



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

December 6, 2018

Mr. Joseph W. Shea  
Vice President  
Nuclear Regulatory Affairs and  
Support Services  
Tennessee Valley Authority  
1101 Market Street, LP 4A  
Chattanooga, TN 37402-2801

SUBJECT: PUBLIC MEETING SUMMARY – STATUS OF TENNESSEE VALLEY  
AUTHORITY’S ACTION TO ADDRESS SAFETY CONSCIOUS WORK  
ENVIRONMENT AT THE WATTS BAR NUCLEAR PLANT, DOCKET  
NO. 50-390 AND 50-391

Dear Mr. Shea:

This refers to the meeting conducted at our request at the Comfort Inn in Athens, TN on October 18, 2018, at 5:00 p.m. The purpose of the meeting was for Tennessee Valley Authority (TVA) to brief the NRC staff on the status and progress of the actions to improve Safety Conscious Work Environment (SCWE) at Watts Bar Nuclear Plant. Enclosed are a list of attendees and the presentation handouts. These presentation handouts are also available in the Agency-wide Documents Access and Management System (ADAMS) – ML18291A563 and ML 18291A573.

The NRC discussed background of the Chilling Effect Letter (CEL), Confirmatory Orders, SCWE Cross-Cutting Issue (CCI), NRC actions taken and future actions at Watts Bar Nuclear Plant. The NRC briefly discussed the basis to leave the CEL open and opened a SCWE Cross-Cutting Issue (CCI) which documented in the NRC Assessment Follow-up Letter and Updated Inspection Plan for Watts Bar Nuclear Plant Units 1 and 2 -Reports 05000390, 05000391/2018005 - ML18242A458. The TVA management discussed the Watts Bar Nuclear Plant chilled work environment update which included background of the chilled work environment, NRC follow-up inspections, nuclear safety culture monitoring, initial response to radiation protection (RP) department chilled work environment, chilled work environment and CCI issue closure actions, and sustainability of performance improvement.

This letter, its enclosures, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding” (Public Electronic Reading Room).

Should you have any questions concerning this meeting, please contact me at (404) 997-4465.

Sincerely,



Anthony D. Masters, Chief  
Reactor Projects Branch 5  
Division of Reactor Projects

Docket Nos.: 50-390, 50-391

License Nos.: NPF-90, 96

Enclosures:

1. List of Attendees
2. NRC Meeting Slides
3. TVA Meeting Slides

cc: Distribution via ListServ

## LIST OF ATTENDEES

### NRC PARTICIPANTS

C. Haney, Regional Administrator, Region II  
A. Masters, Chief, Reactor Projects Branch 5, DRP, RII  
J. Nadel, Senior Resident Inspector, Watts Bar, DRP, RII  
S. Morrow, Human Factors Engineer, RES

### TVA PARTICIPANTS

P. Simmons, TVA, WBN Site VP  
T. Marshall, Plant Manager  
B. Boyer, TVA, Radiation Protection Manager  
K. Hulvey, TVA, WBN Site Licensing Manager

### Members of Public who requested the bridge call or were on the bridge call

S. Collins  
B. Garde  
D. Decker  
W. Freebairn  
J. Monroe  
R. Jackson

## ATTENDANCE LIST

DATE: October 18, 2018

MEETING TITLE/PURPOSE: Status of Tennessee Valley Authority's Actions to Address Safety Conscious Work Environment (SCWE) at Watts Bar Nuclear Plant

LOCATION: Comfort Inn in Athens, Tennessee

Name	Organization
Kim Hulvey	TVA
Stephanie Morrow	NRC
Erin Henderson	TVA
JOE CALLE	TVA
ROGER HANNAH	NRC
CHRISTOPHER GAVILLEN	TVA
SON NINH	NRC
Pan Simmons	TVA
Karen Hutchings	TVA
JOHN OSBORNE	TVA
MIKE HERDRICK	TVA
Meshelle Augustin	TVA

ATTENDANCE LIST

DATE: October 18, 2018

MEETING TITLE/PURPOSE: Status of Tennessee Valley Authority's Actions to Address Safety Conscious Work Environment (SCWE) at Watts Bar Nuclear Plant

LOCATION: Comfort Inn in Athens, Tennessee

Name	Organization
MIKE OSUNA-Godlessy	TVA - RETIREE
Lee Sanders	TVA
BRAD HOYER	TVA
Eli Rice	TVA
Jared Nadel	NRC
Paul Ruel	TVA
Mills McREANA	Public
Vanessa McNeil	TVA
Jim Hopson	TVA
Joshua Kaylor	TVA
ANDREW TAYLOR	PUBLIC

