



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20545

PDR

JUL 8 1988

IMUF:GL

DOCKET NO: 70-824

LICENSE NO: SNM-778

LICENSEE: Babcock & Wilcox (B&W)

FACILITY: NNFD Research Laboratory

SUBJECT: ENVIRONMENTAL ASSESSMENT FOR AMENDMENT APPLICATION DATED
DECEMBER 8, 1987 RE: TEMPORARY STORAGE FACILITY

Background

By application dated December 8, 1987, as supplemented March 30 and June 20, 1988, Babcock & Wilcox NNFD Research Laboratory, requested an amendment to License No. SNM-778 for the authority to construct and use a temporary storage facility. This facility is to be located within the existing restricted area for the storage of hot cell waste. At the present time, containers of hot cell waste are stored in the Annex to Building J. The Annex was constructed for short-term storage of the hot cell waste during a period when the ultimate disposition of the waste had not yet been determined. This Annex now houses approximately 100 drums of waste and is full. Normal operations over the next 5 years in support of existing and anticipated contracts will generate approximately 100 more drums.

The Proposed Action

The proposed action is the construction and use of a temporary storage facility for hot cell waste. This facility will be an in-ground array of eight vertical, concrete cylinders arranged in two rows of four with 24 inches of concrete shielding at the top of each cylinder. The bottom of the cylinders will be at approximately 560 ft MSL which is 58 ft above the Standard Project Flood determined by the U.S. Army Corps of Engineers for the James River at the B&W site.

The top of the concrete shielding will be approximately at ground level. Each cylinder will be 6 feet in diameter and 13-feet tall, is equipped with a stainless steel drain pipe which leads to a common sampling pit, and rests on a common concrete pad. The concrete slab is surrounded by a foundation drain system which pipes to a second sampling pit. The two sampling pits will be sampled regularly and analyzed for the presence of radioactive material. In this facility, the stored waste is in long-life containers, the majority of which are stainless steel, 30-gallon drums. Others will be 30- and 55-gallon carbon steel drums but will be overpacked in stainless steel or galvanized drums.

In addition, the licensee also requests that Building C no longer be designated as an area where licensed material may be used or stored.

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Need for the Proposed Action

Presently, hot cell waste is stored in the Annex of Building J. This facility is full, and the normal operations in support of existing and anticipated contracts will generate approximately 100 more drums over the next 5 years. This waste is being stored onsite until it is accepted by the DOE under the Nuclear Waste Policy Act of 1982. Denying the construction and use of this facility would completely curtail the normal operations associated with the hot cells.

Alternatives to the Proposed Action

Not granting authority to construct and use the temporary storage facility would cause NNFD Research Laboratory to cease hot cell operations. This alternative would be considered only if issues of adverse public health and safety impacts could not be resolved or mitigated. However, as discussed below, the environmental impacts associated with the proposed license amendment are small and acceptable and denial of the amendment would result in no benefit to the environment.

Environmental Impact of the Proposed Action

Since only dry containerized waste will be stored in this facility, there should be no effluents produced. Any rain or snowmelt that manages to enter the concrete cylinders will automatically drain into the sampling pit. This water will be periodically removed. In the unlikely event that water should penetrate the drums, any leachate would flow to the sampling pit before radioactive material could enter the ground water. The drums, concrete walls, and subterranean location will provide shielding to reduce radiation levels above ground to below regulatory levels.

Building C has been decontaminated, and a report of its subsequent radiological survey has been received from NRC's contractor, the Radiological Site Assessment Program of Oak Ridge Associated Universities (ORAU), confirming that the remaining contamination levels meet the NRC release criteria.

Accident Analysis

The temporary storage facility design is based on a requirement to preclude any credibility of an inadvertent criticality after the facility is put into routine use. The fact that the bottom of the cylinders will be about 58 ft above the Standard Project Flood precludes the possibility that this facility will be flooded.

Conclusion

Based upon the above information, the environmental impacts associated with the proposed license amendment are expected to be insignificant. Essentially, no effluents will be released, and acceptable controls will be implemented to prevent a radiological accident.

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Therefore, in accordance with 10 CFR 51.31, a Finding of No Significant Impact is recommended for this action.

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Approved by:

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