



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

April 22, 2016

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Watts Bar Nuclear Plant, Units 1 and 2
Facility Operating License Numbers NPF-90, 96
NRC Docket Numbers 50-390, 50-391

Subject: **RESPONSE TO NRC LETTER CONCERNING A CHILLED WORK
ENVIRONMENT FOR RAISING AND ADDRESSING SAFETY
CONCERNS AT THE WATTS BAR NUCLEAR PLANT**

The purpose of this letter is to respond to the NRC's determination that a chilled work environment exists in the Operations Department at Watts Bar Nuclear Plant (WBN) because of a perception that operators are not free to raise safety concerns using all available avenues without fear of retaliation. The NRC forwarded this conclusion, as well as additional perspectives, in a letter dated March 23, 2016. The NRC discussed these concerns with TVA at a public meeting on March 22, 2016.

TVA reaffirms its commitment to ensuring that a healthy nuclear safety culture and healthy safety conscious work environment exist across TVA's nuclear fleet. To this end, TVA is committed to demonstrating the core values and behaviors that result from a collective commitment by leaders and individuals to emphasize safety over competing goals. Similarly, TVA is committed to ensuring that employees at TVA's nuclear facilities feel free to raise nuclear safety concerns without fear of retaliation with an expectation that such concerns will be responded to in a timely and effective manner by management.

After conducting analyses via dedicated teams, TVA agrees that a work environment inconsistent with TVA core values and behaviors exists within the WBN Operations Department, and pledges to determine the causes and implement appropriate corrective actions. Neither the actual or perceived existence of a degraded work environment is acceptable at TVA. Prior to the March 22, 2016 public meeting, TVA, through several analyses, had reached a similar conclusion regarding a degraded work environment in the WBN Operations Department in which some employees felt reluctant to raise safety concerns for fear of retaliation. TVA forwarded two reports documenting these analyses by letter dated March 24, 2016.

TVA has carefully reviewed the March 23, 2016 Chilled Work Environment Letter (CWEL) to fully understand the nature and scope of the NRC's concerns and the requested actions. TVA identified three focus areas in the CWEL:

- Focus Area 1: Existence of a chilled work environment within the WBN Operations Department due to perceptions of retaliation.
- Focus Area 2: Concerns related to perceived emphasis of production over safety and undue influence by management on control room operators in the performance of their licensed duties.
- Focus Area 3: Lack of management oversight and the effectiveness of both the Corrective Action Program (CAP) and the Employee Concerns Program (ECP).

In the CWEL, the NRC directed TVA to take a number of discrete, required actions. Specifically, the NRC directed that TVA:

1. Conduct an assessment of the climate at Watts Bar;
2. Address the root causes that allowed the chilled work environment to exist; and
3. Take steps to ensure the staff at Watts Bar are willing to openly participate in the process.

The NRC requested that TVA conduct its own in-depth assessment and acknowledged that surveys and evaluations recently conducted by TVA might form part of such an assessment. The NRC requested that TVA provide, within 30 days, an Action Plan for addressing the matters within the CWEL. The NRC indicated that in the Action Plan, TVA should:

1. Describe any immediate or short term actions which provide reassurance of acceptable performance during completion of the in-depth assessment;
2. Describe how the in-depth assessment will be/was conducted by persons independent of the organization affected;
3. Evaluate the effectiveness of the implementation of Confirmatory Order EA-09-009, EA-09-203 requirements relative to the current conditions;
4. Detail how TVA will address the potential extent of condition in organizations outside of Operations;
5. Describe any associated corrective actions and how TVA will measure the effectiveness of the corrective actions; and
6. Describe how TVA will address past effectiveness of the corrective action program and the Employee Concerns Program.

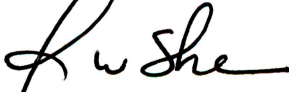
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Enclosure 1 to this letter contains TVA's response to the actions requested in the CWEL. The actions in Attachment 1 of the enclosure supersede the actions described in TVA's letter dated March 24, 2016.

As requested in the CWEL, TVA is prepared to meet with the NRC to discuss its response in detail and answer NRC questions on this response. Planning for the meeting is currently being discussed with NRC Region II management.

Please do not hesitate to contact me if you have any questions regarding this response.

Respectfully,



J. W. Shea
Vice President, Nuclear Licensing

Enclosure:

Response To NRC Letter Concerning A Chilled Work Environment For Raising
And Addressing Safety Concerns At The Watts Bar Nuclear Plant

cc (Enclosure):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector
NRC Project Manager

**TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NUMBERS 50-390 AND 50-391**

**RESPONSE TO NRC LETTER CONCERNING A CHILLED WORK ENVIRONMENT FOR
RAISING AND ADDRESSING SAFETY CONCERNS AT THE WATTS BAR NUCLEAR
PLANT**

I. Introduction:

By letter dated March 23, 2016 (Chilled Work Environment Letter, CWEL) the NRC informed TVA that it had reached the conclusion that a chilled work environment exists in the Operations Department at Watts Bar Nuclear Plant because of a perception that operators are not free to raise safety concerns using all available avenues without fear of retaliation. The NRC discussed these concerns with TVA at a public meeting on March 22, 2016.

TVA reaffirms its commitment to ensuring that a healthy nuclear safety culture and safety conscious work environment (SCWE) exists across the nuclear fleet. To this end, TVA is committed to demonstrating the core values and behaviors that result from a collective commitment by leaders and individuals to emphasize safety over competing goals. Similarly, TVA is committed to ensuring that employees at TVA's nuclear facilities feel free to raise nuclear safety concerns without fear of retaliation with an expectation that such concerns will be responded to timely and effectively by management.

II. Evaluation Performed by TVA Prior to Receipt of the Chilled Work Environment Letter

Prior to the NRC's issuance of the CWEL, TVA management received concerns that a degraded work environment existed within the WBN Operations Department. In response to these concerns, TVA performed an investigation via two independent teams and concluded that a degraded work environment where some Operations personnel feared raising concerns because of perceived retaliation existed within the WBN Operations Department. These analyses were documented in the following reports provided to the NRC on March 24, 2016.

- Employee Concerns Investigation Reports, NEC-16-00127, March 20, 2016
- Report of the Watts Bar Special Review Team, Revision 1, March 2016

Employee Concerns Investigation NEC-16-00127 was initiated following contact made with the Watts Bar Employee Concerns Program in early January regarding concerns about the work environment in the Operations Department at Watts Bar. While the Employee Concerns Program investigation was underway, TVA senior management began developing an action plan (Watts Bar Nuclear Plant Work Environment Improvement Plan) to address potential impediments to Operations personnel raising safety issues and any accompanying perceptions Operations personnel have about fear of retaliation. This action plan was sponsored by the Senior Vice President of Nuclear Operations and evolved as information regarding the work environment came to light between January and March of 2016. A version of the Watts Bar Nuclear Plant Work Environment Improvement Plan dated March 17, 2016, was included in TVA's March 24, 2016 letter to the NRC.

In order to achieve timely improvement in the work environment climate in the Operations Department at Watts Bar, TVA has continued to implement the “Work Environment Improvement Plan” while performing the assessments, causal analyses and resulting actions requested by the CWEL. Ultimately, actions to address the work environment concerns at Watts Bar encompassed by the CWEL (and as appropriate, at other TVA nuclear sites), have been incorporated into the TVA Chilled Work Environment Action Plan (Attachment 1). The actions in Attachment 1 of the enclosure supersede the actions described in TVA’s letter dated March 24, 2016.

III. Key Actions Initiated Prior to Receipt of Chilled Work Environment Letter

In response to TVA’s internal evaluations between January and March 2016, and prior to receipt of the CWEL, TVA initiated a series of key actions in order to provide immediate mitigation of the degraded work environment within the Watts Bar Operations Department. The degraded environment concerns included reluctance of some employees to raise safety concerns for fear of retaliation, perceptions of management prioritizing production over safety and perceptions of undue influence on licensed control room operators by management and organizations outside of the main control room.

These key actions initiated prior to receipt of the CWEL are described below. For completeness, these actions are also listed in the TVA Chilled Work Environment Action Plan (Attachment 1).