ATTENDANCE LIST

DATE: October 18, 2018

MEETING TITLE/PURPOSE: Status of Tennessee Valley Authority's Actions to Address Safety Conscious Work Environment (SCWE) at Watts Bar Nuclear Plant

LOCATION: Comfort Inn in Athens, Tennessee

Name	Organization
John Anthony Jerusalem	TVA OIG
Pam Anderson	TVA Communications
JOE SHEA	TVA

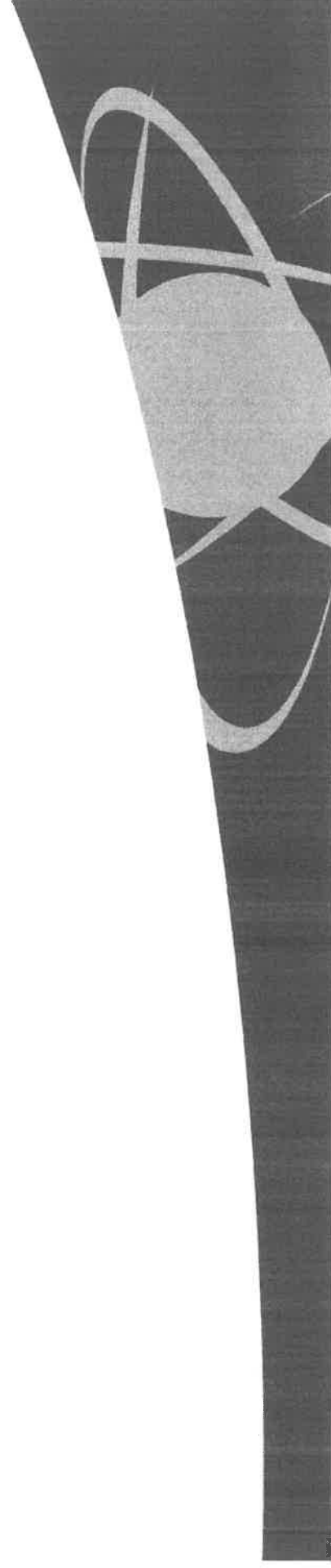
# Watts Bar Chilled Work Environment

October 18, 2018

Nuclear Regulatory Commission – Region 2

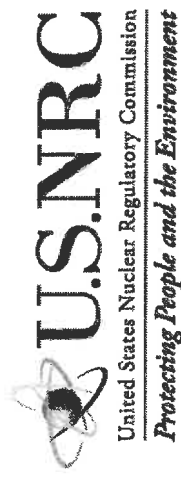
# Agenda

- Introduction/Meeting Purpose
- Summary of Issue
- NRC Activities
- Update from TVA
- Questions
- Summary

