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December 7, 2020

~~Confidential~~
Via Email

Mr. George A. Wilson
Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
One White Flint North, 11555
Rockville, MD 20852-2738
George.Wilson@nrc.gov

SUBJECT: Reply and Answer to Notice of Violation (EA-19-092)

References: NRC Letter dated November 6, 202, "Tennessee Valley Authority – Notice of Violation and Proposed Imposition of Civil Penalty - $903,471; NRC Office of Investigations Report Number 2-2016-042, NRC Inspection Report No. 050000390/2020013, and Withdrawal of Previously Documented Non-Cited Violations"

Dear Mr. Wilson:

On behalf of the Tennessee Valley Authority (TVA), I am submitting the enclosed Reply and Answer (contesting civil penalty, in part) to Notice of Violation (EA-19-092).

By the above-referenced November 6, 2020, letter, the Nuclear Regulatory Commission (NRC) notified TVA of four Escalated Enforcement Severity Level III Violations and one Escalated Enforcement Severity Level II Violation, as well as a proposed Civil Penalty of $903,471.

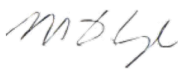
A remote pre-decisional enforcement conference was held on July 20-22, 2020, at which TVA disputed the associated apparent violations.

Pursuant to 10 C.F.R. § 2.205(b), the enclosure to this letter contains TVA's bases for denying the violations in part and explains why the penalty should not be imposed in its entirety.

This letter contains no NRC commitments.

If you have questions, please contact me directly.

Respectfully,



Michael G. Lepre
Counsel for TVA

Enclosure: Reply to Notice of Violation, EA-019-092

cc: Tennessee Valley Authority
Mr. T. Rausch, Chief Nuclear Officer
Mr. J. Barstow, Vice President, Nuclear Regulatory Affairs and Support Services

U.S. Nuclear Regulatory Commission
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NRC Resident Inspector, Watts Bar Nuclear Power Plant (by email)
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Enclosure

Reply to Notice of Violation, EA-019-092
Answer to Notice of Violation (Contesting Civil Penalty in Part), EA-091-092

I. Reply to Notice of Violation

The NOV asserts that TVA committed five violations warranting escalated enforcement action. The NOV acknowledges that these violations "did not cause any actual consequences" but asserts that the "potential consequences associated with these violations could have been significant under different circumstances." The five violations alleged by the NOV are:

A. Violation of 10 C.F.R. Part 50, Appendix B, Criterion V, on November 11, 2015, based on TVA employees' failure to follow TVA procedure OPDP-1, "Conduct of Operations," Section 3.3.3, "Conservative Decision Making," Subparts A & E, when facing an emerging issue. The NOV characterizes this violation at Severity Level III. The NRC determined that corrective action credit is warranted for this violation and did not impose a civil penalty.

B. Violation of 10 C.F.R. Part 50, Appendix B, Criterion V, on November 11, 2015, based on TVA employees' failure to follow TVA procedure 1-SOI-74.01, "Residual Heat Removal System," when controlling pressurizer level by re-establishing RHR letdown without first restarting the RHR pump. The NOV characterizes the TVA employees' actions as "willful" and, therefore, characterizes this violation at Severity Level III. The NRC determined that identification credit and corrective-action credit are not warranted for this violation and imposed a $300,000.00 civil penalty.

C. Violation of 10 C.F.R. Part 50, Appendix B, Criterion V, on November 11, 2015, based on TVA staff's failure to follow TVA procedure by failing to maintain adequate operations department logs. The NOV characterizes TVA staff's actions as "willful," but due to extenuating circumstances, the NRC did not consider the alleged willfulness when characterizing the violation at Severity Level III. The NRC determined that corrective action credit is warranted for this violation, but the NRC also concluded that Violations B and C should be characterized together as a Severity Level III Problem and imposed a $300,000.00 civil penalty jointly for the two violations.

D. Violation of 10 C.F.R. § 50.9 by a TVA employee on December 18, 2015, based on his failure to provide complete and accurate information to the NRC. The NOV characterizes the employee's actions as "willful" and, therefore, characterizes this violation at Severity Level II. The NRC determined that identification credit and corrective-action credit are not warranted for this violation and imposed a $303,471.00 civil penalty.

E. Violation of 10 C.F.R. Part 50, Appendix B, Criterion V, on November 9, 2015, based on a TVA employee's failure to follow TVA procedure NPG-

> SPP-01.2.1, "Interim Administration of Site Technical Programs and Procedures for Watts Bar 1 and 2," by processing as "minor/editorial" a procedure change did not meet the criteria to be processed as such. The NOV characterizes the employee's behavior as "willful" and, therefore, characterized this violation at Severity Level III. The NRC determined that identification credit and corrective-action credit are not warranted for this violation and imposed a $300,000.00 civil penalty.

The NOV acknowledges that "TVA has taken discrete corrective actions to address many of the root and contributing causes that gave rise to the underlying violations." The NOV asserts, however, that TVA's corrective actions did not include "broad, comprehensive and substantive corrective actions to address the willful aspects of any of the violations." The alleged willfulness of TVA staff and the alleged insufficiency of TVA's corrective actions in relation to willful misconduct served as the NRC's justification for denying corrective-action credit on Violations B, D and E.

