John T. Conway, Chairman

A.J. Eggenberger, Vice Chairman

John E. Mansfield

DEFENSE NUCLEAR FACILITIES
SAFETY BOARD

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July 30, 2002

The Honorable Robert Gordon Card
Under Secretary of Energy, Science and Environment
U.S. Department of Energy
1000 Independence Avenue, SW
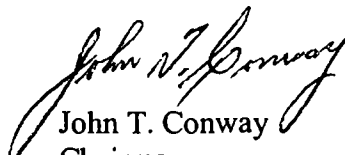Washington, DC 20585-1000

Dear Mr. Card:

The Defense Nuclear Facilities Safety Board (Board) has been following the progress of the Request for Proposal (RFP) for obtaining medical isotopes from the uranium-233 (U-233) stored at Oak Ridge National Laboratory and the shutdown of the associated building complex. Based on a review of the recently issued RFP, the Board wishes to share the following observations related to the safe execution of the medical use program.

The RFP does not require the contractor to use the experienced engineering and operations staff now working toward implementation of the Board's Recommendation 97-1, *Safe Storage of Uranium-233*. Considering the unique hazards associated with U-233, the Board believes it would be prudent to capitalize on the experience of the engineering and operations staff to help mitigate risks.

In particular, the Board notes that the U-233 materials with the greatest U-232 impurities, such as those from the Consolidated Edison Uranium Solidification Project, can result in very high dose rates to workers. Special precautions will be needed to ensure that workers will not receive excessive radiation doses from the daughters of thorium-228, an undesirable decay product of U-232 that will be co-extracted along with the desired thorium-229 isotope. It may be appropriate to pursue a backup plan for the disposition of such materials, in the event that they may prove to be unsuitable for the medical use program.

If you have any questions, please do not hesitate to contact us.

Sincerely,

John T. Conway
Chairman

c: The Honorable Jessie Hill Roberson
The Honorable Linton Brooks
Mr. Mark B. Whitaker, Jr.
Mr. William Magwood IV