

[REDACTED]

DOCKET: 70-27

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

SUBJECT: SAFEGUARDS EVALUATION REPORT: SUBMITTAL DATED MARCH 31, 2006, REVISION TO FUNDAMENTAL NUCLEAR MATERIAL CONTROL PLAN

BACKGROUND

By cover letter dated March 31, 2006, BWX Technologies, Inc., submitted changes to its Fundamental Nuclear Material Control (FNMC) Plan, dated March 29, 2006. The plan revision meets the provisions of Title 10 of the Code of Federal Regulations (10 CFR) 70.34 in that some of the changes would potentially result in a decrease in effectiveness of the licensee's material control and accounting (MC&A) program.

DISCUSSION

[REDACTED]

General Discussion

The licensee added the phrase "[REDACTED]" to the fifth paragraph to conform with the license.

Chapter 1.0, Abrupt Loss Detection

Section 1.1, Process Unit Loss Detection

[REDACTED]

Enclosure 2

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The licensee added an exemption statement to the first paragraph to correspond to the change in Section 1.1.2.7, and added a paragraph addressing when the test will be performed when safety concerns prevent access to the area.

#### Section 1.1.1, Process Subdivision and Measurement Points

The licensee revised the "Research test reactor fuel element area" to the correct name "Research and Test Reactor and Target facility (RTRT)."

#### Section 1.1.1.2, [REDACTED]

References to [REDACTED] units were removed, as they had been incorrectly added to the Plan.

#### Section 1.1.1.5, Scrap Recovery Area Process

Numerous changes were made to more fully explain the process and to provide alternate process monitoring approaches.

#### Section 1.1.1.7.1, Fuel Production

The licensee removed the phrase "average is updated at least annually" because the average is actually based on the chemical assay.

#### Section 1.1.1.7.2, Scrap Processing

The licensee removed the reference to Process Unit 22, Extraction, since it will not be installed.

#### Section 1.1.2.2, Quality Control Limits

References to Process Unit 22, Extraction, were removed, as well as to recovery Process Unit 6, which is being dismantled.

#### Section 1.1.2.4, Non-normal Data

This was one of the proposed changes for which NRC sent an RAI to the licensee. The licensee subsequently withdrew the requested revision in its entirety, and replaced it with the previously approved version.

#### Section 1.1.2.5, Outliers

The section now includes "process experience" in helping to determine outliers.

#### Section 1.1.2.7, Modifying Alarm Threshold Limits

This was one of the proposed changes for which NRC sent an RAI to the licensee. The

licensee subsequently withdrew the requested revision, replaced it with the previously approved version, and added a paragraph to discuss an exception. The exception is for the scrap recovery Process Unit 3, which historically does not meet calculated alarm threshold limits. The licensee committed to investigate whenever the use of calculated limits result in process alarms for this unit.

#### Section 1.1.2.8, Material Control Test Start Times

The licensee removed the list of [REDACTED] units that [REDACTED], consistent with the change to Section 2.1.2.1.

#### Section 1.2.2, Material Balance Tests

The licensee now includes an explanation for material balance tests undertaken for research and development processes that process [REDACTED] or more within a seven consecutive day period. Also, as a result of the NRC's RAI, the licensee corrected a typographical error.

### Chapter 2.0, Item Monitoring

#### Section 2.1, Item Loss Detection

The licensee added a paragraph addressing when the test will be performed when safety concerns prevent access to the area.

##### Section 2.1.2.1, Item Classification

This was one of the proposed changes for which NRC sent an RAI to the licensee. The licensee subsequently withdrew the requested revision, and provided a new revision that focuses on discussing Category 1A material, provides an updated listing of Category 1A material at the facility, and included an appendix that provides examples of material types at the site.

##### Section 2.1.2.4, Item Classification

This was one of the proposed changes for which NRC sent a request for additional information to the licensee. The licensee subsequently withdrew the requested revision in its entirety, and replaced it with the previously approved version.

##### Section 2.1.4.1, Identification of Item Storage Areas

The licensee made changes to properly identify the current storage areas.

### Chapter 3.0, Alarm Resolution

#### Section 3.1.1.1, Alarm Types



This was revised to be consistent with the regulatory guidance in NUREG-1280.

#### Section 3.1.1.2.1, Abrupt Loss of 5 FKg SSNM

This was revised to remove references to units that will not be installed, and to conform with a previous exemption granted in License Condition SG-3.1.

### Chapter 4.0, Quality Assurance

#### Section 4.1.1.1, Separation of Functions

The licensee deleted a statement regarding a function that is no longer being performed.

#### Section 4.1.2.5, Procedures

The licensee changed some procedure titles in this listing.

#### Section 4.3.1.1, Uranium Content

The licensee added a paragraph to be consistent with License Condition SG-4.1(b).

#### Section 4.3.1.7.1, Met Lab

The paragraph was revised to provide a better explanation of how accountability values are obtained for certain pieces.

#### Section 4.3.1.8.2, Scrap/Solution Processing

The licensee made a minor change since a process will not be installed.

#### Section 4.4.2.4, Biases

The licensee added a definition for what determines a bias-free system, consistent with License Condition SG-4.10.

#### Section 4.4.2.6.1, Verification of Accuracy

The licensee deleted a paragraph that is no longer relevant.

#### Section 4.5.1.4, Form Control

The licensee deleted a duplicate paragraph.

#### Section 4.5.3.1, Method for Calculating the SEID

The licensee added text that is consistent with License Condition SG-5.8.

#### Section 4.6, Accounting

The licensee deleted references to obsolete database program numbers.

#### Section 4.6.1, Records System

A cancelled reference was deleted and replaced with an appropriate term.

#### Section 4.7.1.3, Receiving Procedure

The licensee added a couple of clarifications consistent with License Conditions SG-4.1(a) and SG-4.1(d).

#### Section 4.7.1.6, Receiving Procedure

The licensee revised a paragraph to provide the basis for the receipt sampling of all feed materials.

#### Section 4.7.3.5, Shipping Procedure

The licensee identified the procedure by which the limit of error is calculated, consistent with License Condition SG-4.2.

### ENVIRONMENTAL REVIEW

The staff has determined that the revision of the facility's FNMC Plan involves the safeguards plans and material accountability which are categorically excluded from the requirements to prepare a site-specific environmental assessment. Therefore, in accordance with 10 CFR 51.22(c)(12), neither an environmental assessment nor an environmental impact statement is warranted for this action.

### CONCLUSION

Upon review of the revisions, the staff concludes that the revised high-enriched uranium FNMC Plan contains appropriate and necessary commitments to meet applicable MC&A requirements stipulated in 10 CFR Parts 74.51-59, and that approval of the revised Plan does not reduce the effectiveness of the licensee's safeguards system. Therefore, the existing Safeguards License Condition SG-5.1 should be reissued to reflect the revised FNMC Plan as follows:

SG-5.1 To achieve the performance objectives of 10 CFR 74.51(a) and maintain the system capabilities of 10 CFR 74.51(b) with respect to all activities involving special nuclear material, the licensee shall follow the General Discussion and Chapters 1.0 through 4.0 (all pages dated March 29, 2006) of its "Fundamental Nuclear Materials Control Plan - Special Nuclear Materials License 42." Any revisions to this Plan shall be made in accordance with, and pursuant to, either 10 CFR 70.32(c) or 70.34.

PRINCIPAL CONTRIBUTORS

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