Pursuant to 10 C.F.R. § 2.201(a), TVA is required to submit a written statement or explanation to the NRC's Director of Enforcement addressing: the reason for the violation or, if contested, the basis for disputing the violation; the corrective steps that TVA has taken and the results achieved; the corrective steps that TVA will achieve, and the date when TVA will achieve full compliance. This letter fulfills TVA's requirement to respond to the NOV.

This letter also is written in the context of TVA's Pre-decisional Enforcement Conference ("PEC") held in July 2020, at which TVA presented the results of its investigation into the events underlying the NOV's allegations. All five alleged violations arise from events surrounding the November 2015 planned maintenance outage of Watts Bar Nuclear Plant ("WBN") Unit 1, including the pressurizer water-level excursion event involving the Residual Heat Removal ("RHR") system that occurred on November 11, 2015 ("RHR Event"). TVA's PEC presentation showed that, although mistakes were made in connection with the RHR Event, those mistakes were (with one exception[1]) due to weaknesses in operator fundamentals, not deliberate efforts to violate NRC rules or TVA procedures. Further, TVA's PEC presentation explained TVA's extensive corrective actions taken to address the problems identified in response to the RHR Event.

The Notices of Apparent Violation that the NRC issued to TVA on March 9, 2020 ("NOAV") regarding the RHR Event alleged "deliberate" misconduct, so TVA's PEC Presentation addressed the issue of deliberateness. The NOV, in contrast, alleges "willful" misconduct, which is a broader standard that includes careless disregard.

[1] TVA did not contest that certain incomplete or inaccurate statements made by the Shift Manager during an Office of Investigations ("OI") interview were deliberate.

Therefore, this reply addresses whether the alleged violations involved careless disregard.

According to the NRC Enforcement Manual, careless disregard means more than mere negligence.[2] Further, careless disregard involves voluntary or intentional actions or a lack of action "other than a mistake."[3] Careless disregard occurs when a person is acting with reckless disregard or indifference to requirements.[4] The NOV is silent on facts justifying the characterization of TVA employees' conduct as reckless disregard or indifference for TVA procedures. As explained by the NRC Enforcement Policy, the "careless disregard" standard requires that an individual be "aware that the action might cause a violation" but to proceed "without first ascertaining whether a violation would occur." Consequently, individuals acting with the belief they are complying with NRC rules and TVA procedures are not acting with careless disregard, even if their understanding of the rules and procedures turns out to be mistaken. The evidence does not support allegations of careless disregard toward TVA procedures during the November 2015 outage.[5]

A. Violation A: Non-conservative decision-making on November 11, 2015

1. TVA denies the alleged violation of 10 CFR Part 50, Appendix B, Criterion V.

As TVA acknowledged at its PEC, non-conservative decision-making contributed to the RHR Event on November 11, 2015. Specifically, TVA acknowledged that the Shift Manager did not practice conservative decision-making by proceeding in the face of uncertainty, not verifying and validating available information, and allowing production and cost to override safety.[6] TVA also found that the Shift Manager made the decision to proceed with taking RHR out of service and allowing the heat-up to continue and directed the operators to take this action. TVA also acknowledged non-conservative decision-making by personnel in the Outage Control Center ("OCC"). In fact, TVA had come to this conclusion in 2016 as part of its Root Cause Analysis

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[2] Nuclear Regulatory Commission Enforcement Manual, Revision 11, Change 7 (Dec. 1, 2020) at 16-17.

[3] *Id.* at 246.

[4] *Id.* at 247.

[5] TVA's ability to respond to the NOAV and the NOV has been constrained by lack of access to the complete investigative record. The NRC declined to provide TVA with a copy of the NRC OI report before TVA's PEC and, despite continued requests, still has not provided the report. Further, the NRC has yet to provide TVA with transcripts from any of the relevant PECs, including TVA's own PEC. The NOV is based on events that occurred approximately five years ago, and the passage of time and turnover of employees makes it impossible for TVA to replicate the multi-year investigation undertaken by the NRC OI.

[6] TVA Response to Apparent Violation 4, pg. 15.

("RCA") into the events of November 11, 2015. The RCA found that a lack of a conservative bias and an imprecise understanding of the pressurizer level response during the heat-up operation were causal to the incident.[7]

In Violation A, the NRC has also determined that there was a lack of conservative decision-making and concluded that the related TVA staff actions were not willful.[8] However, the NRC cited two operators (the Shift Manager and the Operator at the Controls ("OAC")) who were on duty at the time for non-willful violations of their NRC reactor operator licenses. The NRC bases these citations on the argument that their actions failed to conform to safety culture attributes in TVA procedure OPDP-1, "Conduct of Operations," which in turn caused a violation of the requirement in their licenses to observe operating procedures and other conditions specified in the facility license authorizing operation. With regard to the OAC, TVA believes that the factual record does not support an allegation of a violation of safety culture as reflected in TVA procedure OPDP-1. Rather, the record reflects that the OAC acted conservatively by raising concerns up the chain of command and only proceeding once he understood those concerns to have been addressed and resolved.