TABLE 1: KEY ACTIONS INITIATED PRIOR TO RECEIPT OF CHILLED WORK ENVIRONMENT LETTER TO MITIGATE DEGRADED WORK ENVIRONMENT IN THE WBN OPERATIONS DEPARTMENT	
1	The Senior VP Nuclear Operations conducted a series of meetings with Operations Senior Reactor Operators and above to: <ul style="list-style-type: none"> ▪ Reinforce performance expectations; ▪ Reinforce Senior VP Operations support for conservative decision making; and ▪ Provide perspective on Nuclear Safety Culture (NSC)/Safety Conscious Work Environment (SCWE) Elements.
2	The WBN Site Vice President met with First Line Supervisors and above and conducted a series of All Hands Meetings to: <ul style="list-style-type: none"> ▪ Communicate the work environment concerns in Operations; ▪ Acknowledge and recognize management shortfalls; and ▪ Provide a high level summary of next steps.
3	TVA Senior Leadership implemented key organizational alignment and support changes. These changes were designed to 1) improve the degraded work environment, 2) reinforce support for ongoing initiatives to improve station performance and support continued safe operation of WBN 1, and 3) safe transition to a two unit operating station. The specific changes were designed to: <ul style="list-style-type: none"> ▪ Transition the Vice President of Watts Bar Unit 2 Project to serve as the Site Vice President of Watts Bar; ▪ Transition the incumbent Site Vice President to serve as Senior Site Vice President of Watts Bar to facilitate site strategic planning for commercial operations at Watts Bar Unit 2 and full integration of the seventh unit into the TVA Nuclear fleet; and ▪ Assign the Corporate Functional Area Manager for Operations to serve as the WBN Assistant Plant Manager in support of the Operations Department.

4	<p>TVA Senior leadership installed at WBN on a temporary basis an experienced executive to facilitate open lines of communication between employees, their management and the fleet. This temporary position will report directly to TVA senior executives and will:</p> <ul style="list-style-type: none"> ▪ Monitor or enhance existing avenues for raising concerns; ▪ Monitor leadership team behaviors on a frequent basis; ▪ Provide feedback and advice to leadership team and Senior VP Operations; ▪ Engage in issues and assist leadership team with transparency; and ▪ Recommend improvement plans as needed to the leadership team.
5	<p>The Vice President of Watts Bar Unit 2 Project reinforced to the Outage Control Center (OCC) staff the following:</p> <ul style="list-style-type: none"> ▪ Appropriate OCC and Main Control Room (MCR) roles and responsibilities; ▪ The importance of communications that include the MCR; and ▪ Proper conduct of briefings. <p>The communication included an overview of OCC positions, with emphasis on OCC Operations representative and the proper conduct and interactions with Operations SROs / Shift Managers. It also reinforced to both Operations staff and the OCC that the MCR has final say over plant operations.</p>
6	<p>TVA developed and implemented a Communications Plan focused on 1) delivering straightforward, consistent messaging across the site and fleet, and 2) reinforcing the right NSC behaviors, effective operational decisions, and questioning attitude that considers plant issues and basis for actions, Unit 2 integration/challenges, and key topics of interest/issues identified through various employee forums.</p>

IV. Evaluation of the Chilled Work Environment Letter

TVA has reviewed the March 23, 2016 CWEL to fully understand the nature and scope of the NRC's concerns and clearly understand the requested actions. TVA identified three discrete focus areas as follows:

- Focus Area 1: Chilled work environment within the Operations Department due to perceptions of retaliation.
- Focus Area 2: The existence of a perceived emphasis of production over safety and undue influence by management on control room operators in the performance of their licensed duties.
- Focus Area 3: A lack of management oversight and effectiveness of both the Corrective Action Program (CAP) and the Employee Concerns Program (ECP).

In the CWEL, the NRC directed TVA to take a number of discrete, required actions. Specifically, the NRC directed that TVA:

1. Conduct an assessment of the climate at Watts Bar;
2. Address the root causes that allowed the chilled work environment to exist; and
3. Take steps to ensure the staff at Watts Bar are willing to openly participate in the process.

V. Immediate Actions After Receipt of the CWEL

Upon receipt of the CWEL, a CWEL team was created to develop the actions in response to the NRC requests. The team's responsibilities included organizing the efforts necessary to complete Required Actions 1, 2 and 3; facilitating implementation of additional immediate actions and developing the regulatory response to the CWEL. A description of the Responses to Required Actions 1, 2 and 3 is discussed in Section VI below. TVA implemented the following additional immediate actions after receipt of the CWEL. For completeness, these actions are also listed in the TVA Chilled Work Environment Action Plan (Attachment 1).

TABLE 2: KEY ADDITIONAL IMMEDIATE ACTIONS INITIATED UPON RECEIPT OF THE CHILLED WORK ENVIRONMENT LETTER	
1	The TVA Chief Nuclear Officer (CNO) issued a "Fleet Focus" communication to notify nuclear staff that the NRC had issued a Chilled Work Environment Letter. In the communication, the CNO emphasized that TVA is taking ownership of this issue and acknowledged that TVA was not fully successful in achieving a positive work environment among the Operations staff. The CNO further acknowledged challenges associated with raising performance standards and that a less than adequate job had been performed by TVA management in fully listening to the Operations staff at Watts Bar. The CNO reminded the staff of TVA's commitment to the safe operation of Watts Bar Unit 1 and the safe progression to dual-unit operations. Finally, the CNO reinforced TVA's commitment to addressing the operations work environment and reinforcing both a strong nuclear safety culture and sustainable positive site-wide environment for raising concerns.
2	TVA conducted additional independent observations of the Main Control Room and Outage Control Center to assess the safety climate for Operations. These observations are focused on: <ul style="list-style-type: none"> • Shift Manager (SM) / Unit Supervisor (US) leadership behaviors; • SM / US willingness to coach / correct behaviors; • External variables (Work Control Center / OCC) impact to decisions; • Crew performance; and • Discussion with Operations.
3	TVA established a CWEL team to fully evaluate the NRC's Chilled Work Environment Letter, formulate plans to perform the actions requested by the NRC, recommend additional immediate actions and develop a written response to the NRC.
4	TVA established a Root Cause Analysis team to conduct a thorough evaluation of the causes which created the chilled environment in Operations at WBN.
5	On April 11, 2016, the Site Vice President issued a site wide communication to WBN personnel. In the communication, the Site Vice President reinforced that work environment concerns reflected in the Chilled Work Environment Letter represented a clear need for WBN leaders to change some behaviors so that both the words and actions of leaders clearly express the following: <ul style="list-style-type: none"> • Licensed operators make decisions about maneuvering the plant. Others can discuss and provide input or information, but WBN operators have ultimate authority and responsibility to operate the plant safely. • WBN leaders will listen to input from anyone on this site. Every member of this senior leadership team will treat you respectfully in discussing and resolving your issue. • No WBN leader will retaliate, discriminate, harass or treat WBN employees in a less-than-respectful manner for raising an issue — nuclear safety or any other concerns. It is the obligation of WBN employees to raise nuclear safety issues. It is the responsibility of WBN leaders to maintain an environment where you feel encouraged to do so. • WBN leadership will provide ongoing communication as to TVA's response to the NRC letter and actions being taken across the site.

VI. Response to the Chilled Work Environment Letter Required Actions

The NRC requested that TVA conduct its own in-depth assessment and acknowledged that surveys and evaluations recently conducted by TVA might form part of such an assessment. The NRC requested that TVA provide, within 30 days, an Action Plan for addressing the matters within the CWEL.

In the CWEL, the NRC requested that TVA perform an assessment of the current climate at Watts Bar. TVA's approach to conducting this assessment is described in Section VI-1 below. Section VI-2 contains an overview of the root cause analysis currently being performed including the fundamental problem statement and the schedule for completion. Finally, Section VI-3 contains a detailed description of immediate and near term actions to ensure that employees are free to participate in key processes related to raising concerns and other issues identified in the CWEL.

