



NUCLEAR ENERGY INSTITUTE

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Mr. Mark Friedrichs
Office of Policy and International Affairs
U.S. Department of Energy
Forrestal Building, PI-40, Room 1E190
1000 Independence Ave, S.W.
Washington, D.C. 20585

RE: 10 CFR Part 300; General Guidelines for Voluntary Greenhouse Gas Reporting; Proposed Rule; 68 *Fed Reg* 68204 (December 5, 2003)

Dear Mr. Friedrichs:

On behalf of the U.S. nuclear energy industry, the Nuclear Energy Institute¹ appreciates the opportunity to provide comments on the Department of Energy's proposed revisions to the General Guidelines governing the voluntary reporting of greenhouse gas (GHG) emissions and voluntary actions to reduce, avoid or sequester greenhouse gases.

The Nuclear Energy Institute (NEI) has a keen interest in the tools and techniques established to report reductions in GHG emissions. Nuclear power plants represent approximately 20 percent of U.S. electricity supply, and are the largest source of carbon-free electric power. In 2002, U.S.

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including regulatory aspects of generic operational and technical issues. NEI members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

nuclear power plants avoided the emission of 189.5 million metric tons of carbon² by producing electricity that would otherwise have been produced by fossil fuels.

To place these numbers in perspective, carbon emissions from the U.S. electric sector in 2002 were 657.9 million metric tons³. In the absence of nuclear energy, U.S. electric sector emissions of carbon would have been 29 percent higher. Clearly, U.S. nuclear power plants have already made a significant contribution to reducing the greenhouse gas intensity of the U.S. electric sector, and must play a prominent role in any national program to reduce the greenhouse gas intensity of the U.S. economy going forward.

In previous comments on this issue (in response to the May 6, 2002, Notice of Inquiry from the Department of Energy soliciting comments on how to revise the voluntary GHG reporting program established by § 1605(b) of the 1992 Energy Policy Act), NEI stated that several simple principles should guide any modifications to the 1605(b) program. Specifically, the modifications should recognize that:

- ❑ avoiding emissions of greenhouse gases through expanded use of carbon-free, emission-free technologies like nuclear energy, hydroelectricity and renewable energy is as valuable as reducing emissions of greenhouse gases. A ton of greenhouse gas avoided has precisely the same value as a ton reduced or a ton sequestered;
- ❑ existing voluntary initiatives in the United States to reduce greenhouse gas emissions, to the extent they are successful, have succeeded in large part as a result of improved performance and output from the nation's nuclear power plants;
- ❑ any new program to reduce greenhouse gas emissions, or to moderate the greenhouse gas intensity of the U.S. economy, must provide explicit recognition for the significant role of nuclear energy and acknowledge that nuclear power will play as significant a role in the future as it has in the past;
- ❑ creating a robust reporting system, under which nuclear power plants can register emissions avoided and receive transferable credits for those tons avoided, is important to realize the full potential of nuclear energy – both increased output from existing plants and construction of new nuclear power plants;

² Source: NEI analysis of Environmental Protection Agency data.

³ Source: U.S. Energy Information Administration *Annual Energy Review*.

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- ❑ failure to recognize the value of avoided emissions will make achievement of the President's goal — reducing the greenhouse gas intensity of the U.S. economy — more difficult, if not impossible.

NEI believes these general principles remain as valid today as they were when the Department of Energy started the process of revising the 1605(b) protocols that resulted in the proposed General Guidelines published in the *Federal Register* on December 5, 2003.

NEI Agreement With Comments From Other Organizations On The Proposed General Guidelines

The Nuclear Energy Institute (NEI) is one of seven member organizations of the Electric Power Industry Climate Initiative (EPICI), which represents the consensus views of the U.S. electric power sector. NEI is also a member of the Alliance for Climate Strategies (ACS), a broad-based coalition of business organizations. EPICI member organizations and ACS members are participants in the Department of Energy's Climate VISION program, and are committed to supporting, and making a meaningful contribution to, the President's goal of reducing the GHG intensity of the U.S. economy by 18 percent by 2012.