As TVA also explained in detail as part of its PEC, the provisions upon which the NRC is basing Violation A are safety culture traits incorporated into OPDP-1 and thus cannot and should not serve as the basis for violations, because the Commission has stated that it will not enforce safety culture traits against licensees.

a. <u>TVA asserts that provisions allegedly violated in OPDP-1 are safety culture traits not enforceable by the NRC.</u>

The NOV states that the "NRC carefully considered TVA's comments regarding the enforceability of [Section 3.3.3] of OPDP-1 and concluded that a violation can be cited and is warranted."[9] The NRC provided no comment on TVA's discussion of the Commission's decision not to enforce safety culture traits and offered no explanation why the Staff believes that safety culture traits incorporated into OPDP-1 can now be

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[7] Watts Bar Nuclear CR 1127691, Revision 0, Inadequate Management of an Outage Emergent Issue Results in Challenge to Plant Operation, Root Cause Analysis, pg. 15 [hereinafter referred to as the "RCA"].

[8] NRC Letter to Jim Barstow, Tennessee Valley Authority – Notice of Violation and Proposed Imposition of Civil Penalty - $903,471; NRC Office of Investigations Report Number 2-2016-042, NRC Inspection Report No. 050000390/2020013, and Withdrawal of Previously Documented Non Cited Violations, Nov. 6, 2020, Enclosure 2, pg. 6.

[9] *Id.* at 3.

the basis of enforcement action. As a result, TVA reiterates its objections to the Staff's enforcement of the safety culture traits in OPDP-1 through Violation A.[10]

The Safety Culture Policy Statement sets forth the Commission's expectation that licensees establish and maintain a positive safety culture.[11] The Policy Statement includes a list of nine traits that further a positive safety culture.[12] These traits describe "a pattern of thinking, feeling, and behaving that emphasizes safety, particularly in goal conflict situations, e.g., production, schedule and the cost of the effort versus safety."[13]

Among the traits supporting a good safety culture is an "Environment for Raising Concern," which involves a safety conscious work environment where personnel feel free to raise safety concerns without fear of retaliation, intimidation, harassment, or discrimination.[14] Another trait is "Questioning Attitude," which involves individuals avoiding complacency and continuously challenging existing conditions and activities in order to identify discrepancies that might result in error or inappropriate action. The Policy Statement states that it is the "Commission's expectation that all individuals and organizations, performing or overseeing regulated activities involving nuclear materials, should take the necessary steps to promote a positive safety culture by fostering these traits as they apply to their organizational environments."[15] Consistent with this Commission expectation, TVA incorporated the Safety Culture Policy Statement's traits into OPDP-1.

TVA pointed out during its PEC that the conservative decision-making provisions in Section 3.3.3 of OPDP-1, upon which the Staff bases Violation A, are safety culture traits incorporated into OPDP-1 consistent with the Commission's Policy Statement. TVA also pointed out how the language in Section 3.3.3 of OPDP-1 mirrors that in NUREG-2165, the Safety Culture Common Language. NUREG-2165 provides common language to assist in the implementation of the Commission's Safety Culture Policy Statement.[16]

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[10] TVA's arguments related to the non-enforceability of the provisions in OPDP-1 that are the basis of Violation A are more fully outlined in TVA's response to Apparent Violation 4 submitted to the NRC Enforcement Staff as part of TVA's PEC and are incorporated by reference herein.

[11] Final Safety Culture Policy Statement, 76 Fed. Reg. 34,773, 34,773 (June 14, 2011).

[12] *Id.* at 34,777.

[13] *Id.* at 34,777.

[14] *Id.* at 34,778.

[15] *Id.* at 34,778. *See also* NRC Inspection Procedure 95003.02, Guidance for Conducting an Independent NRC Safety Culture Assessment, which reflects the NRC's intention that licensees incorporate safety culture traits into their procedures.

[16] Safety Culture Common Language, NUREG-2165, pg. v (March 2014).

The following provisions in Section 3.3.3 of OPDP-1 are those that the NRC Staff asserts were violated by the two licensed operators and which exhibit safety culture traits:

- Avoid hasty decisions. Stop when unsure and proceed in a deliberate and controlled manner. There are few time critical actions that require immediate response.[17]

- When the control room team is faced with an emerging issue:

    - Do not allow production and cost to override safety.

    - Do not challenge the safe operating envelope.

    - Question, verify and validate available information.

    - Do not proceed in the face of uncertainty.

    - Human Performance (HU) tools (advocating your position, peer checking, oversight, questioning attitude, etc.) are utilized and traps (group think, etc.) are avoided when reaching operating decisions.[18]

This type of language, promoting positive safety culture by operators, such as stopping when unsure, taking the time to proceed in a deliberate and controlled manner, communicating when an emerging issue arises, obtaining information related to the emerging issue is captured in NUREG-2165. The following language, directly corresponding to the above provisions in OPDP-1, is presented in NUREG-2165 for use by licensees:

> Challenge the Unknown: Individuals stop when faced with uncertain conditions. Risks are evaluated and managed before proceeding.
>
> Examples:
>
> (1) Leaders reinforce expectations that individuals take the time to do the job right the first time, seek guidance when unsure, and stop if an unexpected condition or equipment response is encountered.
>
> . . .

[17] OPDP-1, Section 3.3.3, Subpart A.

