

**Responses to Questions from Representative Edward J. Markey
Letter of May 6, 2013**

1. Is the NRC in discussions with any other licensees regarding the licensees' financial arrangements and status of funds as they relate to the licensees ability to continue the conduct of the activities authorized by the license and to decommission the facility? If so, which licensees and facilities are of concern?

In addition to recent communications with Entergy Nuclear Operations, Inc., regarding impairment charges and other financial concerns related to Vermont Yankee's November 6, 2012, 10-Q Securities and Exchange Commission (SEC) filing dated November 6, 2012, the U.S. Nuclear Regulatory Commission (NRC) recently initiated communications with Luminant Generation Company, LLC, (Luminant) regarding the Comanche Peak Nuclear Power Plant, Units 1 and 2.

By letter dated April 4, 2013, NRC staff communicated to Luminant that more detailed information was needed to support the financial qualification review for Comanche Peak Nuclear Power Plant, Units 1 and 2, following NRC's review of annual Form 10-K SEC filing by Energy Future Holding Corp, its parent company. NRC anticipates responses to that request shortly. That letter may be found in NRC's Agencywide Documents Access and Management System (ADAMS) at accession number ML13067A181.

At this time, NRC is not in discussions with any other licensees regarding financial arrangements and status of funds as they relate to the conduct of activities authorized by the license and to decommissioning the facility.

2. Is the NRC aware of any other companies owning or operating nuclear power plants that have disclosed impairment charges related to those plants that are in excess of \$100 million in the last three years beyond those listed in this letter? If so, please list the plants that accrued those charges along with the public filing that included the disclosure.

Other than those identified in your May 6, 2013, letter, NRC staff is not aware of any companies owning or operating nuclear power plants that have disclosed impairment charges in excess of \$100 million related to nuclear power plants.

3. Is the NRC aware of any other companies owning or operating nuclear power plants that have disclosed an increase in anticipated decommissioning costs in excess of \$100 million in the last three years? If so, please list the plants that accrued those charges along with the public filing that included the disclosure. Please also describe all actions the licensees have reported taking to accrue the needed funds.

Based on application of the NRC's minimum decommissioning formula, including adjustment factor increases that account for annual increases in labor, energy, and waste burial charges associated with reactor decommissioning, the Fermi Atomic Power Plant, Unit 2, reported increases in excess of \$100 million during the last three years. NRC staff is currently evaluating the licensee's funding status for meeting this minimum decommissioning requirement. This information may be found in Fermi's communication to the NRC dated March 28, 2013, located in ADAMS at accession number ML13088A034.

Enclosure

The NRC is not currently aware of any other company owning or operating nuclear power plants that has disclosed an increase in anticipated decommissioning costs in excess of \$100 million in the last three years. The agency currently is conducting its biennial review of the status of decommissioning funding for each reactor. Information on decommissioning funding was required to be reported to the NRC by March 31, 2013. That information includes, at a minimum, the amount of decommissioning funds estimated to be required by NRC regulations, the amount accumulated to the end of the calendar year preceding the date of the report, a schedule of the annual amounts remaining to be collected, the assumptions used regarding rates of escalation in decommissioning costs, rates of earnings on decommissioning funds and rates of other factors used in funding projections, any contracts upon which the licensee is relying, and any modifications to a licensee's current method of providing financial assurance occurring since the last submitted report. Staff is currently evaluating these data, and a final report on decommissioning funding for all reactors will be completed later this year.

4. The NRC website says that decommissioning costs generally range from \$300 million to \$400 million. However, according to Dominion's 10-K filings, estimated decommissioning costs for the relatively small 556 megawatt Kewaunee reactor were about \$680 million as of December 2011. For the 860 megawatt Crystal River plant, Duke Energy estimates decommissioning costs are \$989 million.

