



Nuclear Operations Division

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November 2, 2007
07-187

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

- Reference:
1. License SNM-42, Docket 70-27
 2. Letter dated 6/27/2007: Douglas M. Collins (NRC) to Roger Cochrane (BWXT), "Response to disputed NOV 70-27/2006-08-01".
 3. Letter dated July 26, 2007: Roger P. Cochrane (BWXT) to U.S. NRC, "Reply to Notice of Violation 70-27/2006-08-01
 4. Letter dated 10/5/2007: Douglas M. Collins (NRC) to Roger Cochrane (BWXT), "Response to Revised Notice of Violation No. 70-27/2006-08-01."

Subject: Reply to Notice of Violation 70-27/2006-08-01

Gentlemen:

In response to the U.S. Nuclear Regulatory Commission's stance on Violation 70-27/2006-08-01 provided in the referenced letter dated October 5, 2007, BWXT is providing this reply to the violation. The Notice of Violation 70-27/2006-08-01 (Revised) was received from the NRC in a letter originally dated June 27, 2007. BWXT's response is provided as an enclosure to this letter.

Sincerely,

Roger Cochrane
General Manager
BWXT, Nuclear Operations Division

Enclosure

c: NRC, Resident Inspector
NRC, WC Gleaves
NRC, Region II, Regional Administrator

TE07

NHSS

ENCLOSURE

REPLY TO NOTICE OF VIOLATION 70-27/2006-008-01

VIOLATION 70-27/2006-008-01 (Revised 6/27/07)

During NRC inspection activities conducted between October 1, and November 11, 2006, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Safety Condition S-1 of NRC license SNM-42 authorizes the use of nuclear materials in accordance with Chapters 1-11 of the License Application submitted on March 24, 2006, and supplements thereto.

Section 7.3 of the License Application requires facilities and processes to be specifically designed with the fire safety consideration, and states, in part, that design features in fire safety shall include ventilation controls as determined by a Fire Safety Analysis (FSA).

The FSA contained in Safety Analysis (SAR) 15.35 identifies ventilation controls, specifically involving smoke detectors located in the exhaust ducts of three radiological controlled areas which will shut down ventilation fans to minimize the oxygen available to a potential fire.

Contrary to the above, as of November 11, 2006, smoke detectors located in the exhaust ducts of three radiological controlled areas, which are identified as ventilation controls in the FSA of SAR 15.35, were not capable of shutting down ventilation fans to minimize the oxygen available to a potential fire.

Reason for the Violation:

In September 2006, BWXT performed a comparison of SAR 15.35 non-IROFS controls with its applicable area, and determined that the non-IROFS Fire Safety control to shutdown a ventilation system did not exist as listed in the SAR. BWXT initiated an investigation and subsequent corrective actions to determine the causal factors of the loss of the non-IROFS Fire Safety control.

When the production system in the area was installed in 1973, the smoke detectors were installed in the exhaust ducts to shutdown the ventilation system in the event of a fire in the area. The purpose of these ventilation controls was to preclude property damage and business interruption concerns due to a fire in the processing area, and to preclude fire events with consequence thresholds that do not exceed those in 10 CFR 70.61.

In 1999 and 2000, during the development of the Integrated Safety Analysis, a Process Hazards Analysis for the area was performed. During the development of accident scenarios, a sustained fire in the area was raised as an issue. At this time it was determined that there was no credible fire accident that could result in the consequences of concern noted in 10 CFR 70.61. As indicated in Reference 3, BWXT

had determined that, in order to provide a centralized documentation of Safety controls, the smoke detection and other non-IROFS controls would be listed in the ISA Summary.

Between October 2000 and August 2001, the ISA Summary for the area was completed and the Safety controls including non-IROFS were incorporated into the SAR.

In December 2003, the ventilation system in the area was modified. A review of the documentation indicated that it is questionable as to whether or not the ventilation for the existing non-IROFS fire safety control was considered. Again in May 2004, a major modification in the area was completed with again what appeared to be no consideration of the non-IROFS Fire Safety control.

Interviews with personnel involved in the implementation of the ventilation system modifications indicated that "extra wiring" was disconnected and there was no knowledge by the field installation crew that the extra wiring was part of the subject Fire Safety control. It was determined that when the "extra wiring" was disconnected, the fire safety control was disabled.

Causal factors for removal of safety related equipment were determined to be:

1. The review of design changes to the ventilation system in the area for its effect on the non-IROFS Fire Safety control was less than adequate.
2. The identification of the existing non-IROFS Fire Safety control on the ventilation system during change installation was less than adequate.

Corrective Steps Which Have Been Taken:

An IH&S Fire Protection Evaluation, completed in November 2006, concluded that a fire, fueled by the hydraulic fluids in the area, does not create a credible fire accident that could result in the consequences of concern noted in 10 CFR 70.61. As result, it was determined that there was no need to shutdown the ventilation system in the area.

SAR 15.35 was revised in February 2007 to replace the shutoff of the ventilation system by smoke detectors with a non-IROFS Fire Safety control on the hydraulic fluid. This decision is agreement with Chapter 7 of the License Application which states: "The fire protection program is designed to ensure the radiological consequences of a fire are understood and that suitable fire safety controls are in place to protect workers, the public and the environment from the radiological consequences of a fire involving or threatening licensed material", the ISA Summary also states in Section 7.2.1: "A Fire Safety Analysis (FSA) shall be performed as part of the ISA described in Chapter 3. The FSA is performed to assess the potential for fire at any location in the facility and to evaluate the adequacy of controls implemented to prevent the fire or mitigate the consequences of a fire. As part of the FSA process, combustible loading and the

potential for fire propagation are qualitatively assessed, administrative fire prevention controls are reviewed and the adequacy of fire suppression and detection systems are assessed. IROFS are identified where a fire could be of sufficient magnitude to cause a criticality, radiological or chemical consequence listed in 10 CFR 70.61." Furthermore, a technical evaluation of a fire in the area demonstrated employee exposure would not exceed the 10 CFR 20 limit of 5 REM.

Corrective Steps Taken To Avoid Future Violations:

1. Implement a method to utilize the SAR as a release tool for change.

Completion Date: January 31, 2008

Date When Full Compliance Will Be Achieved: January 31, 2008