

## SAFETY EVALUATION REPORT

DOCKET: 70-27

LICENSEE: Babcock & Wilcox Nuclear Operations Group, Inc. (B&W NOG)  
Lynchburg, Virginia

SUBJECT: REQUEST TO AMEND CHAPTER 9 OF LICENSE SPECIAL NUCLEAR  
MATERIAL (SNM) -42 LICENSE APPLICATION TO PROVIDE AN INTERNAL  
ACTION LEVEL FOR DISPOSAL OF INDUSTRIAL WASTES NOT  
CONNECTED TO LICENSED PROCESSES

### BACKGROUND

In a letter dated October 20, 2011, B&W NOG submitted a request to amend Chapter 9 of the License Application (LA) to insert a paragraph defining an internal action level for disposal of industrial and non-radioactive waste streams for which additional sampling and analysis would take place.

In an e-mail dated June 29, 2012, the NRC submitted a Request for Additional Information (RAI) regarding the request. B&W NOG responded to the request in a letter dated July 25, 2012.

### DISCUSSION

Staff from the Fuel Manufacturing Branch and the Office of Federal and State Materials and Environmental Management Programs (FSME) reviewed the request using the requirements in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20 and the LA.

The phenomena of elevated uranium content in non-radiological process sludge at publically owned treatment works in certain locations, had been previously identified in NUREG-1775, "ISCORS Assessment of Radioactivity in Sewage Sludge." Table 1 of the amendment request provided the results of a sampling campaign to determine if this was occurring at B&W NOG, or was from the well known elevated levels of natural uranium due to high intrusions of uranium ore in local rock formations.

B&W NOG provided additional details regarding the number of samples and the time period of the study in the response to the RAI.

Additional material in the RAI response included details of the sanitary treatment system and a planned biological denitrification (bacteria) process, including flow diagrams.

Based on the evaluation of the licensee's submittal, the staff has determined that the information provided was adequate to demonstrate that radiological processes are not connected to the waste treatment process and routine sampling will be conducted to ensure compliance with the license.

Enclosure

## ENVIRONMENTAL REVIEW

The staff has determined that the change requested is related to administrative matters which do not (1) result in a significant change to the types or amounts of any effluents, (2) result in a significant increase in an individual or cumulative occupational radiation exposure, (3) result in any construction impact, or (4) significant increase in the potential for or consequences from radiological accidents, and are therefore in accordance with 10 CFR 51.22(c)(11) categorically excluded from the requirements to prepare a site-specific Environmental Assessment.

## RECOMMENDATION

It is recommended that the following paragraph be added to Chapter 9 of the License Application:

9.6.4 B&W NOG may dispose of industrial and other waste treatment products, from processes not connected to or employing radioactive materials, which have been demonstrated not to exceed 30 pCi total uranium per gram, in a Subtitle C or Subtitle D facility, without continuing NRC controls. An annual uranium isotopic analysis shall be performed of these processes. If 30 pCi total uranium per gram is exceeded, disposal of the waste shall be suspended and an appropriate investigation and corrective action(s) shall be taken. New processes or modifications to existing processes shall be evaluated and records maintained in accordance with 10 CFR 70.72. Records of the analysis and disposition location(s) of the material shall be maintained by B&W NOG for 3 years.

## PRINCIPAL CONTRIBUTORS

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