July 11, 2012

The Honorable Edward J. Markey
United States House of Representatives
Washington, D.C. 20515

Dear Congressman Markey:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter of May 7, 2012, regarding the recent U.S. Government Accountability Office report entitled "Nuclear Regulation: NRC's Oversight of Nuclear Power Reactors' Decommissioning Funds Could be Further Strengthened." Answers to your seven specific inquiries are enclosed with this letter.

If you need any additional information, please contact me or Rebecca Schmidt, Director of the Office of Congressional Affairs, at (301) 415-1776.

Sincerely,

/RA/

Allison M. Macfarlane

Enclosure:
As stated

Responses to information Requests from Representative Edward J. Markey
Letter of May 7, 2012

1. The NRC states that it disagrees with GAO recommendation number one, claiming that the NRC's decommissioning funding formula is only one input into the agency's monitoring system. Please specifically list and describe each additional input. The NRC states that "Based on experience, the regulatory system has been adequate to ensure that power reactor licensees obtain funds when needed for decommissioning." However, in NRC's 2009 review of licensee decommissioning funding status reports, the NRC found that licensees for 27 out of 104 operating reactors had a combined shortfall of more than $2.4 billion in their decommissioning funds. How does the NRC reconcile this discrepancy? Please describe the experience, referenced in the NRC statement above, that leads the NRC to conclude the existing regulatory system is adequate.

The NRC's oversight of the decommissioning resources and capabilities of its licensees includes elements beyond analysis of the decommissioning funding formula. This oversight also includes annual updates for inflation and other cost factors, and a site-specific cost estimate approximately five years before permanent shutdown, to provide time to accumulate additional funds if needed. This system has been successful to provide funds to safely complete decommissioning of public utility reactors. All power reactors that have permanently shut down to date have been able to fund and safely carry out required decommissioning activities. Looking forward, effective December 17, 2012, all permanently shutdown reactors must reassess their funding needs by March 31 of each year and provide additional funding assurance as needed to complete decommissioning.

The cited 2009 shortfalls occurred concurrent with a large drop in stock markets worldwide and were therefore not representative of an inadequacy in the NRC's decommissioning funding requirements. The NRC addressed the shortfalls in decommissioning funds by requiring each licensee to provide a plan to demonstrate how they would meet the NRC's decommissioning funding assurance requirements for each unit with a shortfall. An increase in the market value of the funds was sufficient for some units to meet the requirements; others revised their decommissioning plans by extending the date when the decommissioning will start, as permitted by the Commission's regulations, to allow more time for fund accumulation; and some units provided additional financial assurance. Several public utility licensees stated they would request rate relief, if necessary, at the next scheduled review by their rate-regulatory authorities, which varied from one to four years in the future. Two public licensees' units informed their rate-regulators of the NRC's findings of shortfalls, and obtained rate relief within one year of their requests. The 2009 shortfalls were resolved by March 2011. In October 2011, the NRC updated its regulatory guidance to state that public utility licensees can demonstrate a good faith effort to obtain rate relief by informing their rate-regulators of a shortfall by March 31 of each year, as needed, and requesting that the rate-regulator consider a review of decommissioning funding within one year.

2. With respect to GAO recommendation number two, the NRC states that while it agrees that the decommissioning funding formula should provide a credible and well-documented basis for establishing the minimum amount of funding required for decommissioning, it disagrees that the formula is appropriate for a comprehensive and accurate estimate. The NRC claims that the formula is not intended to provide a cost estimate, and the relevant regulatory guide states that "This initial cost estimate is not an

exact accounting of the actual cost of decommissioning but is intended to provide an approximation of what decommissioning the reactor will cost at the proposed time of decommissioning." However, this initial estimate is listed in the regulatory guide under the heading "Decommissioning Cost Estimates." This ambiguous use of the term "cost estimate" invites confusion. Furthermore, the NRC stated in a 2011 decommissioning funding workshop that licensees may face greater costs during decommissioning than accounted for under the NRC decommissioning funding formula. Surely the ability to realistically estimate the cost of decommissioning is necessary for sufficient financial planning. What are the NRC's plans to improve the ability to estimate decommissioning costs? What new inputs will be included in a revised decommissioning funding formula? How will the revised formula be verified? If the NRC has no such plans, why not? And how then is the public to be assured that decommissioning can be performed in a manner to protect human health and safety and the environment?

