

NOTICE OF VIOLATION
AND
PROPOSED IMPOSITION OF CIVIL PENALTY

Watts Bar Nuclear Plant
Unit 1

Docket No.: 05000390
License No.: NPF-90
EA-19-092

During an NRC investigation completed on May 17, 2019, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the NRC proposes to impose a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205. The particular violations and associated civil penalty are set forth below:

- A. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Tennessee Valley Authority (TVA) Procedure NPG-OPDP-1, "Conduct of Operations," Revision 0035, Section 1.0, "Purpose", states that a purpose of this procedure is to, "provide guidelines and instructions to ensure shift operations are conducted in a safe and conservative manner."

Section 3.3.3 "Conservative Decision Making," Subpart A, states, in part, "Stop when unsure and proceed in a deliberate and controlled manner."

Section 3.3.3 "Conservative Decision Making," Subpart E, states, in part, "When the control room team is faced with an emerging issue: . . . 1. Do not allow production and cost to override safety. . . 3. question verify and validate available information. . . 5. Do not proceed in the face of uncertainty."

Contrary to the above, on November 11, 2015, the licensee failed to accomplish activities affecting quality in accordance with TVA Procedure NPG-OPDP-1. Specifically, during a startup of Watts Bar Nuclear Plant (WBN) Unit 1, when faced with an emerging issue, Main Control Room (MCR) operators did not ensure that shift operations were conducted in a safe and conservative manner; did not stop when unsure and proceed in a deliberate and controlled manner; did not validate available information; allowed production to override safety; and proceeded in the face of uncertainty. In order to stay on schedule, Outage Control Center (OCC) personnel urged the Shift Manager to proceed, and the Shift Manager decided to proceed and directed MCR operators to continue with startup activities, including conducting a reactor heat-up and a surveillance test of the residual heat removal (RHR) system with normal letdown out of service. The Shift Manager, with input from the OCC, directed the MCR operators to proceed without validating the capability of excess letdown to control pressurizer water level and without having or using approved or modified written procedures for responding to off-normal events during the evolution (uncontrolled pressurizer water level increase). As a direct result, an uncontrolled increase in the pressurizer water level occurred and the MCR operators did not follow approved

procedures to arrest the uncontrolled pressurizer water level increase. Neither the OCC personnel nor the MCR operators had the knowledge, training, or procedural guidance to be certain that the directed reactor operations could be conducted successfully given the current reactor Mode and the equipment configuration at the time.

This is a Severity Level III violation (Enforcement Policy Section 6.1).

Civil Penalty – None.

- B. Title 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” states, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

TVA Procedure NPG-OPDP-1, “Conduct of Operations,” Revision 0029, Section 5.1.D, “Procedural Adherence,” states, “Plant equipment shall be operated in accordance with written approved procedures as discussed in [Procedure] NPG-SPP-01.2, Administration of Site Technical Procedures.”

TVA Procedure NPG-SPP-01.2.1, “Interim Administration of Site Technical Programs and Procedures for Watts Bar 1 and 2”, Rev. 0002, Section 3.2.5B, states, “Each step [of a continuous use procedure] shall be performed exactly as written and in the exact sequence specified unless the procedure allows working steps out of sequence.”

WBN Procedure 1-SOI-74.01, “Residual Heat Removal (RHR) System,” Revision 0002, a continuous use procedure, Section 5.8.2, Steps [11], [18], and [21], state that the required sequence of plant operations is to open Valves 1-FCV-74-1 and 1-FCV-74-2 (Step 11) and start the RHR pump (Step 18) before establishing RHR letdown (Step 21).

Contrary to the above, on November 11, 2015, the licensee failed to accomplish an activity affecting quality, operating the RHR system, in accordance with written approved procedures. Specifically, the WBN Unit 1 MCR operators did not follow Procedure 1-SOI-74.01, “Residual Heat Removal System,” when they re-established RHR letdown without first starting the RHR pump.

