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**Statement of Marc Fioravanti on
Supplement to *Containing the Cold War Mess*:
IEER's Response to the Department of Energy's Review**

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Over the course of the last five months, we have held several meetings with DOE officials to discuss the analysis, findings, and recommendations in [*Containing the Cold War Mess*](#).

I'd like to go through the substance of some [DOE's responses](#) to the case studies as well as some of the information in our new [Supplement to *Containing the Cold War Mess*](#).

Our first case study was on DOE's management of transuranic waste. Transuranic waste consists of clothing, filters, sludges and other waste contaminated by plutonium and other similar elements. These wastes contain long-lived radionuclides, for example, plutonium-239 has a half-life of 24,000 years. The vast majority of the resources spent on transuranic waste are spent on development of the Waste Isolation Pilot Plant (WIPP) in New Mexico, where DOE plans to dispose of "retrievably-stored" transuranic waste in salt deposits 2150 feet deep. However, at the same time DOE has been focusing on the WIPP project, it has been paying insufficient attention to a much larger volume of transuranic waste in shallow pits and trenches. These "buried" transuranic wastes are already contaminating soil and groundwater at several sites. Our analysis showed that DOE's decisions about priorities for transuranic waste have been based on faulty technical arguments apparently driven by political expediency.

In response to our report, DOE is announcing a review of key aspects of its program for buried transuranic waste. Their response acknowledges that the crucial parts of its management plan are based on information that has been invalidated by subsequent investigations and data. For example, the new estimate amount of transuranic radioactivity in burial grounds at the Idaho Laboratory is about ten times the amount previously estimated. Further, transuranic contamination is moving through soil and groundwater much faster than previously acknowledged. A recent announcement by the Idaho Lab that groundwater samples of the Snake River Plain Aquifer 580 feet below the burial grounds indicate possible presence of americium-

241 may have serious implications.

While we are pleased that DOE has announced this review, we are disturbed that DOE still maintains it is pursuing the right mix of priorities with respect to transuranic waste, that is, proceeding with WIPP. Focusing resources on opening WIPP is the wrong priority for several reasons

- DOE has not addressed the implications of the fact that the total amount of transuranic waste is more than double the capacity of WIPP. This raises clear, national-level programmatic issues for DOE's repository programs for long-lived radioactive waste.
- Buried transuranic waste poses far greater near- and medium-term risks to the environment than the retrievably-stored waste DOE plans to send to WIPP.
- Serious concerns remain about the suitability of the WIPP site, including the presence of natural gas and oil reserves below the site, which invites future intrusion.

As part of its review, DOE should appoint a coordinator who is not in either the buried transuranic waste program or the WIPP program who will be responsible for insuring proper coordination of transuranic waste management at the national level. DOE should also announce how it will involve the public in the review and should set a deadline for its review.

Our second case study was of an important remediation program at the Fernald site, outside of Cincinnati, Ohio. Since its beginnings in 1995, major technical and managerial failures had reduced to shambles a plan to treat 11,000 cubic meters of radium and thorium waste in three large silos. The waste is a continuous source of radon, historically the most dangerous air emission from the site. The silos, built in the early 1950s, have been a constant concern because of chronic radon leaks as well as their poor condition.

DOE's response to our report summarizes a significantly different approach that is being pursued, including development of capabilities to retrieve waste from the silos while new treatment technologies are tested. However, the new proposed approach to dealing with radium and thorium waste, which would involve the construction of new temporary holding tanks, appears too big and hasty. IEER recommends that DOE consider constructing an enclosure over the silos now to protect workers and the public from the risks of a silo dome collapse, in combination with constructing one new tank that can address retrieval and other needs to support treatment of the waste.

At the Hanford site, the largest volume of high-level waste in the country is stored in 177 large underground tanks. Safe interim management and remediation of some 55 million gallons of waste is the single most complicated and expensive component of DOE's Environmental Management program. In *Containing the Cold War Mess*, we found that major portions of DOE's plan for treatment of this waste was flawed, incomplete, and had incorrect priorities. Further, we found that DOE's plans for remediation of the tank waste did not reflect an understanding of the extent of soil and groundwater contamination. Our recommendations were based on the premise that it is essential to protect groundwater and the Columbia River.

One month after the publication of *Containing the Cold War Mess*, DOE made a public

announcement of the finding that groundwater had been contaminated as a result of past leaks from the tanks. In the last few months, DOE has been made a serious and substantial effort to develop a strategy to address this important environmental problem. DOE's response to our report notes that Undersecretary Moniz has personally been involved in this effort. This is a significant step forward, not only for remediation of the Hanford site, but for other sites that also have similar contamination. DOE must sustain this effort with scientific integrity and commitment to environmental protection.

Regarding DOE's plans for treatment of high-level waste, however, IEER and DOE remain far apart on the proper course of action. DOE is proceeding with a risky technical and contracting arrangement for privatizing treatment of Hanford tank waste. Its plans do not adequately reflect the level of complexity of wastes at Hanford. In May 1998, DOE will complete its investigation of the potential for privatizing treatment of tank waste. DOE could then potentially proceed with two contracts for very large-scale plants for turning the radioactive waste into glass. This privatization program should be stopped.

Initiation of large-scale waste treatment plants at Hanford without completing adequate preparatory work is not a way to show progress in the Environmental Management program. It risks the kind of failure that has occurred at the high-level waste treatment facility at the Savannah River Site that Brian Costner will discuss. Hanford cannot repeat the kinds of mistakes that have led to years of delay and cost overruns at the Savannah River facility and to the failure of its In-Tank Precipitation pretreatment technology. At Hanford, DOE should instead proceed with immediate expansion of smaller-scale investigations and testing of different treatment technologies and waste forms. These should include calcining (which would turn the waste into a powder) as an interim measure while sound long-term strategies are developed.