The GAO stated that its cost estimating guide identified four characteristics of a high quality, cost estimating formula: being credible, being well documented, being comprehensive, and being accurate. The NRC agrees that its decommissioning funding formula provides a credible and well-documented basis for establishing the minimum amount of funding needed to decommission a reactor, as recommended by the GAO guidelines. The NRC will continue to ensure its formula meets these characteristics as part of its reevaluation. The NRC formula is intended to provide a reference level decommissioning funding amount for use by licensees as a planning tool early in plant life. The formula amount is based on studies of the costs to decommission a reactor, but accuracy is difficult to achieve early in plant life due to the uncertainties of projecting costs decades into the future. In view of this, the NRC disagrees that the reevaluation of the formula should be the method to achieve the goals of credibility and accuracy. The NRC believes those goals should be achieved by requiring the licensee to provide an updated plant-specific cost estimate late in plant life, as found in NRC regulations. At that time, additional decommissioning information will be available to the licensee, which will reduce uncertainties to a level that permits reasonable accuracy in cost projections.

However, the NRC is re-evaluating its minimum formula in light of data available from the actual decommissioning costs of four large reactors and site-specific cost estimates submitted by licensees over the last decade. The existing minimum formula does not include the costs of property taxes or remediation of soil contamination. The NRC staff will make a recommendation to the Commission early in 2013 on the need to revise the minimum formula.

3. The NRC states that it agrees with GAO recommendations 3, 4, and 5. How, specifically, does the NRC plan to implement each of these recommendations, and what is the timeline for implementation of each?

Recommendation 3: Better ensure that licensees are providing reasonable assurance that they will have the necessary funds and improve the consistency of information the agency collects by documenting procedures describing the steps the staff should take in their reviews analyzing licensee documentation and verifying that the licensees report to NRC in their Decommissioning Funding Status reports match the amounts on their year-end bank statements.

The NRC identified the need for revision of decommissioning funding assurance review guidance for the agency's financial analysis staff, delineated in Office Instruction LIC-205, "Procedures for NRC's Independent Analysis of Decommissioning Funding Assurance for

Operating Nuclear Power Reactors," and initiated the revision in late 2010. NRC staff is finalizing updates to the Office Instruction that will more thoroughly document procedures used to verify decommissioning fund balances. The revision will be made publically available later this year in the NRC's Agencywide Documents Access and Management System.

Recommendation 4: Better ensure that licensees are providing reasonable assurance that they will have the necessary funds and improve the consistency of information the agency collects by continuing the reviews of fund balances in a way that is most-efficient and effective for the agency.

The NRC plans to continue reviewing fund balances reported by licensees against the records maintained by the fund trustees. The NRC anticipates that it will coordinate with both the licensees and the respective financial institutions, where the decommissioning trust fund records are kept, and will continue to review the fund balances in a manner that is most efficient for the agency.

Recommendation 5: Consider reviewing a sample of the licensees' investments to determine if licensees are complying with decommissioning investment standards and determine whether action should be taken to enforce these standards.

NRC regulations restrict investments in the nuclear sector, specify the standard of care for investments, and restrict the licensee's involvement in day-to-day management of investments. The NRC will consider whether gathering additional information is needed to better understand the current methods used by licensees, investment managers, and trustees to assure compliance with the regulations. Based on that determination, the NRC will consider alternative methods for reviewing compliance with the regulations.

4. Is the NRC considering discontinuing licensee site reviews to verify the accuracy of licensee fund balances in their DFS reports as the GAO report indicates? If so, why, and how will the NRC verify the accuracy of licensee fund balances in their DFS reports? The GAO report suggests that discontinuation of these visits is a possibility and states that the NRC cited a lack of findings and budget constraints as the reasons for considering ending the site reviews. Since GAO also found that NRC's "lack of findings" appeared to be based on incomplete documentation, an absence of a definition of what "bulk funds" means and an outdated model for calculating decommissioning costs, this decision is not supported by credible data. Rather than ending the site reviews altogether, wouldn't it be more prudent to incorporate them into other routine visits to licensee offices to address any budgetary constraints NRC may be experiencing? Is the NRC considering such a solution? If not, why?

