minimum of 3 years; and
   - Report was/was not independently verified.

All reports must describe emissions, sequestration, and reductions using the calculation methods described in the revised General and Technical Guidelines.

All emissions reductions and removals must have occurred after December 31, 1990. **§ 300.9(a)**

↓

EIA accepts the report (**reported reductions**).

Registration

↓

To register reductions, entities must demonstrate that the emissions reductions and removals occurred after December 31, 2002. **§ 300.7(b)**

Large emitters (average annual emissions of more than 10,000 tons CO_2 equivalent) must provide:

- Entity-wide Emissions Inventories of:
  - Direct emissions; **§ 300.6(b)**
  - Indirect emissions associated with purchased energy; **§ 300.6(c)**
  - Sequestration; **§ 300.6(d)**
  - Describe de minimis emissions excluded from emission & sequestration inventories; **§ 300.6(e)**
- Calculate net entity-wide reductions on the basis of all changes in an entity's emissions, avoided emissions and sequestration, plus any emission offsets. **§ 300.7**

Small emitters (average annual emissions of less than 10,000 tons CO_2 equivalent) must provide:

- A complete assessment of annual emissions and sequestration associated with the type of activity(ies) being reported;
- Determine the associated reductions; and
- Certify that the reductions reported were not caused by actions likely to cause increases in emissions elsewhere within the entity. **§ 300.7(b)**

↓

EIA accepts the report and registers the eligible emission reductions (**registered reductions**).

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B. Defining Reporting Entities

Under the proposed revised Guidelines, the first step in the reporting process is the definition of the corporation, institution, household or other entity that will be submitting reports. At a minimum, entities would have to be legally distinct businesses, institutions, organizations or households, although reporters would be encouraged to define themselves at the highest meaningful level of aggregation. The legal basis for determining whether an entity (or its subparts) is distinct could be derived from any Federal, state or local law (or regulation) governing the entity, including regulations applicable to corporations, partnerships, cooperatives, government agencies, non-profit organizations, households, or other entities. This approach would permit a legally-distinct company, plant or activity to define itself as an entity, even if it is partially-or wholly-owned by another company. In such cases, any registered reductions would accrue only to the reporting entity, rather than the parent company.

Given the flexibility inherent in this definition, some companies and institutions could be all or part of a reporting entity at any one of several different levels. For example, an individual electric power generating plant might be owned by a partnership of several different companies or individuals. One of these partners might be an electric utility that owns and operates several other electric generating plants, and a transmission and distribution system. And this utility might, in turn, be owned by a regional holding company that also owns other utilities, as well as other non-electric generating companies. In this case, the reporting entity could be defined as the electric generating plant, the utility or the holding company. The program encourages reporting entities to report at the highest level of meaningful financial and operational control, which in this case is likely to be either the utility or the holding company. DOE solicits comment on whether the proposed guidelines are likely to cause entities to establish boundaries that reflect a higher level of corporate or institutional aggregation, as is desired. DOE also solicits recommendations on what additional provisions might preserve flexibility in the establishment of boundaries while also preventing or further discouraging the shifting of emissions to non-reporting parts of the entity in order to create the appearance of net emission reductions. Finally, DOE solicits comment on the desirability of more prescriptive approaches to the definition of entities, such as a requirement that entity definitions correspond to those used for Federal tax purposes.

The Guidelines would require that the name chosen to represent the entity generally correspond to the activity covered by the report. For example, a large multi-product manufacturer should not use its corporate name to report the emissions and emission reductions of just one of its many subsidiaries. However, there may be instances when some, but not all subsidiaries of a large corporation may want to report as a single entity. One reason to report as a single entity might be that certain subsidiaries have a common business activity, while others do not. However, another reason might be that some subsidiaries could demonstrate emission reductions, while others could not. DOE solicits comments on how the Guidelines might provide the flexibility needed by entities with special circumstances, while discouraging abuses of this flexibility that could produce misleading impressions of entity performance.

Another question concerns the possible role of trade associations and other third parties as consolidators of entity-specific reports into an aggregate report to DOE. While associations may report information collectively for their memberships under the current guidelines, this may have implications for the accuracy and reliability—and transparency—of reports submitted under the revised guidelines. Should trade associations and other third parties be required to submit some or all of the entity-specific data that might be required by the revised Guidelines? Should the CEOs, other senior officials, or heads of entities be required to certify the accuracy of their companies' reports when submitted to or through trade associations? Should trade associations and other third parties be able to ''register emission reductions'' or only file reports for the record?

C. Defining Entity Boundaries

To report on an entity-wide basis and to register emissions reductions, reporting entities would have to provide an ''entity statement'' that meaningfully defines the operations and facilities (such as office buildings or vehicle fleets) covered by their entity-wide reports, and the greenhouse gas sources and sinks encompassed by these operations and facilities. Such operations would include those wholly owned and operated by the entity, and might include those operations that are partially-owned, leased or operated by the entity. Entities would be required to coordinate with other entities that shared ownership of particular operations to ensure that no double counting occurred. Entities would also have to ensure that each annual report consistently used the boundaries identified in prior year reports, unless an explicit description of any changes made and their effects on emissions accompanied the report. In cases where an entity undergoes a significant structural change, it may have to establish a new base year for all or part of its operations, or, in the case of acquisitions, recalculate its original baseline based on the prior year emissions of the acquired plant.

D. Emission Sources and Sinks Covered

Reports would be able to cover any greenhouse gas or sink that is consistent with the definitions established in the General Guidelines. An entity-wide inventory would need to cover all significant (determined by share of total emissions or absolute quantity of emissions), anthropogenic greenhouse gas emission sources within the entity's defined boundaries. Entity-wide reports must also cover all significant emission sinks. Entity-wide reports must encompass, at minimum, all six greenhouse gases specified in the Guidelines, whether emitted directly by the entity's operations and facilities, or indirectly in the generation of purchased electricity, steam or hot (or chilled) water used by the entity. Indirect emissions other than those specifically cited in the Guidelines may be reported separately, but reductions associated with such other indirect emissions may not be registered. Entities also may separately report, but not register, emissions and emission reductions associated with other gases (*e.g.* chlorofluorocarbons, black soot) that may have significant, quantifiable climate forcing effects, provided that DOE's Technical Guidelines specify the methods for measuring and reporting their emissions. DOE is soliciting comment on criteria for identifying such gases and on procedures for developing the necessary Technical Guidelines. All DOE proposals to permit the reporting of additional gases will be made available for public comment before being put into effect. DOE solicits comment on this approach and on a possible alternative that would permit participating entities to report (but not register) the emissions and emission reductions associated with other gases, even if DOE's Technical Guidelines did not specifically cover such other gases.

E. Entity-Wide Reporting of Emissions Inventories

To be eligible to register emission reductions, entities with substantial emissions (an annual average in excess of 10,000 tons of CO_2 equivalent) would need to report annual entity-wide inventories of their emissions and sequestration. Such inventories would provide a basis for assessing the significance of reported emission reductions relative to the entity's total emissions.

F. Entity-Wide Emission Reductions

To register emissions reductions, entities with average annual emissions over 10,000 tons of CO_2 equivalent would be required to demonstrate, to the maximum extent practicable, that the reported reductions represent an actual net decrease in entity-wide emissions, as calculated using one or more of the methods allowed by the General and Technical Guidelines. Some entities, such as electricity generators, would be expected to calculate net emission reductions for their entire entity (using one or more of the methods described below and in the Technical Guidelines). Others, such as multi-product manufacturers, may not be able to determine the net emission reductions achieved by all elements of their entity using the methods allowed by the Guidelines. These types of reporters could report the net emission reductions for as much of their entity as was practicable, in addition to reporting their entity-wide emission inventories.

Example: A multi-product manufacturer has instituted company-wide efforts to reduce emissions, but because its U.S. output is growing rapidly, its absolute U.S emissions have not declined. By using different calculation methods (intensity for many facilities and absolute emissions for others, as well as some project-specific calculations) it can quantify the emission reductions associated with 90% of its total emissions. It would report its total emissions and quantified emission reductions to DOE, and explain that it is not practicable to quantify the emission reductions associated with the remaining 10% of its operations because there are no year-to-year measures of output for these operations (because they involved the production of totally new products). In this case, the entity could register its reported emission reductions, but the data submitted in its report would clearly indicate that these reductions were based on an assessment of just 90 percent of the entity's emissions.

Net emission reductions achieved by third parties (offsets) could be included in an entity's report and be registered as long as the third party or other entity involved observed all of the rules that would have applied had it chosen to report its net emission reductions directly, and the entities involved have agreed that the reporting entity can register the emission reductions identified (*see* section II.O.5 below for additional discussion on the treatment of offsets).

The proposed Guidelines indicate that the owner of the facility, land or vehicle that generated the emission reductions or sequestration is the entity presumed to have the right to report and register any emission reductions or sequestration. For example, the owner of a wind turbine that sells its power to the grid is presumed to have the right to register such resulting emission reductions, even though this wind-generated electricity might be purchased at a premium by a local utility and, ultimately, resold at a premium rate to a local manufacturer. This presumption can be altered, however, if there is a written agreement between the entities involved to transfer this right.

G. Guidelines for Small Emitters

Entities with average annual emissions of less than 10,000 tons of CO_2 equivalent, such as many farms and forest operations, small businesses and individuals, could report and register emission reductions that have occurred during and after 2003 without submitting the results of an entity-wide emissions inventory or an entity-wide assessment of the annual changes in their emissions, avoided emissions and sequestration. Entities reporting under this provision would be required to determine the total annual emissions and sequestration associated with the type of activities on which they choose to report, the net emission changes associated with these specific activities, and to certify that the changes reported were not caused by actions likely to cause increases in emissions elsewhere within the entity's operations. Small emitters would be required to use the same methods for calculating emission reductions available to other reporters. DOE's Technical Guidelines will provide a list of the types of activities about which small emitters might report. It is expected that households and many small businesses, farms, and forest operations would be exempt from the requirement to submit entity-wide inventories. The use of a multi-year average rate of emissions is intended to enable certain small entities that have periodic spikes in their annual emissions (for example, a land owner that periodically harvests trees) to qualify for this exemption. Comments are specifically solicited on (1) whether 10,000 tons of CO_2-equivalent emissions would be the appropriate threshold quantity to achieve this objective, and (2) the appropriate period of time over which small entities should be permitted to average their annual emission rates. DOE is also soliciting comments on whether these special rules for small emitters are appropriate and how to ensure that reductions reported by small emitters are not a result of shifting emissions to non-reporting parts of the entity.

H. Emission Reduction Calculations

All reported and registered emission reductions would have to be calculated using one of the methods identified below, together with the procedures to be set forth in DOE's Technical Guidelines. The proposed revised General Guidelines recommend the use of emission intensity indicators as the basis for determining emission reductions, but would permit the use of several other methods to calculate emission reductions and sequestration as long as the method used excludes reductions caused by reductions in output. Regardless of the method used, a reporting entity would have to certify that none of the reported emission reductions were: Double counted by the reporting entity (or, to its knowledge, by any other reporting entity); or were the result of shifts in operations or activity from one part of the entity to another part of the entity, or to outside the boundaries of the entity. Entities would be required to report each emission reduction and sequestration calculation by type, indicate the types of actions taken that resulted in the reported emission reduction, and explain the selection of each indicator of output used. Comments are invited on the appropriateness of each of the methods described below and on the definitions provided in the proposed Guidelines. Additional guidance on each of these methods will be provided in the Technical Guidelines, including lists of possible output indicators, calculation methods for determining reductions associated with agricultural, forestry and geologic sequestration, methods and emission factors for calculating avoided emissions, and project-based methods, among others.

1. *Reductions in emissions intensity,* as long as the reporting entity demonstrates that the intensity metrics used are based on measured (or estimated) emissions and measured indicators of output that accurately represent the physical (or, in some cases, economic) output associated with the covered emissions, and that acquisitions, divestures or changes in products have not contributed significantly to the reductions.

2. *Absolute reductions in emissions,* as long as the entity demonstrates that these measured reductions were not caused by declines in its U.S. output.

3. *Increased carbon storage* (for actions within entity boundaries), as long as the entity demonstrates the sequestration measured or estimated represents a net increase in the quantity stored by the entity and has not been re-released to the atmosphere (ongoing, annual reports would be required).

4. *Avoided emissions* (for actions within entity boundaries that reduce emissions outside entity boundaries) that reflect the indirect emission reductions achieved as a result of a measured increase in the net sales of energy generated by low-or no-emission technologies.

5. *Project emission reductions* (for actions taken to reduce direct or indirect emissions within entity boundaries), as long as they exclude any reductions that might have resulted from reduced output or from shifting emissions to operations not included in the reported projects, and are derived from measured performance data or by using estimation methods consistent with DOE Technical Guidelines. In the context of entity-wide reports, this last calculation method is intended only for use when none of the other methods is practicable.

I. Recordkeeping, Report Certification, and Verification

Reporters under the existing program must certify the accuracy of their reports, but are not required to maintain records. Under the proposed revised Guidelines, the chief executive officer, agency head, head of household or person responsible for the reporting entity's compliance with environmental regulations would certify that reports are complete, accurate and consistent with DOE guidelines, and that sufficient records will be maintained for at least three years to enable independent verification. Reporting entities are strongly encouraged to obtain independent verification of their reports. The proposed Guidelines describe what would constitute such verification, including a description of the types of firms or institutions that might be qualified to independently verify the entity's reports, and the elements of an entity's records and reports that should be verified.

The proposed General Guidelines would require reports to EIA that are sufficiently detailed to enable EIA to review and confirm the final emission reduction calculations for each method and output measure utilized, and to review and confirm the rates of conversion used for each category of greenhouse gas covered and for electricity-related use or emissions avoidance, by region. EIA's review of the data submitted would be intended to assure consistency with the requirements specified in the General and Technical Guidelines. This level of reporting would indicate the basic components of each entity's emission inventory and of its entity-wide emission reductions. Entities would be required to maintain more detailed records, sufficient to permit an independent verification. The proposed levels of data reporting and recordkeeping represent a middle ground between the views of stakeholders who favor summary data and those stakeholders who prefer more detailed data that would be the basis for independent verification.

The proposal limits the recordkeeping requirement to three years. Of course, reporting entities may keep their records for a longer period of time if they deem it in their interest to do so.

The proposed Guidelines would require that the chief executive officer or other senior official of the reporting entity certify the accuracy, consistency and completeness of all reports. In addition, the Guidelines would encourage, but not require, independent verification of all reports. The proposed Guidelines would provide only general guidance on what DOE considers the necessary qualifications of verifiers and the information that they must verify. This guidance is intended to provide some assurance that such verifiers are independent and appropriately qualified, while still giving entities considerable flexibility in the selection of the type of firm most appropriate to perform such an independent verification. DOE invites comments on whether the general guidance provided is sufficient to achieve this objective.

While some stakeholders believe that independent verification should be required of all reports, many felt that independent verification is only necessary if entities seek to sell their registered emission reductions and, in such cases, private markets are likely to specify the type of independent verification required. While DOE received many comments that questioned the credibility of many of the emission reductions reported under the existing program, most of these concerns related to the methodology used to calculate the reported reductions, rather than the validity of the data used or reported. While DOE believes that requiring a senior officer to certify reports will provide adequate assurance that the data reported are reliable, the proposed Guidelines would strongly encourage reporters to obtain independent verification. DOE solicits public comment on this approach and on whether further consideration should be given to requiring independent verification of emission reductions prior to registration.

J. Starting To Report

Under the proposed revised Guidelines, entities would be permitted to begin reporting their prior-year emissions and emission reductions at any time. In general, the first full year for which an emissions inventory is available would be considered the entity's base year, although DOE would encourage entities to determine their base year by calculating the average emissions or emissions intensity during a base period of up to four years in length. This flexibility would permit a reporter to select the base year or base period most representative of actual operations. It may also, however, allow a reporter to select the most advantageous base year or base period (*i.e.*, a period that would enable the reporter to register the greatest amount of reductions). DOE solicits comments on whether this flexibility is appropriate and, if not, what steps might be taken to limit this flexibility. To focus the program on current and future efforts to reduce greenhouse gas emissions, entities would be permitted to register only those emission reductions calculated using a base year no earlier than 2002 (or base period of up to four sequential years ending no earlier than 2002). However, entities may still report emission inventories and reductions for previous years, as long as any prior year emission reductions are calculated using a base year no earlier than 1990 (or a base period no earlier than 1987–1990). To be accepted as entity-wide reports under the revised Guidelines, emission reductions already reported to the 1605(b) registry must be recast to fully comply with the revised Guidelines.

