

**RESPONSE TO PUBLIC COMMENTS
REGARDING THE DRAFT SAFETY ANALYSES
ON THE LONG-TERM HAZARD OF MILLSTONE UNIT 1'S MISSING SPENT FUEL
RODS POTENTIALLY DISPOSED OF AT THE HANFORD OR BARNWELL COMMERCIAL
LOW-LEVEL RADIOACTIVE WASTE DISPOSAL FACILITY**

BACKGROUND

The staff received comments from seven groups: (1) the U.S. Department of Energy (DOE); (2) the U.S. Environmental Protection Agency (EPA); (3) Dominion Nuclear Connecticut, Inc., (DNC); (4) Northeast Utilities System (NU); (5) the State of South Carolina, State Budget and Control Board (SBCB); (6) the State of Washington, Department of Health (WDOH); and (7) the State of South Carolina, Department of Health and Environmental Control (DHEC). In this section, the comments have been aggregated to allow staff response. The staff has focused on comments regarding the U.S. Nuclear Regulatory Commission (NRC) safety analyses. Most of the commenters agreed, at least in part, with the finding that the presence of the two fuel rods would not constitute a present nor future risk to the public health and safety, nor to the environment.

COMMENT AREAS

DNC, WDOH, and DHEC provided corrections to either data values or affiliations. WDOH and SBCB raised or addressed long-term care concerns and jurisdiction issues. SBCB believed that the safety analyses implied that acceptability was based on the small probability of accidentally intersecting the waste with a well. SBCB also questioned the purpose of the safety analyses in light of the waste classification system in 10 CFR Part 61. Each of these comment areas will be discussed below.

A. CORRECTIONS

Comments. DNC provided corrections to the safety analyses to clarify that, although the cited documents were forwarded to the NRC under their name as the licensee, the analyses and reports were products of the Northeast Nuclear Energy Company (NNECO), the previous licensee. WDOH corrected the source term cited for Technetium-99 in the Hanford Draft Environmental Impact Statement and requested additional information be provided about the previous disposal of spent fuel before 1980 in the Hanford site. DHEC supplied the current decay-corrected inventory of Barnwell.

Response. The staff has made the corrections requested by the commenters. The staff has included more specific information on the previous disposal of spent fuel, before 1980, under the NRC Special Nuclear Material license that was in effect at the time. However, the staff was unable to locate any more information than the State of Washington has been able to receive from U.S. Ecology.

B. LONG-TERM STEWARDSHIP CONCERNS AND JURISDICTION

Comments. WDOH and SBCB raised issues with long-term stewardship concerns such as financial assurance and final custodial care arrangements. For both WDOH and SBCB, one issue was whether the potential presence of the fuel rods would create problems with DOE custodial responsibility after closure of the sites. SBCB's other concern was that the safety analyses were limiting the ability of the State to pursue fines for the unauthorized transfer and burial by NNECO.

Response. Both these issues are outside the scope of the safety analyses. The purpose of the safety analyses is to evaluate whether further action should be taken because of health and safety concerns if the fuel were left in place. NRC's decision to either require, or not require, the fuel rods to be located or removed does not override the joint State and NRC jurisdiction. These analyses do not make the unauthorized transfer and burial of spent fuel rods at a low-level waste facility an acceptable practice. The analyses do not provide an exemption to waste classification, waste transfer, and other requirements for this incident. The NRC has taken enforcement action against the licensee for the loss of control of the material and other violations. To the extent that the State has the right to pursue legal action against the appropriate parties, this analysis does not preclude such action.

The DOE has directly responded to the concerns of WDOH, with regard to the Millstone fuel, in its comments. As stated in the DOE letter, the custodian is not likely to have an issue with a specific waste in the disposal site unless there are additional regulatory requirements that would cause the custodian to incur additional cost. As Part 61 is a performance-based regulation, additional regulatory requirements would only be imposed if they would be needed to maintain the performance of the site. Based on the conclusions of the safety analyses and the views of the EPA, it is unlikely that any additional regulatory requirements would be placed on either site because of the potential presence on the Millstone fuel rods.

C. SCENARIO PROBABILITY AND CONSEQUENCE

Comment. SBCB believed that a reader could infer the following: "The acceptance of an appreciable quantity of waste that exceeds Class C limits would most likely affect public health and safety and the environment, but burying small amounts of such waste once in a while has little impact because an inadvertent intruder would have only a small chance of encountering the prohibited material."

Response. Although the probability of the scenarios is remote, as discussed by the safety analyses, the conclusions are based on a combination of the low probability AND the low doses from the well digging scenario, if it were to occur. The discussion of probability was meant to be another factor to be considered in deciding on the risk significance of the waste disposal. The probability discussion was not meant to be the only basis or the predominate basis. The conclusions have been reworded to attempt to clarify this position and remove this impression.

D. WASTE CLASSIFICATION

Comments. SBCB claimed that these analyses questioned the need for the waste classification system. Specifically, the comment questioned whether allowing small amounts of waste that

are generally not allowed in a shallow land burial site, without prior approval, to remain would invite further transgressions of the waste classification system.

Response. The purpose of the safety analyses is to evaluate whether further action should be taken because of health and safety concerns if the fuel were left in place. NRC's decision to require, or not require, the fuel rods to be located or removed does not override the joint State and NRC jurisdiction. These analyses do not make the unauthorized transfer and burial of spent fuel rods at a low-level waste facility an acceptable practice. The analyses do not provide an exemption to waste classification, waste transfer, and other requirements for this incident. The NRC has taken enforcement action against the licensee for the loss of control of the material and other violations.

Although a central tenet of 10 CFR Part 61 is the waste classification system, exceptions can be made. As noted in 10 CFR 61.7, "[t]here may be some instances where waste with concentrations greater than permitted for Class C would be acceptable for near-surface disposal with special processing or design. These will be evaluated on a case-by-case basis." South Carolina has a similar provision in the regulations for the South Carolina Department of Health and Environmental Control (RHA 7.24.12). It should be re-iterated, the safety analyses DO NOT make the disposal of the Millstone spent fuel rods, if it occurred, acceptable, as a practice. However, Part 61 is designed as a performance-based, risk-informed rule. Any variations from the waste classification system must show compliance with the performance objectives. An example of this was the disposal authorization for Trojan's reactor vessel at the Hanford disposal site by the State of Washington. Another example is the Branch Technical Position on concentration averaging and encapsulation, which allows for some Greater-than-Class C (GTCC) waste to be disposed of as Class C. Although the Part 61 rulemaking found that a large amount of GTCC could be detrimental to the performance of a site, on a case-by-case basis, small amounts may be disposed of safely without endangering the performance of the site. Again, however, the staff would like to stress that the safety analyses performed for the Millstone fuel rods is not to approve the practice but to investigate whether the rods in their present location create a threat to the performance of the site.

The Millstone fuel rod incident will not provide an excuse for waste shippers to ignore the waste classification system. The Millstone fuel rod incident was an accidental transfer, a loss of control, that the licensee has been penalized for under NRC's enforcement policy. SBCB suggest that "...forgiving single transgressions is to invite repeat offenses..." The NRC believes this is untrue because this implies that waste shippers will intentionally ship GTCC waste with inaccurate inventory manifests in the belief that the only possible penalty involves violating the waste classification system. In fact, such a shipper would be in willful violation of a number of requirements regarding control and documentation of radioactive material. It also ignores that such conduct would subject the shipper to criminal and civil enforcement actions.