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Subject: [External_Sender] Increases in Decommissioning Costs

I am following up on yesterday's (Wednesday's) meetings in Plymouth in which I said that, based on the information that I have, decommissioning costs are growing far faster than inflation, and that by the time Entergy starts radiological decommissioning about 60 years from now, the actual costs will be somewhere between about \$5B and \$60B greater than what will then be the amount in the decommissioning trust fund. Pertinent extracts from the NRC statement about increases in decommissioning costs and the 2015 Callan study on actual recent cost increases that I mentioned are below. If you can't find the complete documents, please ask me and I will try to forward them to you. .

A. Extract from Q&A On Financial Assurance (ML1119/ML11195003; also Enclosure 5 to SECY 11-0133)

20. Do the cost formulas of 10 CFR 50.75(c) represent the future cost to decommission a nuclear reactor?

No. The NRC formulas represent the cost to decommission today, not in the future. Due to rising costs, the future value of decommissioning will be much larger than the NRC formula calculated today. For example, using the range of cost escalation rates based on NUREG-1307, the increase in cost over a 20-year license renewal period would range from 2.5 to 5.6 times today's estimated cost, not counting costs that are not included in the formula, such as soil contamination. The rates of increase in decommissioning cost are higher than general inflation.

B. Extract from Callan Associates – 2015 Nuclear Decommissioning Funding Study: NDT Fund Balances, Annual Contributions, and Decommissioning Cost Estimates as of December 31, 2014
(<https://www.callan.com/research/files/1137.pdf>)

Key Findings

Nuclear decommissioning trusts have faced pressure in recent years in multiple areas, including challenging capital markets and unresolved waste burial issues. Fund balances were unable to keep pace with rising costs in 2014 as the former rose 5% while the latter rose 11%. The result of the mismatch was a decline in the funding level from 73% in 2013 to 69% in 2014. Other key findings from this survey include:

Fund Balances – Fund balances have risen steadily since a sharp decline in the 2008 market crisis. As of December 31, 2014, NDT funds totaled approximately \$61 billion, a \$3 billion (5.2%) increase from a year earlier. The increase is somewhat less than 2014 capital market performance might suggest due to a greater percentage of investor-owned utilities reporting net-of-tax trust values.

Contributions – Contributions to NDT funds rose \$36 million (10.9%) in 2014 after three years of declines. Most of the increase stems from a \$74 million increase in PG&E's contribution from 2013 (\$27.7 million) to 2014 (\$96.3 million). Without the PG&E increase, contributions would have fallen more

Costs – Total decommissioning cost estimates have risen 60% since 2008. 2014 decommissioning cost estimates rose approximately 11% from the previous year and now total over \$88 billion. Part of the increase is the result of a greater use of site-specific estimates that include costs, such as spent fuel management and site restoration, which go beyond the NRC scope of decommissioning.

I particularly want thank Mr. Dusaniwskyj taking a few minutes to speak with me in the course of the Wednesday evening meeting and helping me understand how the NRC evaluates decommissioning costs and funds. My understanding of what he told me is that..

- a. 10 CFR 50.75 sets out the methodology that the NRC uses to determine both (i) whether there is currently enough money in a licensee's decommissioning trust fund and also (b) whether there will continue to be enough money in the future; and
- b. this methodology assumes that decommissioning costs will increase at the rate of inflation; and that the fund will grow at the prudently conservative rate of 2% over inflation.

I would greatly appreciate it if Mr. Dusaniwskyj could confirm (or correct) these understandings.

It would also be very helpful if he could tell me what assumptions the NRC makes about future rates of inflation.

Again, I thank you all for your time and attention on Wednesday, and look forward to continuing our conversations.

Jim Lampert