K. Report Acceptance

Upon receipt, EIA would review all reports to ensure consistency with the revised Guidelines. If EIA determines the report follows the General and Technical Guidelines, and EIA's Reporting Form Instructions, the report would be classified as either an entity-wide report or otherwise, and accepted.

L. Registration of Emission Reductions

Accepted entity-wide reports and reports from small emitters would then be further reviewed to determine if reductions were eligible to be registered. Entity-wide reports and reports from small entities that have used the methods identified in the General and Technical Guidelines, as well as EIA's Reporting Form Instructions, to

demonstrate they have achieved emission reductions after 2002 and have met all other applicable requirements would have the identified reductions registered in the 1605(b) database under the name of reporting entity and the year the reduction was achieved.

Registering only reductions that are achieved after 2002 would focus the program on those reductions most likely to contribute to the achievement of the President's goal for reducing U.S. emissions intensity by 18% between 2002 and 2012. In addition, because all of the data required to register reductions would be relatively recent, it would help ensure that all entities have an equal opportunity to register emission reductions under the new program. Nevertheless, the revised Guidelines would continue to permit entities to *report* emission reductions back to 1991, the earliest year permitted by the authorizing statute, and reports that comply with the Guidelines would be made publicly available by EIA. DOE solicits public comments on this approach and any suggestions of alternative means of achieving the objectives outlined above.

M. Sustaining Entity Reports of Emissions and Emission Reductions

To register emission reductions in any future year, an entity would be required to submit ongoing annual reports that document the net, cumulative emission reductions achieved relative to the entity's base year (or base period). Only additions to cumulative emission reductions (relative to the chosen base year or base period) would be recognized in future years. This requirement would reduce the quantity of emission reductions eligible for registration in future years if the reporting entity experiences a net increase in output-adjusted emissions after beginning to report. This approach would preserve the recognition given to all previously registered emission reductions, even if an entity experienced net emission increases in the future or stopped reporting. DOE solicits comments on this approach and possible alternatives, including those that might permit or require DOE to delete previously registered emission reductions if an entity did not continue to submit annual reports. Ongoing, annual reporting would be required to maintain recognition for registered emission reductions resulting from sequestration.

N. EIA Database and Summary Reports.

The EIA Administrator would establish a public database including all data that meets the definitional, measurement, calculation and certification requirements of the revised Guidelines. The database would provide summary information on each reporting entity's greenhouse gas emissions and its registered emission reductions, by year, according to the categories described above. The database would also provide access to all accepted reports.

O. Cross-Cutting and Other Important Issues

This section discusses various issues that affect more than one provision of the proposed revised Guidelines or were not highlighted in any of the preceding sections. DOE is seeking public comment on all of these issues, and certain specific questions are posed.

1. Entity-Wide v. Sub-Entity or Project-Only Reporting

The proposed Guidelines would highlight the net contribution of reporting entities to reducing greenhouse gas emissions, rather than sub-entity reductions resulting from actions taken in only some parts (rather than the whole) of the entity. This reflects the Administration's interest in fostering broad efforts by corporations, institutions and other entities to reduce their total emissions. Over time, individual companies and other entities often take many actions that either increase or decrease their emissions of greenhouse gases. It is the net effect of all of these actions on an entity's emissions that is the most important indicator of an entity's contribution to the President's goal of reducing U.S. emissions intensity. Under the revised Guidelines, most reporters would be able to register emission reductions only if they could demonstrate they had achieved a net reduction in their total emissions, relative to their physical or economic output. Small emitters, such as households, and some farms, forest operations, and small businesses, would be permitted to register the reductions achieved in just one area of activity, such as building operations or forestry, rather than accounting for all of their emissions, so long as they certify that these reductions are not a product of shifting emissions to non-reporting parts of the entity. In addition, the proposed Guidelines would continue to provide a mechanism for large emitters to report, but not register, the reductions resulting from individual actions or projects affecting a part of the entity's emissions, even if they could not demonstrate that they had achieved a net reduction in their total emissions, relative to their physical or economic output. DOE solicits comments on this approach and on possible alternatives to this approach, including circumstances under which project-based or sub-entity reductions might be registered in the absence of net entity wide reductions.

2. Treatment of Certain Small Emissions

The proposed Guidelines would permit reporters to exclude certain emissions that are comparatively small, as well as all non-anthropogenic emissions. Specifically, an entity could exclude emissions from multiple sources (and multiple gases) as long as the total emissions excluded did not exceed 3% of its total emission inventory or 10,000 tons of CO_2 equivalent, whichever was smaller. This exclusion is intended to enable entities to exclude small, and possibly widely dispersed, emissions that are likely to be especially costly to monitor and report, but which would have little effect on the total emissions or emission reductions reported. However, this approach has some potential drawbacks. For example, very large emitters, such as large power generators or large energy intensive industries applying this standard would have to account for a very high percentage of their total emissions (in some cases over 99.9%). Accounting for such a high percentage of total emissions could be burdensome and would have little effect on the totals reported. Several possible alternatives exist. One option might be to provide for uniform percentage exclusion, such as permitting all entities to exclude up to 3 percent of their emissions. This could lead some large utilities or industries to exclude large quantities of emissions that would be relatively easy to include in their reports. Another possible alternative is the addition of a minimum percentage exclusion, such as 1 percent. Still another alternative might be to permit firms to exclude up to 3 percent or 10,000 tons of CO_2 equivalent, whichever is greater. DOE solicits comments on the approach proposed, as well as various alternatives approaches.

3. Excluding the Effects of Changes in Output on Emissions

The proposed Guidelines would strongly encourage the use of emissions intensity indicators as the basis for calculating emission reductions and would require that any method used to calculate emission reductions ensure that reductions caused by declines in the reporting entity's output be excluded. This would require entities to develop useful physical (and/or possibly economic) indicators of the output associated with the emissions being assessed. For power generators

supplying electricity to the grid, the preferred measure of output is clear: kilowatt hours. Certain large manufacturers also have well-established measures of output that have already been widely used for many years, such as tons of cement. But many product manufacturers may have some difficulty identifying useful output indicators especially if they desire to develop indicators that represent the output associated with a large a number of different processes and products. Broad physical units, such a pounds of product (sometimes used by chemical manufacturers), often encompass a wide range of different products, and a similarly wide range of production processes and product values. As a result, some important shifts between processes or product types may not be captured by such a broad indicator. As an alternative, some entities might consider the use of economic indicators, although analysis of some entity-level economic indicators suggests that they may be significantly affected by changes in market conditions and may serve as poor indicators of production-related changes by individual entities. DOE intends to identify in the Technical Guidelines various output indicators and provide guidance on the selection of appropriate indicators. DOE may specify the use of particular indicators for certain types of economic activity, but is likely to give most reporters the flexibility to adopt the best indicators for their particular circumstances. Given the potential deficiencies of some output indicators, DOE invites public comment on what information entities should be required to provide to justify the selection of their output indicators and what criteria DOE should use to determine whether a particular output measure is acceptable.

A related issue concerns entities that base their emission reductions on changes in their ''absolute'' emissions. The proposed Guidelines would require such entities to demonstrate that any reported reductions were not associated with declines in the output associated with those emissions. Because entities should only use this approach if they could not develop an output indicator that would enable them to track their emissions intensity, they may have difficulty demonstrating that their output had not declined. Again, DOE is interested in receiving comments on what output measures or other information such entities should be required to provide to demonstrate that their output has not declined and what criteria DOE might use to determine whether the information provided was sufficient.

4. Emissions and Reductions Associated With Electricity Generation and Use

Several key provisions of the Guidelines deal with how entities are to report emissions and emission reductions associated with electricity generation and use. Approximately 32 percent of total U.S. emissions of greenhouse gases are released in the generation of electricity. As there are substantial opportunities to reduce the emissions associated with both the generation and use of electricity, it is important that the program cover both electricity generators and consumers. In doing so, however, it is also important to ensure: (1) That electricity-related emissions and emission reductions are not double counted; (2) that the conversion factors used to translate kilowatt hours into emissions are accurate indicators of the actual emissions associated with the generation of the electricity; and (3) that recognition for reductions is given to those entities primarily responsible for those reductions. Both these proposed General Guidelines and the Technical Guidelines, to be proposed subsequently, will attempt to achieve these objectives.

To avoid double counting, the proposed General Guidelines would require users to distinguish between the ''indirect'' emissions associated with electricity purchases (as well as purchased steam, and chilled/hot water) and their direct emissions. This will enable entity-level emission inventories to include such indirect emissions, while permitting DOE to exclude such emissions from compilations of multiple reports, if desired. In the Technical Guidelines, DOE will specify the factors to be used to convert purchased electricity use to greenhouse gas emissions. For the purposes of emission inventories, DOE is likely to specify a factor based on the average emissions per kilowatt hour for the region in which the electricity was consumed. However, for the purpose of calculating emission reductions associated with reduced electricity demand, DOE may specify an alternative factor, such as one based on the emissions associated with regional electricity supplies at the margin (largely excluding electricity generated by hydro, nuclear power plants and some coal, which tend to be fully utilized, regardless of changes in regional demand for power). These factors might change annually and could be required to be used by all consumers of purchased electric power, unless the reporter could demonstrate special circumstances.

There may be two methods for determining emission reductions associated with the generation of electricity. One method might be used to calculate reductions in the emissions intensity of existing power production (*e.g.*, through fuel switching or increased efficiency) and the other might be used to calculate the indirect reductions (or avoided emissions) that result from increasing the electric power generation from non-emitting or low-emitting sources. DOE is seeking to provide recognition to existing power generators that reduce their emissions intensity, while also establishing a level playing field among producers of new or additional power supplies, and end-users of electricity that reduce their demand.

DOE intends to provide, through its Technical Guidelines, clear direction on how to calculate emission reductions associated with the generation and purchase of electricity. While the specific methodologies and factors to be used have yet to be defined, DOE is soliciting suggested approaches that would achieve the objectives identified, as well as specific recommendations on how to develop the conversion factors described and how to most appropriately distinguish between existing and new power production and emissions.

5. Reporting and Registering Changes in Terrestrial Carbon Stocks

The proposed guidelines would require entity-wide emission inventories to include emissions and sequestration associated with terrestrial carbon stocks. Changes in the amount of carbon stored in sinks within the entity's boundaries over the inventory year would determine the quantities of such emissions and sequestration included in inventories. Entities that meet all of the relevant requirements in the general and technical guidelines may also register year-to-year increases in carbon stocks as ''registered reductions.'' Ongoing reporting will be required to ensure that any future changes in these stocks are fully reflected in the entity's emission inventories and registered emission reductions. The Department seeks comments on this provision as well as alternatives. For example, one alternative approach would calculate registered reductions as the change in carbon stocks during an inventory year relative to the change in stocks during a base year or period.

6. Recognizing Emission Offsets

As proposed, the General Guidelines would permit entities to report and register emission reductions achieved by others, as long as the entity that achieved the reductions observed all of the requirements applicable to reporters and the entities involved indicated that they had an agreement stipulating who would report the emission reductions. These provisions are designed to enable and encourage large emitters to support efforts to reduce emissions outside the boundaries of their entities. DOE believes this may be especially desirable when the opportunities for reducing emissions within an entity's boundaries are comparatively limited or costly. However, these provisions raise a number of issues upon which DOE is seeking public comment.

Most of these issues concern the information that must be submitted by a reporting entity about the emission reductions achieved by a non-reporting entity. For example, must the reporting entity provide all of the information that the non-reporting entity would have been required to submit directly, including an Entity Statement, an emissions inventory (unless exempted), and an entity-wide assessment of emission reductions (unless exempted)? Must the chief executive officer or other senior manager of the non-reporting entity certify to the accuracy of all of the information reported by the reporting entity? Could a non-reporting entity enter into agreements permitting some of its emission reductions to be registered by one entity and the remainder by one or more other entities? Must the reporting entity demonstrate that it helped finance or manage the achievement of the emission reductions achieved by some other entity? One approach that might avoid many of these potential issues would be to require direct reporting by all entities that generate emission reductions. This approach would ensure that complete reports, submitted directly by the entity that owned the facilities or land that produced the emission reductions, would be available for all registered emission reductions. But requiring direct reports by all entities might discourage emission reductions by entities that are unwilling to report directly and might discourage support for such offset projects by large emitters, such as utilities. DOE solicits comments on the approach proposed and on possible alternatives.

7. International Emission Reductions

The proposed revised Guidelines do not address either the reporting of non-U.S. emissions and emission reductions or the registration of non-U.S. emissions reductions. DOE is soliciting public comments on whether non-U.S. emissions and emission reductions should continue to be eligible for reporting under the revised program, recognizing that the current guidelines provide for reporting of international activities.[1] DOE is also soliciting public comments on whether non-U.S. emissions and emission reductions should qualify for registration and, if so, what procedures and requirements should be established for registration of such emissions and emission reductions.

Many factors are relevant to how non-U.S. emissions and emission reductions should be treated under the program with respect to both reporting and registration. Since 1994, many entities have reported on overseas activities; many companies likely to participate in the revised program have substantial business operations both inside and outside the United States. At the same time, reporting and registration of non-U.S. emissions and emission reductions raise certain issues that do not arise in the context of the reporting and registration of U.S. emissions and emission reductions. (For example, certifying the accuracy of data may be more complicated.)

In addition to requesting comment on the overall issue of whether to include international activities, DOE specifically requests comment on the following questions: How would the concept of ''entity-wide'' reporting be extended to include non-U.S. activities? Should an entity wishing to report non-U.S. emission reductions achieved in its own non-U.S. operations be required to inventory and report on all non-U.S. emissions and to assess changes in its emissions worldwide? Or should such entity only be required to report on its non-U.S. operations in specific countries? What requirements should third-party non-U.S. offsets be required to meet? To be eligible for registration, should reports of non-U.S. emissions reductions require independent verification? What would be the implications, including for participation in the 1605(b) program, if non-U.S. activities were excluded from reporting and/or registration?

[1] Since the current Guideline became effective in 1994, DOE has interpreted the Congressional intent underlying the statute to allow for the reporting of international activities.

8. Relationship of Proposed Guidelines to Climate VISION, Climate Leaders and Other Voluntary Programs To Reduce Greenhouse Gas Emissions

DOE, the Environmental Protection Agency and other Federal agencies have established programs to encourage companies, trade associations and other non-government organizations to take voluntary actions to reduce, sequester, or avoid greenhouse gas emissions. For example, industry participants in DOE's ''Climate VISION'' program, a Presidential initiative launched in February 2003, and EPA's Climate Leaders program have made voluntary commitments to reduce GHG emissions or emissions intensity by a specified amount, and to monitor and report on their progress.

The Administration intends to use the 1605(b) program to document, where possible, the progress of participants in these voluntary Federal programs. This is consistent with the President's desire that the 1605(b) registry be a ''tool that goes hand-in-hand with voluntary business challenges * * * by providing a standardized, credible vehicle for reporting and recognizing progress.'' However, additional reporting may be required for other specific voluntary Federal programs in order to provide distinct benefits to program participants.

DOE is soliciting comment on the merits of using the 1605(b) program for documenting progress of participants in voluntary Federal programs towards meeting their emissions reduction goals.

III. Opportunity for Public Comment

A. Written Comments

You should submit written comments by February 3, 2004. Because we continue to experience occasional mail delays due to extra processing required for delivery of mail to Federal agencies, we encourage you to submit comments electronically by e-mail at *1605bgeneralguidelines.comments@hq.doe.gov.* We will consider comments received after the comment deadline only to the extent practicable. Comments should be submitted to the e-mail or street addresses given in the **ADDRESSES** section of this notice. Written comments should be identified on the documents themselves and on the outside of the envelope, or in the e-mail message, with the designation [insert name of rulemaking and docket number]. All comments received and transcripts of any public workshop held will be available for public inspection at the following Web site: *http://www.pi.energy.gov/*

enhancingghgregistry/proposedGuidelines/comments. Persons without access to the internet can obtain such access to this Web site by visiting the DOE Freedom of Information Reading Room, Room 1E–190, Forrestal Building, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586–3142, between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

If you submit information that you believe to be exempt by law from public disclosure, you should submit one complete hardcopy and two hardcopies from which the information claimed to be exempt by law from public disclosure has been deleted. DOE is responsible for the final determination with regard to disclosure or non-disclosure of the information and for treating it accordingly under the DOE Freedom of Information Act regulations at 10 CFR 1004.11.