Both EPICI and ACS have submitted separate comments in this proceeding to the Department of Energy, and NEI endorses those comments and the concerns raised therein. In addition, many NEI member companies are investor-owned utilities and are also members of the Edison Electric Institute. NEI has reviewed closely the detailed comments on the revised General Guidelines submitted by the Edison Electric Institute. EEI's comments enumerate many concerns, and identify scores of problems, inconsistencies, points of possible confusion, issues that require clarification, and areas where the proposed revised General Guidelines are at odds either with the underlying statute (the 1992 Energy Policy Act) or with President Bush's climate policy (announced on February 14, 2002). NEI is in general agreement with the Edison Electric Institute's comments on the proposed revised General Guidelines.

NEI's Comments Are Preliminary Given The Preliminary Nature Of The Proposed Revised Guidelines

The revised General Guidelines proposed on December 5, 2003, represent only a partial, first step in revising the reporting requirements and protocols under the 1605(b) program. The second step includes the Technical Guidelines, yet to be published, which will establish sector-specific

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techniques and methods for calculating emission reductions, among other things. The General Guidelines and the Technical Guidelines are inextricably linked. In fact, it is difficult to provide meaningful comments on certain sections of the General Guidelines in the absence of the Technical Guidelines.

NEI, therefore, regards the December 5 publication of the revised General Guidelines under 1605(b) as an incomplete, preliminary proposal. NEI reserves the right to comment on both the General Guidelines and the Technical Guidelines as an integrated package at such time as the Technical Guidelines are issued for comment.

The Revised General Guidelines Should Establish A Single, Unified Data Base Of Emissions Reduced, Avoided and Sequestered

The revised General Guidelines propose a two-tier system under which companies can “report” and “register” voluntary actions to reduce, avoid or sequester greenhouse gas emissions.

Entities able and willing to develop a complete inventory of all emissions of all greenhouse gases, and able to demonstrate net reductions in emissions (adjusted for output) on an entity-wide basis, would be permitted to “register” these tons. Tons registered in this way would receive “special recognition,” according to the proposed General Guidelines, although “special recognition” is nowhere defined. In fact, the “special recognition” is a hollow promise given the failure of the General Guidelines to provide a formal transferable credit for tons registered, which might confer some market value on those registered tons. It is clear, therefore, that there is little incentive for any entity to incur the cost in time and manpower to meet the requirements specified in the General Guidelines to “register” tons of emissions reduced, avoided or sequestered.

The two-tier system proposed (1) is discriminatory and may discourage reporting; (2) is unnecessary; (3) is not compatible with existing emissions trading programs; and (4) does not recognize the business realities of restructured electricity markets

(1) The two-tier system proposed is discriminatory and may discourage reporting

Entities that do not care to expend time and resources to register tons reduced or avoided by documenting entity-wide reductions may report – but

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not register – emissions reduced, avoided or sequestered by projects or discrete activities.

The two-tier system proposed thus discriminates against entities that wish to report emissions avoided, reduced or sequestered by discrete projects. The proposal consigns tons “reported” at the project level to second-class status relative to tons that have been “registered” as net entity-wide reductions. The proposed reporting guidelines thus create differences in value between “reported” tons and “registered” tons. This function – establishing the value of emissions reduced, avoided or sequestered – is best left to the market, and should not be an artifact of a reporting protocol.

In addition, given the complete lack of incentive to incur the costs associated with registering entity-wide tons, the proposed General Guidelines virtually guarantee that there will be only a few registered tons. It is inevitable that critics of voluntary GHG reduction programs will point to the few tons registered as evidence that voluntary programs cannot work and that the President’s voluntary approach has failed. In short, the proposed General Guidelines do not meet the President’s goal of a program that encourages participation, and may consign the President’s program to failure.

(2) The Two-Tier System Proposed Is Unnecessary

The motivation for creating a two-tier system of “registered” tons and “reported” tons appears to reflect a mistaken belief that only registered tons, which reflect entity-wide net reductions in GHG emissions, will enjoy credibility as legitimate reductions.