In the CWEL, the NRC requested that TVA provide an Action Plan for addressing the chilled work environment at Watts Bar. Specifically, the NRC requested that the Action Plan include the following attributes:

1. Describe any immediate or short term actions which provide reassurance of acceptable performance during completion of the in-depth assessment;
2. Describe how the in-depth assessment will be/was conducted by persons independent of the affected organization;
3. Evaluate the effectiveness of the implementation of Confirmatory Order EA-09-009, EA-09-203 requirements relative to current conditions;
4. Detail how TVA will address the potential extent of condition in organizations outside of operations;
5. Describe any associated corrective actions and how TVA will measure the effectiveness of the corrective actions; and
6. Describe how TVA will address past effectiveness of the Corrective Action Program and the Employee Concerns Program.

The TVA Chilled Work Environment Action Plan is provided as ATTACHMENT 1 of this Enclosure. A summary description of how the TVA Chilled Work Environment Action Plan met these requested attributes and is included in Section VII below.

VI-1. Required Action 1 - Assessment of Climate

TVA has developed a series of information gathering, evaluation and data review activities to form an overall assessment of the current safety conscious work environment within the WBN Operations Department regarding (1) raising safety concerns, (2) priority of nuclear safety and external influence on licensed operators, and (3) effectiveness of the corrective action program and employee concerns programs. TVA approached this action by defining a series of assessment activities around each of these three focus areas. The assessment activities were designed to provide insight into the current climate and insight into the relative effectiveness of recent actions listed in Tables 1 and 2.

In order to ensure appropriate independence of the team evaluating the climate, TVA chartered a “Chilled Work Environment Letter” team whose members were not directly associated with the Watts Bar senior leadership team or the Watts Bar Operations Department. Key members of the CWEL team, by position, are as follows:

- Executive Lead, Senior Site Vice President, Browns Ferry Nuclear Plant
- Team Leader, Corporate Director, Strategic Alliance
- Team Member, Director, Plant Support, Browns Ferry Nuclear Plant
- Team Member, External Expert, Retired NRC Regional Administrator
- Team Member, Vice President, Nuclear Licensing
- Team Member, Senior Program Manager, Corporate Licensing

During development of this response, the CWEL team routinely briefed TVA Nuclear executive leadership to ensure thorough and timely understanding of key insights including causes of the degraded environment within the Operations Department at WBN, as well as potential extent of condition across WBN and the balance of the TVA nuclear fleet.

In addition, the CWEL team routinely briefed Watts Bar senior leadership to ensure that they had a common understanding and were aligned with the depth and rigor of corrective actions that will need to be performed and the need for enhanced corporate oversight while the degraded work environment at Watts Bar achieves sustainable improved performance.

In the table below, each of the individual activities which comprise the assessment of the current climate are listed. Each item includes a description of the activity as well as the date the activity was completed or is targeted for completion. TVA will develop metrics to measure effectiveness of corrective actions in parallel with the root cause analysis and will be prepared to discuss these metrics with the NRC at the next meeting scheduled to discuss the CWEL.

Table 3: Focus Area: Willingness to Raise Concerns		
Assessment Activity	Description of Activity	Completion
Review of Past Survey Data	TVA will review the WBN results of (1) the June 2015 Employee Engagement Nuclear Safety Culture Survey, (2) the December 2015 INPO OR Survey, and (3) Employee Concerns Program pulsing data conducted in March 2016. The review will: <ul style="list-style-type: none"> • Correlate data from the different surveys to the INPO Safety Culture Traits to provide a consistent benchmark; • Search for evidence of missed indications of problem in the WBN Operations Department such as respectful work environment and decision making; • Search for evidence of concerns regarding CAP; and • Assess attitudes towards leadership and the environment for raising concerns. 	May 20, 2016
Review of the Corrective Action Program	TVA will review the WBN Corrective Action Program data generated since June 1, 2015 specifically to assess: <ul style="list-style-type: none"> • Effectiveness of the program for insights regarding willingness of employees to raise concerns; • Indications of concerns regarding valuing production over safety; and • Indications of undue influence over licensed duties. 	Complete

	The evaluation will include CAP effectiveness and internal generation versus externally generated Condition Reports from Quality Control/NRC/anonymous groups.	
Review of Employee Concerns surveys for Operations	TVA will review the WBN Employee Concerns Program surveys conducted since June 1, 2015 to assess: <ul style="list-style-type: none"> ▪ A comparison of issues generated from within Operations to those generated elsewhere on site; ▪ Potential warning signs and missed opportunities for insights regarding willingness of employees to raise concerns; ▪ Indications of concerns regarding the valuing production over safety; and ▪ Indications of undue influence over licensed duties; ▪ Effectiveness of ECP. 	Complete
Assess Work Environment data	The temporary executive facilitator will: <ul style="list-style-type: none"> ▪ Attend meetings and observe behaviors to assess the willingness of operators to raise concerns and to encourage operator participation in ECP/CAP; ▪ Document on a weekly basis the results of observations; and ▪ Recommend additional actions to further improve communication effectiveness. 	July 29, 2016
Conduct pulse surveys	ECP will conduct WBN Operations pulse surveys (10% of the staff, every month) for a period of 12 months, that will include questions on: <ul style="list-style-type: none"> • Willingness of operators to raise nuclear safety or quality concerns; • Indications of valuing production over safety; • Indications of undue influence over licensed duties; and • Effective use of the Corrective Action/Employee Concerns programs to raise concerns. These surveys will be evaluated for potential warning signs and missed opportunities to evaluate safety conscious work environment climate.	April 28, 2017
Effectiveness review of CO EA-09-203	TVA will conduct an effectiveness review of the applicable corrective actions completed in accordance with CO-EA-09-009/203 to: <ul style="list-style-type: none"> • Determine whether those corrective actions were effective in preventing or minimizing recurrence of the issue; and • Assess the timeliness of those corrective actions. Follow-up actions will be initiated for any corrective actions that were not effectively implemented.	Complete
Conduct Pulse Surveys other than Operations	ECP personnel will generate a schedule and commence conducting and trending monthly Pulse Surveys in selected other WBN Departments for a period of 12 months.	April 28, 2017

Table 4: Focus Area: Production over Safety/External Influences		
Assessment Activity	Description of Activity	
Conduct observations of the Outage Control Center, Control Room, and Work Control Center (WCC)	Through July 2016, TVA will conduct an average of two independent observations and interviews per week of the WBN Control Room and/or OCC to assess the safety climate for Operations. These observations will be focused on: <ul style="list-style-type: none"> • External variables (WCC / OCC) impact to decisions; • Shift Manager (SM) / Unit Supervisor (US) leadership behaviors; • SM / US willingness to coach / correct behaviors; • Crew performance; and • External interaction with Operations. 	July 29, 2016
Review of Corrective Action Program Data	TVA will review the WBN CAP data generated since June 1, 2015 to evaluate the data, specifically focusing on safety culture condition reports, to assess the sensitivity of Operations to: <ul style="list-style-type: none"> • A climate where safety over production is valued and • Undue external influences over licensed duties. 	Complete
Conduct employee surveys	Conduct a WBN employee survey that includes questions related to a production over safety climate and undue external influences over licensed duties. These questions will be evaluated to determine the climate in Operations with regard to production over safety and undue external influences over licensed activities.	August 25, 2017
Modify management observation criteria	Modify WBN management observation program requirements to ensure that observers consider the degree to which management emphasizes safety over production and the extent to which external influences affect personnel in the control room.	May 27, 2016
Analysis of 2C's information	TVA will review the information from WBN Operations Department 2C's meetings held since June 1, 2015 to determine if there were any indications raised regarding production over safety and undue external interferences over licensed duties. The results from this review will be factored into lessons learned for the ECP and CAP programs and in the Root Cause Analysis.	Complete
OCC Pre-Job Briefing Sheet Change	Implement a standard TVA Nuclear fleet wide OCC pre-job briefing sheet that discusses roles / responsibilities for the shift and the OCC when initially staffing up.	May 3, 2016
Revise Outage Oversight Plan	Include corporate observations of the OCC into Outage Oversight Plan governance for planned refueling outages that monitors roles / responsibilities for the shift and the OCC.	Complete
Revise Unplanned/Forced	Include corporate observations of the OCC into unplanned or forced outage oversight governance.	Complete