B. Participation in Public Workshop

You will find the time and place of the public workshop at the beginning of this notice. We invite any person who has an interest in today's notice, or who is a representative of a group or class of persons that has an interest in these issues, to participate in the workshop. Because space may be limited, persons wishing to participate in the workshop should inform DOE by identifying the person or persons likely to attend, an e-mail or phone number for follow-up contacts, and providing a brief description of the specific issues of particular interest. This information may be provided electronically at the following Web site: *http://www.pi.energy.gov/enhancingGHGregistry/proposedguidelines/general guidelines.html* or may be provided in writing to the person listed in the beginning of this notice.

DOE will designate a DOE official to preside at the workshop, and may also use a professional facilitator to facilitate discussion. The workshop will not be conducted under formal rules governing judicial or evidentiary-type proceedings, but DOE reserves the right to establish procedures governing the conduct of the workshop. The workshop will be organized so as to encourage the open discussion of specific issues by the range of stakeholders and government representatives present. Prior to the workshop a draft agenda, identifying specific issues for discussion, will be made available at the following Web site: *http://www.pi.energy.gov/enhancingGHGregistry/proposedguidelines/general guidelines.html.* There will also be opportunities during the workshop for the identification and discussion of issues not specifically identified on the agenda. The presiding official will announce any further procedural rules, or modification of the above procedures, needed for the proper conduct of the workshop. Statements for the record of the workshop will be accepted at the workshop.

DOE will make the entire record of the rulemaking, including the workshop transcript, available for inspection at the following Web site: *http://www.pi.energy.gov/enhancingGHGregistry/proposedguidelines/general guidelines.html.* In addition, any person may purchase a copy of the transcript from the transcribing reporter.

IV. Regulatory Review and Procedural Requirements

A. Review Under Executive Order 12866

Today's action has been determined to be ''a significant regulatory action'' under Executive Order 12866, ''Regulatory Planning and Review'' (58 FR 51735, October 4, 1993). Accordingly, this action was subject to review under that Executive Order by the Office of Information and Regulatory Affairs of the Office of Management and Budget (OMB).

B. Review Under the Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) requires preparation of an initial regulatory flexibility analysis for any rule that by law must be proposed for public comment, unless the agency certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. As required by Executive Order 13272, ''Proper Consideration of Small Entities in Agency Rulemaking'' (67 FR 53461, August 16, 2002), DOE published procedures and policies to ensure that the potential impacts of its draft rules on small entities are properly considered during the rulemaking process (68 FR 7990, February 19, 2003), and has made them available on the Office of General Counsel's Web site: *http://www.gc.doe.gov.* DOE has reviewed today's proposed Guidelines under the provisions of the Regulatory Flexibility Act and the procedures and policies published on February 19, 2003. Although section 1605(b)(1) of EPACT mandates a public comment opportunity before Guidelines can be issued, the proposed guideline provisions are policy statements and procedural rules. They are not substantive regulatory requirements that would have an economic impact on small entities. On the basis of the foregoing, DOE certifies that the proposed Guidelines, if promulgated, would not have a significant economic impact on a substantial number of small entities. Accordingly, DOE has not prepared a regulatory flexibility analysis for this rulemaking.

C. Review Under the Paperwork Reduction Act

The Energy Information Administration previously obtained Paperwork Reduction Act clearance by the Office of Management and Budget (OMB) for forms used in the current Voluntary Reporting of Greenhouse Gases program (OMB Control No. 1905–0194). EIA will prepare new forms and associated instructions to implement the revised guidelines for the program, and it will publish a separate notice in the **Federal Register** requesting public comment on the proposed collection of information in accordance with 44 U.S.C. 3506(c)(2)(A). After considering the public comments, EIA will submit the new forms, instructions, and related guidelines to OMB for approval pursuant to 44 U.S.C. 3507(a)(1).

D. Review Under the National Environmental Policy Act

DOE has concluded that this proposed rule falls into a class of actions that would not individually or cumulatively have a significant impact on the human environment, as determined by DOE's regulations implementing the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*). This action deals with the procedures and policies for entities that wish to voluntarily report their greenhouse gas emissions and their reduction and sequestration of such emissions to the Energy Information Administration. Because the proposed Guidelines relate to agency procedures and impose no substantive requirement on those entities wishing to report, the proposed Guidelines are covered under the Categorical Exclusion in paragraph A6 to subpart D, 10 CFR part 1021. Accordingly, neither an environmental assessment nor an environmental impact statement is required.

E. Review Under Executive Order 13132

Executive Order 13132, ''Federalism'' (64 FR 43255, August 4, 1999) imposes certain requirements on agencies formulating and implementing policies or regulations that preempt State law or that have federalism implications. Agencies are required to examine the constitutional and statutory authority supporting any action that would limit

the policymaking discretion of the States and carefully assess the necessity for such actions. The Executive Order also requires agencies to have an accountable process to ensure meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications. On March 14, 2000, DOE published a statement of policy describing the intergovernmental consultation process it will follow in the development of such regulations (65 FR 13735). DOE has examined today's proposed action and has determined that it does not preempt State law and does not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. No further action is required by Executive Order 13132.

F. Review Under the Treasury and General Government Appropriations Act, 2001

The Treasury and General Government Appropriations Act, 2001 (44 U.S.C. 3516, note) provides for agencies to review most disseminations of information to the public under guidelines established by each agency pursuant to general guidelines issued by OMB. OMB's guidelines were published at 67 FR 8452 (February 22, 2002), and DOE's guidelines were published at 67 FR 62446 (October 7, 2002). DOE has reviewed today's notice under the OMB and DOE guidelines and has concluded that it is consistent with applicable policies in those guidelines.

G. Review Under Executive Order 12988

With respect to the review of existing regulations and the promulgation of new regulations, section 3(a) of Executive Order 12988, ''Civil Justice Reform'' (61 FR 4729, February 7, 1996), imposes on Federal agencies the general duty to adhere to the following requirements: (1) Eliminate drafting errors and ambiguity; (2) write regulations to minimize litigation; and (3) provide a clear legal standard for affected conduct rather than a general standard and promote simplification and burden reduction. Section 3(b) of Executive Order 12988 specifically requires that Executive agencies make every reasonable effort to ensure that the regulation: (1) Clearly specifies the preemptive effect, if any; (2) clearly specifies any effect on existing Federal law or regulation; (3) provides a clear legal standard for affected conduct while promoting simplification and burden reduction; (4) specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. Section 3(c) of Executive Order 12988 requires Executive agencies to review regulations in light of applicable standards in section 3(a) and section 3(b) to determine whether they are met or it is unreasonable to meet one or more of them. DOE has completed the required review and determined that, to the extent permitted by law, this proposed rule meets the relevant standards of Executive Order 12988.

H. Review Under the Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to assess the effects of a Federal regulatory action on state, local, and tribal governments, and the private sector. The Department has determined that today's regulatory action does not impose a Federal mandate on state, local or tribal governments or on the private sector.

I. Review Under the Treasury and General Government Appropriations Act, 1999

Section 654 of the Treasury and General Government Appropriations Act, 1999 (Pub. L. 105–277) requires Federal agencies to issue a Family Policymaking Assessment for any rule that may affect family well-being. These proposed guidelines would not have any impact on the autonomy or integrity of the family as an institution. Accordingly, DOE has concluded that it is not necessary to prepare a Family Policymaking Assessment.

J. Review Under Executive Order 13211

Executive Order 13211, ''Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use'' (66 FR 28355, May 22, 2001) requires Federal agencies to prepare and submit to the OMB, a Statement of Energy Effects for any proposed significant energy action. A ''significant energy action'' is defined as any action by an agency that promulgated or is expected to lead to promulgation of a final rule, and that: (1) Is a significant regulatory action under Executive Order 12866, or any successor order; and (2) is likely to have a significant adverse effect on the supply, distribution, or use of energy, or (3) is designated by the Administrator of OIRA as a significant energy action. For any proposed significant energy action, the agency must give a detailed statement of any adverse effects on energy supply, distribution, or use should the proposal be implemented, and of reasonable alternatives to the action and their expected benefits on energy supply, distribution, and use. Today's regulatory action would not have a significant adverse effect on the supply, distribution, or use of energy and is therefore not a significant energy action. Accordingly, DOE has not prepared a Statement of Energy Effects.

List of Subjects in 10 CFR Part 300

Administrative practice and procedure, Energy, Gases, Reporting and recordkeeping requirements.

Issued in Washington, DC on November 20, 2003.

Robert G. Card,

Under Secretary for Energy, Science and Environment.

For the reasons set forth in the preamble, DOE proposes to amend Chapter II of Title 10 of the Code of Federal Regulations by adding a new Subchapter B consisting of part 300 to read as follows.

SUBCHAPTER B—CLIMATE CHANGE

PART 300—VOLUNTARY GREENHOUSE GAS REPORTING PROGRAM: GENERAL GUIDELINES

Sec.
300.1 General.
300.2 Definitions.
300.3 Guidance for defining the reporting entity.
300.4 Selecting operational boundaries for reporting.
300.5 Submission of an entity statement.
300.6 Emissions inventories.
300.7 Net entity-wide emission reductions.
300.8 Calculating emission reductions.
300.9 Reporting and recordkeeping requirements.
300.10 Certification of reports.
300.11 Independent verification.
300.12 Acceptance of reports and registration of entity emission reductions.
Appendix A to Part 300—Voluntary Reporting of Greenhouse Gases Under 1605(b) of the Energy Policy Act of 1992: General Guidelines (October 1994).

Authority: 42 U.S.C. 7101, *et seq.*, and 42 U.S.C. 13385(b).

§ 300.1 General.

(a) *Purpose.* These Guidelines govern the Voluntary Reporting of Greenhouse Gases Program authorized by section 1605(b) of the Energy Policy Act of 1992 (42 U.S.C. 13385(b)). The purposes of the Guidelines are to establish the procedures and requirements for filing voluntary reports, and encourage corporations, government agencies, non-profit organizations, households and other private and public entities to submit annual reports of their net

greenhouse gas emissions, emission reductions, and sequestration activities that are complete, reliable and consistent. Over time, it is anticipated that these reports will provide a reliable record of the contributions reporting entities have made to reducing their greenhouse gas emissions.

(b) *Registration and reporting options.* An entity may choose to register or report emissions and emission reductions as follows.

(1) *Registration.* An entity may have entity-wide emissions and emissions reductions registered by conforming to the requirements of this part, including the registration standards set forth in §§ 300.6 and 300.7 of this part.

(2) *Reporting.* If an entity does not choose to report emissions in a manner that conforms to the registration requirements set forth in §§ 300.6 and 300.7 of this part, then the entity may choose to report on any emissions or any emissions reductions by complying with the requirements of this part other than §§ 300.6 and 300.7.

(c) *Forms.* Annual reports of greenhouse gas emissions, emission reductions, and sequestration must be made on forms or software that are available from the Energy Information Administration of the Department of Energy (EIA).

(d) *Status of reports under previous General Guidelines.* EIA will continue to maintain in its Voluntary Reporting of Greenhouse Gases database all reports received pursuant to DOE's October 1994 General Guidelines. For the convenience of the readers, those Guidelines are included as Appendix A to this part 300.

§ 300.2 Definitions.

This section provides definitions for commonly used terms in the Guidelines.

Avoided emissions means the emissions displaced by increases in the generation and sale of electricity, steam, hot water or chilled water produced from energy sources that emit fewer greenhouse gases per unit than other competing sources of these forms of distributed energy.

Carbon stocks are the quantity of carbon stored in biological and physical systems including: Trees, plants and other terrestrial biosphere sinks, soils, oceans, sedimentary and geological sinks, and the atmosphere. [This term is to be further defined in DOE's Technical Guidelines.]

De minimis emissions means emissions from one or more sources and of one or more gases that when summed are less than 3 percent of the total annual CO_2 equivalent emissions of a reporting entity or less than 10,000 metric tons of CO_2 equivalent, whichever is smaller.

DOE or Department means the U.S. Department of Energy and, as appropriate in context, includes the Energy Information Administration.

Direct emissions means greenhouse gas emissions resulting from stationary or mobile sources within the organizational boundary of an entity, including but not limited to emissions resulting from combustion of fossil fuels, process emissions, and fugitive emissions.

Emissions means direct and specified indirect emissions of greenhouse gases from any anthropogenic (human induced) source.

Emissions intensity means emissions per unit of output—usually the quantity of physical output, but sometimes a non-physical indicator of an entity's output activity.

Fugitive emissions means releases to the atmosphere of greenhouse gases from the processing, transmission, and/or transportation of fossil fuels or other materials, such as HFC leaks from refrigeration, SF6 from electrical power distributors, and methane from solid waste landfills, among others, that are not emitted via a pipe(s) or stack(s).

Greenhouse gases means:

(1) *Carbon dioxide:* CO_2

(2) *Methane:* CH_4

(3) *Nitrous oxide:* N_2O

(4) *Hydrofluorocarbons:* HFCs

(5) *Perfluorocarbons:* PFCs

(6) *Sulfur Hexafluoride:* SF_6

(7) Other gases or particles that have been demonstrated to have significant, quantifiable climate forcing effects when released to the atmosphere in significant quantities.

Indirect emissions means greenhouse gas emissions from stationary or mobile sources outside the organizational boundary of an entity, including but not limited to the generation of electricity, steam and hot/chilled water, that are the result of an entity's energy use or other activities.

Natural emissions means emissions that are naturally occurring and produced independent of human actions, including biogenic (produced by biological processes), geologic and potentially other non-anthropogenic sources.

Net emissions or net entity-wide emissions means the total net annual contribution of the greenhouse gases specifically identified in section 300.6(f) to the atmosphere by an entity: total, entity-wide emissions, both direct and indirect, minus entity-wide sequestration.

Net emission reductions or net entity-wide emission reductions means the sum of all annual changes in emissions, carbon stocks and avoided emissions of the greenhouse gases specifically identified in section 300.6(f), determined in conformance with §§ 300.7 and 300.8 of these Guidelines.

Offsets means an emission reduction that meets the requirements of these guidelines, but is achieved by a party other than the entity that reports or registers the reduction.

Sequestration means the removal of atmospheric carbon dioxide, either through biologic processes or physical processes, including capture, long-term separation, isolation, or removal of greenhouse gases from the atmosphere, such as through cropping practices, forest and forest products management or injection into an underground reservoir.

Sink means an identifiable discrete physical process, occurring at a particular location, set of locations or area, by which carbon dioxide or some other greenhouse gas is sequestered.

Source means an identifiable discrete physical process, occurring at a particular location, set of locations, or area, by which a greenhouse gas is emitted.

Sub-entity means a component of any entity, such as a discrete business line, facility, plant, vehicle fleet, or energy using system, which has associated with it emissions of greenhouse gases that: can be distinguished from the emissions of all other components of the same entity; and, when summed with the emissions of all other sub-entities, equal the entity's total emissions.

§ 300.3 Guidance for defining the reporting entity.

A reporting entity must be composed of one or more legally distinct businesses, institutions, organizations or households, although reporters are strongly encouraged to define themselves at the highest level of aggregation appropriate. The legal basis for determining whether a reporting entity or its components are distinct can be derived from any Federal, State or local law or regulation governing the entity, including regulations applicable to corporations, partnerships, cooperatives, government agencies, non-profit organizations, households, or other entities. This legal basis must be described in the entity statement required by § 300.5 of these Guidelines.

§ 300.4 Selecting operational boundaries for reporting.

(a) An entity must determine, document, and maintain its operational boundary for accounting and reporting purposes. Because of the large number

of different operational structures, reporting entities are given some flexibility to set their operational boundaries in a manner that best suits their circumstances. However, all reports submitted should adhere to the following:

(1) To the extent feasible, reporting entities should establish operational boundaries in a manner that is consistent with the entity's existing legal, managerial and financial structure; and

(2) The reporting entity should establish operational boundaries that will result in accurate and comprehensive reports of its greenhouse gas emissions and sequestration.

(b) In general, a reporting entity should select operational boundaries so as to encompass all emissions and sequestration associated with facilities and vehicles that are wholly owned and operated by the named and defined entity. Emissions from facilities or vehicles that are partially owned or leased, or not directly controlled or managed by the entity, may be included at the entity's discretion, provided that the entity has taken reasonable steps to assure that doing so does not result in the double counting of emissions, sequestration or emission reductions.

§ 300.5 Submission of an entity statement.

(a) *Initial entity statement requirements.* When an entity first reports under these Guidelines, the reporting entity must provide the following information in its entity statement:

(1) The name to be used to identify the reporting entity. This should be the name commonly used to represent most of the activities being reported, as long as it is not also used to refer to substantial activities not covered by the entity's reports.