It is, of course, possible to establish reporting and accounting protocols that will guarantee that emissions reduced or avoided by projects are equally legitimate and credible. One need look no further than existing, successful emissions trading markets for evidence of this. For example, individual projects and discrete activities generate emission reduction credits (offsets) for NO_x. New, emitting sources in most ozone non-attainment areas must provide NO_x credits to offset their NO_x emissions. NO_x offsets must meet certain established, accounting criteria in order to qualify but, once duly qualified and recorded, they are traded openly in the market. There is no requirement that the entity generating the NO_x offset demonstrate an entity-wide net reduction in NO_x emissions in order to qualify and trade NO_x offsets.

Similarly with a GHG reporting program: a single, unified database of emissions reduced, avoided or sequestered by projects represents a legitimate

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and credible approach that encourages participation and reporting, serves the President's goals and (because of its inherent simplicity) reduces the reporting burden and cost on the private sector.

(3) The Two-Tier System Is Not Compatible With Existing Emissions Trading Programs

All existing emission trading programs are based on project-level reporting. As noted above, emission reduction credits for NO_x are generated, reported and traded at the project level. The emerging markets for CO₂, in the United States and internationally, are based on project-level activities. The markets for project-based NO_x and CO₂ credits are well-established, fully transparent, credible and successful. The Bush Administration has also endorsed this general approach to emissions trading in its Clear Skies legislative proposal to reduce emissions of criteria pollutants. Given this extensive evidence and successful record, there is clearly no rationale for the two-tier approach proposed by DOE in its revised General Guidelines. Any national program to reduce or avoid emissions of CO₂ should reflect and follow the successful models already developed in other emissions markets.

(4) The Two-Tier System Does Not Recognize The Business Realities Of Restructured Electricity Markets

Approximately one-half of the states in the United States have restructured their electric power sectors. The rest of the states still maintain traditional cost-of-service regulation. In restructured states, companies have typically been required or encouraged to unbundle their operations – separating generating assets, transmission assets and distribution assets into legally distinct entities – or to divest their generating assets to new owners. In cost-of-service states, companies typically remain unified operations with generation, transmission and distribution integrated under a single corporate umbrella.

The proposed revised General Guidelines would treat companies in these two situations differently. The two-tier system proposed in the General Guidelines would also result in unacceptable discrimination based solely on whether or not a company was operating in a state that has restructured.

For example, in a state that remains regulated, power companies tend to remain integrated entities. Under the proposed General Guidelines, such an entity must demonstrate net reductions in emissions on an entity-wide basis in order to register those reductions. If such an entity did not wish to develop an entity-wide inventory and demonstrate net reductions, but wished instead

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to record reductions achieved at the project level, those reductions could be reported but not registered.

In a state that has restructured, however, because companies have unbundled their operations or divested assets, many individual power plants are legally distinct entities. Because they are legally distinct entities, these projects would be able to register emissions reduced or avoided.

There is absolutely no difference between a project in a restructured state and a project in a regulated state, but the revised General Guidelines and the proposed two-tier system would treat them differently. This is clearly discriminatory. In addition, the proposed General Guidelines create a significant dilemma for many companies over whether and how to report emissions reduced, avoided or sequestered. The problems can only be solved by creating a single, unified data base for emissions reduced, avoided and sequestered, and allowing recording of certified project-level tons.

The Proposed Revisions To The General Guidelines Do Not Meet The President's Directive To Provide Credits For Reducing And Avoiding GHG Emissions

In the February 14, 2002, announcement of his voluntary program to reduce the GHG intensity of the U.S. economy, President Bush instructed the Department of Energy to work with other Executive Branch agencies to revise the 1605(b) program in such a way as to “ensure that businesses and individuals that register reductions are not penalized under a future climate policy, and to **give transferable credits to companies that can show real emissions reductions.**” (*Emphasis added.*)

On July 8, 2002, after considering public comments on the Notice of Inquiry, the Secretaries of Energy, Commerce and Agriculture and the Administrator of the Environmental Protection Agency provided the President with 10 recommendations for improvements to the voluntary GHG reporting program. These recommendations included the following:

- “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.**” (*Emphasis added.*)

The proposed revised General Guidelines published on December 5, 2003, fail to satisfy the President's February 2002 policy directive or the

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recommendations established in the July 2002 four-agency letter to the President.