[18] OPDP-1, Section 3.3.3, Subpart E.

(5) Individuals stop work activities when confronted with an unexpected condition, communicate with supervisors, and resolve the condition prior to continuing work activities. When appropriate, individuals consult system and equipment experts.

. . .

Conservative Bias: Individuals use decision making practices that emphasize prudent choices over those that are simply allowable. A proposed action is determined to be safe to proceed, rather than unsafe in order to stop.

Examples:

. . .

(1) Leaders take a conservative approach to decision making, particularly when information is incomplete or conditions are unusual.

NUREG-2165 also directs executives and senior manages to establish strategic and business plans that reflect the importance of nuclear safety over production, just as Section 3.3 states that production and cost should not override safety.[19] The Safety Culture Policy Statement also emphasizes prioritizing safety over concerns about production, schedule, and cost.[20] Overall, it is apparent that the provisions on conservative decision-making in OPDP-1 cited by the NRC reflect the Safety Culture Common Language and fulfill the expectations set out in the Commission's Safety Culture Policy Statement.

Since the provisions in OPDP-1 cited by the NRC are based on the Commission's Safety Culture Policy Statement, they are not enforceable requirements. The Policy Statement states that "policy statements cannot be considered binding upon, or enforceable against, NRC or Agreement State licensees and certificate holders."[21] The Federal Register notice publishing the Policy Statement included a public comment inquiring whether the NRC would enforce adherence to the Policy Statement. In response to this comment, the NRC responded that the Commission had chosen to use a policy statement to engage stakeholders rather than an enforceable regulation. The NRC also pointed out that the Policy Statement, "<u>while not enforceable</u>, guide[s] the activities of the NRC staff and express the

[19] *See* NUREG-2165 at 8.

[20] 76 Fed. Reg. at 34,777.

[21] *Id.* at 34,775.

Commission's expectations."[22] In sum, when issuing the Safety Culture Policy Statement, the NRC was directly asked whether it would enforce the Policy Statement and the elements therein and responded that it would not and, in fact, could not since it was only a policy statement and not a regulation.

The Policy Statement also states that the traits of a positive safety culture "were not developed to be used for inspection purposes."[23] The Policy Statement further explains that it is "[i]ndividuals and organizations performing regulated activities [that] bear the primary responsibility for safety and security."[24] TVA has acknowledged that it has a responsibility to promote conservative decision-making and to facilitate a positive safety culture and has undertaken various actions since 2016 to improve safety culture with the cooperation of the NRC.[25]

As TVA also pointed out at its PEC, the decision not to enforce the Safety Culture Policy Statement and the traits defined therein was made explicit by the Commissioners approving the Policy Statement. In reviewing the initial proposed Federal Register notice for the Policy Statement, Commissioner Svinicki found that the statement, "[t]he NRC will include appropriate means to monitor safety culture in its oversight programs and internal management process" was "fundamentally inconsistent" with the provision in the Policy Statement that safety culture traits "are not necessarily inspectable and were not developed for that purpose."[26] As a result, the statement regarding monitoring safety culture in oversight programs was eliminated from the Safety Culture Policy Statement.

Commissioner Ostendorff also cautioned against improper implementation of the Policy Statement such that it might be used to create NRC enforceable requirements. Commissioner Ostendorff stated:

> While I support the concept of a safety culture policy statement and the associated traits, I do have concerns that improper implementation of the policy statement could result in de-facto requirements. . . . I support the staff's additional outreach efforts to communicate the contents of the safety culture policy statement and educate stakeholders on safety culture principles. However, since the policy statement is not a requirement, the staff's efforts should be limited to these activities. I do not support staff activities, such as elements of the proposed

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[22] *Id.* at 34,777 (emphasis added).

[23] *Id.* at 34,778.

[24] *Id.* at 34,777.

[25] TVA's Response to Apparent Violation 4 details many of the various safety culture actions that TVA has undertaken.

[26] Commission Voting Record on Proposed Final Safety Culture Policy Statement, SECY-11-0005, March 7, 2011 (Commissioner Svinicki's Comments on SECY-11-0005).

> implementation activities detailed in Enclosure 6, that go beyond stakeholder communication and education related to the policy statement without coming before the Commission for further review and approval.[27]

The Commission's decision not to enforce safety culture was in line with past Commission deliberation. For example, Commissioner Merrifield had rejected a Senior Management Team recommendation to pursue rulemaking for oversight of a safety conscious work environment. Commissioner Merrifield pointed out that such a rulemaking "would be subjective in nature, difficult to inspect and enforce, would likely intrude on management prerogatives and may well cause a chilling effect on the most effective safety culture element -- the commitment of management to a safety conscious work environment."[28]

The Staff's efforts to enforce the safety culture traits by issuing a violation against TVA and two operators for violating those traits as incorporated into TVA's guidelines and instructions for the conduct of operations directly contravenes the intent of the Safety Culture Policy Statement. Rather than "engage" stakeholders and "encourage" the development and maintenance of a positive safety culture, licensees may choose not to incorporate safety culture traits into their procedures so as to avoid the subjective type of enforcement that has previously been a Commission concern.[29]