(2) The names of any parent or holding companies the activities of which will *not* be covered comprehensively by the entity's reports;

(3) The names of any large subsidiaries or organizational units that *will* be covered comprehensively by the entity's reports;

(4) A description of the entity and its primary economic activities, such as electricity generation, product manufacturing, service provider, freight transport, or household operation;

(5) A description of the types of operations, facilities, processes, vehicles and other emission sources or sinks covered in the entity's inventories;

(6) The names of the entities that share the ownership or operational control of significant facilities or sources included in the reporting entity's report, and certify that, to the best of the preparer's knowledge, the direct greenhouse gas emissions and sequestrations in the entity's report are not included in the 1605(b) report of any of those other entities for the same calendar year;

(7) Identification of the first year for which the entity will report emissions and the base year or base period from which emission reductions will be calculated.

(b) *Reasons for changing the scope of entity reports.* From time to time, entities may choose to change the scope of activities included within the entity's reports or the level at which the entity wishes to report. An entity may also choose to change its operational boundaries, its base year (or base period) or, since many entities are dynamic by nature, other elements of its Entity Statement or reporting methods. For example, companies buy and sell business units, and equity share arrangements evolve. The dynamic nature of economic activity may pose a challenge for the objective of a comprehensive and accurate documentation of greenhouse gas emissions and sequestrations from year to year. In general, DOE encourages changes in the scope of reporting that expand the coverage of an entity's report and discourages changes that reduce the coverage of such reports unless they are caused by divestitures or plant closures. Any such changes should be reported in amendments to the Entity Statement and major changes may warrant or require changes in the reporting entity's base year or base period. The Technical Guidelines under this part provide more specific guidance on how such changes should be reflected in entity reports and emission reduction calculations.

(c) *Documenting changes in amended entity statements.* A reporter's Entity Statement in subsequent reports should focus primarily on changes since the previous report. Specifically, the subsequent Entity Statement should report the following information:

(1) Significant changes in the entity's organizational (geographic or operational) boundaries. In particular, the entity statement should document:

(i) The acquisition or divestiture of discrete business units, subsidiaries, facilities, and plants;

(ii) The closure or opening of significant facilities;

(iii) The transfer of economic activity to or from specific operations outside the U.S.;

(iv) Significant changes in land holdings (applies to entities reporting on greenhouse gas emissions or sequestration related to land use, land use change, or forestry);

(v) Whether the entity is reporting at a higher level of aggregation than it did in the previous report, and if so, a listing of the subsidiary entities that are now aggregated under a revised conglomerated entity; and

(vi) Changes in its activities or operations (*e.g.*, changes in output, contractual arrangements, equipment and processes, outsourcing or insourcing of significant activities) that are likely to have a significant effect on emissions, together with an explanation of how it believes the changes in economic activity influenced its reported emissions or sequestrations.

(2) If very substantial changes have occurred, then the reporting entity is required to submit a new Entity Statement that provides a complete and current overview of the entity's operations, facilities and emission sources.

§ 300.6 Emissions inventories.

(a) *General.* The objective of the entity-wide reporting standard is to provide a comprehensive inventory of an entity's total net greenhouse gas emissions, including all six greenhouse gases listed in paragraph (f) of this section and all emissions and sequestration associated with changes in terrestrial carbon stocks. The reporting entity should report all of the covered greenhouse gas emissions from within the entity, using the methods specified in the Technical Guidelines (to be issued subsequently). Entity-wide reports are a prerequisite for the registration of emission reductions by entities with average annual emissions of more that 10,000 tons of CO_2 equivalent. Entities that have average annual emissions of less than 10,000 tons of CO_2 equivalent are eligible to register emission reductions associated with specific activities without also reporting an inventory of the total emissions.

(b) *Direct emissions inventories.* (1) Direct greenhouse gas emissions that must be reported are those emissions resulting from stationary or mobile sources within the organizational boundaries of an entity, including but not limited to emissions resulting from combustion of fossil fuels, process emissions, and fugitive emissions. Process emissions should be reported (*e.g.*, PFC emissions from aluminum production) along with fugitive emissions (*e.g.*, leakage of greenhouse gases from equipment).

(2) Entities should separately report emissions of greenhouses gases from combustion of biomass fuels or biomass-

based fuels (*e.g.*, wood waste, landfill gas, ethanol from corn, charcoal). The Technical Guidelines (to be issued subsequently) will specify the applicable list of biomass fuels or biomass-based fuels.

(c) *Inventories of indirect emissions associated with purchased energy.* (1) To provide a clear incentive for the users of electricity and other forms of purchased energy to reduce demand, the consumption of purchased electricity, steam, and hot or chilled water must be included in a reporting entity's inventory as indirect emissions. To avoid double counting among entities, the reporting entity must report all indirect emissions (as defined in § 300.2) separately from its direct emissions. Reporting entities should use the methods for quantifying indirect emissions specified in the Technical Guidelines.

(2) Reporting entities may also choose to report other forms of indirect emissions, such as emissions associated with employee commuting, materials consumed or products produced, although emission reductions associated with such other indirect emissions are not eligible for registration. All such reports of other forms of indirect emissions must be clearly distinguished from reports of indirect emissions associated with purchased energy. The Technical Guidelines also address the reporting of these other types of indirect emissions.

(d) *Entity-level inventories of changes in terrestrial carbon stocks.* Annual changes in terrestrial carbon stocks should be comprehensively assessed and reported across the entity and the net emissions resulting from such changes included in the entity's inventory of its net emissions. In other words, activities that lead to the release of carbon to the atmosphere must be reported along with activities that sequester carbon. This is necessary to provide an accurate entity-wide estimate of net greenhouse gas emissions. Entities should use the methods for estimating changes in terrestrial carbon stocks specified in the Technical Guidelines.

(e) *Treatment of de minimis emissions and sequestration.* Although the goal of the entity-wide reporting Guidelines is to provide an accurate and comprehensive estimate of total entity-wide emissions, there may be small emissions from certain sources that are unreasonably costly or difficult to quantify. A reporting entity may exclude particular sources of emissions or sequestration if the total quantities excluded represent less than 3 percent of the total annual CO_2 equivalent emissions of the entity or less than 10,000 metric tons of CO_2 equivalent, whichever is less. The entity must identify the types of emissions excluded and provide a short justification as to why an estimate was not included in the entity's report.

(f) *Covered gases.* (1) Entity-wide emissions inventories must include all emissions of the following greenhouse gases:

(i) CO_2
(ii) CH_4
(iii) N_2O
(iv) HFCs
(v) PFCs
(vi) SF6

(2) Entities may also choose to report other greenhouse gases, as defined in section 300.2, but such gases are to be reported separately and any emission reductions associated with such other gases are not eligible for registration.

(g) *Units for reporting.* Emissions and sequestration should be reported in terms of the mass (not volume) of each gas, using metric units (*e.g.*, metric tons of methane). Entity-wide and sub-entity summations of emissions and reductions from multiple sources shall be converted into carbon dioxide equivalent units using the global warming potentials for each gas. Entities should specify the units used (*e.g.*, kilograms, or metric tons). Where necessary, reporting entities must use the standard conversion factors specified in the Technical Guidelines to convert existing data into the common units required in the entity-level report. Consumption of purchased electricity must be reported by region (from a list to be provided by DOE in the Technical Guidelines). Consumption of purchased steam or chilled/hot water must be reported according to the type of system and fuel used to generate it (from a list provided by DOE in the Technical Guidelines). Purchased energy will be converted to carbon dioxide equivalents using conversion factors in the Technical Guidelines.

§ 300.7 Net entity-wide emission reductions.

(a) *Assessing entity-wide emission reductions.* (1) Entity-wide reports are a prerequisite for the registration of emission reductions by entities with average annual emissions of more that 10,000 tons of CO2 equivalent. Net annual entity-wide emission reductions must be based, to the maximum extent practicable, on a full assessment and sum total of all changes in an entity's emissions, avoided emissions and sequestration relative to the entity's established base year (or base period), plus any emission offsets. All changes in emissions, avoided emissions, and sequestration must be determined using methods that are consistent with the guidelines described in § 300.8 of this part, and in compliance with all other relevant DOE guidelines.

(2) If it is not practicable to assess the changes in net emissions resulting from certain entity activities using at least one of the methods described in § 300.8 of this part, the reporting entity may exclude them from its estimate of net entity-wide emission reductions. The reporting entity must describe the sources excluded for this reason from the entity's assessment of its net emission reductions, the reasons why it was not practicable to assess the changes that had occurred, and the approximate quantity of emissions or sequestration not assessed.

(3) A reporting entity should also exclude from the entity-wide assessment of changes in emissions, avoided emissions and sequestration any emissions or sequestration that have been excluded from the entity's inventory.

(b) *Assessing the emission reductions of entities with small emissions.* Entities with average annual emissions of less than 10,000 tons of CO2-equivalent emissions are not required to inventory their total emissions or assess all changes in their emissions, avoided emissions and sequestration in order to register their reductions. They may register the emission reductions that have occurred since 2002 and that are associated with certain activities, as long as they perform a complete assessment of the annual emissions and sequestration associated with all of the activities of the same type, determine the changes in the emissions, avoided emissions or sequestration associated with these activities, and certify that the reductions reported were not caused by actions likely to cause increases in emissions elsewhere within the entity's operations. For example, a farmer may report emission reductions associated with tree plantings on a single wood lot, but must assess and report the net sequestration resulting from the farmer's management of all woodlots within the entity's boundaries.

(c) *Net emission reductions achieved by third parties (offsets).* Net emission reductions achieved by third parties may be included in an entity-wide assessment of emission reductions as long as:

(1) The emission reductions reported were calculated using the same method(s) that would have been applicable if the third party that achieved the emission reduction had chosen to report it directly to DOE.

(2) All of the reporting entities or other parties involved certify to DOE that they have agreed that the reporting entity should be recognized as the entity responsible for the reduction.

(d) *Adjusting for year-to-year increases in net emissions.* Net annual emission reductions are calculated normally relative to an entity's base year (or base period). However, if the entity has experienced a net increase (relative to the base year) in emissions for one or more intervening years, these increases must be subtracted from net emission reductions reported in future years.

§ 300.8 Calculating emission reductions.

(a) *Establishing base year (or base period) emissions.* In general, base year or base period emissions are those that occurred over the full year (or average annual emissions over the full multi-year period) immediately preceding the first year of calculated emission reductions. Base year or base period emissions may represent the whole entity, or specific sub-entities, but must be defined so as to correspond to the scope of the chosen emission reduction calculation. To ensure that the summation of entity annual reports accurately represents net, multi-year emission reductions, a specific base year or base period may be used to determine emission reductions in a given future year only if the entity has submitted qualified reports for each intervening year.

(b) *Calculation methods.* Entities must calculate any change in emissions, avoided emissions or sequestration using one or more of the methods described in this section. All changes must be calculated relative to a base year or base period established by the entity, unless the change results from an offset (*see* subsection 300.7(c)). In general, entities are encouraged to use changes in net emissions intensity as the primary basis for calculating changes in net, entity-wide emissions.

(1) *Changes in emissions intensity.* A reporting entity may use reductions in the rate of emissions per unit of output (emissions intensity) as a basis for determining emission reductions as long as the reporting entity demonstrates in its report that the measure(s) of output used in the emissions intensity metric is a reasonable indicator of the physical output or economic value produced by the activity associated with these emissions, and that acquisitions, divestures or changes in products have not contributed significantly to changes in emissions intensity.

(2) *Changes in absolute emissions.* A reporting entity may use changes in the absolute (actual) emissions (direct or indirect) as a basis for determining net emission reductions, as long as the entity demonstrates in its report that any reductions derived from such changes were not achieved as a result of reductions in U.S. output, or major shifts in the types of products or services produced.

(3) *Changes in carbon storage (for actions within entity boundaries).* A reporting entity may use changes in carbon storage as a basis for determining net emission reductions as long as the reporting entity uses estimation and measurement methods that comply with DOE Technical Guidelines, and has included an assessment of the net changes in all sinks included in its inventory.

(4) *Changes in avoided emissions (for actions within entity boundaries).* A reporting entity may use changes in the avoided emissions associated with the sale of electricity, steam, hot water or chilled water generated from non-emitting or low-emitting sources as a basis for determining net emission reductions as long as:

(i) the measurement and calculation methods used comply with DOE Technical Guidelines, and

(ii) the reporting entity certifies that any increased sales were not attributable to the acquisition of a generating facility that had been previously operated, unless the entity utilized base year generation values derived from records of the facility's operation prior to its acquisition.

(5) *Project-based emission reductions (for actions within entity boundaries).* Emission reductions may be determined based on an estimate of the effects on emissions of a specific action, as long as the reporting entity demonstrates that the estimate is based on analysis that:

(i) Uses output, utilization and other factors that are consistent, to the maximum extent practicable, with the action's actual performance in the year for which reductions are being reported;

(ii) Excludes any emission reductions that might have resulted from reduced output or were caused by actions likely to be associated with increases in emissions elsewhere within the entity's operations; and

(iii) Uses methods that are in compliance with DOE Technical Guidelines. Entity-wide reporters should use this project-based approach only if it is not possible to measure accurately emission changes by using one of the methods identified in paragraphs (a)(1) through (a)(4) of this section.

(c) *Summary description of actions taken to reduce emissions.* Each reported emission reduction must be accompanied by an identification of the types of actions that were the likely cause of the reductions achieved.

(d) *Emission reductions associated with plant closings, voluntary actions and government requirements.* Each report of emission reductions shall indicate whether the reported emission reductions were the result, in whole or in part, of plant closings, voluntary actions, or government requirements.

(1) If emission reductions were associated, in whole or part, with plant closings, the report should include an explanation of how such emission reductions did not result from a decline in the U.S. output of the reporting entity.

(2) If the reductions were associated, in whole or part, with government requirements, the report should identify the government requirement involved and describe the type of effect these requirements had on the reported emission reductions.

(e) *Determining the entity responsible for emission reductions.* The entity presumed to be responsible for emission reduction, avoided emission or sequestered carbon is the legal owner of the facility, land or vehicle which generated the affected emissions, generated the energy that was sold so as to avoid other emissions, or was the place where the sequestration action occurred. If ownership is shared, reporting of the associated emission reductions should be determined by agreement between the entities involved in order to avoid double-counting, and this agreement must be reflected in the entity statements filed and in any report of emission reductions. DOE will presume that an entity is not responsible for any emission reductions associated with a facility, property or vehicle excluded from its entity statement.

§ 300.9 Reporting and recordkeeping requirements.

(a) *Starting to report under the revised Guidelines.* (1) Entities may report emissions and sequestration on an annual basis beginning in any year, but no earlier than the base period of 1987–1990 specified in the Energy Policy Act of 1992. To be recognized under these revised Guidelines, all reports must conform to the measurement methods established by the Technical Guidelines. This requirement applies to entities that report to the revised Voluntary Reporting of Greenhouse Gases Program registry for the first time as well as those entities that have previously submitted emissions reports pursuant to section 1605 (b) of the Energy Policy Act of 1992.

(2) Entities may submit initial reports or corrected reports for previous calendar years at any time. For example, an entity may choose to begin reporting in 2005 and may choose, at that time, to submit reports on prior year emissions back to 2002. Also, if a change in the emissions calculation method is made for 2005, an entity may submit revised estimates for its previous reporting years to ensure that a consistent method is used across the whole time-series. Entities may also submit revised reports to reflect agreements with other entities regarding the appropriate entity to designate as the entity responsible for certain registered emission reductions.

(b) *Continuing to report*. Reporting entities are strongly encouraged to report emissions on an annual basis, starting from the first year they submit a report under these revised Guidelines. Annual entity reporting is necessary to ensure that calculated reductions have been sustained over time. If a reporting entity chooses not to submit a report in any given year, the next report made should include reports for intervening years, or the reporting entity must establish a new base year from which to calculate all future emission reductions. Entities that wish to sustain recognition for previously registered emission reductions resulting from sequestration must continue to report annually.

(c) *Definition and deadline for annual reports*. Entities should report emissions on an annual basis, from January 1 to December 31, although DOE may grant exceptions to these dates. To be included in the earliest possible DOE annual report of greenhouse gas emissions reported under section 1605(b), entity reports must be submitted to DOE no later than July 1 for emissions during the previous calendar year.

(d) *Recordkeeping*. Entities must maintain adequate records for at least three years to enable independent verification of all information reported. Such records must include:

(1) A full description of the process and methods used to gather emissions data;

(2) A full description of the process and methods used to calculate emission reductions;

(3) The primary data upon which the data included in the any report to DOE was based; and

(4) A full description of any internal quality control or other verification measures taken to ensure that the data reported was in compliance with all relevant DOE Guidelines and other measurement protocols.