In fact, DOE's proposal makes no reference to transferable credits. It does not include provisions to implement this important initiative, and it fails to explain why such implementation is missing.

In the future, whether or not nuclear generating companies increase the capacity of existing nuclear plants and, eventually, build new nuclear units will depend, to some extent, on the nuclear companies' ability to capture the economic value associated with avoiding emissions of greenhouse gases. The President's February 14, 2002, climate change initiative, which proposed to establish a system of transferable credits for companies that avoid, reduce or sequester greenhouse gas emissions, appeared to be a step in that direction. The nuclear energy industry believes that a system of transferable credits is necessary to capitalize fully on nuclear power's significant potential to reduce the GHG intensity of the U.S. economy.

This deficiency in the proposed revised General Guidelines must be addressed and rectified.

The Revised Reporting System Must Provide Complete Recognition For Reductions In GHG Emissions Achieved Under The Existing 1605(b) Program

In their July 8, 2002 letter to the President providing recommendations on improvements to the 1605(b) program, the four Executive Branch agencies pledged to "develop a process for evaluating the extent to which **past reductions may qualify for credits.**" (*Emphasis added.*)

The proposed revised General Guidelines published in December 2003 renege on this pledge and explicitly prohibit companies from registering GHG emissions reduced or avoided prior to 2002. These pre-2002 reductions may be "reported" as long as they are recalculated according to the methodologies established in the Technical Guidelines that have not yet been published, but these pre-2002 emissions reductions cannot be "registered." This approach has the pernicious effect of dismissing valuable and well-intentioned initiatives undertaken by companies during the 1990s to reduce or avoid GHG emissions, and consigns those emissions reduced or avoided to second-class status.

The nuclear energy industry considers this approach discriminatory and unacceptable. NEI urges DOE to establish a process under which GHG

emissions reduced or avoided pre-2002 are accorded equal status and value as emissions reduced or avoided post-2002, as long as they meet the new and more robust calculation methodologies that will presumably be established in the Technical Guidelines. This even-handed, equitable treatment is particularly important for the nuclear energy sector, which has consistently contributed the largest share of reductions reported under the existing 1605(b) program.

The most recent data available are for 2002 and are shown below:⁴

Emission Reductions Reported in 2002 Under 1605(b) Program <i>(million metric tons of carbon)</i>		
<i>Reporting Sector</i>	<i>Tons Reported</i>	<i>Percent of Total</i>
Nuclear Energy	35,700,000	35.7%
Non-Nuclear Electric	9,996,000	9.9%
Renewables	3,500,000	3.5%
Other	8,400,000	8.4%
Methane Capture	30,300,000	30.3%
Energy Efficiency	10,600,000	10.6%
Carbon Sequestration	1,990,000	1.9%

The tons of carbon avoided by nuclear power plants shown in the table above are the result of improved performance and power uprates, which displaced the need for fossil-fueled generation. As the data for 2002 (and, for that matter, all previous years) show, higher output, higher reliability and capacity uprates at nuclear power plants were the largest single source of carbon reductions reported under the existing 1605(b) program. In fact, improved performance at existing nuclear power plants represented more than one-third of all tons reported and approximately three-quarters of the tons reported by the U.S. electric sector.

Failing to provide full recognition for emissions reduced, avoided or sequestered prior to 2002 also undermines the President's intent, as stated in his February 14, 2002, climate change strategy. In that strategy, the President "directed the Secretary of Energy to recommend reforms to ensure that businesses and individuals that register reductions are not penalized under a future climate policy."⁵ By not allowing emissions reduced, avoided

⁴ Source: NEI analysis of data contained in the Energy Information Administration's "Voluntary Reporting of Greenhouse Gases Program: Public Use Database," January 2004.