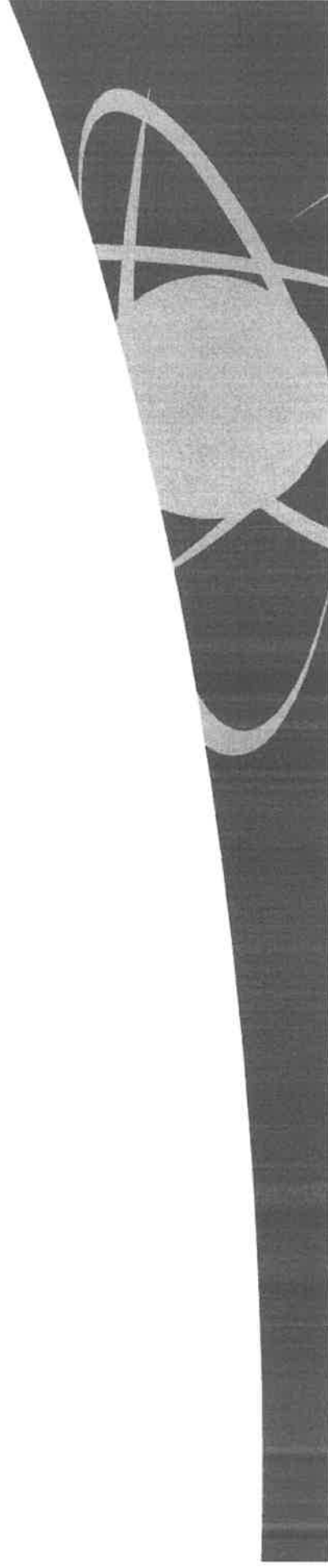




# Meeting's Purpose

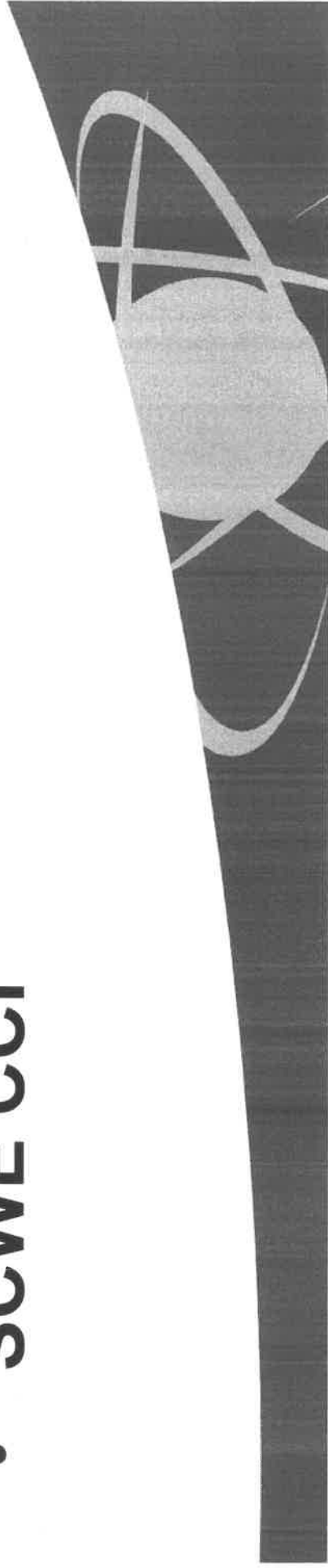


- Discuss the TVA's chilled work environment issue at Watts Bar
- Discuss NRC actions associated with the chilled work environment



# **Chilled Work Environment Summary and NRC Actions**

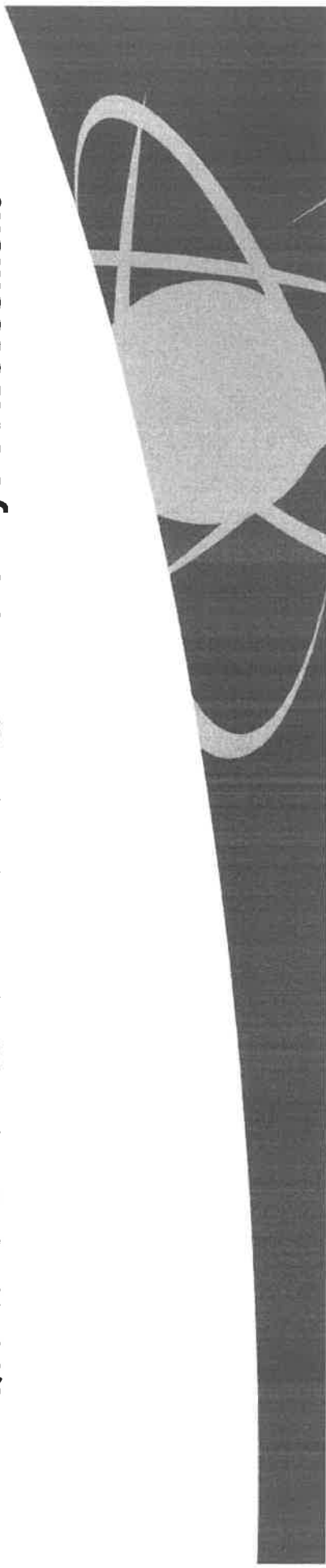
- **Chilling Effect Letter**
- **NRC Inspections**
- **Confirmatory Order**
- **SCWE CCI**

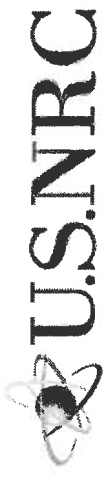


# NRC Activities



- **Resident Inspectors**
  - Weekly discussions with the Site VP or Plant Manager
  - Regularly attend the Nuclear Safety Culture Monitoring Panel meetings for safety conscious work environment insights
  - Heightened sensitivity to chilled work environment issues when performing field inspections and engaging with plant employees one-on-one
  - Frequent observations of major plant evolutions
  - Frequent interaction and observation of the control room and plant
- **Monitoring and assessment of inspections and resources**
- **January 2019 – Biennial PI&R Team Inspection**
- **1<sup>st</sup> Quarter of 2019 – Watts Bar Units 1 & 2 End of Cycle Assessment**