§ 300.10 Certification of reports.

(a) The chief executive officer, agency or household head, or person responsible for the reporting entity's compliance with environmental regulations must, for each report of such entity, certify that:

(1) The information provided to DOE is complete and accurate, in accordance with DOE's revised Guidelines, and is consistent with all prior year reports submitted by that entity (unless otherwise indicated); and

(2) Adequate records will be maintained for at least 3 years to enable independent verification of the information reported.

(b) If the report has been independently verified in accordance with DOE's Guidelines, the certification of the report by the entity reporting should so indicate.

§ 300.11 Independent verification.

(a) Reporting entities are encouraged to have their annual reports verified by independent and qualified auditors.

(1) ''Independent'', as used in this paragraph (a), means that the verifiers must not be owned in whole or part by the reporting entity, nor should they provide any ongoing operational or support services to the entity, except services consistent with independent financial accounting or independent certification of compliance with government or private standards.

(2) ''Qualified'', as used in this paragraph (a), means that verifiers must be certified by independent and nationally-recognized certification programs for the types of professionals needed to determine compliance with DOE's reporting Guidelines, such as the American Institute of Certified Public Accountants, the American National Standards Institute and Registrar Accreditation Board's (ANSI–RAB's) National Accreditation Program, or the Board of Environmental, Health, and Safety Auditor Certification (BEAC).

(b) The independent verifier must provide a written description of the relevant qualifications and professional certifications of the persons that performed the independent verification and must certify that:

(1) The information provided to DOE is complete and accurate, in accordance with DOE's revised Guidelines, and is consistent with all prior year reports submitted by that entity (unless otherwise indicated); and

(2) Adequate records have been maintained by the reporter to enable further independent verification in the future.

§ 300.12 Acceptance of reports and registration of entity emission reductions.

(a) *Acceptance of reports*. Upon receipt, DOE will review all reports to ensure they are consistent with the revised Guidelines. If DOE determines the report follows the definitional, measurement, calculation and certification Guidelines, the report will be accepted.

(b) *Registration of emission reductions*. DOE will review accepted reports to determine any eligible emission reductions that were calculated using the reporting entities' base year emissions (no earlier than 2002) or the average annual emissions of its base period (a period of up to four sequential years ending no earlier than 2002), and to ensure that the reports meet other relevant DOE requirements. DOE will also review its records to verify that the entity has submitted accepted annual reports for each year between the establishment of its base year or base period and the year covered by the current report. DOE will notify entities that the reductions that meet these requirements have been registered.

(c) *EIA database and summary reports*. The Administrator of the Energy Information Administration will establish a publicly accessible database composed of all reports that meet the definitional, measurement, calculation and certification requirements of these Guidelines. A portion of the database will provide summary information on the emissions and registered emission reductions of each reporting entity.

Appendix A to Part 300—Voluntary Reporting of Greenhouse Gases Under Section 1605(b) of the Energy Policy Act of 1992: General Guidelines (October 1994)

Voluntary Reporting and You

This program was designed to help you measure and record the actions you take to reduce greenhouse gas emissions or to increase carbon storage in soil or plants. The voluntary reporting program provides an opportunity for you to gain recognition for the good effects of your actions—recognition from your customers, your shareholders, public officials, and the Federal government. Reporting the results of your actions adds to the public groundswell of efforts to deal with the threat of climate change. Reporting can show that you are part of various initiatives under the President's Climate Change Action Plan. Your reports can also record a baseline from which to measure your future actions. Finally, your reports, along with others, can contribute to the growing body of information on cost-effective actions for controlling greenhouse gases.

We've designed this simple, flexible program to encourage you to accurately record your achievements. The program allows you to define activities you choose to

report and to determine how you will estimate the effects of those activities on greenhouse gas emissions and carbon sequestration.

We recognize that you must balance your efforts to ensure the accuracy of reported data with your goals of keeping costs reasonable in generating the reports.

We are optimistic that the response to this program will show that voluntary programs can do the job. We have been impressed by the level of commitment to the President's initiatives on climate change. This reporting program provides opportunities to report your achievements and to track your progress as you use your ingenuity and creativity in responding to the challenge of climate change.

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Case Studies

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3. Illinois-Ohio Unlimited (new solar-powered electricity generation)
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Reference Case
Project Effects
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4. Black Forest Cake, Inc. (long-term project reporting)

General Guidelines

Because of concerns with the growing threat of global climate change from increasing emissions of greenhouse gases, Congress authorized a voluntary program for the public to report achievements in reducing those gases. This document offers guidance on recording historic and current greenhouse gas emissions, emissions reductions, and carbon sequestration. Under the Energy Policy Act (EPAct) of 1992 Section 1605(b) program, reporters will have the opportunity to highlight specific achievements.

If you have taken actions to lessen the greenhouse gas effect, either by decreasing greenhouse gas emissions or by sequestering carbon, the Department of Energy (DOE) encourages you to report your achievements under this program. The program has two related, but distinct parts. First, the program offers you an opportunity to report your annual emissions of greenhouse gases. Second, the program records your specific projects to reduce greenhouse gas emissions and increase carbon sequestration. Although participants in the program are strongly encouraged to submit reports on both, reports on either annual emissions or emissions reductions and carbon sequestration projects will be accepted.

These guidelines and the supporting technical documents outline the rationale for the program and approaches to analyzing emissions and emissions reduction projects. Your annual emissions and emissions reductions achievements will be reported on forms that are available through the Energy Information Administration (EIA) of the Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585.

GG–1 How Are These Guidelines and Supporting Documents Organized?

In these pages, you will find answers to your questions about who may report, what is involved in reporting, and how to develop a credible project analysis to help you accurately report your achievements. The General Guidelines (GG) illustrate the process for analyzing projects using three hypothetical examples (an industrial cogeneration project, an energy efficiency program, and new electricity generating capacity).

You will also find guidance on such issues as joint reporting (if two or more persons or organizations are responsible for achievements), third-party reporting (through a trade association, for example), international projects, confidentiality, certification, and other elements of the reporting process.

For more specific guidance, you may consult one or more of the supporting documents that discuss sector-specific issues and analytic approaches. The supporting documents, organized in two volumes, contain limited examples of project analysis for the relevant sectors. Supporting documents have been developed as follows:

- Volume I
  —Electricity Supply Sector (Part 1)
  —Residential and Commercial Buildings Sector (Part 2)
  —Industrial Sector (Part 3)
- Volume II
  —Transportation Sector (Part 4)
  —Forestry Sector (Part 5)
  —Agricultural Sector (Part 6).

Each volume includes appendixes that provide conversion tables and default emissions factors (for various fuels and for electricity on a state-by-state basis). You can use these tables and factors for almost any report you submit. The final appendix in each volume presents a list of greenhouse gases for which the Intergovernmental Panel on Climate Change has developed Global Warming Potentials (an index of the relative effects on climate of different gases).

GG–2 Why Report Under This Voluntary Reporting Program?

If you are undertaking activities to reduce greenhouse gas emissions or to sequester carbon, reporting under this program can be valuable to you and to others. It can be valuable to you because it provides a way to present information about your greenhouse gas-related activities to your customers or constituents who are concerned about the issue of global climate change. It can be valuable to others, including the Federal government (to recognize your achievements under various initiatives), decisionmakers and legislative bodies (to inform the public debate on future greenhouse gas policies), and other individuals or organizations (to learn from each other).

You may wish to report under this program for at least three reasons:

- To Record Emissions and Achievements. You may wish to formally record, in a national database, your greenhouse gas emissions and the results of your activities that reduce or avoid these emissions. Reporting may be part of your participation in programs that recognize your contributions to achieving greenhouse gas emissions goals. These programs include national initiatives such as the Climate Change Action Plan and programs such as Climate Challenge, ClimateWise, and Motor Challenge. However, reporting under this voluntary reporting program is not limited to participants in these programs; you may wish to record the emissions reductions benefits from activities pursued independently of formal recognition programs.

• To Inform the Public Debate. You may wish to provide data which will contribute to more informed public debate on national policy on greenhouse gas reductions. Although a database built upon voluntary reports cannot provide a complete picture of national or sectoral emissions, it could provide credible information on emissions reductions and carbon sequestration projects to evaluate their potential for broader application.

• To Participate in Educational Exchanges. Data reported under the voluntary reporting program may provide useful information to others seeking ways to reduce their own emissions. New, innovative, and more economical means of reducing or avoiding emis-sions may be more widely deployed as better information becomes available.

GG–3 May I Report and What Should I Report?

You may report under this program if you initiate, control, or in some other way participate in activities that (1) contribute to greenhouse gas emissions, (2) result in reducing greenhouse gas emissions, or (3) sequester carbon. The activities may be part of your regular operations, pilot studies, prototype projects, or demonstration projects. They may take place in your community, in your workplace, at a location controlled by a third party, or at a foreign location. You must be a legal U.S. entity, that is, any U.S. citizen or resident alien; any company, organization, or group incorporated under or recognized by U.S. law; or any U.S. Federal, state, or local government entity.

DOE encourages you to submit as comprehensive a report as you can. Elements of a comprehensive report include information about both your emissions levels and your emissions reduction projects. Emissions information could include data on the entire organization and all its greenhouse gas activities, including historic baseline emissions data for 1987 through 1990, and annual emissions for subsequent years. Comprehensive information about emissions reduction projects could include both emissions reductions and carbon sequestration projects, emissions factors used to determine reductions, assumptions about the project, and data sources. The extent to which you provide information for each of these elements is determined by your assessment of what is necessary for others to clearly understand your project and its effects. Users of the database will be able to gauge the comprehensiveness of your report relative to these elements.

You may report both *direct* and *indirect* emissions. As the name implies, direct emissions result directly from fuel combustion or other processes that release greenhouse gases on-site.

You produce emissions indirectly when your activities cause emissions to be generated elsewhere. For example, a manufacturer would report as direct emissions the carbon dioxide emitted from the stack of its assembly plant. The same manufacturer could report indirect emissions from the electricity used to light that assembly plant, since the electricity use causes emissions to be generated by an electric utility.

GG–4 What Is Involved in Reporting Emissions?

Section 1605(b) addresses the reporting of annual emissions as well as emissions reductions and carbon sequestration. You are strongly encouraged, but are not required, to report your greenhouse gas emissions (1) for the baseline period of 1987 to 1990 and (2) for subsequent calendar years on an annual basis. You may wish to report this data for all or as much of your organization as possible, particularly if it would be important to the users of your reports.

GG–4.1 Gases and Sources

These guidelines initially provide for reporting four types of greenhouse gases: carbon dioxide, methane, nitrous oxide, and halogenated substances. These are listed below, along with the major activities associated with emissions of these gases. For each gas listed in your emissions report, you should indicate your total emissions; for example, if you report two gases, carbon dioxide and methane, you should report total emissions numbers for both gases.

Greenhouse gases	Related activities
Carbon dioxide (CO_2)	Fossil energy combustion, electricity generation and use, industrial processes, forestry and agriculture.
Methane (CH_4)	Landfill operation, coal mining, oil and gas systems, stationary combustion, animal production.
Nitrous oxide (N_2O) ...	Stationary combustion, adipic acid production, forestry and agriculture.
Halogenated substances (for example, CFCs, HCFCs, PFCs).	Chemical manufacture, use in industrial processes.

The guidelines and supporting documents do not generally discuss other radiatively enhancing gases. However, after the second reporting cycle (that is, after the 1996 cycle), you will be able to report other radiatively enhancing gases, including nitrogen oxides (NO_X), nonmethane volatile organic compounds (NMVOCs), and carbon monoxide (CO). In some cases, the supporting documents contain data such as emissions factors for some of these gases. However, in general, you will have to determine how to evaluate your emissions of these gases. Your report must meet the minimum reporting requirements of the program, as described in Section GG–6.

GG–4.2 Use of Existing Information

Many organizations keep accurate data on projects that involve energy efficiency, fuel switching, conservation, pollution prevention, waste minimization, and/or carbon sequestration. If you keep related data for other purposes, reporting greenhouse gas emissions effects under this program will be especially simple and straightforward.

Many potential reporters under EPAct 1605(b) already gather and report emissions information. If you already report similar information (for example, to comply with the Clean Air Act Amendments or under another air quality program) or can easily derive it (for example, from data you submit to regulatory agencies, from smokestack monitoring technologies, or fuel use data kept for internal purposes), you are encouraged to use such information to the extent practical in reporting emissions and emissions reductions under this program. However, you must report the information in a manner that is consistent with these General Guidelines.

GG–4.3 Scope of Emissions Reporting

You should report on the most comprehensive basis possible to broaden the usefulness of your emissions reports. However, you may define the scope of your emissions reports. In most cases, the needs of your potential audience will dictate the boundaries you draw. If you are able to report emissions for your entire organization, you should consider providing a comprehensive accounting so that your audience can gain a clear understanding of your overall activities. However, reporting total emissions for a single plant or establishment may be more consistent with other elements of your report and may be based on more precise or more readily available data.

Reporting emissions for your entire organization will show the most complete picture of your activities. Entity-level emissions reports can also provide all the data you need to submit reports on emissions reductions at the entity level or can increase the credibility of reports of emissions reductions at an individual project level.

You do not need to report total organization emissions in order to report individual emissions reductions and carbon sequestration projects. In fact, some reporters may not be able to report their organization's or unit's total emissions, because information needed for the baseline years may not be available, or because it is not feasible to estimate their organization's or unit's total emissions even for the current year. Remember, however, that most users of the database will find your reported estimates of emissions reductions more credible if they are accompanied by records of your organization's total emissions for the baseline years 1987 to 1990 and subsequent years.

GG–5 How Should I Analyze Projects I Wish To Report?

Accurate and credible reporting under this program requires sound project analysis. Rigid rules do not exist for such an analysis, and you may define the emissions reductions and carbon sequestration projects that you report. Your project may consist of all emission-producing activities for your organization; several activities, perhaps as parts of an energy efficiency program; or only one activity, undertaken for its projected cost savings (such as a relighting project) or as a pilot project (for example, an experimental industrial process change). Given the broad range of possible types of projects, it is impossible to establish guidance that

provides specific rules and appropriate methods for every type of project. The appropriate procedure for project analysis depends on how clearly you can identify the effects of the project, how credibly you can define a basis for comparing greenhouse gas emissions or carbon sequestration with and without the project, and how well you can measure or estimate the effects of your project.

While the guidelines provide you with as much flexibility as possible, every report must—

- Establish the reference case to use as a basis for comparison with the project;
- Identify the project's effects; and
- Estimate emissions for the reference case and the project.

Figure GG–1 depicts the overall process of project analysis. Each of these steps is discussed below and in more detail for each sector in the supporting documents. Note that these three elements depend on each other. For example, your choice of a reference case will depend upon both the scope of your project's effects and the data you use to measure or estimate emissions.

