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NTD-NRC-94-4061

Westinghouse Electric Corporation Energy Systems Box 355 Pittsburgh Pennsylvania 15230-0355

February 11, 1994

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Mr. Samuel J. Chilk
Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Docketing and Services Branch

Dear Mr. Chilk:

SUBJECT: Request for Public Comment,"Revised Analyses of Decommissioning for Reference Pressurized Water Reactor Power Station" (NUREG/CR-5884, Draft) and "Estimating Pressurized Water Reactor Decommissioning Costs" (NUREG/CR-6054, Draft), 58 Fed. Reg. 54385, October 21, 1993

These comments are submitted by the Westinghouse Electric Corporation ("Westinghouse ") in response to the United States Nuclear Regulatory Commission ("NRC") request for public comments on proposed rule for "Revised Analyses of Decommissioning for Reference Pressurized Water Reactor Power Station" (NUREG/CR-5884, Draft) and "Estimating Pressurized Water Reactor Decommissioning Costs" (NUREG/CR-6054, Draft), 58 Fed. Reg. 54385, October 21, 1993.

Westinghouse is in the process of actively decommissioning the Public Service of Colorado (PSC) Fort St. Vrain Nuclear Station using the early dismantlement (DECON) decommissioning alternative. Our comments reflect recent experience in planning, staffing, and performing DECON activities during the current regulatory environment. In addition Westinghouse has played roles in other decommissioning programs including TMI-2, Shoreham and Yankee Rowe.

Westinghouse considers that the NRC's decommissioning funding process, including regulations and cost estimate formulas, must ensure that funds are collected in amounts and on a schedule sufficient to preclude multi-billion dollar shortfalls in nuclear plant decommissioning funds. In addition consideration has to be given to the fact that units may shutdown prematurely which would will further strain the financial situation.

Our specific comments on NUREG/CR-5884 are as follows:

1. Westinghouse takes issue with the assumptions regarding fuel costs. The draft report correctly recognizes that licensees will have to store spent fuel and may have to continue operating a dry storage facility beyond the time when the nuclear license is terminated. However, the assumption in Section 2.3 that 90 percent of total plant costs should be allocated to fuel storage operations and only 10 percent to plant decommissioning activities does not agree with our knowledge during any phase of decommissioning activities. Our experience indicates the staff required to maintain the ISFSI is insignificant compared to the staff levels required for decommissioning planning and oversight activities.

Our experience is primarily with early dismantlement activities, but many of the same plant activities would be required to prepare plant systems and equipment for an extended safe storage period, and this effort should not be underestimated. During active dismantlement and SAFSTOR preparatory activities, it would be more consistent with our experience to allocate 75 percent of the total costs to decommissioning activities and 25 percent to fuel storage. If only general plant maintenance and fuel storage activities are in progress, an even division of costs would seem appropriate.

2. Westinghouse believes that scenario assumptions of radioactivity levels that are based only on cobalt-60, as in the SAFSTOR1, ENTOMB1, and ENTOMB2 alternatives, are hypothetical and misleading. Our experience is that there are many activated impurities in concrete and other structural materials that will still be around after cobalt-60 levels have substantially decayed. Examples such as Ni-59 and N. 63 have extremely long half lives which will impact removal and disposal methods. Some vessel internals will still be greater than Class C waste. There are enough of these long-lived nuclides that dismantlement activities will still require remote tooling and access controls after the allowed SAFSTOR period, and the radioactive waste volumes will not be significantly reduced.

3. The contractor staff levels based on crew hours per task, as shown on the summary schedules and staffing charts in Figures 3.7, 3.8, and 3.9, is confusing and misleading. For example, project staffing illustrated in Figure 3.9 reflects as assumption that crew sizes will vary widely over the project, to a degree which is not realistic. This figure shows staffing levels that fluctuate up and down every month by up to 900 crew hours. In reality, staffing levels will be more stable and prudent planning would levelize work activities. The driver for this includes training time for badging, qualification, etc. and learning curve. However, even with the best planning, there will be times when work crews are not fully utilized and the associated costs will be higher than those assumed for the rapidly variable crew sizes shown in Figure 3.9.

4. The staffing shown in Table 3.2 includes fractional utility staff levels that vary from Periods 2 (Deactivation) to 3 (Safe Storage) to 4 (Dismantlement) in a manner that is confusing and misleading. Also, in several operations and engineering positions, personnel are assumed to disappear for a period and then reappear. Depending on the length of the SAFSTOR period, this may not be realistic. Utilities may elect to retain qualified individuals through active dismantlement, thus increasing costs for Period 3.

5. The component removal and dismantlement periods appear to be short by a factor of 2 or 3. Dismantlement is assumed to be completed within 1.7 years, where at Fort St. Vrain, these activities are expected to take 3.25 years. PWR's and BWR's would be expected to be even longer with more contaminated areas.

6. The presentation of costs in the executive summary table, Table ES.1, is misleading, in that costs are based on an unrealistically low disposal cost. The basis for the summary table is $50 per cubic foot. This number clearly does not account for taxes, surcharges, and other fees. In addition with this being such a volatile area it would not be prudent to assume this number too low.

7. The final site survey cost estimate of $1.2 million, in Section 3.4.12, is significantly low. Even for Fort St. Vrain, which is significantly cleaner than most PWR's and BWR's, this survey is projected in the range of $5 million to $10 million, and Shoreham's latest estimate is reportedly in the range of $10 million to $12 million. There are still a lot of unknowns about the extent of this process, including the treatment of hard to detect nuclides which is not

mentioned in the draft report. However, it appears impossible to perform this task for $1.2 million.

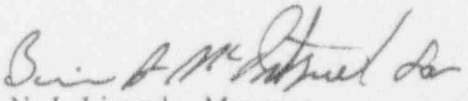
8. The draft report does not account for mixed wastes, noting that these would likely have been generated during operations and their disposal would therefore be an operational cost. This potentially costly task is one that in some instances could end up being a decommissioning expense for permanently installed items that become activated and only removed during dismantlement.

9. The draft report does not include costs of initial site characterization studies, activation analyses, and any other studies to determine the extent of decommissioning activities. The initial site characterization of Fort St. Vrain involved over 20,000 survey locations and required a substantial documentation effort. PWR's and BWR's would be expected to have 2-3 times the number of survey points. In addition environmental characterization is extremely important and costly.

Nuclear power plant decommissioning is a sizable undertaking with many alternatives to be evaluated. As time goes on the complexity and associated costs will increase. The costs determined in this draft report are significantly lower than those experienced by PSC and the other utilities that are actually engaged in decommissioning activities at the present time. We request the NRC to re-examine the development and basis for these costs.

In addition, Westinghouse supports and endorses the NUMARC comments that were also provided relative to this issue on behalf of the nuclear utility industry. We appreciate the opportunity to provide comments on these draft reports and would welcome the opportunity to discuss these comments further with appropriate NRC personnel.

Very truly yours,



N. J. Liparulo, Manager
Nuclear Safety and Regulatory Activities

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