Outage Oversight Governance	that monitors roles / responsibilities for the shift and the OCC.	
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Table 5: Focus Area: Effectiveness of both the Corrective Action Program (CAP) and the Employee Concerns Program (ECP)

Assessment Activity	Description of Activity	
Human Resources review of personnel cases	TVA's Human Resources group will review WBN personnel adverse action cases initiated since June 1, 2015 to evaluate whether issues identified in the CAP/ECP programs resulted in an adverse action being proposed or taken.	May 13, 2016
Analysis of CR initiation	A review of WBN outside assessments, e.g., Quality Assurance, will be conducted since June 1, 2015 to determine: <ul style="list-style-type: none"> • If there were any indications that Operators were reluctant to raise concerns; or • The CAP/ECP was not: <ol style="list-style-type: none"> 1. Timely 2. Effective 3. Trended 4. Communicated in addressing concerns Insights from the review will be included in the effectiveness reviews for CAP/ECP.	May 13, 2016
Review anonymous condition reports	TVA will review WBN anonymous condition reports generated since June 1, 2015 to assess the response timeliness, corrective action effectiveness, trend management and communications of CAP to address employee concerns. Insights from the review will be included in the effectiveness reviews for CAP/ECP and the Root Cause Analysis.	May 20, 2016
Review Employee Concerns Program data	TVA will review the ECP cases for WBN Operations generated since June 1, 2015, to determine if there are instances where employee concerns were not completely or properly addressed for: <ul style="list-style-type: none"> • Response timeliness, • Corrective action effectiveness, • Trend management, and • Communications of the ECP raised concerns. Insights from this review will be factored into the Root Cause Analysis.	May 20, 2016
Analysis of recurrence	Conduct an assessment of the WBN CAP/ECP programs for 2016 to identify repeat issues to determine if the programs were not effective in addressing safety culture issues initially.	December 30, 2016
Survey of initiators	WBN will survey CAP/ECP process users over the next two years to assess the effectiveness of the programs to address issues. Responses from the surveys will be included in the CAP/ECP effectiveness evaluations.	December 29, 2017

Nuclear Safety Culture Monitoring Panel Review	TVA will conduct an independent review of the WBN NSCMP meetings held since June 1, 2015 to assess the effectiveness of the NSCMP process to identify ineffective results from the CAP/ECP process. Insights from this review will be factored into WBN's NSCMP process and used in the Root Cause Analysis.	May 20, 2016
Nuclear Safety Review Board Review	TVA will conduct an independent review of the WBN NSRB meetings held since June 1, 2015 to assess the effectiveness of the NSRB process to identify ineffective results from the CAP/ECP process. Insights from this review will be factored into WBN's NSRB process and used in the Root Cause Analysis.	May 20, 2016
Conduct Monthly NSCMP Meetings	Schedule and conduct monthly WBN NSCMP meetings with reports distributed directly to SVP, PM, and include Sr. VP Ops/CNO for a period of 6 months.	August 26, 2016
NSRB review	WBN NSRB review implementation of the Work Environment Improvement Plan.	June 14, 2016
Conduct Industry Self Assessment of ECP Program Effectiveness	Perform a self assessment of ECP that includes: <ul style="list-style-type: none"> • Evaluation of ECP procedures and Conduct of Operations against industry standards and practices; • Effectiveness review to verify staff conformance to procedures and Conduct of Operations; and • Effectiveness review of corporate oversight of site ECP performance. Effectiveness review of ECP performance metrics for timeliness, case management, and trend analysis	August 26, 2016
Presentation of Lessons Learned to the National Association of Employee Concerns Professionals (NAECP)	A senior leadership member will develop and present lessons learned to the National Association of Employee Concerns Fall Conference (September 27, 2016) in Annapolis, Maryland.	September 30, 2016

VI-2. Required Action 2 - Causal Analysis

WBN approached this action by using the Corrective Action Program to develop a Root Cause Analysis. The Root Cause was designed to identify the root causes that allowed the chilled work environment to exist. Specifically, the problem statement for the root cause analysis is:

“The WBN Operations Department has a chilled work environment where Operators perceive they are not free to raise safety concerns without fear of retaliation which has the potential to challenge safe operation of the plant.”

Table 6: Root Cause Analysis (RCA) Key Attributes		
Assessment Activity	Scope of the root cause, to include:	Completion
<p>Perform an investigation to determine the root and contributing causes that led to the development of the chilled work environment in the WBN Operations Department.</p>	<ul style="list-style-type: none"> • Weaknesses in leadership and management behaviors. • Weaknesses in communication within the Operations Department. • Missed opportunities in nuclear safety culture oversight and monitoring by multiple programs and processes. • CAP/ECP and other sources' failure to alert management to potential changes in SCWE and safety culture. • Weaknesses in implementation of the Adverse Employee Action procedure. • Heavy workload on Operations with a potential for exceeding organizational capacity of the department and the impact on the work environment at the station. • Extent of Condition • Extent of Cause • Performance Analysis • Latent organizational weaknesses • Organizational & programmatic contributors • Human performance errors and actions • Previous and similar events • Equipment failure and response • Safety culture attributes analysis 	<p>RCA completion May 20, 2016</p>

VI-3. Required Action 3 - Steps to Ensure Watts Bar Staff Is Willing to Openly Participate in the Process.

Table 7: Action: Ensure the staff is willing to openly participate in the process		
Activity	Description of activity	Completion
Conduct Work Environment observations	The temporary executive facilitator at WBN will attend meetings and observe behaviors to assess the willingness of operators to raise concerns and to encourage operator participation in ECP/CAP.	July 29, 2016
Establish an Adverse Employment Action Review Board	TVA will upgrade the adverse employment actions process, including the development of a site executive review board (ERB), to ensure actions are consistent with employee protection regulations and determine whether the action could negatively impact the Safety Conscious Work Environment.	May 13, 2016
Conduct SCWE refresher training	WBN will provide SCWE training to site personnel, including managers, supervisors, and other employees. This training will cover SCWE policies and expectations, such as open door policy, support for the use of the CAP, and escalating concerns if necessary to obtain resolution.	August 26, 2016
Shift Manager Mentor	Develop and implement a WBN Operations Shift Manager Mentoring Program	June 15, 2016
NSC Program Benchmark	Benchmark TVA Nuclear NSC program against Nuclear Industry best practices.	May 27, 2016

VII. Requested Attributes of Chilled Work Environment Action Plan

In the CWEL, the NRC requested that TVA provide an Action Plan for addressing the chilled work environment at Watts Bar. Specifically, the NRC requested that the Action Plan include the following attributes:

1. Describe any immediate or short term actions which provide reassurance of acceptable performance during completion of the in-depth assessment;
2. Describe how the in-depth assessment will be/was conducted by persons independent of the organization affected;
3. Evaluate the effectiveness of the implementation of Confirmatory Order EA-09-009, EA-09-203 requirements relative to the current conditions;
4. Detail how TVA will address the potential extent of condition in organizations outside of Operations;
5. Describe any associated corrective actions and how TVA will measure the effectiveness of the corrective actions; and
6. Describe how TVA will address past effectiveness of the corrective action program and the Employee Concerns Program.

The TVA Chilled Work Environment Action Plan is provided as ATTACHMENT 1 of this Enclosure. A description of how TVA met the six requested attributes of the Action Plan is presented below.

Requested Attribute 1: Describe any immediate or short term actions which provide reassurance of acceptable performance during completion of the in-depth assessment.

As discussed in Section II, III and V of this response, TVA has taken a series of initial actions since January 2016 to address focus areas regarding employee willingness to raise concerns, perceived production over safety climate and perceptions of undue influence on MCR staff. These actions, which are discussed in more detail above, have been oriented toward immediate mitigative relief. As TVA has moved forward after receipt of the CWEL, TVA added additional actions as specific attributes of the underlying concerns became more visible or as needed to follow-up and reinforce previously implemented actions.