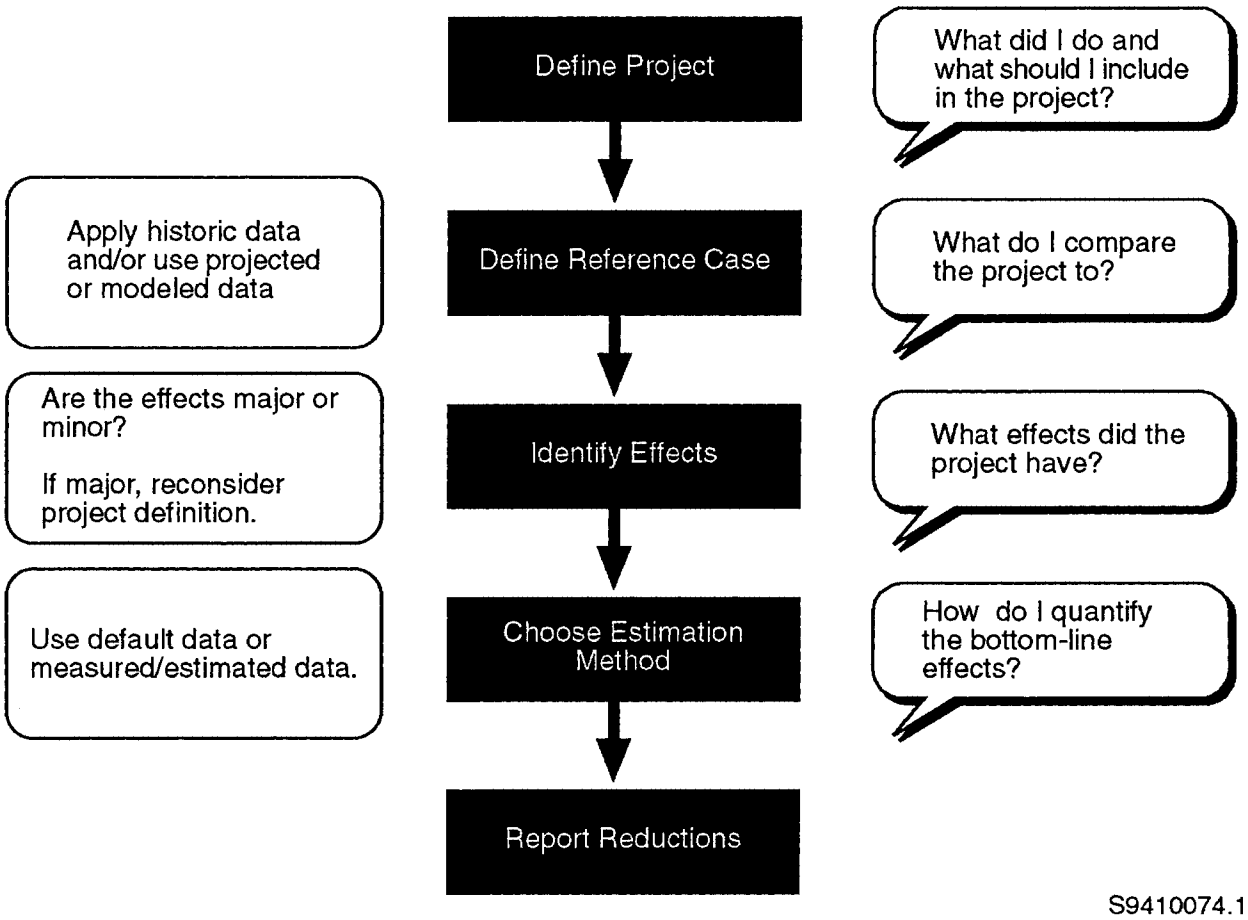


Figure GG-1. Careful Project Analysis Requires that You Consider Several Interrelated Elements.

In determining the extent of your analysis and reporting effort, you need to match your effort to your purpose for reporting. If you wish to establish a clear record of emissions and emissions reductions, you should perform extensive analysis and provide for retention of sufficient records to support your report. In any case, you will need to certify the accuracy of the information provided in your report.

These considerations and others in the project analysis process are illustrated in these General Guidelines with three hypothetical case studies: An industrial cogeneration project, an energy-efficiency project in a large office building complex, and the purchase of new solar-powered electricity generating equipment. The case studies are intended to be illustrative and by no means address all of the information that may be reported. A basic description of the facts involved in each case follows. These cases will be more fully developed as the discussion of the steps in project analysis proceeds.

These cases are intended to illustrate the range of detail and expense that might be entailed in developing reports of emissions and emissions reductions. The first case involves no emissions reporting and very simple emissions reductions analysis. The second case involves reporting emissions levels for recent years only and moderately detailed emissions reductions analysis. The third example illustrates the most comprehensive report, including emissions reporting for the baseline years 1987–1990 and detailed project analysis. Note that in each case the level of effort and detail reflected in the analysis and report is determined by the reporter's expected audience.

Case 1: Rarotonga Coconut Cream, Inc.—Project Description and Emissions Reporting

Note: This example illustrates only one approach to analyzing a project; your analysis, methods, and calculations will vary depending on your particular circumstances, the geographic location of the project, and other factors.

Rarotonga Coconut Cream, Inc. (RCCI) is a small food processing plant in Hawaii. In the past, RCCI purchased its electricity from the local electric utility and produced processing steam from a residual oil-fired boiler. While RCCI's production and energy use have been stable for the past seven years, its energy bills have been growing because of increased electricity rates and oil delivery charges to the company's remote location. Company managers anticipate continued increases in electricity costs as the distribution lines have to be replaced and upgraded over the next five years.

RCCI realized it could cut its energy costs significantly if it installed a cogeneration system to produce its process steam and electricity in a single cogeneration plant fueled by distillate fuel oil. Although the distillate is a higher grade fuel than that currently used, its increased cost is more than offset by the economies realized from the combination of the higher efficiency cogeneration unit and the installation of increased storage capacity, allowing the firm to accept larger, less frequent deliveries. Furthermore, distillate is a cleaner burning fuel oil than residual with lower carbon dioxide emissions per equivalent energy input along with enhanced handling properties. Addition of a backup generator would allow the company to disconnect from the utility transmission and distribution system.

One of RCCI's customers, a grocery wholesaler who was visiting the Rarotonga plant, commented that her company was participating in a Federally sponsored energy-efficiency program and reporting the company's contribution to greenhouse gas emissions reductions through the EPAct Section 1605(b) voluntary reporting program. While RCCI was undertaking its cogeneration project primarily for financial reasons, it was also aware that the project had some beneficial environmental effects, including the reduction of carbon dioxide emissions associated with switching fossil fuel use and electricity production. RCCI decided that, in the interest of sharing its experience with the cogeneration project, the company would report the results to the DOE program.

The first decision RCCI had to make was whether to report its annual emissions of greenhouse gases. As a small business whose primary purpose for participation in the voluntary reporting program was to publicize its experience with using a cogeneration system in a remote location, RCCI was interested in containing its costs of reporting as much as possible. A full entity-wide emissions report would need to account for direct emissions from its oil burner, agricultural operations, and transportation fleet, and indirect emissions from its electricity use. Estimation of emissions from these sources back to 1987 could be costly and time-consuming. RCCI managers decided instead to focus their limited resources solely on an evaluation of emissions reductions associated with their cogeneration project.

Case 2: Rural-Urban Office Managers, Inc.—Project Description and Emissions Reporting

Note: This example illustrates only one approach to analyzing a project; your analysis, methods, and calculations will vary depending on your particular circumstances, the geographic location of the project, and other factors.

In the late 1970s, Rural Office Managers built a complex of offices just outside the city of Metropolis. By the mid-1990s, the city had expanded, and the offices, originally designed for low-density occupation, were now experiencing higher density occupation.

In response to the change in its physical surroundings, the company reincorporated as Rural-Urban Office Managers, Inc. (RUOMI). Company officials also realized they needed to update their facilities, particularly their heating, ventilating, and air conditioning (HVAC), system and their lighting system to accommodate the change in use. Coincidentally, the energy planner for Metropolis contacted RUOMI to explain that the city had enrolled in a new state initiative called Energy Efficient Cities (EEC) that challenges cities to reduce commercial-sector energy consumption by five percent. RUOMI agreed to participate in EEC.

While the emphasis of the EEC program was on reducing energy use, participants were also encouraged to report the indirect effect that their energy conservation activities had on greenhouse gas emissions, that is, the reduction in greenhouse gas emissions at the generating plant resulting from reduced electricity use at RUOMI's offices. When RUOMI managers explored the DOE voluntary greenhouse gas reporting program, they discovered guidance on how to measure both energy savings and associated greenhouse gas emissions. Therefore, as their contractor designed the HVAC and lighting project, RUOMI made sure that the contractor collected all the data RUOMI needed to submit a report.

RUOMI had not preserved a complete set of its energy bills from the late 1980s. Although this information could have been recovered from the Metropolis energy utility, RUOMI managers decided not to attempt to report the company's historic baseline, entity-wide emis-sions because the generating mix for Metropolis' electricity supply had changed dramatically since the end of the last decade. However, using the data provided in the DOE guidelines and supporting documents, they were able to derive the direct emissions from natural gas combustion and the indirect emissions associated with electricity use, for the two calendar years just prior to the commencement of their project. RUOMI reported emissions for those two years and for each year thereafter.

Case 3: Illinois-Ohio Unlimited—Project Description and Emissions Reporting

Note: This example illustrates only one approach to analyzing a project; your analysis, methods, and calculations will vary depending on your particular circumstances, the geographic location of the project, and other factors.

Illinois-Ohio Unlimited (IOU) is an investor-owned utility operating and serving customers in three midwestern states. During a recent integrated resources planning (IRP) effort, it recognized an emerging inability to meet a rising midday peak-load demand, even after pursuing an aggressive peak-shaving, demand-side management program. The IRP identified two alternative responses: purchase additional power from the Indiana Plains Project (IPP), an independent power producer that had excess capacity in its natural gas combined cycle units, or install a large array of photovoltaic cells (PVCs) in southern Illinois and Indiana. PVC electricity production was expected to closely match peak-load demands. While the price of PVCs had decreased dramatically as a result of successful Federal and private research, the second option was still more expensive than the first. However, the public utility commis-sions (PUCs) in all three of the states in which IOU reported encouraged the utility to install the PVCs. The PUCs reasoned that soon PVCs would be economically competitive and this was IOU's opportunity to gain experience with the technology.

Both IOU and its PUCs were concerned, however, that the utility might be inadvertently penalized if subsequent Federal regulations should mandate reductions of emissions of greenhouse gases but not recognize IOU's early reduction effort. IOU decided to report the PVC projects through DOE's voluntary greenhouse gas reporting program. Because IOU knew that use of its information in connection with the requirements of future policy debates would demand complete and accurate information, it kept careful records, and in each case followed the most rigorous requirements of the voluntary reporting guidelines.

As part of its reporting process, IOU reported its entity-wide greenhouse gas emissions for each of the four baseline years, 1987 to 1990, and for every subsequent calendar year. These reports included estimates of emissions from generating processes, IOU fleet vehicle emissions, and office and building operations.

GG–5.1 What Should the Project Be Compared To?

A crucial consideration in evaluating your project's accomplishments is how well you can establish a reference case—that is, an emissions level against which to measure the effects of your project. Note that, once you construct your reference case for a project, that reference case should remain constant for the life of the project. If you revise your reference case, you will need to revise any previous project reports to reflect the revised reference case.

A reference case is often referred to as the ''but for'' scenario, as in, ''but for this project, emissions would have been * * * .'' Two possible ways to finish this sentence are: (1) ''* * * the same as a previous year'' (the basic, or historic, reference case) or (2) ''* * * different from any previous year'' (the modified reference case, which is adjusted from historic or projected data or based on established standards). Each of these cases is discussed below.

Under this program you may choose between these two approaches. To fulfill your purposes for reporting, you will want your reference case to be clear and understandable. Depending on the nature of and circumstances associated with your operations, a basic reference case (using

historic emissions) may provide a suitable benchmark against which to compare project emissions. In other cases, you may determine that a modified reference case is more appropriate. Even if you choose to use a modified reference case, you still may wish to provide your historic emissions data to enable users of the EPAct 1605(b) database to evaluate the reported emissions reductions efforts with respect to a historic baseline.

Basic. The basic reference case uses only historical data. Emissions from the project or sequestration levels may be compared with the corresponding emissions or sequestration level for some previous year(s), for example, (1) the 1987 to 1990 period, the period that EPAct Section 1605(b)(1)(A) describes as the baseline years for purposes of reporting emissions; (2) the year(s) just prior to commencement of the emissions reductions project; or (3) some intervening year(s) more representative of normal operations. The reference case may be defined as the average annual emissions during some multiyear period or the highest or lowest annual emissions during that time. Alternatively, you could choose a single reporting year (for example, 1990) as the reference case year.

Modified. The modified reference case recognizes that even in the absence of your project, your future emissions levels may differ from past levels. The emissions or sequestration levels in the reference case may differ from historical levels because of gradual, predictable changes or because of abrupt changes. Gradual changes in emissions might occur because of growth or decline in industrial output, slowly changing technologies, or natural processes, such as natural regeneration of clear-cut forests. In the case of expanding output or operations, you might extrapolate the reference case from past trends and external data to determine what emissions would have been in the year in which the project's effects are being measured. This process may involve using models and adjusting for growth over time. You could estimate the reference case emissions using historic or current-year data and adjusting for future growth by multiplying the historic emissions rate (emissions per unit of production) by the units produced in the reporting year.

A modified reference case based on a hypothetical, abrupt, external change presents a greater challenge for the reporter. For example, a reference case for a forest preservation project might be built on the assertion, ''The forest would have been cut if we had not taken actions to preserve it.'' If you use this type of reference case, you should take extra care to document the facts underlying the case and to build a sound explanation about why this is the appropriate reference case to use in developing your analysis.

Reference cases for projects involving new operations or added capacity may lie between the two extremes of abrupt changes and gradual changes. For these activities, you will also need to exercise care in constructing a credible modified reference case. Use of industry standards or alternatives actually considered in the planning stages will build credibility. For example, if in the construction of a new building you exceed existing building standards for energy efficiency, you could justifiably assert that the reference case for that project is a building that just meets the standards.

Case 1: Rarotonga Coconut Cream, Inc.—Reference Case

RCCI decided to use a basic reference case. Managers reasoned that, in the absence of the shift to the distillate oil-fired cogeneration system, they would have continued using the residual oil-fired boiler and purchased electricity. Because its production levels had been constant over the past seven years, RCCI felt no need to modify the historic levels of energy use to reflect expected future trends. Instead, it decided to use an average of its emissions for 1989 and 1990, the earliest two years for which it had energy use records. Consistent with the RCCI project description, the reference case only incorporated the plant's electrical, processing, and steam production systems.

Case 2: Rural-Urban Office Management, Inc.—Reference Case

RUOMI chose to use a basic reference case, averaging its emissions for the years 1993 to 1995. There were several reasons for this decision. Because the use patterns and demands of RUOMI's tenants had changed dramatically from 1980 to 1990, the years 1987 to 1990 (or an average of these years), would not have been an appropriate indicator of expected emissions in the late 1990s. However, by 1992, RUOMI had established many long-term contracts with its tenants. Energy-use patterns had stabilized, and there was no reason to expect significant shifts in the foreseeable future. The company chose to average the years 1993 to 1995 because the first three months of 1994 included unusually cold weather and were not indicative of general energy demands. While its emissions reductions would have appeared larger if RUOMI had used only 1994 as a reference case, company officials were informed by the Metropolis energy planner that the reports could lose credibility if they only compared their project's energy use and emissions levels to a worst-year reference case.

Case 3: Illinois-Ohio, Unlimited—Reference Case

IOU's project was clearly driven by increased demands for its product. This immediately suggested that past emissions levels would not be a good model of what would have been, but for the project. Therefore, the utility chose to use a modified reference case to reflect the growth in peaking demand it was experiencing. However, IOU also recognized that it was operating in an environment where a company's current emissions are often compared to some historic level. Therefore, IOU decided to report both historic 1987 to 1990 emissions levels, and the modified reference case reflecting its changing customer demands.

GG–5.2 What Effects Did the Project Have?

The second major step in project analysis is identifying effects of the project. Your report should address all the effects that you can identify—not just the obvious, intended effects, but also less noticeable, unintended effects. Effects you should consider include activity shifting (moving processes within your organization), outsourcing (purchasing commodities or services you formerly produced), life cycle emissions shifting (upstream and downstream changes in processes or materials used), and market effects (offsets to achievements caused by residual demand).

Example: An electricity conservation project reduces electricity use at an industrial site and associated carbon dioxide emissions at the utility. However, the utility's emissions of other greenhouse gases, such as methane and nitrous oxide, will be reduced as well. In addition, conserving electricity may lead to other effects within the utility's transmission and distribution system. All of these effects should be identified (and quantified, where possible).

Example: Closing an industrial plant will likely reduce on-site emissions. However, if another plant is opened or expanded to meet market demand for the former plant's products, the increase in emissions from the new plant would at least partially offset the decrease in emissions resulting from the closing. To place the overall effects of the closing in context, emissions associated with the replacement production capacity should be identified and quantified to the extent possible.

Example: Shifting an activity to another part of your organization or substituting your production of a commodity with its purchase from others may appear to reduce your emissions. Manufacturing a component at a subsidiary's plant, or the purchase of power by a utility for distribution to customers, however, are some examples in which net emissions may not have changed. The emissions associated with the shifted or substitute production activity should be taken into account, regardless of where it occurs.

Example: Manufacturers can switch from steel to aluminum and claim reductions because working with aluminum results in fewer emissions. However, the production of the aluminum itself creates emissions different from those associated with the production of the steel. Both the on-site changes and the upstream changes should be considered when you analyze whether you have emissions reductions to report under this voluntary reporting program.

Example: Extending the rotation length or completely precluding harvesting at a given forest location increases the carbon storage services at that site. However, the added sequestration may be largely offset if another site is harvested earlier than it otherwise would have been to meet the market demand for timber that was not met by timber from the first site.

