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August 24, 2004

Ms. Leah R. Sorrell  
Licensing Officer  
BWX Technologies, Inc.  
Nuclear Products Division  
P.O. Box 785  
Lynchburg, Virginia 24505-0785

SUBJECT: BWX TECHNOLOGIES, INC., AMENDMENT 107 - REVISIONS TO  
CHAPTER 5, ENVIRONMENTAL PROTECTION (TAC L31829)

Dear Ms. Morrell:

This letter refers to your correspondence dated May 5, 2004, in which BWX Technologies, Inc. (BWXT), submitted a proposed amendment to Chapter 5, Environmental Protection, of its license; your letter dated June 10, 2004, that contained an update to the safety analysis report included with the original submittal; and your letter dated August 9, 2004, that forwarded minor editorial changes to Chapter 5. We have completed the review of the submitted changes and have determined that these changes are acceptable. Accordingly, pursuant to Part 70 of Title 10 of the Code of Federal Regulations (CFR), Materials License SNM-42 is hereby amended to incorporate the revised Environmental Protection chapter. Thus, Safety Condition S-1 has been revised to include the dates of May 5, June 10, and August 9, 2004.

Safety Condition S-2 has been modified to reflect the most recent revision to the Emergency Plan, dated November 14, 2003 (reference NRC letter dated July 28, 2004). This change is implemented in the paragraph below:

S-2           The licensee shall maintain and execute the response measures in the  
Emergency Plan as revised on November 14, 2003, or as further revised  
by the licensee consistent with 10 CFR 70.32(i).

Enclosed are copies of the revised Materials License SNM-42 and the Safety Evaluation Report, which includes the Categorical Exclusion determination for not performing an environmental assessment.

<p align="center"><b>OFFICIAL USE ONLY</b></p> <p><del>May be exempt from public release under the Freedom of Information Act (5 U.S.C. 552)</del></p> <p>Exemption number <u>2</u></p> <p><del>Nuclear Regulatory Commission review required before public release:</del></p> <p><u>Gary Janosko, NMSS/FGFB /RA/</u></p> <p><del>Name and organization of person making determination</del></p> <p>Date of Determination <u>8/24/04</u></p>
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L. Morrell

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Sincerely,

/RA/

Gary S. Janosko, Chief  
Fuel Cycle Facilities Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Docket No. 70-27  
License No. SNM-42  
Amendment 107

Enclosures: 1. Materials License SNM-42  
2. Safety Evaluation Report

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**/RA/**

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**THIS CLOSSES TAC L31829**

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FCFB r/f A.Gooden Region II D.Stout E.Thompson G.Wertz RGN II

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**ML042380682**

\*see previous concurrence

<b>OFC</b>	FCFB		FCFB		FCFB		FCFB		FCFB	
<b>NAME</b>	E. Thompson*		W. Gleaves*		J. Muszkiewicz*		J. Lubinski		G. Janosko	
<b>DATE</b>	8/19/04		8/19/04		8/19/04		8/24/04		8/24/04	

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DOCKET: 70-27

LICENSEE: BWX Technologies Inc.  
Nuclear Products Division  
Lynchburg, VA

SUBJECT: SAFETY EVALUATION REPORT: REQUEST TO AMEND CHAPTER 5,  
ENVIRONMENTAL PROTECTION

### BACKGROUND

On May 5, 2004, BWX Technologies (BWXT) submitted a request for a license amendment to revise Chapter 5, Environmental Protection, of special nuclear material (SNM) license SNM-42. The proposed amendment would allow operations with limited amounts of unirradiated plutonium in specific facilities at the Lynchburg Technology Center (LTC), utilizing only a single high efficiency particulate air (HEPA) filter or scrubber system in the exhaust. In its submittal dated June 10, 2004, BWXT resubmitted Enclosure 4 of May 5, 2004. That resubmittal replaced, in its entirety, Safety Analysis Report 15.40, Lynchburg Technology Center. By letter dated August 9, 2004, BWXT submitted editorial changes to its proposed Chapter 5.

### DISCUSSION

The purpose of this amendment request is to modify the requirements for handling unirradiated plutonium at the LTC. The current license requires two HEPA filters in series for operations involving unirradiated plutonium. The proposed change would permit handling limited quantities of unirradiated plutonium with only one HEPA filter or scrubber system in the exhaust, depending on the particular facility in which the operation is conducted.

BWXT staff performed calculations using Radiological Assessment System for Consequence Analysis (RASCAL) version 3.0 and industry recognized methods. The assumptions for these calculations included the amount of material at risk being equal to the license limit of [REDACTED] of plutonium and total loss of filtration. Using these assumptions, the calculations showed

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Enclosure 2

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that the criteria in 10 CFR 70.61 were not met or exceeded for either onsite workers or offsite public. The BWXT Radiation Protection Program ensures radiation exposures do not exceed applicable limits in 10 CFR Part 20. Therefore, the proposed operations with limited amounts of unirradiated plutonium in facilities having a single HEPA filter or scrubber system would not present an unacceptable hazard.

ENVIRONMENTAL REVIEW

The Nuclear Regulatory Commission (NRC) staff has determined that the proposed change to require only a single HEPA filter or scrubber system in the exhaust for operations with limited quantities of unirradiated plutonium does not adversely affect the public health and safety, the common defense and security, or the environment, and is otherwise in the public interest. The proposed change meets the following criteria, given in 10 CFR 51.22(c)(11):

- there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite,

The scope of the amendment application does not include any operations that are new or significantly different from those currently authorized and being conducted under the license. Specifically, the action levels for monitored stacks presented in Section 5.2.8 of the Environmental Protection chapter are not being changed.

- there is no significant increase in individual or cumulative occupational radiation exposure,

This amendment will not result in operations different from those currently authorized under the license; neither does it alter the types, forms, or quantities of plutonium and related isotopes permitted. Therefore, individual radiation exposures will not increase as a result of activities requested by this application.

- there is no significant construction impact, and

In fact, existing facilities will be used. There will be no new construction for the plutonium analysis.

- there is no significant increase in the potential for or consequences from radiological accidents.

The risks and potential consequences associated with current operations have been evaluated and are not changed by analysis of limited quantities of plutonium in selected LTC facilities with single HEPA or scrubber filtration. These evaluations demonstrate that the risks are acceptable and the potential consequences of a radiological accident are unchanged.

Accordingly, the NRC staff determined that the criteria from 10 CFR 51.22(c)(11) for a categorical exclusion have been met. Therefore, neither an environmental assessment nor an environmental impact statement is warranted for this action.

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**CONCLUSION**

Based on the preceding discussion, the staff concludes that there is reasonable assurance that the changes to be authorized by the issuance of the requested amendment will not constitute an undue risk to the health and safety of the public, workers, or the environment. In addition, the licensee continues to comply with the regulatory requirements imposed by the Commission in 10 CFR Parts 20, 51, and 70. Therefore, the staff recommends approval of the amendment.

The Region II inspection staff has no objections to the proposed action.

**PRINCIPAL CONTRIBUTOR**

Elizabeth Thompson

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