The Staff provide no response as to the authority for enforcing safety culture traits. In fact, the Staff explicitly explained to TVA that Violation A is the result of the NRC's investigation and in response to failures by TVA to "monitor key safety culture attributes." The cover letter accompanying TVA's NOV states:

> The NRC notes . . . that Violations A and C were not identified by TVA, but rather were identified by the NRC during the investigation and inspection. TVA's inability to effectively monitor key safety culture attributes to preclude the poor safety conscious work environment that arose during 2015 was a significant management failure.[30]

This statement by the Staff reflects the intent of Violation A to remedy TVA's failure to monitor key safety culture attributes and to provide punishment where the NRC has instead identified failures in effectively implementing key safety culture attributes. But as discussed above, the Commission has stated that the NRC will not monitor safety culture attributes, much less take enforcement action based upon a failure to

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[27] Commission Voting Record on Proposed Final Safety Culture Policy Statement, SECY-11-0005, March 7, 2011, (Commissioner Ostendorff's Comments on SECY-11-0005).

[28] Commission Voting Record re SECY-02-0166, March 26, 2003 (Statement of Commissioner Jeffrey Merrifield).

[29] *See id.* at 34,777.

[30] Letter to Barstow, Nov. 6, 2020, pg. 5

exhibit the attributes. Indeed, the Safety Culture Policy Statement includes a statement precisely stating that the NRC will *not* monitor safety culture values. The Policy Statement states: "The NRC will not monitor or trend values. These will be the organization's responsibility as part of its safety culture program."[31]

The fact that TVA adopted aspects of the common language for safety culture and took steps to meet the Commission's expectation that licensees promote a safety conscious work environment, does not make the safety culture traits in OPDP-1 enforceable by the NRC. As discussed, the Commission believed that in order to make its Safety Culture Policy Statement enforceable, the Commission would need to pursue rulemaking and promulgate a regulation. The Commission would not have taken this position if it thought that the general requirement in 10 C.F.R. Part 50, App. B, Criterion V—that licensees adopt instructions and procedures for activities affecting quality and act in accordance with them—made safety culture traits adopted into facility instructions and procedures enforceable requirements subject to NRC enforcement.[32]

If it is the case that 10 C.F.R. Part 50, App. B, Criterion V makes licensee adopted safety traits enforceable then licensees may be motivated to remove the safety culture traits from their instructions and procedures in order to avoid the subjective enforcement of those traits by the NRC. Violation A is an example of subjective enforcement, particularly as it relates to the OAC, where the NRC has mistakenly applied its standardless, post-event judgment that he failed to act conservatively enough.

As a result, Violation A undermines the intent of the Commission's Safety Culture Policy Statement to engage stakeholders on safety culture and to encourage them to develop and maintain procedures supporting a positive safety culture. It also undermines the Commission's direction that safety culture traits be the organization's

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[31] 56 Fed. Reg. at 34,777.

[32] It is a well-established legal maxim recognized by the Commission that "the specific prevails over the general." While Criterion V establishes a general requirement that activities affecting quality be implemented in accordance with established procedures, that general requirement gives way to the Commission's specific determination that the promotion of safety culture traits under its Policy Statement does not create enforceable requirements.

Nor is it reasonable to interpret the requirement in Criterion V to accomplish activities affecting quality in accordance with procedures as applying to expected "pattern[s] of thinking, feeling and behaving" embodied in the safety culture traits. 76 Fed. Reg. at 34,777. The logical interpretation of Criterion V is that a licensee must prescribe and adhere to specific steps and actions required to accomplish activities affecting quality, and nothing more.

In this regard, as stated in Section 1.0 of OPDP-1, OPDP-1 provides both instructions and "guidelines." The expected behaviors in Sections 3.3 Subparts A and E are in the nature of guidelines, reflecting general principles of behavior. These provisions are markedly different from the procedural steps in a continuous use procedure, compliance with which is required under Criterion V; their implementation is not black and white, but rather always a matter of degree.

responsibility as part of its safety culture program, rather than monitored and enforced by the NRC.

Based on the above discussion and the arguments presented as part of TVA's PEC regarding the enforceability of the safety culture traits in OPDP-1, TVA objects to and denies Violation A and asks that the Violation be withdrawn.

b. <u>TVA contests the violation issued against the OAC, because he did not violate OPDP-1.</u>

As explained in TVA's written response to Apparent Violation 4 (now Violation A), TVA's investigation did not reveal any violation of OPDP-1, Section 3.3.3 by the OAC. Indeed, TVA's response quoted the RCA's finding that specifically excluded the OAC from its conclusion that "non-conservative decision making by the OCC, and the shift manager's failure to stop in the face of uncertainty directly contributed to the pressurizer level excursion."[33]

The OAC stopped when he was unsure about the effect that taking RHR out of service as the crew followed 1-GO-1 would have on pressurizer level given that normal letdown was not available. Consistent with OPDP-1, the OAC stopped and raised the question he had developed with the other operators and his supervisors, including the Unit Supervisor and the Shift Manager. Further, the OAC only proceeded after being led to believe by his Shift Manager that his concerns had been considered and addressed and the Shift Manager provided the operators with the express direction to proceed.[34] It also appears, based on the OAC's recollection, that the Operations Representative in the OCC had gone to the MCR to discuss the capability of excess letdown to manage pressurizer level. Further, the OAC shared an understanding that engineering personnel had evaluated the evolution. As a result, the OAC acted reasonably when he continued to perform his responsibilities following the Shift Manager's direction to the crew to proceed with the heat-up. TVA is not aware of any action, and the NRC cites none, that the OAC took that he believed was non-conservative or that violated OPDP-1 following the Shift Manager's direction.