- a. Are the high costs recently announced for reactors entering decommissioning and the site-specific cost estimates that some licensee are voluntarily using – which are in some cases more than twice the minimum formula amount – an indication that the minimum decommissioning formula produces artificially low cost estimates? If not, then how does the Commission explain this apparent discrepancy between the recently announced actual costs and NRC's much lower estimates?**

The NRC's formula is not intended to be a site-specific cost estimate. Rather, it is intended to provide a reference level decommissioning funding amount for use by licensees as a planning tool early in a plant's life. The NRC requires a plant-specific cost estimate at or about 5 years from permanent cessation of operation, such as license expiration. However, if a licensee chooses to terminate its license prematurely (such as the recent case with Kewaunee), they have up to 2 years following permanent cessation of operations to submit a plant-specific cost estimate.

To ensure that licensees accumulate adequate funds as costs rise, NRC regulations require all licensees to perform annual adjustments of the reference level funding to account for inflation. The NRC monitors the licensee's progress by reviewing the decommissioning funding status reports that all power reactor licensees must submit. This reference level approach, which combines minimum initial requirements, annual inflation adjustments, monitoring, and a plant-specific cost estimate late in plant life, accounts for uncertainties while ensuring that there will be adequate funding for decommissioning.

Nonetheless, the NRC continues to evaluate, consistent with Commission direction, the need to adjust, as necessary, the current minimum decommissioning funding formula. The formula addresses only those decommissioning and decontamination costs that are of a radiological nature, and provides reasonable assurance that funds will be available for inevitable radiological decommissioning activities, excluding spent fuel management and non-radiological

decommissioning. Accordingly, it is difficult for the staff to evaluate or compare statements made by or reported in other sources that may include costs for non-radiological decommissioning activities.

In 2009, the NRC contracted with the Pacific Northwest National Laboratory (PNNL) to reevaluate the minimum decommissioning fund requirements specified by the formula. PNNL's draft report, "Assessment of the Adequacy of the 10 CFR 50.75 (c) Minimum Decommissioning Fund Formula," (ADAMS ML13063A190) was completed in November 2011. The NRC staff is preparing a paper for the Commission that addresses whether there is a need to adjust the formula. The paper will be provided to the Commission this summer.

b. When was the NRC's minimum decommissioning funding assurance formula last updated? Please describe fully the nature of any such updates.

The minimum decommissioning funding formula, established in 1988, has not been updated since it was first established. Licensees must make funding adjustments annually to incorporate inflationary increases associated with labor costs, energy costs, and low-level waste burial charges.

NRC's biennial publication of NUREG-1307, "Report on Waste Burial Charges," provides licensees with the waste burial charge adjustment factors. Labor and energy adjustment factors are provided by the Department of Labor, Bureau of Labor Statistics. More recently, licensees were required to report to the NRC their minimum decommissioning funding requirement by March 31, 2013, along with the current status of, and future plans for, funding to that minimum amount. The NRC staff is currently evaluating these data, and a final report on decommissioning funding for all reactors will be completed later this year.

c. Do you believe the formula is adequately providing reactor owners a realistic benchmark from which to plan to accrue sufficient funds for future decommissioning costs?

The decommissioning funding formula is intended to provide a reference level decommissioning funding amount for use by licensees as a planning tool to be used early in plant life rather than a site specific decommissioning funding estimate. The formula is only one input to the NRC's regulatory system for funding assurance, which includes annual adjustments and accounting for site specific costs. When these steps are considered as a whole, they provide reasonable assurance that funds will be available when needed. This system has been successful to provide funds to safely complete decommissioning of public utility reactors. However, the NRC staff is in the process of completing its analysis of the current formula and will be making recommendations to the Commission regarding possible formula adjustment. In the paper currently being developed for the Commission, the staff's analysis is based, in part, on the PNNL draft report. That paper will be provided to the Commission this summer.

5. In a letter sent to me on July 11, 2012, you said that "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."

a. What is the status and expected completion date of these staff recommendations?

Staff is currently completing its paper to the Commission that responds to the Commission's tasking. The staff's review, which will include recommendations, will be provided to the Commission this summer.

b. By what regulatory process and in what timeframe will the Commission review them?