Effects you can identify should be reported. These would include any on-site effects resulting from changes in both fuel combustion and electricity use. Off-site effects may be more problematic. In some situations, you may have relationships with customers or suppliers that allow you to both identify and estimate effects that occur outside your organization. If you have or can get such information, you should report it.

Effects you can identify but have no data for should be so noted in your report.

Although quantifying all effects of a project can be difficult, keep in mind that the credibility of your report will depend to some extent on your ability to identify effects. If your targeted audiences can easily identify effects that you have ignored in your analysis, the credibility of the entire report may be in question.

Case 1: Rarotonga Coconut Cream, Inc.—Project Effects

It was easy to identify the obvious effects of the cogeneration project: the reduction of direct emissions as a result of switching from residual oil to distillate as the primary on-site fuel and the reduction of indirect emissions associated with reduced production of electricity by the electric utility. However, after giving the matter some additional thought, RCCI realized that other effects were associated with the project as well. For example, the number of fuel delivery vehicle trips was reduced by half with the switch from residual oil to distillate and the increased storage capacity. Line losses and the indirect emissions associated with the very long distribution of low voltage electricity were deemed to be negligible and beyond RCCI's ability to calculate.

RCCI listed each of the effects it could identify, but decided not to attempt to quantify any but the first two effects.

Project effects	Contribution to reduction	Significance
Reduce emissions associated with utility electricity production	+	Large.
Reduce CO_2 emissions associated with on-site fossil fuel burning (switching from residual to distillate)	+	Medium
Reduce transportation-related services	+	Small-Medium.
Decrease indirect emissions associated with line losses	+	Negligible.

Case 2: Rural-Urban Office Management, Inc.—Project Effects

RUOMI contracted with Environmental Security Consulting Organization (ESCO), a local energy service company, to evaluate the costs and benefits of several alternative technologies. After careful evaluation of the use patterns and tenant needs in RUOMI's office complex, ESCO provided a list of two dozen potential energy efficiency improvements and the energy savings and costs associated with each. They explained to RUOMI's management, however, that simply summing across all technologies would not provide an accurate assessment of expected energy savings. Many of the equipment changes would interact with each other, some having negative effects on energy savings, others having synergistic effects. Further, the type and extent of the interactions would depend upon actual use patterns as well as seasonal variations and weather patterns. Following ESCO's recommendation, RUOMI contracted for 14 of the items on the list.

Because of the complex nature of the energy changes expected from the modifications, ESCO recommended that the resulting effects of the activities be analyzed as one integrated project. This avoided the difficulty of having to sort out the impact of each equipment change. It also made any evaluation for the DOE voluntary reporting program simpler. Since RUOMI was analyzing the projects at the entity level, emissions reductions could be calculated directly from its emissions report. Therefore, separate identification of each project's effects was unnecessary.

Case 3: Illinois-Ohio Unlimited—Project Effects

Identifying all of the effects of IOU's project and reference cases was not a simple exercise. IOU recognized that it needed to consider the effects that its project had (1) on its own operations and emissions, (2) on the emissions of IPP, (3) possibly on the operations of the larger regional power pool, and (4) on the supplier of the PVCs. It was not sure it could accurately estimate all of these effects without incurring unreasonable analysis costs, but it at least wanted to identify them in planning the analysis that would lead to its completed report.

Project effects	Contribution to reduction	Significance
IPP emissions that would have gone up because of additional power purchases are reduced	+	Large.
PVC manufacturer emissions do go up	-	Small.
Power pool emissions might change	?	Unknown.
IOU emissions do go down	+	Small.

GG–5.3 How Do I Estimate Project Accomplishments?

The final major step in project analysis is estimating emissions levels for both the reference case and project case to determine emissions reductions. The guidelines and supporting documents provide you with a wide range of options for obtaining data and defining the methods for estimating your project's effect on greenhouse gas emissions and carbon sequestration.

First, the guidelines and supporting documents recognize three categories of data.

Physical data. This is information that describes the activities involved in your project. For example, how many exit lights were replaced? What was the power requirement of the old and the new lights? How many hectares of trees were planted? What species of trees? How many trees per hectare?

Default data. This is information provided by the supporting documents to assist you in evaluating the emissions or sequestration effects of your project. Using default data increases your ease of reporting (in some cases, allowing you to report when you might not otherwise have enough data). However, using default data may decrease precision and, because the defaults may be conservative, your emissions reductions may appear lower than they actually are. There are two categories of default data:

Emissions factors. These are factors that allow you to convert information about a change in energy use to an estimated change in greenhouse gas emissions. Some emissions factors are rather precise. For example, the change in direct emissions of carbon dioxide from a reduction in methane combustion is essentially constant, regardless of when or where the change took place. Other emissions factors, and particularly those for indirect emissions, are less precise. For example, the supporting documents provide emissions factors for electricity on a state-by-state basis. However, the effect that a change in electricity consumption has on emissions will vary by loca-tion within the state, the time of day, and the season that a change occurs.

Stipulated factors. These are factors that allow you to convert physical data about your project into estimates of changes in energy use, greenhouse gas emissions or carbon sequestration. The guidelines provide this information for a few types of projects where the scope and nature of the project can be clearly defined and where the effects on emissions can be predicted with relative certainty. For example, the supporting document for the forestry sector provides stipulated factors for converting physical data about tree planting into estimates of carbon sequestration. The supporting document for the residential and commercial buildings sector provides stipulated factors for converting information about certain energy-efficiency projects into estimates of fuel savings. These estimates can be combined with default emissions factors to

estimate reductions in greenhouse gas emissions.

Reporter-generated data. This is information that you provide which is used to estimate the effects of your project. There are two categories of reporter-generated data:

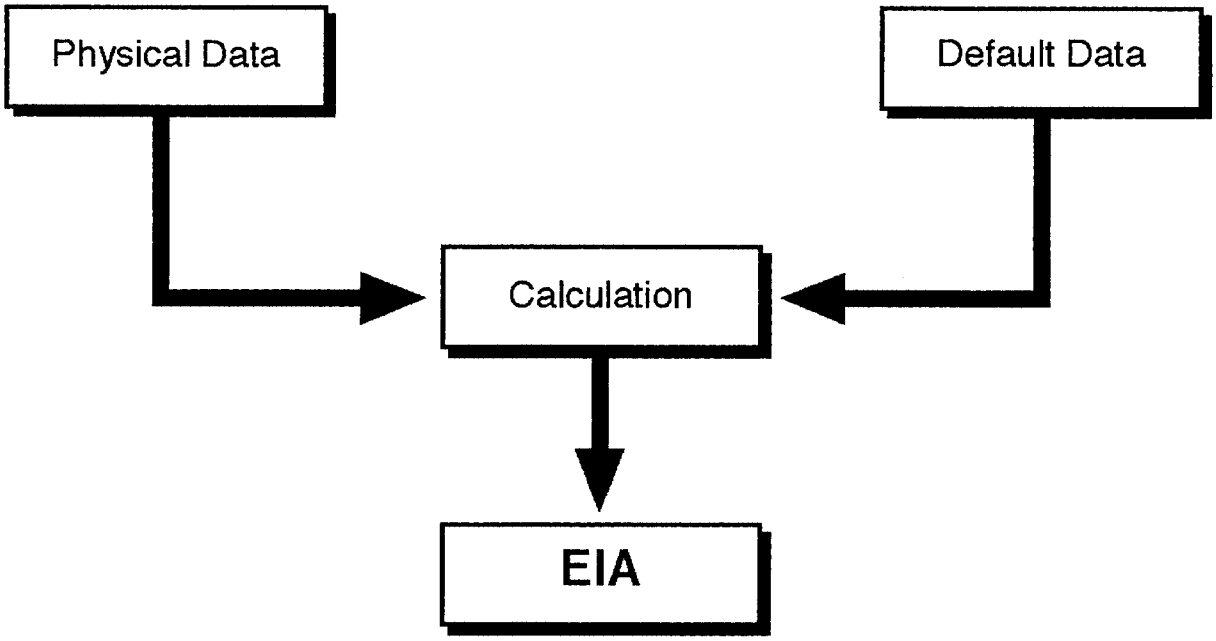
Measured data. These are data, collected directly from the project or a control group, that you use to estimate your project's accomplishments.

Engineering data. These are data that you derive from various sources, such as engineering manuals, manufacturer's equipment specifications, surveys, academic literature, professional judgment, and computer models.

Based on these three categories of data, the guidelines and supporting documents recognize two categories of projects: Standard projects, which rely on physical and default data, and reporter-designed projects, which use measured or engineering data that you develop (as well as appropriate default data). You will need to report the category(ies) of data and projects that you choose to use.

Standard projects. These are projects for which the guidelines and supporting documents provide the procedures and information to estimate the emissions reductions or carbon sequestration. Reports of these projects rely entirely on physical and default data (*see* Figure GG–2).

Not all projects can be described in standard project reports. The supporting documents for each sector delineate, where possible, projects for which emissions factors and stipulated factors are provided, and for which standard project reports can be submitted. You should recognize that default values are often conservative; that is, if you use them, you are likely to underreport your emissions reductions or carbon sequestration. However, if you do not directly measure and monitor or your organization does not have expertise in estimation methods, the default values will allow you to calculate the effects of your activities.

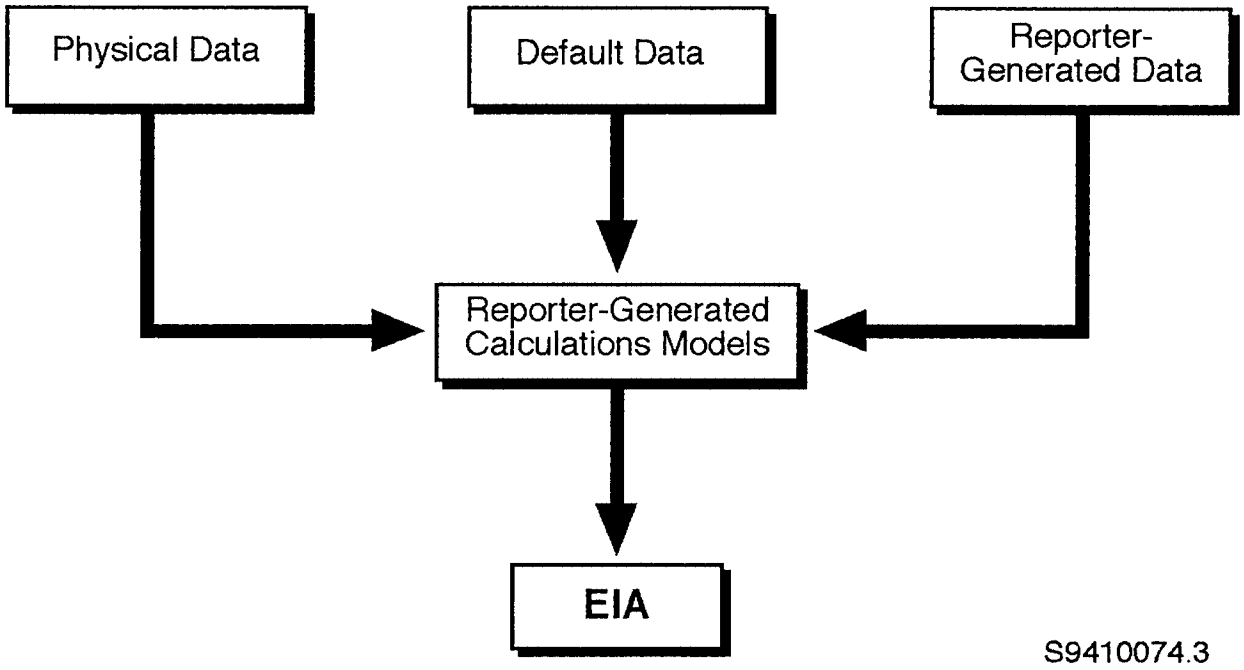


- **Figure GG-2**. Standard Projects Utilize Physical and Default Data.

Reporter-designed projects. These projects use physical and reporter-generated data, possibly in combination with default data, to estimate their accomplishments (see Figure GG–3). For this type of project, you should be able to indicate the source of all data, and in the case of data you generate, how it was measured or derived. For reporter-designed projects, the supporting documents for each sector provide principles and guidance.

Estimation of the emissions effects of many reporter-designed projects will require that you not only gather measured or estimated data, but that you also manipulate this information to derive the emissions levels of your project and reference case. The data manipulation could involve relatively simple calculations or extremely complex modeling. You should be able to identify the nature of the calculations and/or the type/name of the model you have used. In some instances, it may not be possible to estimate emissions for both the project and the reference case. In these cases, identified in the supporting documents for each sector, you may need to measure the emissions reductions directly.

Finally, the emissions reductions or carbon sequestration of your project is simply the difference between your project emissions/sequestration and your reference case emissions/sequestration.



- **Figure GG-3**. Reporter-Designed Projects Utilize Your Own Measured or Engineering Data Along with Physical and Default Data.

Case 1: Rarotonga Coconut Cream, Inc.—Estimation Methods

RCCI limited its quantitative analysis to the obvious effects; estimation of the annual emissions reductions associated with its project was simple. First, it estimated the annual emissions associated with the project. This was simply its annual distillate oil consumption multiplied by the default emissions factor for distillate oil supplied by the guidelines' supporting documents. Second, for the reference case, RCCI multiplied its reference case annual electricity use by the default electricity emissions factor for its state, multiplied its reference case annual residual oil use by the default residual oil emissions factor, and summed the two to arrive at total emissions for the reference case. Its total reported emissions reductions were the difference between the reference case emissions and the project case emissions.

RCCI was pleased that it was able to do its entire analysis based on data it had readily at hand, that is, its fuel and electricity use records from before and after the project, and the default emissions factors provided by the guidelines.

Case 2: Rural-Urban Office Managers, Inc.—Estimation Methods

ESCO, the contractor for RUOMI, had primary responsibility for preparing the voluntary report for the DOE program. ESCO knew that because of the complexity of the project it could not derive estimates using default data provided in the Guidelines' supporting documents. The project managers turned to the supporting document for the residential and commercial buildings sector to identify the recommended methods for gathering data for their type of project. They found that the recommended methods included approaches very similar to ones they had previously used to measure energy savings in complex projects. After a full year of measuring and monitoring, they summarized the energy-use data, and performed calculations to derive the difference between the project energy use and the reference case energy use.

Applying the natural gas and electricity emissions factors supplied as default data, they converted the estimated energy reductions to estimated emissions reductions.

Case 3: Illinois Ohio Unlimited: Estimation Method

IOU recognized two distinct parts to its emissions reductions estimation process. First, it needed to evaluate the direct electricity system emissions for both its reference case and project case. Second, it wanted to estimate the emissions associated with manufacturing the PVCs. Tackling this latter point first, IOU contacted a prospective PVC supplier for any information on emissions associated with the PVC manufacturing process. The supplier, it turned out, had commissioned a report that estimated not only the direct carbon dioxide emissions associated with the manufacture of PVCs, but also the emissions associated with the supply of raw materials—steel, aluminum, chemicals, and electricity—that were used in PVC fabrication. Had this information not been available, IOU would have had to decide whether or carry out this study itself or not quantify this effect at all, possibly affecting the credibility of its project report.

IOU then turned to the electricity system emissions effects of its project. The project reduced emissions that would have occurred had IOU purchased its electricity from IPP. Additional production from IPP for daytime peaking would have been generated by a natural gas combined cycle unit. IOU developed a single conversion factor for the emissions per kWh that would have occurred for electricity from IPP's system. This meant that as the peak daytime demand grew over time, IOU would be able to estimate that portion of the emissions for the reference case that was attributable to IPP, that is, how much higher IPP emissions would have been had IOU relied on purchased power.

The new PVC system was designed to meet the growth in demand over the next decade. But because the PVCs would be generating at full capacity immediately, they would actually displace some of IOU's current daytime generating capacity. The marginal unit in IOU's generation equipment was an oil-fired turbine generator. IOU developed a conversion factor for the emissions per kWh that would have occurred from that unit, if its production had not been partially displaced by the solar power system.

In summary, the IOU emissions reductions estimation consisted of three major components. First, at the start of the project there was an initial emission of carbon associated with the production of the PVC

units. This effect was reflected only in the first annual report. While some of these emissions had actually taken place as many as two years earlier, IOU believed it was sufficiently realistic to account them all to the first reporting year. Second, the project emissions also showed a sudden drop in emissions for the oil-fired plant due to displacement of daytime oil-fired generation by the PVCs, whose entire capacity was not initially required to meet midday peak demand. However, as expected, the emissions from the oil-fired plant climbed each year as daytime peak demand grew and increasingly the PVC capacity was used to meet that demand. This increase was reflected in IOU's annual reports. Third, under the reference case, IOU reported constant emissions from its own oil-fired plant and annually increasing emissions from IPP's natural gas combined cycle plant. The emissions reduction each year was calculated by subtracting the project emissions from the reference case emissions.