⁵ The White House, *U.S. Climate Change Strategy: A New Approach*, February 14, 2002.

or sequestered before 2002 to be registered, the proposed General Guidelines essentially penalize companies that took steps before 2002 to reduce or avoid CO₂ emissions. This tends to undermine the credibility of the previous 1605(b) reporting regime, the new reporting regime proposed in the General Guidelines, and any future reporting regime. There is little incentive to take voluntary actions to reduce emissions if each new reporting protocol discounts prior voluntary initiatives.

**The Definition Of Avoided Emissions Requires Clarification:
Avoided Emissions Are A Direct Emission Reduction**

Given the importance of avoided emissions to any program that reduces greenhouse gas emissions or reduces the GHG intensity of the U.S. economy, the term “avoided emissions” must be clearly and accurately defined in the General Guidelines. NEI believes there is potential for confusion in the various discussions of avoided emissions in the proposed General Guidelines.

The preamble to the General Guidelines, for example, characterizes avoided emissions as “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.” (68 *Fed Reg*, 68210).

At best, this description is obscure; at worst, it is incorrect.

First, it is essential that the words “outside entity boundaries” be removed. Avoided emissions may reduce emissions outside entity boundaries, by allowing lower output from fossil-fueled power plants that are not owned by the reporting entity. Equally, however, avoided emissions may also reduce emissions inside entity boundaries, if increased output from a zero-emission nuclear power plant allows a company to reduce output from its own fossil-fueled generating capacity. The phrase “outside entity boundaries” in the paragraph from the General Guidelines quoted above is, therefore, unnecessarily restrictive.

Second, it is essential that avoided emissions be defined as direct emission reductions, not as indirect emission reductions, as suggested in the section from the preamble to the General Guidelines quoted above.

Section 300.2 in the General Guidelines defines avoided emissions in straightforward language: “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.”

The description of avoided emissions in the preamble (at 68 *Fed Reg* 68210) and the definition of avoided emissions in section 300.2 (68 *Fed Reg* 68216) are in conflict. NEI strongly urges DOE to resolve that conflict by adopting the simpler and more straightforward definition in section 300.2 and, further, by defining avoided emissions as a direct emission reduction.

Conclusion: Simplicity, Ease of Reporting are Most Likely To Support The President’s Goal, Encourage Reporting and Legitimize Voluntary Programs

In summary, the Nuclear Energy Institute believes it is absolutely essential that the federal government’s new voluntary program for reporting greenhouse gases recognize explicitly that avoiding emissions of greenhouse gases through expanded use of carbon-free, emission-free technologies like nuclear energy, renewables and hydroelectricity, or through energy efficiency programs, are fully as valuable as reducing emissions of greenhouse gases.

NEI also believes that operating experience demonstrates clearly that existing nuclear power plants have played a significant role – if not the dominant role – in existing voluntary initiatives in the United States to reduce greenhouse gas emissions. Similarly, any new program to reduce greenhouse gas emissions, or to moderate the greenhouse gas intensity of the U.S. economy, must provide explicit recognition for the significant role of avoided emissions through a system of transferable credits. Such a system can help ensure that the nation realizes the full potential of nuclear energy – both increased output from existing plants and construction of new nuclear power plants – in avoiding emissions of greenhouse gases. Failure to recognize the value of avoided emissions will make achievement of the President’s goal – reducing the greenhouse gas intensity of the U.S. economy – more difficult, if not impossible.

In December 2002, the Nuclear Energy Institute responded to the President’s challenge to the business community to develop voluntary initiatives that would reduce the GHG intensity of the U.S. economy.⁶ NEI indicated that the U.S. nuclear energy industry could increase its generating capability by the equivalent of 10,000 megawatts. NEI’s analysis showed that this would achieve approximately 20 percent of the President’s goal.