TVA is closely monitoring the effectiveness of these interim actions while the CWEL evaluations (assessment of climate and root cause analysis) are underway. TVA has indications that actions taken to date have had some positive affect. Not unexpectedly for a situation of this nature and magnitude, TVA has also received some negative feedback through the Corrective Action Program. TVA has used both the positive and negative feedback to evaluate and revise actions on an ongoing basis.

TVA is confident that the interim and immediate actions are both direct and visible and are devised to address the known focus areas in a straightforward manner. Certain actions taken are expected to have substantive or lasting impact - including the strong emphasis of the new Site Vice President on open communications and the ability of the temporary executive facilitator to identify changes in the work environment (over and above the availability of the ECP and CAP to raise concerns). Over the next few months while additional corrective actions stemming from the assessment of the climate and the root cause analysis are being devised and implemented, TVA will continue to monitor improvement in the three focus areas specifically through the:

- Implementation of the Enhanced Observation Programs discussed as TVA Chilled Work Environment Action Plan Items C.2.1, C.2.7, C.2.8 and C.2.9;
- Implementation of the actions associated with the temporary executive facilitator as discussed in TVA Chilled Work Environment Action Plan Items C.1.4 and E.1; and

- Implementation of additional ECP pulsing surveys described in TVA Chilled Work Environment Action Plan Items C.1.5 and C.1.7.

On the basis of the actions taken or planned as described here and the action to monitor changes to the work environment also described here, TVA is confident that WBN will maintain acceptable performance while the required in-depth assessment is underway.

Requested Attribute 2: Describe how the in-depth assessment will be or was conducted by persons independent of the organization affected.

In order to ensure the independence of the teams and their reviews and assessments, team members were selected from outside the Watts Bar organization for the initial assessments and for the evaluation and response to the issues included in the CWEL.

The investigation into the original Employee Concern (NEC-16-00127) was performed by two external individuals with extensive experience in Nuclear Safety Culture issues. One individual was a former TVA employee with over 40 years of experience in the nuclear industry in various roles including Management of the Nuclear Concerns Resolution Program. The other member has twenty years of experience specializing in safety culture, safety conscious work environment, employee concerns, and organizational change, and has been involved with the Institute of Nuclear Power Operations (INPO), the NRC, and the Department of Energy. Further information on the credentials and the results of the concern evaluation are included in the ECP investigation report.

In addition, in March 2016, a special review team was established to perform a review of culture surveys, personnel comments and statements, communications, quality assurance reports, outside organization, and regulatory reports in order to develop prompt and near term actions to address the degradation in the work environment and correct the behaviors that were most likely driving the degradation. That team was led by the Vice President of Licensing and included:

- A representative from TVA's Office of General Counsel;
- The Browns Ferry Director of Support Services (who played a key role in developing the improvement actions for BFN's 95003 Inspection);
- Senior Program Manager, Corporate Operations Support;
- The Watts Bar Director of Site Licensing;
- The Watts Bar Leadership Development Manager; and
- An outside executive with regulatory experience with chilled work environments (former Deputy Executive Director for Operations for the NRC.)

The Special Review Team's report was completed in March 2016 and provided to the NRC by letter dated March 24, 2016.

The CWEL team that performed the broader review required by the CWEL was also selected from outside the Watts Bar organization and, to a greater extent, from outside the Watts Bar site. Key members of the CWEL team, by position, are as follows:

- Executive Lead, Senior Site Vice President, Browns Ferry Plant
- Team Leader, Corporate Director, Strategic Alliance
- Team Member, External Expert, Retired NRC Regional Administrator
- Team Member, Vice President, Nuclear Licensing
- Team Member, Senior Program Manager, Corporate Licensing,

Supporting team members included:

- The NPG Corporate Employee Concerns manager;
- An Operations Shift Manager from Sequoyah;
- An external industry manager with previous experience with recovering a chilled work environment, and
- Representatives from TVA Human Resources and Labor Relations.

In addition, for continuity, the Senior Program Manager, Corporate Operations Support, and the Browns Ferry Director of Site Support were carried over from the initial assessment team.

Members from the Watts Bar site include the Director of Site Support Services, who will provide continuity for the evaluation and site ownership of the action plan execution.

After a review of the initial assessment team's report and the CWEL, this team elected to conduct a formal root cause investigation using select members of this team and supplementing with a trained root cause analyst, Watts Bar's Director of Site Licensing, Watts Bar's Employee Concerns Manager, and NPG's Corporate General Manager of Training and Performance Improvement. This team's co-leads were the BFN Director of Support Service, the Senior Program Manager, Corporate Operations Support, and also includes TVA's Director of Strategic Alliance, with Watts Bar's Director of Support Services providing oversight.

In general, the extensive experience in the industry, the broad and diverse backgrounds in both nuclear operations and regulatory requirements and issues, and the selection of personnel largely external from the Watts Bar site and completely external to the Operations Department, has ensured a thorough, unbiased evaluation of the drivers to the safety conscious work environment issues and a robust plan for corrective actions and recurrence control.

Requested Attribute 3: Evaluate effectiveness of the implementation of Confirmatory Order (EA-09-009, EA-09 203) requirements relative to the current conditions

A review was conducted to determine the effectiveness of the actions required by Confirmatory Order EA-09-009/203. The review found that there are two potential gaps and two additional corrective actions that need follow-up review. Further review of these four items has been initiated in the corrective action program.

1. For the first potential gap, Confirmatory Order Action Item 1, stated that:

By no later than 90 calendar days after the issuance of this Confirmatory Order, TVA shall implement a process to review proposed licensee adverse employment actions at TVA's nuclear plant sites before actions are taken to determine whether the proposed action comports with employee protection regulations, and whether the proposed actions could negatively impact the SCWE. Such a process should consider actions to mitigate a potential chilling effect if the employment action, despite its legitimacy, could be perceived as retaliatory by the workforce. By no later than one hundred twenty (120) calendar days after the issuance of this Confirmatory Order, TVA shall implement a process to review proposed significant adverse employment actions by contractors performing services at TVA's nuclear plant sites before the actions are taken to determine whether the proposed action comports with employee protection regulations, and whether the proposed action could negatively impact the SCWE. Such a process will likewise consider actions to mitigate a potential chilling effect if the employment action, despite its legitimacy, could be perceived as retaliatory by the workforce.

The review of this action indicates that TVA's adverse action procedure was not fully consistent with industry best practices. Actions have been initiated to revise this procedure.

2. With regard to the second gap, Confirmatory Order Action Item 7 stated that:

TVA shall incorporate a discussion of NRC's employee protection rule in the next revision of the "One Team, One Fleet, One TVA" booklet. The next revision will be completed by no later than December 31, 2010.

TVA did update the "One Team, One Fleet, One TVA" booklet by December 31, 2010, as required by the Confirmatory Order. During the review of the Confirmatory Order Action Item 7, as requested by the CWEL, TVA identified that the "One Team, One Fleet, One TVA" booklet was discontinued in 2013. In response to this review finding, an action has been entered into the corrective action program to evaluate the adequacy of TVA's current mechanisms by which it maintains visibility of NRC's employee protection rule.

3. With regard to follow-up items, Confirmatory Order Action Item 4 that states:

Through the end of calendar year 2013 and on approximately a quarterly basis, TVA shall continue to analyze SCWE trends and develop planned actions, as appropriate.

While this item was completed, TVA intends to follow-up on the successor process to this action item, i.e. Nuclear Safety Culture Monitoring Panel, to evaluate the effectiveness of that process.

4. In addition, Confirmatory Order Action Item 3 stated that:

By no later than the end of calendar year 2013, TVA shall perform two (2) independent safety culture assessments comparable to the independent survey conducted in February 2009. The surveys shall be administered in approximately two-year intervals. TVA shall assess and evaluate the results compared with the results of the prior years' surveys. TVA shall make the results of each survey and the planned corrective actions available for NRC review within sixty (60) calendar days after the development of the planned corrective actions.

While this action was completed, TVA intends to follow-up on subsequent safety culture surveys to evaluate the effectiveness of those subsequent surveys.

