

BWX Technologies, Inc., facility located in Lynchburg, VA, and has prepared an Environmental Assessment (EA) in support of this action.

Pursuant to NRC regulations (10 CFR part 51) which implement the requirements of the National Environmental Policy Act (NEPA) of 1969, the NRC staff prepared an EA to evaluate the environmental impacts associated with approval of the FSSP and DP for ILW 1. Based on this evaluation the NRC has concluded that a FONSI is appropriate for the proposed licensing action.

The NRC published a **Federal Register** notice on October 23, 2002 (67 FR 65146), with a Notice of Opportunity for Hearing on the proposed action. No request for a hearing was received.

II. Environmental Assessment

1.0 Introduction

The Nuclear Regulatory Commission (NRC) staff has received a license request from BWX Technologies, Inc. (BWXT), dated June 11, 2002, to amend SNM-42 to approve the DP and the FSSP for IWL1 (Ref. 1). The purpose of this document is to assess the environmental consequences of the proposed license amendment.

The BWXT facility in Lynchburg, VA is authorized under SNM-42 to possess nuclear materials for the fabrication and assembly of nuclear fuel components. The facility fabricates research and university reactor components, and manufactures compact reactor fuel elements. The facility also performs recovery of scrap uranium. Research and development activities related to the fabrication of nuclear fuel components are also conducted.

1.1 Background

BWXT began operations at the Lynchburg, VA facility in 1956. From 1972 until 1990, BWXT, formerly Babcock and Wilcox, operated two industrial waste landfills, designated IWL1 and IWL2 (further subdivided into 2A and 2B). The landfills were operated under permits issued by the Commonwealth of Virginia. During an internal investigation in 1990, it was determined that the material in the landfills had been contaminated prior to disposal. Subsequent to the investigation, the NRC issued a violation for onsite disposal of radioactive material.

In response to the violation, BWXT committed to submitting a characterization plan to the NRC for the industrial waste landfills. Following the completion of the characterization, BWXT's intention was to request

permission to leave the contaminated material in place, as scoping surveys indicated that the criteria for unrestricted release could be demonstrated.

In a submittal dated September 29, 1999, BWXT requested approval of Revision 0 of the Final Status Survey Report (FSSR) for the Industrial Waste Landfills at the Lynchburg, VA facility. In a response dated May 19, 2000, the NRC staff concluded that IWLs 2A and 2B were acceptable for release, provided the licensee demonstrated that the cover would remain in place. However, the staff also determined that Trenches 2 and 3 of IWL1 should be remediated. The FSSP and DP for IWL1 were submitted on June 11, 2002, and are the subject of this EA.

The purpose of the FSSP and DP is to provide a plan for demonstrating that the levels of radioactive contamination in IWL1 satisfy NRC requirements for complying with 10 CFR 70.38, which requires the licensee to decommission any outdoor area where no principal licensed activities are occurring. Based on knowledge of the source of contamination, as well as scoping survey information, the main radioactive contaminant present in IWL1 is highly enriched uranium.

The criteria that BWXT proposes to meet are found in the Branch Technical Position (BTP), "Disposal or Onsite Storage of Thorium or Uranium Wastes from Past Operations" (Ref. 2). This criteria was approved by the NRC for use at the BWXT site before the License Termination Rule was published in 1997. The criteria in the BTP which BWXT propose to meet are as follows:

Option 1—Disposal of acceptably low concentrations enriched uranium with no restriction on burial. For enriched uranium, the maximum acceptable concentration is 30 pCi/gm.

Option 2—Disposal of certain low concentrations of enriched uranium, when buried under prescribed conditions, with no subsequent land use restrictions and no continuing NRC licensing of the material. For enriched uranium, the maximum acceptable concentration is 100 pCi/gm for soluble U and 250 pCi/gm for insoluble U. Conditions may be prescribed in the license, such as depth and distribution of material, to minimize the likelihood of intrusion. The prescribed burial conditions include demonstration that the buried material will be stabilized in place and not be transported away from the site and burial depth be at least four feet below the surface. The acceptability of the site for this type of disposal will depend upon topographical, geological,

hydrogeological and meteorological characteristics of the site.

1.2 Review Scope

In accordance with 10 CFR part 51, this EA serves to (1) present information and analysis for determining whether to issue a FONSI or to prepare an Environmental Impact Statement (EIS); (2) fulfill the NRC's compliance with the NEPA when no EIS is necessary; and (3) facilitate preparation of an EIS when one is necessary. Should the NRC issue a FONSI, no EIS would be prepared and the license amendment would be granted.

This document serves to evaluate and document the impacts of the proposed action. Other activities on the site have previously been evaluated and documented in the 1991 EA for the Renewal of the NRC license for BWXT (Ref. 3). The 1991 document is referenced when no significant changes have occurred. Besides the proposed licensing action, operations will continue to remain limited to those authorized by the license.

1.3 Proposed Action

IWL1 is approximately 240 ft long, 150 ft wide, and has a maximum depth of 3 ft. There are 8 trenches in the landfill. BWXT will remediate Trench 2 and a portion of Trench 3 of IWL1. All of Trench 2 and more than a third of Trench 3 will be excavated and the material will be properly disposed of as radioactive waste, a total volume of approximately 3750 ft³. A post-remediation scanning survey will be conducted for the excavation as well as any surrounding "affected" areas impacted by the exhumation activities. Elevated contaminated areas will be either exhumed for disposal as waste or flagged for additional sampling. Soil sampling will also be conducted within the excavation and one meter from the edge of the excavation to compare contamination levels to the guideline value.

The rest of the trenches in the landfill would then remain buried and be capped with impermeable material to inhibit infiltration of surface water (precipitation). Two feet of cover has already been applied over the landfill, another 2 feet will be added for a total of 4 feet of impermeable clay. This cap would be a continuous cover over all trenches, including up to 5 feet beyond the outermost trenches in the site. The cap would then be covered with 0.5 feet of topsoil to support growth of vegetation.

Preparation, excavation, sampling, analysis, and report preparation is