⁶ December 23, 2002, letter to Energy Secretary Spencer Abraham from Joe Colvin, president and chief executive officer of the Nuclear Energy Institute.

The additional 10,000-MW would come from three sources:

- *Power Uprates:* 5,000 – 6,500 MW of capacity additions between 2002 and 2012.
- *Improved Capacity Factors:* the equivalent of 3,000 – 5,000 MW of additional capacity in the 2002-2012 period.
- *Plant Restarts:* Refurbishing and restart of Unit 1 of the Tennessee Valley Authority's Browns Ferry nuclear plant would add an additional 1,250 MW of emission-free, carbon-free capacity.

The nuclear energy industry has recorded substantial progress toward its goal in the year since then. Approximately 2,198 megawatts of uprates have been approved by the Nuclear Regulatory Commission in the last several years and have either been completed or will be completed soon. In addition, based on information from nuclear plant operators, the NRC expects applications for an additional 1,886 megawatts of uprates in the 2004-2008 period. Uprates already approved and completed or planned thus total 4,084 megawatts.⁷ In addition, the Tennessee Valley Authority (TVA) is moving forward with refurbishment of Unit 1 of the Browns Ferry nuclear power plant. The TVA Board in May 2002 approved the refurbishment and restart, a \$1.8-billion project, which will see the plant return to commercial operation in the spring of 2007. The total restart project is now 38 percent complete overall, and is on time and on budget. Engineering work is virtually complete and major physical modifications are underway.

With 5,334 megawatts of new capacity in prospect (4,084 megawatts of uprates and 1,250 megawatts at Browns Ferry Unit 1), the nuclear energy industry is already approximately halfway toward meeting its goal of expanding capacity by 10,000 megawatts by 2012. This represents substantial progress – possibly the largest progress of any single industry – toward achievement of the President's goal to reduce the GHG intensity of the U.S. economy by 18 percent by 2012.

⁷ All power uprates must be approved by the Nuclear Regulatory Commission. Once NRC approval is received, generating companies schedule power uprates into their ongoing capital investment programs. Typically, it takes at least 2-3 years from the time of NRC approval before the uprate is completed. Given these lead times, companies in 2003 were completing uprates approved by the NRC in 2000 and 2001. The NRC approved 2,198 MW of uprates between 2000 and 2003 (243 MW in 2000, 1,111 MW in 2001, 711 MW in 2002, 133 MW in 2003) and expects licensees to apply for an additional 1,886 MW of uprates in the 2004-2008 period. The 2004-2008 forecast represents only those uprates about which the NRC has been informed; it does not represent the total remaining uprate potential of U.S. nuclear power plants.

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Sustaining this progress, and building on this successful record, requires a reporting system for greenhouse gases that is simple, straightforward and equitable, and that recognizes the business environment in the electric power sector.

The electric power business is currently subject to considerable risk and uncertainty with respect to market design and structure, investment recovery, long-term planning, ownership and control of transmission assets, future environmental requirements, fuel price and supply, and many other issues. The business of electricity generation, in particular, has become a commodity business with all the characteristics of a commodity business – high risk, extreme volatility, unstable cash flows, and low margins. All electric generating companies are operating under severe cost pressures. Management attention must be focused first and last on serving the needs of customers while preserving the legitimate interests of investors. Voluntary government programs for reporting and recording greenhouse gas emissions and emission reductions should be as simple and straightforward as possible, and represent as little additional burden and expense as is feasible.

NEI does not believe that the proposed revised General Guidelines meet this test. The proposed Guidelines are more complex, more costly, and more burdensome than is necessary or justified. NEI urges the Department of Energy to restructure the proposed General Guidelines to produce a simple, verifiable, single database of project-based reductions, subject to accounting protocols that are rigorous enough to achieve reasonable credibility.

Sincerely,



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Senior Director, Business & Environmental Policy
NUCLEAR ENERGY INSTITUTE

- c: The Honorable Robert G. Card, Under Secretary of Energy
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