Yes, the NRC is considering discontinuing licensee site reviews; however, the NRC plans to continue reviewing fund balances reported by licensees against the records maintained by the fund trustees, whether at the licensee's site or another location. The NRC will also consider incorporating the reviews into other routine visits to licensee offices. As mentioned above, the NRC anticipates that it will coordinate with both the licensees and the respective financial institutions, where the decommissioning trust fund records are kept, and will continue to review the fund balances consistent with the GAO recommendation to review them in a way that is most efficient and effective for the agency.

5. As the GAO report concludes, without awareness of the nature of licensees' investments, NRC cannot determine whether it needs to take action to enforce the agency's standards. The GAO was told by the NRC that agency staff lacks the financial expertise to evaluate compliance with investment restrictions. What training programs or partnerships are you considering to address this problem? If no such programs or partnerships are being considered, why not? If the NRC is unwilling or unable to develop the expertise needed to assess licensee compliance with investment restrictions, does the NRC believe that this function should be transferred to another federal agency with such expertise, such as the Department of the Treasury or the Board of Directors of the Federal Reserve System? If not, why not?

NRC financial staff members who work on decommissioning funding assurance have passed the agency's qualification process for financial analysts and also hold degrees in economics, finance, or business administration. The staff's expertise is generally applicable to evaluating compliance with the agency's investment standards. Following the agency's planned engagement with stakeholders to determine methods of auditing compliance with NRC investment standards, the NRC will identify what additional training may be necessary to further develop staff expertise. As part of its stakeholder outreach, NRC would include knowledgeable state and federal regulatory authorities for insight on the expertise needed to strengthen and improve our work in the area of compliance in investment standards.

6. Currently, licensees are required to annually estimate the amount of decommissioning funds needed, and every two years licensees must report to the NRC the status of its decommissioning fund in conjunction with the licensee's biennial report, which is analyzed by the NRC. In October 2010, the NRC Commissioners voted four to one (with only Chairman Jaczko voting in favor) against the NRC staffs proposed change that would have directed licensees to adjust decommissioning funds every year and within 3 months of the annual recalculation of the regulatory minimum needed. The majority of the Commission cited the recent stock market downturn in deciding instead to retain the current requirement that adjustments of funding amounts by licensees take place once every two years. I agree with the statement the Chairman made in favor of the more frequent funds adjustment: "The same way that market fluctuations would not relieve a licensee of its obligation to meet safety regulations, market fluctuations should not be used as a basis by licensees to avoid or delay their obligation to accumulate funds consistent with the regulations." Given the findings in this new GAO report, will the Commission reconsider its vote? If not, why?

The Commission considered all available information in its October 2012 vote rejecting the staff proposal of a one-year adjustment frequency for operating reactors. The GAO report does not contain new information with respect to the adjustment frequency. The principle that licensees must fulfill their obligation to pay for decommissioning costs remains unchanged.

The GAO report did note that the NRC strengthened its oversight with the Decommissioning Planning Rule, which becomes effective on December 17, 2012. The new rule requires licensees of permanently shutdown plants to make annual adjustments to their funding assurance as of March 31 of each year, if needed, to cover the cost to complete decommissioning. The new rule applies greater oversight during this critical period.

7. The GAO report noted that the NRC does not oversee post-shutdown activities to clean up non-radiological contaminants, such as acids and heavy metals, in order to restore the power plant site to a condition that is safe for public use because these activities do not fall within the scope of NRC's definition of decommissioning or under NRC's decommissioning oversight authority. Licensees must pay for these costs with funds that are separate from their decommissioning funds. If the NRC does not oversee the viability of these funds, who does? If other entities have oversight for such funds, how does the NRC coordinate with those entities? If there is no such coordination, why not? Does the NRC have estimates for these costs, either in dollar amount or in percentage of overall decommissioning budget? If NRC does not estimate these costs, who does?

The U.S. Securities and Exchange Commission requires publicly traded companies to account for all legally required costs of decommissioning in their financial statements. State Public Utility Commissions and the Federal Energy Regulatory Commission have authority to set rates for public utilities to collect funds for non-radiological decommissioning. The NRC is not aware of any regulatory oversight of funding for non-radiological cleanup of reactors that operate as merchant plants.

EPA and the NRC share regulatory authority for managing mixed waste, which includes non-radiological materials with hazardous properties and radioactive material. The NRC requires reactor operators to provide financial assurance for mixed waste decommissioning costs, due to the radiological content. The NRC has not coordinated with other agencies with respect to funding for non-radiological clean up, as the agency does not have jurisdiction over the use of non-radiological materials.