As TVA explained in its written response to Apparent Violation 4, the Staff should recognize that the Shift Manager had the command function and that the OAC was acting pursuant to direction from the Shift Manager. Accordingly, even if the Staff disagrees and believes that TVA's actions did not conform to OPDP-1, the Staff should refrain from taking enforcement action against the OAC, consistent with the NRC's Enforcement Policy and Enforcement Manual. The Enforcement Manual states that an "[a]ction against an individual will not be taken if the individual's

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[33] RCA at 13.

[34] TVA's investigation also revealed that it was not the OAC that removed RHR from service thus initiating the heat-up.

improper action was caused by management failures."[35] Assuming *arguendo* that there is an enforceable violation of OPDP-1 against TVA, the OAC's case falls within this policy. Moreover, his situation directly corresponds to the example in the Enforcement Manual where enforcement will not be brought against an individual in "[a] case in which compliance with an express direction of management, such as the Shift Supervisor or Plant Manager, resulted in a violation."[36]

Indeed, the NRC has repeatedly pointed out that it was the Shift Manager that directed the operators, including the OAC, to proceed with the heat-up. Further, while TVA does not entirely agree with the Staff's characterization of management failures in 2015, it is curious that the Staff finds a violation against the OAC individually given that the Staff has explicitly determined that the events of November 11, 2015 occurred due to management failures. As discussed above, the Staff has concluded that a poor safety conscious work environment arose in 2015, which contributed to the events of November 11, 2015, and has stated that this was "a significant TVA senior management failure."[37]

The direction provided in the Enforcement Manual is consistent with the Commission's Enforcement Policy, which provides that "[t]ypically, the NRC will not take enforcement action against the employee or contractor if failures of licensee management . . . are responsible for the individual's improper actions."[38] Since the Enforcement Manual implements the Commission's Enforcement Policy and is designed to ensure that the Staff's enforcement actions are consistent with the Enforcement Policy, in cases where the Staff depart from the Enforcement Policy and its implementing procedures, the Staff is required to adhere to the Administrative Procedure Act and provide a reasonable basis for their decision.[39] However, the Staff has not provided any reasoned basis for their decision to issue the OAC an NOV when he simply discussed the issue with his supervisors and then followed the direction to proceed with 1-GO-1.[40]

For the foregoing reasons, TVA denies that the OAC violated OPDP-1 and objects to the NOV issued against the OAC. TVA requests that the NOV against the OAC also be withdrawn.

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[35] NRC Enforcement Manual at 305.

[36] *Id.* at 306.

[37] Letter to Barstow, Nov. 6, 2020, pg. 5.

[38] NRC Enforcement Policy at 4.

[39] NRC Enforcement Manual at 3.

[40] TVA is not aware that the OAC took any action to remove RHR from service or to increase the heat of the reactor.

2. TVA continues to take corrective actions strengthening the safety culture at WBN.

TVA has taken extensive corrective actions to address the deficiencies in WBN's safety culture associated with Violation A, including significant changes to management personnel. TVA is gratified that, in recognition of those efforts, the NRC has determined that no civil penalty is warranted for Violation A. During its PEC, TVA addressed its efforts, in cooperation with the NRC, to improve safety culture issues and to promote conservative decision-making at WBN. Further, Enclosure 2 to the NRC's November 6, 2020 letter outlines some of the extensive corrective action measures that TVA has taken to address safety culture and to reinforce conservative decision-making. The NRC's determination that no civil penalty is warranted for Violation A is a tacit recognition of TVA's efforts in this area.

Moreover, TVA continues to reinforce the safety conscious work environment principles at WBN (and all of its nuclear plants) and to encourage employees to raise safety concerns. Maintaining a positive safety culture is the highest priority for TVA. TVA is committed to promoting and maintaining a culture in which its employees feel free to raise concerns without fear of retaliation. Achieving that goal begins with an acknowledgement that the work environment was unhealthy and requires continuous effort in order to effect sustainable change.

B. Violation B: Failure to restart RHR pump before re-establishing RHR letdown

1. TVA admits a violation of TVA procedure 1-SOI-74.01, "Residual Heat Removal System," but denies that the violation was willful.

As TVA acknowledged during its PEC, a violation of TVA procedure 1-SOI-74.01, "Residual Heat Removal System," occurred on November 11, 2015, when TVA operators re-established RHR letdown without first restarting the RHR pump. The NRC, however, alleges that a willful violation of that procedure occurred based on the actions of the Shift Manager. TVA has not seen evidence showing that the Shift Manager acted with careless disregard of TVA procedure 1-SOI-74.01. Rather, the Shift Manager appears to have made a mistake about how the relevant TVA procedures should have been applied. Based on the Shift Manager's prior statements, it appears that he believed that he was not within procedure 1-SOI-74.01 but rather was responding to emergent circumstances and taking prudent operator actions to restore control of the pressurizer level.[41]

[41] As the NRC already acknowledged in an Integrated Inspection Report, dated April 7, 2016, the safety significance of failing to restart the RHR pump was "very low."