GG–5.4 What if Two or More Organizations Wish To Report the Same Project?

You may report activities undertaken in association with others. If you do so, you must identify other potential reporters of the same activity so that the program can account for multiple reports of the same activities. You may wish to make arrangements for reporting with others involved in your project.

Joint activities generally fall into one of two categories. The first category includes one-time transactions that are large enough to require negotiation before the exchange takes place and generally involve a written contract, such as demand-side management (DSM) programs. The second category comprises transactions that take place repeatedly between manufacturers and consumers where negotiated contracts are generally not involved, such as individual purchases of household appliances.

Three Examples of Joint Activities

Demand-side management programs: When an electric utility undertakes a DSM program, three parties are involved in reducing carbon dioxide emissions: (1) Manufacturers of the energy-efficient equipment, such as improved lighting, refrigeration, and other energy-consuming goods; (2) consumers of electricity (households, commercial operations, and industrial firms); and (3) the utility itself. All three parties may wish to report the reductions in emissions.

High-efficiency automobiles: EPAct section 1605(b) also suggests that the manufacture of high-efficiency automobile fleets be reportable under this program. On the one hand, the purchaser of a high-efficiency car makes the ultimate decision to reduce emissions related to personal transportation. On the other hand, the automobile manufacturers who shifted their fleet composition are enabling the automobile owners to obtain more efficient automobiles.

Tree-planting agreements: Some utilities have entered into agreements with landowners to plant trees. The utilities provide funding for establishing the trees; in return the landowners agree to leave the new trees in place for a specified number of years. Both landowners and utilities have played essential roles in carbon sequestration.

Where contracts are involved, you may make arrangements to assign the ability to report resulting emissions reductions before they are reported under this program. You are not required to do this sorting out before you report, but, depending upon how you believe this information will be used, you may wish to resolve any questions before reporting.

You may also wish to mutually decide reporting capabilities for purchases. If you can most easily aggregate many small reports, for example, as a manufacturer of high-efficiency automobiles or efficient appliances, you may wish to include, as part of the purchase transaction, an agreement with the consumer that you will report the energy-efficiency information, unless consumers notify you that they wish to do so.

However, for some technologies, consumers are in a better position to estimate actual accomplishments. For example, new automobile owners can better estimate annual vehicle miles traveled and, hence, the fuel and emissions savings associated with the purchase of a high-efficiency car. You need to consider the trade-off between the ease of reporting and accuracy of estimating the emissions reductions when deciding who will report the reduction—the manufacturer, the automobile owner, or both. If parties report separately, each should identify the other as potential reporters of the same information.

GG–5.5 May I Report Through My Trade Association or Other Third Parties?

You may wish to explore reporting through another party—for example, through a trade association, civic association, or fraternal organization. Each of the supporting documents discusses third-party reporting as it may apply to particular sectors.

Third-party reporting may be appropriate for a number of reasons. Organizations may be able to provide technical or administrative assistance to you in reporting. Multiple reports may be aggregated to provide a quantity of emissions and reductions which each individual reporter would not choose to report. Furthermore, confidentiality of some data reported may be enhanced by third party reporting.

Third-party reporting may not be appropriate for your purpose in reporting. For example, it does not provide the transparent link to you that is necessary for creating a formal public record of your emissions and achievements for any purpose.

GG–5.6 What Else Will I Be Asked To Report?

As part of your report, you will be asked to choose one of three descriptors of the project(s) whose effects you are reporting. This identification will be limited to those provided in the language in EPAct 1605(b): (1) Voluntary reductions, (2) plant or facility closing, and (3) state or Federal requirements.

Projects may be undertaken for other purposes, for more than one purpose, or may have greenhouse gas impacts that were not the reason for implementing the project. You may wish to, but will not be required to, report more detailed information on why you undertook the project.

GG–5.7 May I Report International Projects?

Considerable interest has been generated regarding the potential for cooperation among parties in different countries. For example, there may be opportunities for U.S. parties to reduce greenhouse gas emissions and increase carbon sequestration outside the United States, perhaps at lower cost than possible through domestic activities.

Under this program, you may report the relevant results of your activities outside the United States, under the same process applicable to similar domestic activities. Note that you may have special difficulty in analyzing international activities: determining an appropriate reference case, defining project boundaries, selecting appropriate measurement or estimation methods, and obtaining credible data. Special attention should be given to all the identifiable effects of your international activities.

Under the United Nations Framework Convention on Climate Change, nations that are parties to the Convention will determine how cooperative efforts between member nations and their respective citizens (''joint implementation'') will be counted toward meeting each country's commitments under that treaty. The President's Climate Change Action Plan, announced in October 1993, includes a pilot program called the United States Initiative on Joint Implementation (USIJI) designed to help establish an empirical basis for considering approaches to joint implementation. The USIJI program has developed evaluation criteria and will develop emissions measurement and verification methods for international projects accepted into the pilot program.

If you are reporting the results of any international project to this program, you will also indicate whether it has been accepted under the USIJI or under the Convention as an accountable joint implementation project. Reporting the results of an international activity under the EPAct 1605(b) program alone does not bring it under the umbrella of formal joint implementation.

GG–5.8 May I Report Prospective Emissions Reductions?

Many projects that reduce greenhouse gas emissions or sequester carbon achieve their results over several years, or even decades. For some of these projects, the accomplishments are evaluated by means of computer modeling or engineering estimates, rather than by direct measurement and monitoring of greenhouse gas emissions and flows. In those cases, the estimation process is generally carried out before the project begins.

If you have analyzed your project using a method that estimates effects prospectively, you may choose in the first reporting year to report the expected annual emissions reductions or carbon sequestration for future years. However, that information will be maintained separately from the EPAct 1605(b) database.

To have your project accomplishments recorded in the EPAct 1605(b) database, you must certify each year that the project continues to perform as expected. As you certify each year's accomplishments, EIA will transfer the data from the database of prospective accomplishments to the EPAct 1605(b) database.

You may also modify your estimates of past accomplishments at any time for any of several reasons. For example, if events following the commencement of the project are different than expected, you may wish to modify your model to more closely reflect actual events. Alternatively, you may simply find modeling or engineering estimation methods that you believe to be more accurate than those you initially employed. You may even decide to carry out field measurements where you had not initially anticipated doing so. Whatever your reason, you can modify the existing estimates to reflect your more accurate estimates of both your past accomplishments recorded in the EPAct 1605(b) database and your expected accomplishments recorded in the database of prospective accomplishments. However, you should provide clear documentation of how you derived the revised estimate.

GG–5.9 How Far Back May I Report Projects?

A primary purpose of the program is to record emissions reductions, not to track when projects were initiated. Therefore, you may report new or ongoing projects that have achieved reductions beginning January 1, 1991. However, for any project, you must establish a credible reference case and retain that reference case for all your reports of that project. If you use historic data to construct your reference case, you should not use data earlier than 1987. If you change your reference case, you must amend any previous reports for that project to account for the amended reference case.

Example: You initiated a project in 1991 that reduced emissions from their 1990 levels. This project is reportable.

Example: You initiated a project earlier than 1987 that has decreased emissions every year relative to each previous year. You may establish either a basic or modified reference case based on what emissions would have been without the project (using only data from 1987 on), then report the emissions reductions from the project for 1991 and subsequent years.

Example: You initiated a project earlier than 1987 that reduced emissions to a level that stabilized during (or before) the baseline years 1987–1990. This project would not be reportable, since the reductions were achieved prior to the period covered by the EPAct 1605(b) reporting program.

Example: You have an ongoing DSM program to encourage replacement of appliances or equipment. You would not be able to report achievements before 1991, but any appliances replaced in 1991 or after that year are new reductions and could be reported.

Example: You have been installing windmills every year for 10 years. In order to report emissions reductions for 1991, you would need to demonstrate that the 1991 windmill displaced emissions-producing generation. If the windmill replaced another, the project would not be reportable.

These are relatively straightforward examples when you construct historic reference cases. Your analysis becomes more complex when you wish to construct modified reference cases. In general, you should not use data from years before 1987 except as additional support for your assertion of what modified levels would have been after 1987.

GG–5.10 Must I Take Into Account the Different Effects of Different Greenhouse Gases?

Your reports on emissions and emission reductions will include data on greenhouse gases in tons of each gas emitted; you will not be required to calculate the various effects of different gases on climate for this voluntary reporting program. However, you may wish to perform these calculations for your own purposes. For example, you may wish to evaluate the costs of competing proposed projects in terms of the beneficial effects on climate; in order to do so, you may wish to look at these effects using a common index, such as the equivalent effect in tons of carbon dioxide. You may wish to talk about such equivalencies with various stakeholders or for public relations purposes.

The Intergovernmental Panel on Climate Change has developed an index that compares the impact that each gas has on global warming relative to the effect that carbon dioxide has. Information about this index, called the Global Warming Potential (GWP), is presented in Appendix E, along with GWPs for the types of gases covered by this reporting program. If you wish to use the index, remember that it does not take into account some complexities of atmospheric chemistry and that the underlying science is evolving.

GG–5.11 Is It Necessary To Report Emissions Reductions and Carbon Sequestration Every Year?

This is a voluntary reporting program. You are under no legal obligation to continue reporting. However, you should recognize that the usefulness of your initial reports may be affected by your participation in the program in subsequent years.

If you report emissions reductions for a period of time, and then fail to report thereafter, the user of the database is likely to assume that your project is no longer reducing emissions relative to the reference case. However, this does not negate the value of the reductions accomplished while the project was in place.

Reporting carbon sequestration projects raises a different type of problem. If you report carbon capture for a number of years and then cease reporting, a database user is apt to assume that the carbon that had been captured has been released back to the atmosphere. This not only limits recognition of any accomplishments that may have occurred following cessation of your reports, but largely negates the value of accomplishments already reported.

You or your firm may find that, following successfully reporting to the voluntary reporting program for several years, you miss one or more years of reporting. If you choose to resume reporting, your initial report should contain information not only for the most recent reporting year, but also, if possible, for all of the intervening years during which you did not report. This will ensure that the EPAct 1605(b) database reflects a continuous record of your activities, thereby increasing the credibility of all your reports.

GG–5.12 May I Amend My Previous Years' Reports?

If you have submitted reports under this program but afterwards develop better data (for example through field measurements or utility-specific emissions factors), or better estimation methods (for example, your organization's adoption of standard analytic procedures), you may amend your previous reports. You may also need to amend reports because you have amended your reference case for a particular project. Your amended reports should clearly state your reasons for amendment and the bottom-line difference that results from the amendment. The following case study discusses an instance in which a reporter chose to amend previous reports.

Case 4: Black Forest Cake, Inc.—Long-Term Project Reporting

Note: This example illustrates only one approach to analyzing a project; your analysis, methods, and calculations will vary depending on your particular circumstances, the geographic location of the project, and other factors.

Black Forest Cake, Inc. (BFCI) was a family-owned business that was experiencing extremely rapid growth in demand for its products, which included baked goods produced at 13 sites in five states, catering services at 10 shops in seven states, and equipment rentals at 15 stores in three states. It operated from a total of 23 sites spread across nine states.

The family members and many of their staff were environmentally conscious. While they were delighted with the increased demand for their products, they were concerned to see their energy consumption rising, particularly their natural gas consumption for baking ovens and space heating, and their gasoline use in delivery vehicles. They knew that increased energy use signaled increased greenhouse gas emissions.

Therefore, BFCI decided to voluntarily offset some of the increase in emissions by undertaking a tree-planting (carbon sequestration) project on farmland they owned. They were not interested in receiving official recognition for their effort. They were motivated purely by their interest in environmental protection and a desire to project an image of BFCI as a ''good global citizen.'' They did, however, want to be sure that their project actually reduced net carbon dioxide emissions, not just appear to do so. Therefore, BFCI decided that its project should at least meet the minimum reporting standards used by DOE in the EPAct 1605(b) voluntary greenhouse gas reporting program.

In its first report following the establishment of the tree stand, BFCI

reported that it had planted the trees and reported information consistent with the guidance provided in the forestry sector supporting document. It also reported that it expected the forest to capture carbon at a rate consistent with the stipulated factors provided by the guidelines' supporting document for forestry. Each year thereafter BFCI confirmed in its report that the project appeared to continue to perform as expected.

After eight years of relying on the default stipulated factors, BFCI became engaged in a dialogue with a local environmental group. One consequence of the discussions was that BFCI agreed to measure the standing carbon on its project site in the tenth year to determine whether the project had met the expectations established for the first decade by the stipulated factors. The field measurements, including statistical sampling of both soils and biomass, revealed that the project had actually exceeded expectations by 20 percent. This was attributed to the fact that the original soils were particularly rich in phosphorous and nitrogen.

BFCI amended its previous reports to reflect this new information based on field measurements. The amended reports increased the reported carbon dioxide flows to the forestland by 20 percent in each of the first ten years. BFCI also amended the projected annual carbon capture rates for the second decade to reflect the higher-than-expected performance. BFCI thus transformed its project from a standard project to a reporter-defined project.

GG–6 What Are the Minimum Reporting Requirements?

DOE has not established a minimum size for a reporting entity or for the reported emissions, emissions reduction, or sequestered carbon. For some purposes of reporting, such as the exchange of information on pilot projects, a minimum size requirement would limit participation. Similarly, you are not required to complete a full and comprehensive report as defined earlier. However, you must report a minimum set of information.

Whatever the scope of your report, you are required to certify the accuracy of the data you have provided. You must also meet minimum information requirements:

- If you are reporting greenhouse gas emissions, you must clearly identify the facilities that are covered by your report and, for each greenhouse gas covered by your report, clearly identify the gas, the amount of the emissions (expressed in metric tons of that gas per year), and the year of the emissions.
- If you are reporting emissions reductions or carbon sequestration projects, you must be able to describe your project and provide sufficient physical data to allow users of the database to form a clear understanding of the nature and scope of your project, including the cause of the change in emissions or carbon sequestration. You must also identify the location of the project, the reference case for the project, and the effects of the project.
- Whether you are reporting on a standard project or a reporter-designed project, you must be able to identify the sources of your data, the level of change of emissions or carbon sequestration per year, and the year in which the change took place.
- If you are submitting a reporter-designed project report involving direct monitoring and measuring or engineering estimations, you must also identify the techniques used to gather the data and make the estimates.

GG–7 Can My Data Be Kept Confidential?

The provisions of section 1605(b)(3) stipulate that ''Trade secret and commercial information that is privileged or confidential shall be protected as provided under Section 552(b)(4) of Title 5, United States Code.'' In general, information submitted to the Federal government must be made available to the public. This section prohibits release of certain trade secret and commercial or financial information.

You will enhance both the credibility and usefulness of information you report by making it available for public release. More accurate data will increase the value of emissions reductions estimates in terms of public recognition, and widely available information will help diffuse knowledge about cost-effective emissions reductions opportunities. Thus, you should try to avoid labeling reported information as confidential wherever possible.

While a reporter may believe that some of the data voluntarily submitted under this program is entitled to protection under the exclusion, this protection is neither automatic nor complete. You should be aware that, under DOE regulations (10 CFR 1004.11), DOE will evaluate each claim of confidentiality and determine whether or not to disclose the data to the public. Also, data may be released to another Federal agency under certain circumstances regardless of any claim of confidentiality.

GG–8 What Certification Is Required?

If you report under this program, you will be required to certify through your signature the accuracy of all the information reported. Therefore, the person who signs the report must be authorized to act as a representative of the reporting entity for these purposes. No independent certification is required, and the Federal government does not plan to certify your reports. However, you may wish to indicate if your data have been verified by a third party.

GG–9 What Should I Do Next?

These general guidelines present an overall picture of the reporting process for the voluntary reporting program. You will find more detailed guidance in the sectoral supporting documents for electricity supply, residential and commercial buildings, industry, transportation, forestry, and agriculture. You may have reportable projects in several sectors; you may report them separately or capture and report the total effects on an entity-wide report. If you need the supporting documents, contact United States Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585.

Reporting forms are available at the following address: United States Department of Energy, Energy Information Administration, 1000 Independence Avenue, SW., Washington, DC 20585.

DOE encourages you to report your achievements in reducing greenhouse gas emissions and sequestering carbon under this program. Global climate change is increasingly being recognized as a threat that individuals and organizations can take action against. If you are among those taking action, reporting your projects may lead to recognition for you, motivation for others, and synergistic learning for the global community.

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