Requested Attribute 4: Detail how you will address the potential extent of condition in organizations outside of Operations

To determine the extent of condition related to the chilled work environment at Watts Bar, Employee Concerns Program personnel conducted pulse surveys in March 2016 for approximately 30% of the population outside of Operations. In addition, further pulse surveys will be conducted during Operations requalification training as well as quarterly pulse surveys of all Engineering, Security, Training, Work Management, Maintenance, Plant Support, Radiation Protection and Chemistry. In the future, the results of these pulse surveys will be provided to site leadership, the Nuclear Safety Culture Monitoring Panel and the Employee Concerns Program manager. While the Root Cause Analysis is chartered to also address extent of condition, the effectiveness assessments of both the Corrective Action Program and the Employee Concerns Program will provide insights to the Root Cause Team for further extent of condition scope to Watts Bar departments.

Requested Attribute 5: Describe any associated corrective actions and how you will measure the effectiveness of any corrective actions

TVA Chilled Work Environment Action Plan (Attachment 1) documents all of the corrective actions to date in one location. The actions in Attachment 1 supersede the actions described in TVA's letter dated March 24, 2016. Any additional corrective actions from the Root Cause Analysis will be added and tracked in the TVA Chilled Work Environment Action Plan (Attachment 1).

In order to evaluate the effectiveness of the corrective actions, the following action items were generated:

- ECP pulse surveys of the Operations Department will include questions on the willingness of operators to raise safety concerns, production over safety, undue influence, and use of the Corrective Action/Employee Concerns programs to raise concerns. These surveys will be evaluated for potential warning signs and missed opportunities to identify safety conscious work environment climate.
- The WBN employee engagement survey will include questions related to a production over safety climate and undue external influences over licensed duties. These questions will be evaluated to determine the climate in Operations with regard to the valuing production over safety and undue external influences over licensed activities.
- WBN will modify the management observation program requirements to ensure observers consider the degree to which production is prioritized over safety and the existence and extent of any undue external influences in the control room. This data will be assessed to aid in determining the climate in Operations regarding production over safety and undue external influences.
- WBN will survey CAP/ECP process users over at least the next two years to assess the effectiveness of the program to address the issues raised initially. Responses from the surveys will be included in the CAP/ECP effectiveness evaluations.
- The Root Cause Analysis will include an effectiveness review to ensure that the root cause(s) are addressed along with assuring implementation of the corrective actions from the Root Cause Analysis.

TVA will develop metrics to measure effectiveness of corrective actions in parallel with the root cause analysis and will be prepared to discuss these metrics with the NRC at the next scheduled meeting to discuss the CWEL.

Requested Attribute 6: Describe how you will address past effectiveness of your corrective action program and ECP.

The WBN Special Review Team report dated March 2016 identified that there was a general lack of confidence by some Operations personnel in valuing the CAP to identify, detect trends, evaluate, and provide timely resolution of station issues. Over the two year time period reviewed (2014-2015), those concerns or perceptions were evident across multiple employee surveys, and it could have impacted the willingness of some workers to document their concerns. Condition report 1151960 was written in March 2016 and documents that weaknesses in the confidence of the corrective action program (CAP) by WBN Operations

personnel contributed to the degraded work environment in the WBN Operations Department as reflected by recurring gaps in Operations Shift employee survey results over the last 18 months. Keyword searches using a broad spectrum of key words (e.g., harassment, intimidation, retaliation, discrimination, SCWE, nuclear safety, industrial safety, aggressive, abusive, concerns, etc.) were conducted during the time period October 2015 through January 2016.

A past effectiveness review was conducted as an action from the TVA Chilled Work Environment Action Plan. In summary, there were missed opportunities in the CAP, ECP, NSCMP, as well as follow-up to NSRB-identified issues, to have potentially identified the degraded work environment in the Operations Department. The time period in which these programs could have identified the culture changes appears to have been constrained to a very narrow time period in November and December 2015. In retrospect, however, there were missed opportunities in identifying an emerging trend that the Operations Department work environment was degrading. Also, the Root Cause Analysis will consider the effectiveness of the corrective action and employee concerns programs in that review.

Additionally, the NRC requested that TVA promptly notify the members of the workforce of the issuance of the CWEL.

On March 24, 2016 the TVA Chief Nuclear Officer published a Fleet Focus communication notifying members of the fleet about the NRC CWEL. In addition, by March 25, 2016 Watts Bar site personnel had been directly informed of the issuance of the NRC CWEL by Department Management.

ATTACHMENT 1
TVA CHILLED WORK ENVIRONMENT ACTION PLAN

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

A. Actions Initiated Prior to Receipt of Chilling Effect Letter

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
A.1	<p>The Senior VP Nuclear Operations conducted a series of meetings with Operations Senior Reactor Operators and above to:</p> <ul style="list-style-type: none"> • Reinforce performance expectations, • Reinforce Senior VP Operations support for conservative decision making, and • Provide perspective on Nuclear Safety Culture/Safety Conscious Work Environment Elements. 	April 27, 2016	Complete
A.2	<p>The WBN Site Vice President met with First Line Supervisors and above and conducted a series of All Hands Meetings to:</p> <ul style="list-style-type: none"> • Communicate the work environment concerns in Operations, • Acknowledge and recognize management shortfalls, and • Provide a high level summary of next steps. 	March 11, 2016	Complete
A.3	<p>TVA Senior Leadership implemented key organizational alignment and support changes. These changes were designed to 1) improve the degraded work environment, 2) reinforce support for ongoing initiatives to improve station performance and support continued safe operation of WBN 1, and 3) safe transition to a two unit operating station. The specific changes were designed to:</p> <ul style="list-style-type: none"> ▪ Transition the Vice President of Watts Bar Unit 2 Project to serve as the Site Vice President of Watts Bar; ▪ Transition the incumbent Site Vice President to serve as Senior Site Vice President of Watts Bar to facilitate site strategic planning for commercial operations at Watts Bar Unit 2 and full integration of the seventh unit into the TVA Nuclear fleet; and • Assign the Corporate Functional Area Manager for Operations to serve as the WBN Assistant Plant Manager in support of the Operations Department. 	March 25, 2016	Complete

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
A.4	<p>TVA Senior leadership installed at WBN on a temporary basis an experienced executive to facilitate open lines of communication between employees, their management and the fleet. This temporary position will report directly to TVA senior executives and will:</p> <ul style="list-style-type: none"> ▪ Monitor or enhance existing avenues for raising concerns; ▪ Monitor leadership team behaviors on a frequent basis; ▪ Provide feedback and advice to leadership team and Senior VP Operations; ▪ Engage in issues and assist leadership team with transparency; and • Recommend improvement plans as needed to the leadership team. 	March 25, 2016	Complete
A.5	<p>The Vice President of Watts Bar Unit 2 Project reinforced to the Outage Control Center (OCC) staff the following:</p> <ul style="list-style-type: none"> ▪ Appropriate OCC and Main Control Room (MCR) roles and responsibilities; ▪ The importance of communications that include the MCR; and ▪ Proper conduct of briefings. <p>The communication included an overview of OCC positions, with emphasis on OCC Operations representative and the proper conduct and interactions with Operations SROs / Shift Managers. It also reinforced to both Operations staff and the OCC that the MCR has final say over plant operations.</p>	February 26, 2016	Complete
A.6	<p>TVA developed and implemented a Communications Plan focused on 1) delivering straightforward, consistent messaging across the site and fleet, and 2) reinforcing the right NSC behaviors, effective operational decisions, and questioning attitude that considers plant issues and basis for actions, Unit 2 integration/challenges, and key topics of interest/issues identified through various employee forums.</p>	March 17, 2016	Complete