A table provided to the Resident Inspector on December 17, 2015, identifying the status of responses to the Resident Inspector's questions stated: "In a 12/16/15 meeting with the Resident Inspectors, the Shift Manager stated that he was not in a procedure when he initiated RHR letdown, but leveraged his training and integrated plant understanding to place the plant in a safe condition via leveraging placing RHR letdown in service." (Exhibit 47 of TVA's written Responses to the Apparent Violations). Further, during his December 18, 2015 interview with the NRC, the Shift Manager explained, "I'm allowed to do anything that I need to do to control an abnormal plant condition that could get the plant into a situation that we shouldn't be in," and that he did not open the RHR pumps because "[he] didn't need the pumps to run." (Tr. at 29:12-15; 29:22-23). Thus, the Shift Manager seemed to believe that when immediate operator action is necessary, operators do not need to use the procedure to ensure that it is followed step-by-step. Rather, operators may use their discretion based on their memory to complete any necessary steps. Indeed, when asked whether he "feel[s] that the steps that [he] took were within [his] authority based on the training that [he has] received over the years," the Shift Manager said, "Absolutely." (*Id.* 14:9-13). He further explained that he did not reference procedures to make sure that the operators were on "proper footing" because "the only vital option in [his] mind was to establish another form of letdown from the pressurizer. The only one available was the RHR letdown which is what [he] did." (*Id.* at 14:18-15:5). Nonetheless, TVA does not believe that the Shift Manager was correct in his belief that TVA procedure 1-SOI-74.01 was inapplicable under the circumstances, and at a minimum TVA believes he should have "N/A'd" steps if they were not applicable.

TVA acknowledges that the applicable TVA procedures required the Shift Manager to restart the RHR pump before re-establishing RHR letdown or to take additional steps in connection with forgoing restarting the RHR pump. Based on TVA's extensive investigation into the events on November 11, 2015, however, TVA concludes the Shift Manager mistakenly believed his actions were compliant with TVA procedures. TVA has not seen evidence that the Shift Manager carelessly disregarded TVA procedure 1-SOI-74.01, "Residual Heat Removal System." Therefore, TVA denies that Violation B was willful.

2. <u>TVA's corrective action program provides ongoing monitoring and coaching to ensure strict adherence to TVA procedures.</u>

Starting in 2016, TVA has taken corrective actions to address the underlying violation of TVA procedure 1-SOI-74.01, "Residual Heat Removal System." The NOV indicates that the NRC does not find fault with those corrective actions, but the NOV asserts that TVA's corrective actions have not addressed the alleged willful aspect of the violation (i.e., the Shift Manager's actions). Although TVA disputes that the Shift Manager's conduct was willful, TVA notes that the Shift Manager was removed from

licensed responsibilities at the time of TVA's initial investigation into the RHR Event and will not return to them.

Further, TVA makes procedure use and adherence an ongoing priority for all of its employees. TVA's corrective action program promptly addresses any issues that arise regarding correct procedure use and adherence. TVA also trains employees in how to interpret and apply procedures; and, in particular, TVA's operations departments conduct ongoing assessments to ensure that operators remain fluent in TVA's procedures. Where gaps in employees' knowledge of TVA procedures are identified, TVA applies additional training and coaching to ensure employees meet TVA's high expectations for procedure use and adherence.

C. Violation C: Failure to maintain adequate logs

1. TVA admits a violation of 10 CFR Part 50, Appendix B, Criterion XVII, "Quality Assurance Records," but denies that the violation was willful.

As TVA acknowledged during its PEC, a violation of 10 CFR Part 50, Appendix B, Criterion XVII, "Quality Assurance Records," occurred on November 11, 2015, when TVA operators failed to maintain adequate logs. Indeed, TVA did not contest the NRC's finding of inadequate log keeping in Non-Cited Violation 05000390/2016001-07, "Failure to Maintain Operating Logs," which addressed the same underlying conduct by TVA employees. The NRC's allegations in Violation C are the same as those brought against TVA by the NRC in 2016, resulting in a Severity Level IV, Non-Cited Violation. The NRC has not provided a justification for changing its previous assessment. Nevertheless, the NOV alleges that inadequate log-keeping was "willful on the part of the Unit Supervisor."

TVA has not seen evidence that the Unit Supervisor acted with reckless indifference to TVA's log-keeping procedures or the NRC's rules. Rather, the evidence shows that the Main Control Room was extremely busy during the WBN Unit 1 heat-up on the night of November 11, 2015, and it appears that the inadequate log-keeping was a result of the many tasks that were being conducted during the shift and weak operator fundamentals. In an email that the Unit Supervisor sent to the Operations Superintendent on December 15, 2015, the Unit Supervisor acknowledged that he "certainly could have logged more" but that the crew "just had to [*sic*] many things going on." As the Unit Supervisor is deceased, TVA is unable to further assess his state of mind at the time of the RHR Event. The NRC has also not released transcripts or notes of interviews of the Unit Supervisor that it may have. Without the ability to interview the individual accused of willful misconduct, and without access to the NRC's relevant investigative record, it is fundamentally unfair to characterize the deceased Unit Supervisor's actions as "willful." TVA is aware of no basis for considering the Unit Supervisor's actions as constituting careless disregard.