- C. 10 CFR Title 10 CFR Part 50, Appendix B, Criterion XVII, “Quality Assurance Records,” states, in part, that, “Sufficient records shall be maintained to furnish evidence of activities affecting quality,” and that these records “shall include” operating logs.

TVA Procedure NPG-OPDP-1, “Conduct of Operations,” Revision 0035, Section 3.6, “Log Keeping,” Paragraph A, states, “Operations department logs, established for key shift positions, contain a narrative of the plant’s status and of all events and record the data necessary to maintain an accurate history of plant operation.” Paragraph B states, “All members of the shift shall ensure entries are made for their respective areas of responsibility.” Paragraph C states that “[l]og entries document all major equipment manipulations and plant configuration changes” and that logs “should provide enough detail that events can be reconstructed at a later date.” Paragraph I states, “Shift management reviews the logs to ensure that the logs are accurate and appropriate.”

Contrary to the above, on November 11, 2015, the licensee failed to maintain operations department logs that contained a narrative of all events necessary to maintain an accurate history of plant operation and failed to ensure that the logs were accurate and appropriate.

On November 11, 2015, the WBN Unit 1 MCR operators were conducting a plant startup after a maintenance outage in accordance with General Operating Instruction (GOI) 1-GO-1, "Unit Startup from Cold Shutdown to Hot Standby." During the startup, the MCR removed RHR letdown from service, leaving excess letdown in service to control pressurizer water level while continuing with the startup. After the MCR operators removed RHR from service, the pressurizer water level rose uncontrollably from approximately 45 percent to 79 percent over the next hour and twenty minutes. Prior to exceeding the pressurizer high level alarm, the MCR operators opened RHR loop suction valves (Valves 1-FCV-74-1 and 1-FCV-74-2) and placed RHR letdown back in service to regain pressurizer water level control. The MCR operators conducted the above major equipment manipulations and plant configuration changes and did not make any log entries to document the loss of control of pressurizer level or the actions taken to regain control. As a result, the logs failed to provide enough detail for the NRC or the licensee to reconstruct the events later. Shift management also did not review the logs to ensure that the logs were accurate and appropriate.

Violation B and C are characterized together as a Severity Level III Problem (Enforcement Policy Section 6.1 and 6.9).

Civil Penalty - \$300,000

- D. Title 10 CFR 50.9(a) requires that information provided to the Commission by a licensee or information required by statute or by the Commission's regulations, orders, or license conditions to be maintained by the licensee shall be complete and accurate in all material respects.

Contrary to the above, on December 18, 2015, the licensee provided information to the Commission that was not complete and accurate in all material respects. Specifically, the NRC's Office of Investigations (OI) interviewed several TVA WBN employees regarding a Unit 1 startup on November 11, 2015, and a decision to continue with the startup while controlling pressurizer water level using only excess letdown. One of the employees interviewed that day, the WBN Unit 1 Shift Manager who was on duty on November 11, 2015, provided incomplete and inaccurate information to OI.

During his OI interview, the Shift Manager stated that no one had brought forth concerns regarding the Unit 1 startup before, during, or after the November 11, 2015, event. Additionally, the Shift Manager made several affirmative statements to OI indicating his belief that using only excess letdown would be successful in controlling pressurizer water level. The Shift Manager also stated that there was no significant pushback from the MCR operators and represented that the decision to continue with the startup was not influenced by anyone outside the MCR.

The information provided by the Shift Manager during his OI interview was not complete and accurate. The Shift Manager made contradictory statements in emails sent before and after his NRC OI interview and during subsequent non-NRC interviews, indicating that he had been talked into moving forward with the startup, that moving forward was really a senior management decision, and that he had not told this to the NRC. In subsequent non-NRC interviews, he made statements indicating that he had no idea if excess letdown would work and suspected it would not. He also admitted knowing that the MCR operators did not want to move forward with the startup, which is consistent with statements made by other MCR operators in NRC and non-NRC interviews indicating that they expressed concerns to the Shift Manager that excess letdown would not work and it was not a good idea to proceed.