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

B. Immediate Actions upon Receipt of Chilling Effect Letter

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
B.1	The TVA Chief Nuclear Officer (CNO) issued a "Fleet Focus" communication to notify nuclear staff that the NRC had issued a Chilling Effect Letter. In the communication, the CNO emphasized that TVA is taking ownership of this issue and acknowledged that TVA was not fully successful in achieving a positive work environment among the Operations staff. The CNO further acknowledged challenges associated with raising performance standards and that a less than adequate job had been performed by TVA management in fully listening to the Operations staff at Watts Bar. The CNO reminded the staff of TVA's commitment to the safe operation of Watts Bar Unit 1 and the safe progression to dual-unit operations. Finally, the CNO reinforced TVA's commitment to addressing the operations work environment and reinforcing both a strong nuclear safety culture and sustainable positive site-wide environment for raising concerns.	March 17, 2016	Complete
B.2	TVA conducted additional independent observations of the Main Control Room and Outage Control Center to assess the safety climate for Operations. These observations are focused on: <ul style="list-style-type: none">• Shift Manager (SM) / Unit Supervisor (US) leadership behaviors;• SM / US willingness to coach / correct behaviors;• External variables (WCC / OCC) impact to decisions;• Crew performance; and• Discussion with Operations.	April 20, 2016	Complete
B.3	TVA established a CWEL team to fully evaluate the NRC's Chilled Work Environment Letter, formulate plans to perform the actions requested by the NRC, recommend additional immediate actions and develop a written response to the NRC.	March 24, 2016	Complete

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
B.4	TVA established a Root Cause Analysis team to conduct a thorough evaluation of the causes which created the chilled environment in Operations at WBN.	March 28, 2016	Complete
B.5	<p>On April 11, 2016, the new Site Vice President issued a communication to WBN personnel. In the communication, the Site Vice President reinforced that work environment concerns reflected in the Chilling Effect Letter represented a clear need for WBN leaders to change some behaviors so that both the words and actions of leaders clearly express the following:</p> <ul style="list-style-type: none">• Licensed operators make decisions about maneuvering the plant. Others can discuss and provide input or information, but WBN operators have ultimate authority and responsibility to operate the plant safely.• WBN leaders will listen to input from anyone on this site. Every member of this senior leadership team will treat you respectfully in discussing and resolving your issue.• No WBN leader will retaliate, discriminate, harass or treat WBN employees in a less-than-respectful manner for raising an issue — nuclear safety or any other concerns. It is the obligation of WBN employees to raise nuclear safety issues. It is the responsibility of WBN leaders to maintain an environment where you feel encouraged to do so.• WBN leadership will provide ongoing communication as to TVA's response to the NRC letter and actions being taken across the site.	April 11, 2016	Complete

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

C. Assessment of Climate

1.0 Willingness to Raise Concerns

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.1.1	<p><u>Review of Past Survey Data</u> TVA will review the WBN results of (1) the June 2015 Employee Engagement Nuclear Safety Culture Survey, (2) the December 2015 INPO OR Survey and (3) Employee Concerns Program pulsing data conducted in March 2016. The review will:</p> <ul style="list-style-type: none"> • Correlate data from the different surveys to the INPO Safety Culture Traits to provide a consistent benchmark; • Search for evidence of missed indications of problem in the WBN Operations Department such as respectful work environment and decision making; • Search for evidence of concerns regarding CAP; and • Assess attitudes towards leadership and the environment for raising concerns. 	May 20, 2016	
C.1.2	<p><u>Review of the Corrective Action Program</u> TVA will review the WBN Corrective Action Program data generated since June 1, 2015 specifically to assess:</p> <ul style="list-style-type: none"> • Effectiveness of the program for insights regarding willingness of employees to raise concerns • Indications of concerns regarding valuing production over safety; and • Indications of undue influence over licensed duties. <p>The evaluation will include CAP effectiveness and internal generation versus externally generated Condition Reports from Quality Control/NRC/anonymous groups.</p>	April 14, 2016	Complete

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.1.3	<p><u>Review of Employee Concerns Surveys for Operations</u> TVA will review the WBN Employee Concerns Program surveys conducted since June 1, 2015 to assess:</p> <ul style="list-style-type: none"> ▪ A comparison of issues generated from within Operations to those generated elsewhere on site; ▪ Potential warning signs and missed opportunities for insights regarding willingness of employees to raise concerns; ▪ Indications of concerns regarding the valuing production over safety; and ▪ Indications of undue influence over licensed duties; and ▪ Effectiveness of ECP. 	April 21, 2016	Complete
C.1.4	<p><u>Assess Work Environment Data</u> The temporary executive facilitator will:</p> <ul style="list-style-type: none"> ▪ Attend meetings and observe behaviors to assess the willingness of operators to raise concerns and to encourage operator participation in ECP/CAP; ▪ Document on a weekly basis the results of observations; and ▪ Recommend additional actions to further improve communication effectiveness. 	July 29, 2016	
C.1.5	<p><u>Conduct Operations Pulse Surveys</u> ECP will conduct WBN Operations pulse surveys (10% of the staff, every month) that will include questions on:</p> <ul style="list-style-type: none"> • Willingness of operators to raise nuclear safety or quality concerns; • Indications of valuing production over safety; • Indications of undue influence over licensed duties; and • Effective use of the Corrective Action/Employee Concerns programs to raise concerns. <p>These surveys will be evaluated for potential warning signs and missed opportunities to identify safety conscious work environment climate.</p>	April 28, 2017	

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.1.6	<u>Effectiveness review of CO EA-09-203</u> TVA will conduct an effectiveness review of the applicable actions completed in accordance with CO-EA-09-009/203 to: <ul style="list-style-type: none"> • Determine whether those actions were appropriate in preventing or minimizing recurrence of the issue; • Assess the timeliness of those corrective actions. Follow-up actions will be initiated for any corrective actions that were not effectively implemented.	April 13, 2016	Complete
C.1.7	<u>Conduct Pulse Surveys other than Operations</u> ECP personnel will generate a schedule and commence conducting and trending monthly Pulse Surveys in selected other WBN Departments for a period of 12 months.	April 28, 2017	

C. Assessment of Climate

2.0 Production over Safety/External Influences

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.2.1	<u>Conduct observations of the Outage Control Center, Control Room, and Work Control Center (WCC)</u> Through July 2016, TVA will conduct an average of two independent observations and interviews per week of the WBN Control Room and/or OCC to assess the safety climate for Operations. These observations will be focused on: <ul style="list-style-type: none"> • External variables (WCC / OCC) impact to decisions; • Shift Manager (SM) / Unit Supervisor (US) leadership behaviors; • SM / US willingness to coach / correct behaviors; • Crew performance; and • External interaction with Operations. 	July 29, 2016	

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.2.2	<p><u>Review of Corrective Action Program Data</u> TVA will review the WBN CAP data generated since June 1, 2015 to evaluate the data, specifically focusing on safety culture condition reports, to assess the sensitivity of Operations to:</p> <ul style="list-style-type: none"> • A climate where safety over production is valued and • Undue external influences over licensed duties. 	April 14, 2016	Complete
C.2.3	<p><u>Conduct employee surveys</u> Conduct a WBN employee engagement survey that includes questions related to a production over safety climate and undue external influences over licensed duties. These questions will be evaluated to determine the climate in Operations with regard to production over safety and undue external influences over licensed activities.</p>	August 25, 2017	
C.2.4	<p><u>Modify management observation criteria</u> Modify the WBN management observation program requirements to ensure observers consider the degree of production over safety and undue external influences climate in the control room.</p>	May 27, 2016	
C.2.5	<p><u>Analysis of 2C's information</u> TVA will review the information from WBN Operations Department 2C's meetings held since June 1, 2015 to determine if there were any indications raised regarding production over safety and undue external interferences over licensed duties. The results from this review will be factored into lessons learned for the ECP and CAP programs and in the Root Cause Analysis.</p>	April 15, 2016	Complete
C.2.6	<p><u>OCC Pre-Job Briefing Sheet Change</u> Implement a standard TVA Nuclear fleet wide OCC pre-job briefing sheet that discusses roles / responsibilities for the shift and the OCC when initially staffing up.</p>	May 3, 2016	

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.2.7	<u>Revise Outage Oversight Plan</u> Include corporate observations of the OCC into Outage Oversight Plan governance for planned refueling outages that monitors roles / responsibilities for the shift and the OCC.	April 20, 2016	Complete
C.2.8	<u>Revise Unplanned/Forced Outage Oversight Governance</u> Include corporate observations of the OCC into unplanned or forced outage oversight governance that monitors roles / responsibilities for the shift and the OCC.	April 20, 2016	Complete