2. TVA's corrective action program provides ongoing monitoring and coaching to ensure effective log-keeping standards.

TVA has taken extensive corrective actions to address the problems related to maintaining adequate logs at WBN. Improvement in the maintenance of operations logs and Shift Manager reviews has occurred since 2015, and ongoing efforts have reinforced the log-keeping standards. Log-keeping is a continuing focus: Each Shift Manager monitors the crew's performance. When gaps are identified, the Shift Manager either provides coaching or initiates a CR for a discretionary reset for their crew and take actions as appropriate. Some of the actions can be observed in the crew excellence plans or individual Operator excellence plans. Additionally, the organization's performance is monitored as part of the Department performance assessment.

The NOV indicates that the NRC does not find fault with those corrective actions, but the NOV asserts that TVA's corrective actions have not addressed willful misconduct. The NOV only alleges willful misconduct by a specific employee, the Unit Supervisor. Although TVA disputes that the Unit Supervisor's conduct was willful, TVA notes that the individual in question is deceased.

D. Violation D: Inaccurate or incomplete statements to the NRC by a TVA employee

1. TVA does not contest that a willful violation of 10 C.F.R. § 50.9 occurred.

As TVA acknowledged at its PEC, a TVA Shift Manager made statements to the NRC OI on December 18, 2015, that were inconsistent with subsequent emails and statements by the same employee. The Shift Manager in question has acknowledged that his statements to the NRC OI were incomplete. Based on TVA's investigation, the Shift Manager's misstatements appear to have been caused by a perceived concern for his job. TVA therefore does not contest Violation D of the NOV.

2. TVA has ongoing corrective actions addressing the violation of 10 C.F.R. § 50.9(a).

In July 2020, TVA entered into the corrective action program Condition Report 1624009 regarding the violation of 10 CFR 50.9(a) on December 18, 2015. Corrective actions associated with this CR include performing a gap analysis.

TVA expects its employees to be forthcoming in their interactions with the NRC. TVA's Chief Nuclear Officer issued a communication to all TVA Nuclear personnel reinforcing this expectation and emphasizing the importance of completeness and accuracy in all interactions with the NRC.

E. Violation E: Violation of TVA procedures for "minor/editorial" procedure changes

1. TVA admits a violation of TVA procedure NPG-SPP-01.2.1, Section 3.2.16, "Minor/Editorial Changes," but denies that the violation was willful.

As TVA acknowledged at its PEC, a violation of 10 C.F.R. Part 50, Appendix B, Criterion V, occurred on November 9, 2015, in connection with a procedure change that, as applied, was inconsistent with TVA procedure NPG-SPP-01.2.1, Rev. 0002, Section 3.2.16. The procedure used ambiguous language that was apparently ultimately interpreted by operators in a way that "allow[ed] operators to proceed with drawing the bubble before the RCS temperature reached 135F." Consequently, as apparently applied, the procedure change changed the sequence of procedural steps and should not have been processed as "minor/editorial."

The WBN Manager of Nuclear Plant Shift Operations has acknowledged that he made a mistake in processing the procedure change as "minor/editorial," because the change ultimately "altered the procedure's 'technical content or sequence of procedural steps' by permitting the operators to draw a bubble at less than 135F." He also explained that his recollection of the event is limited, given the passage of nearly five years and his retirement in 2017. TVA has thus been unable to establish clearly the purpose of the procedure change or the logic behind processing it as "minor/editorial."

Nevertheless, the NRC alleges that the WBN Manager of Nuclear Plant Shift Operations acted willfully in processing the change as "minor/editorial." Willful misconduct requires an individual to be subjectively aware that a violation may occur and to then act with reckless indifference to that risk. TVA has not seen, and the NRC has not produced, evidence that the WBN Manager of Nuclear Plant Shift Operations recognized at the time that the procedure change might not be "minor/editorial" but processed it as such recklessly. To the contrary, the individual's statement to the NRC states firmly that he acted with the belief that he was complying with TVA procedures.

2. TVA has ongoing corrective actions addressing the violation of TVA procedure NPG-SPP-01.2.1, Section 3.2.16.

In July 2020, TVA initiated Condition Report 1619126 based on learning that the pressurizer bubble was drawn with the RCS temperature below 135°F on November 9, 2015. TVA is evaluating what plant conditions are required to draw a bubble in the pressurizer.

II. Answer to Notice of Violation (Contesting Civil Penalty, in Part)

The civil penalties assessed with respect to Violations B, C, and E are predicated on the allegation that they involved willful acts. For the reasons set forth above, TVA believes that the record with respect to Violations B, C and E does not show that TVA or its employees acted willfully. TVA has also taken, and continues to take, appropriate corrective actions. Accordingly, TVA requests that the severity level of Violations B, C, and E be reduced and that—in recognition of the lesser severity level associated with non-willful violations, the safety significance of the underlying violations, and the credit for TVA's corrective actions addressing the underlying procedural violations—the civil penalties for those violations be adjusted or withdrawn.