This information was material to the NRC because it concerned the loss of control of the pressurizer level during startup of the reactor on November 11, 2015, an event that the NRC was actively inspecting at the time.

This is a Severity Level II violation (Enforcement Policy Section 6.9).
Civil Penalty - \$303,471

- E. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

TVA Procedure NPG-SPP-01.2.1, "Interim Administration of Site Technical Programs and Procedures for Watts Bar 1 and 2", Rev. 0002, establishes the minimum requirements for preparation, revision, review, approval, cancellation, and administrative hold of site and common technical procedures. Section 3.2.16, "Minor/Editorial Changes," Subsection A, states, "Minor changes do not require an AOR [Authorizing Organization Review], 10 CFR 50.59 review, 10 CFR 72.48 review, or PORC [Plant Operations Review Committee] review. Minor changes shall not change the intent of the procedure or alter the technical content or sequence of procedural steps."

Contrary to the above, on November 9, 2015, the licensee failed to follow TVA Procedure NPG-SPP-01.2.1 when revising General Operating Instruction 1-GO-1, "Unit Startup from Cold Shutdown to Hot Standby." Specifically, during a WBN Unit 1 startup from Cold Shutdown to Hot Standby, the Manager of Nuclear Plant Shift Operations initiated a change to GOI 1-GO-1, Step 5.2.1.[8] from "THEN **RAISE** RCS to between 135 and 160F ..." to "THEN **INITIATE** RCS heat-up to between 135 and 160F ..." using the minor/editorial change process described in TVA Procedure NPG-SPP-01.2.1. The Manager of Nuclear Plant Shift Operations directed a procedure writer to make this change, then acted as Independent Qualified Reviewer (IQR) and final approver of the procedure change. However, the change to the GOI was not minor/editorial, in that it altered the technical intent of the GOI and changed the sequence of GOI steps by allowing the MCR operators to continue with the GOI and draw a bubble in the pressurizer without having to wait for the RCS temperature to be between 135 and 160°F.

This is a Severity Level III violation (Enforcement Policy Section 6.1).
Civil Penalty - \$300,000

Pursuant to the provisions of 10 CFR 2.201, the Tennessee Valley Authority is hereby required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a copy to the Document Control Desk, Washington, DC 20555-0001, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty. This reply should be clearly marked as a "Reply to a Notice of Violation (EA-19-092)" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken to avoid further violations; (4) your plan and schedule for completing short and long term corrective actions and (5) the date when full compliance will be achieved.

Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not

received within the time specified in this Notice, the NRC may issue an order or a Demand for Information requiring you to explain why your license should not be modified, suspended, or revoked or why the NRC should not take other action as may be proper. Consideration may be given to extending the response time for good cause shown.

TVA may pay the civil penalty in accordance with NUREG/BR-0254 and by submitting to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, a statement indicating when and by what method payment was made, or may protest imposition of the civil penalty in whole or in part, by a written answer within 30 days of the date of this Notice addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within 30 days of the date of this Notice, the NRC will issue an order imposing the civil penalty. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation (EA-19-092)" and may: (1) deny the violations listed in this Notice, in whole or in part; (2) demonstrate extenuating circumstances; (3) show error in this Notice; or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the response should address the factors addressed in Section 2.3.4 of the Enforcement Policy. Any written answer addressing these factors pursuant to 10 CFR 2.205 should be set forth separately from the statement or explanation provided pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205 regarding the procedure for imposing (a) civil penalty.

Upon failure to pay any civil penalty which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205 to be due, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The responses noted above (i.e., Reply to Notice of Violation, Statement as to payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, One White Flint North, 11555 Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S., Nuclear Regulatory Commission, Region II, 245 Peachtree Center Ave. N.E., Suite 1200, Atlanta, GA 30303, and the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice.

Your response will be made available electronically for public inspection in the NRC Public Document Room or in the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy or proprietary information. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of

personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 6th day of November 2020.