C. Assessment of Climate

3.0 Effectiveness of both the Corrective Action Program (CAP) and Employee Concerns Program (ECP)

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.3.1	<u>Human Resources review of personnel cases</u> TVA's Human Resources group will review WBN personnel adverse action cases initiated since June 1, 2015 to evaluate whether issues identified in the CAP/ECP programs resulted in an adverse action being proposed or taken.	May 13, 2016	

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.3.2	<p><u>Analysis of CR initiation</u> A review of WBN outside assessments, e.g., Quality Assurance, will be conducted since June 1, 2015 to determine:</p> <ul style="list-style-type: none"> • If there were any indications that Operators were reluctant to raise concerns; or • The CAP/ECP was not: <ol style="list-style-type: none"> 1. Timely 2. Effective 3. Trended 4. Communicated in addressing concerns <p>Insights from the review will be included in the effectiveness reviews for CAP/ECP.</p>	May 13, 2016	
C.3.3	<p><u>Review anonymous condition reports</u> TVA will review WBN anonymous condition reports generated since June 1, 2015 to assess the response timeliness, corrective action effectiveness, trend management and communications of CAP to address employee concerns. Insights from the review will be included in the effectiveness reviews for CAP/ECP and the Root Cause Analysis.</p>	May 20, 2016	
C.3.4	<p><u>Review Employee Concerns Program data</u> TVA will review the ECP cases for WBN Operations generated since June 1, 2015, to determine if there are instances where employee concerns were not completely or properly addressed for:</p> <ul style="list-style-type: none"> • Response timeliness, • Corrective action effectiveness, • Trend management, and • Communications of the ECP raised concerns. <p>Insights from this review will be factored into the Root Cause Analysis.</p>	May 20, 2016	

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.3.5	<u>Analysis of recurrence</u> Conduct an assessment of the WBN CAP/ECP programs for 2016 to identify repeat issues to determine if the programs were not effective in addressing safety culture issues initially.	December 30, 2016	
C.3.6	<u>Survey of initiators</u> WBN will survey CAP/ECP process users over the next two years to assess the effectiveness of the programs to address issues. Responses from the surveys will be included in the CAP/ECP effectiveness evaluations.	December 29, 2017	
C.3.7	<u>Nuclear Safety Culture Monitoring Panel Review</u> TVA will conduct an independent review of the WBN NSCMP meetings held since June 1, 2015 to assess the effectiveness of the NSCMP process to identify ineffective results from the CAP/ECP process. Insights from this review will be factored into WBN's NSCMP process and used in the Root Cause Analysis.	May 20, 2016	
C.3.8	<u>Nuclear Safety Review Board Review</u> TVA will conduct an independent review of the WBN NSRB meetings held since June 1, 2015 to assess the effectiveness of the NSRB process to identify ineffective results from the CAP/ECP process. Insights from this review will be factored into WBN's NSRB process and used in the Root Cause Analysis.	May 20, 2016	
C.3.9	<u>Conduct Monthly NSCMP Meetings</u> Schedule and conduct monthly WBN NSCMP meetings with reports distributed directly to SVP, PM, and include Sr. VP Ops/CNO for a period of 6 months.	August 26, 2016	
C.3.10	<u>NSRB review</u> WBN NSRB review implementation of the Work Environment Improvement Plan.	June 14, 2016	

ATTACHMENT 1

TVA Chilled Work Environment Action Plan

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
C.3.11	<u>Conduct Industry Self Assessment of ECP Program Effectiveness</u> Perform a self assessment of ECP that includes: <ul style="list-style-type: none"> • Evaluation of ECP procedures and Conduct of Operations against industry standards and practices; • Effectiveness review to verify staff conformance to procedures and Conduct of Operations; and • Effectiveness review of corporate oversight of site ECP performance. • Effectiveness review of ECP performance metrics for timeliness, case management, and trend analysis 	August 26, 2016	
C.3.12	<u>Presentation of Lessons Learned to the National Association of Employee Concerns Professionals (NAECP)</u> A senior leadership member will develop and present lessons learned to the National Association of Employee Concerns Fall Conference (September 27, 2016) in Annapolis, Maryland.	September 30, 2016	

D. Causal Analysis

<i>Item</i>	<i>Root Cause Scope Areas</i>	<i>Due Date</i>
	Perform an investigation to determine the root and contributing causes that led to the development of the chilled work environment in the WBN Operations Department.	RCA completion May 20, 2016
D.1	Weaknesses in leadership and management behaviors.	
D.2	Weaknesses in communication within the Operations Department.	

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D.3	Missed opportunities in nuclear safety culture oversight and monitoring by multiple programs and processes.
D.4	CAP/ECP and other sources' failure to alert management to potential changes in SCWE and safety culture.
D.5	Weaknesses in implementation of the Adverse Employee Action procedure.
D.6	Heavy workload on Operations with a potential for exceeding organizational capacity of the department and the impact on the work environment at the station.
D.7	Extent of Condition
D.8	Extent of Cause
D.9	Performance Analysis
D.10	Latent organizational weaknesses
D.11	Organizational & Programmatic contributors
D.12	Human performance errors and actions
D.13	Previous and similar events
D.14	Equipment failure and response
D.15	Safety Culture Attributes Analysis

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E. Steps to Ensure Watts Bar Staff Is Willing to Openly Participate in the Process

- Ensure the staff is willing to openly participate in the process

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
E.1	<u>Conduct Work Environment Observations</u> The temporary executive facilitator at WBN will attend meetings and observe behaviors to assess the willingness of operators to raise concerns and to encourage operator participation in ECP/CAP.	July 29, 2016	
E.2	<u>Establish an Adverse Employment Action Review Board</u> TVA will upgrade the adverse employment actions process, including the development of a site executive review board (ERB), to ensure actions are consistent with employee protection regulations and determine whether the action could negatively impact the Safety Conscious Work Environment.	May 13, 2016	
E.3	<u>Conduct SCWE Refresher Training</u> WBN will provide SCWE training to site personnel, including managers, supervisors, and other employees. This training will cover SCWE policies and expectations, such as open door policy, support for the use of the CAP, and escalating concerns if necessary to obtain resolution.	August 26, 2016	
E.4	<u>Shift Manager Mentor</u> Develop and implement WBN Operations Shift Manager Mentoring Program	June 15, 2016	
E.5	<u>NSC Program Benchmark</u> Benchmark TVA Nuclear NSC program against Nuclear Industry best practices.	May 27, 2016	

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F. TVA Special Review Team Alignment Plan Prior to the Receipt of Chilled Work Environment Letter

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
F.1	Develop talking points / presentation that identifies work environment concerns in Operations Department at WBN, acknowledges ownership of issues by station management, and reinforces alternatives for raising concerns, management's expectation for establishing a SCWE, and reporting avenues of nuclear safety concerns.	February 21, 2016	Complete
F.2	Brief leadership team on results of the ECP investigations.	March 18, 2016	Complete

G. Internal and External Communications Plan Prior to Receipt of Chilled Environment Letter

<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
G.1	Conduct alignment discussion with Ops Director / Ops Management to include Shift Managers, with overview of position / authority support, discussing letter (memo) for SM roles / responsibilities.	March 21, 2016	Complete
G.2	Issue follow-up letter from CNO acknowledging concerns and reinforcing his personal commitment to improving culture at WBN and fleet.	March 21, 2016	Complete
G.3	Conduct a series of position-specific meetings with Operations Department personnel (SROs/ROs and AUOs) to acknowledge work environment concerns within the Department, management's contribution and role in those concerns, and high level summary of the actions going forward to fix the concerns.	April 15, 2016	Complete

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<i>Item</i>	<i>Action</i>	<i>Due Date</i>	<i>Status</i>
G.4	Conduct a series of All Hands Meetings for station personnel to communicate the work environment concerns in the Operations Department at WBN, acknowledgement and recognition of the management shortfall, and high level summary of the actions going forward.	April 15, 2016	Complete
G.5	Conduct briefing with the NRC concerning WBN Work Environment Issues and associated Plan.	March 22, 2016	Complete