The staff intends to provide its recommendations in a paper to the Commission. Commission decision-making is accomplished by a majority vote of the Commission, and Commission decisions are recorded in Staff Requirements Memoranda. The Commission expects to review the staff recommendations in a timely way.

c. Upon completion, will the Commission make the staff recommendations immediately available to the public? If not, why not?

The staff recommendations will be made available to the public 10 business days after the Commission receives them.

d. Is soil contamination something licensees are obligated to remediate during the decommissioning process under current NRC regulations? Why does the existing minimum formula not include the costs of property taxes or remediation of soil contamination? If the NRC doesn't intend to require licensees to remediate contaminated soil, who does it expect will pay for the cost of such remediation?

Licensees are obligated to remediate soil contamination. All radiological contamination, including soil contamination, must be cleaned up to NRC standards before the NRC license is terminated. During the life of the operating license, licensees are required to maintain records of all known radiological contamination on the entire facility site. If additional contamination is discovered during the decommissioning and decontamination processes, the licensee is required to remediate such contamination to NRC standards.

The minimum decommissioning funding formula does not reflect soil remediation costs. As cited in the Statement of Considerations for 10 CFR 50.75 (53 Fed. Reg. 24030, June 27, 1988), in the development of the minimum decommissioning funding formula:

The amount listed as the prescribed amount (formula) does not represent the actual cost of decommissioning for specific reactors but rather is a reference level established to assure that licensees demonstrate adequate financial responsibility that the bulk of the funds necessary for a safe decommissioning are being considered and planned for early in facility life, thus providing adequate assurance at that time that the facility would not become a risk to public health and safety when it is decommissioned.

Accordingly, such costs will be reflected at the time licensees develop their site-specific decommissioning cost estimates.

The minimum decommissioning funding formula also does not reflect the cost of property taxes. Property taxes are inherently a site-specific cost issue, and can fluctuate significantly over time and by location. The development of a formulaic approach that incorporates realistic and various values of property throughout the country, and hence, property taxes, could not be achieved through the application of a basic, reference-level formula. Licensees consider these costs at the time they develop their site specific decommissioning cost estimates.

6. The NRC has stated that it agrees with a recommendation from the GAO that it consider reviewing samples of licensees' decommissioning fund investments to determine compliance with its decommissioning investment fund rules. These prudent, commonsense rules prohibit, among other things, decommissioning fund investments in any reactor licensee or in a mutual fund in which 50 percent or more of the fund is invested in the nuclear power industry. The NRC stated again in the aforementioned July 11, 2012 letter that it would consider this type of review to help ensure licensee compliance. Has the NRC completed consideration of this recommendation? If so, please provide the conclusion and describe the measures that agency is taking to implement the recommendation. If not, when will the Commission complete its consideration of this recommendation and require its implementation?

The NRC has not completed consideration of this recommendation. The NRC will consider whether additional information is needed to better understand the current methods used by licensees, investment managers, and trustees to assure compliance with the NRC's regulations. Based on that determination, the NRC will consider as appropriate alternative methods for reviewing licensee compliance with the regulations. The NRC will make this determination following the completion of the 2013 decommissioning funding status reports currently under review.

7. In the NRC's January 31 letter to Exelon, the NRC requested that Exelon participate in a pre-decisional enforcement conference within 30 days of the letter in order to obtain additional information and afford Exelon the opportunity to provide its perspective on the apparent violation. I understand that such a conference has not yet taken place. What is the reason for that? Has Exelon notified the NRC of its willingness to participate in this conference? How long will the NRC suspend action on issuing a final enforcement decision? When do you anticipate this case reaching a conclusion?

Exelon informed the NRC on February 8, 2013, of its willingness to participate in a pre-decisional enforcement conference, and requested a delay in the date of the conference due to schedule conflicts. The NRC held a pre-decisional enforcement conference with Exelon on April 30, 2013. NRC staff is currently evaluating information obtained during the NRC's review of Exelon's Decommissioning Funding Status reports, an NRC investigation, and information provided by Exelon at the pre-decisional enforcement conference to come to a final enforcement decision. Once the NRC makes a final enforcement decision, the NRC will notify Exelon of the decision and issue documentation of the decision.