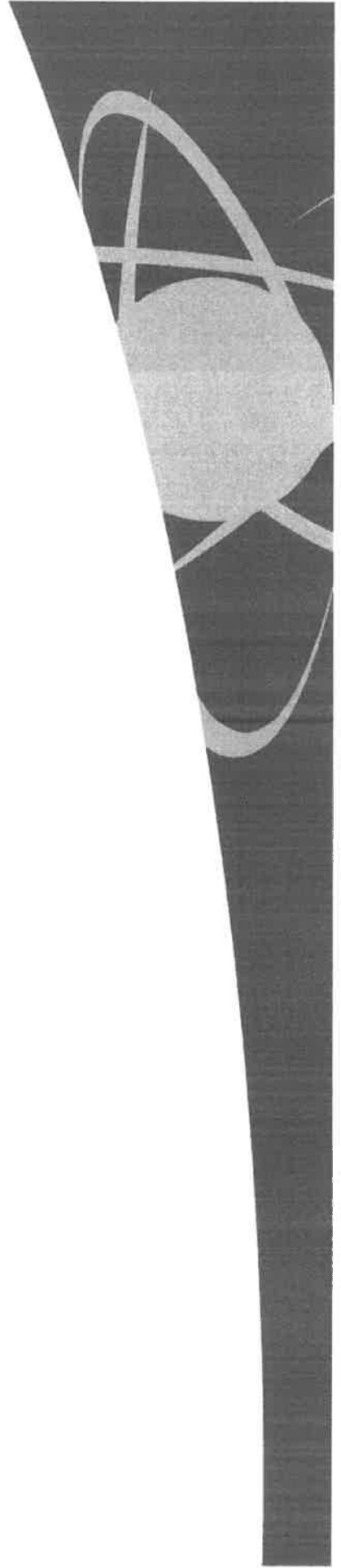


**U.S. NRC**

United States Nuclear Regulatory Commission

*Protecting People and the Environment*

# TVA Presentation



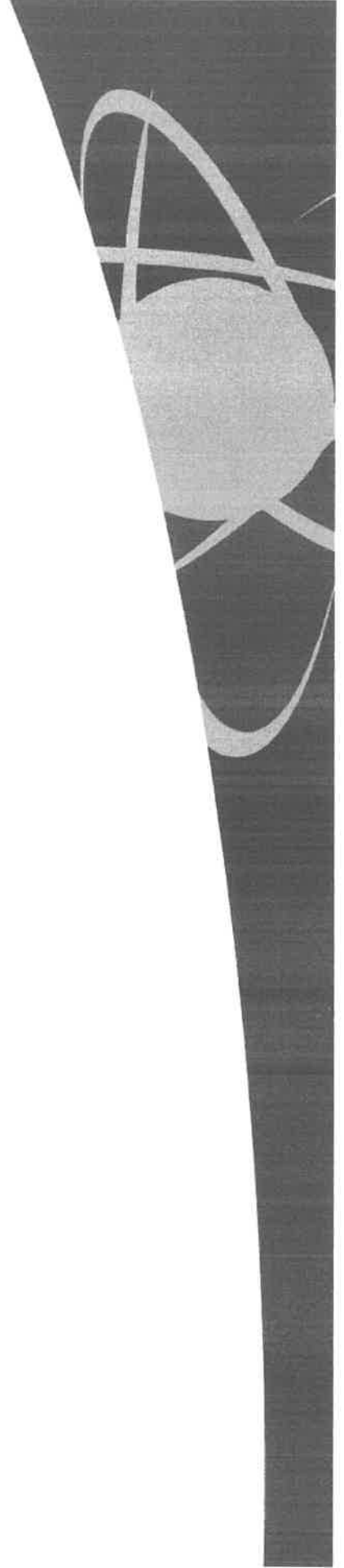


**U.S. NRC**

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# QUESTIONS



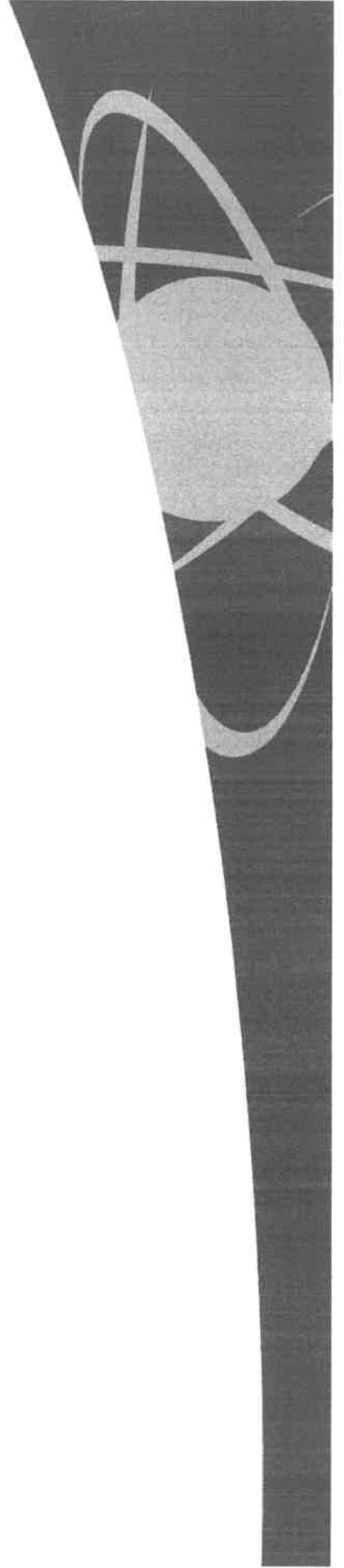


**U.S. NRC**

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*Protecting People and the Environment*

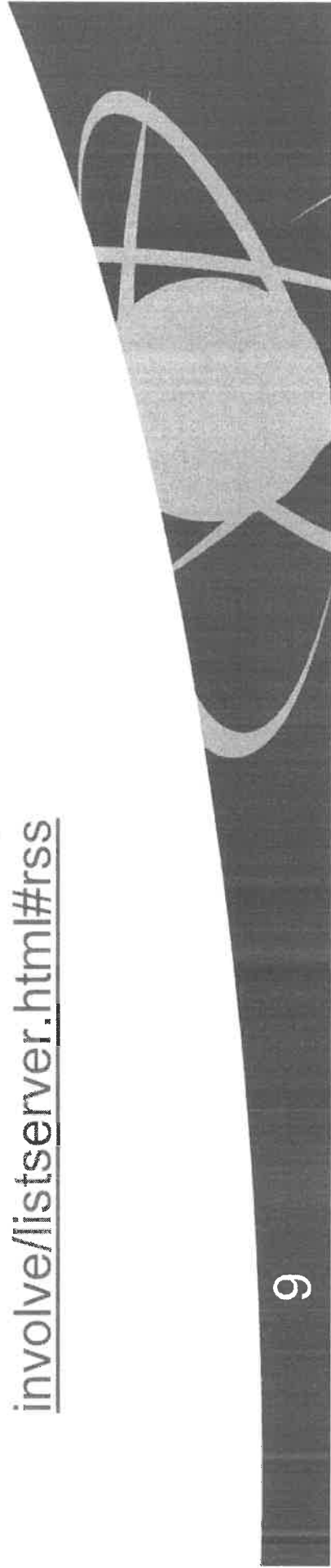
# SUMMARY



# NRC Social Media Channels



- **Blog:** <http://public-blog.nrc-gateway.gov/>
- **Flickr:** <http://www.flickr.com/photos/nrcgov/>
- **Twitter:** <https://twitter.com/#!/nrcgov>
- **YouTube:** <http://www.youtube.com/user/NRCgov>
- **RSS:** <http://www.nrc.gov/public-involve/listserver.html#rss>



# End of Presentation

Nuclear Regulatory Commission

Region #2

Athens, TN

October 18, 2018





# Watts Bar Nuclear Plant Chilled Work Environment Update

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October 18, 2018

# Opening Remarks

Paul Simmons, Site Vice President Watts Bar Nuclear Plant



# Agenda

- Background
- NRC Follow-up Inspections
- Nuclear Safety Culture Monitoring
- Initial Response to Radiation Protection Chilled Work Environment
- Chilled Work Environment and Cross Cutting Issue Closure Actions
- Sustainability of Performance Improvement
- Summary
- Closing Remarks

# Background

- NRC determined Chilled Work Environment in Operations Department
  - Watts Bar developed and implemented corrective actions based on root cause analysis
- NRC Problem Identification and Resolution inspection
  - NRC issued 2017 Confirmatory Order in response to the apparent violation for failure to comply with 2009 Confirmatory Order
- Independent Nuclear Safety Culture Assessment

# Background

- **TVA Nuclear Fleet actions:**
  - Benchmarked Nuclear Industry to assist in revising the Adverse Employment Action process
  - Developed and implemented on-going Safety Conscious Work Environment (SCWE) training
  - Established Nuclear Safety Culture peer team
  - Developed and implemented Nuclear Safety Culture Monitoring Panel training
  - Corporate Oversight

# 2018 NRC CWEL Follow-up Inspection

- January and June 2018 NRC inspection results
  - Root Cause Analysis corrective actions and enhancements were being implemented
    - > Positive effect on the chilled work environment within Operations Department
    - > Provides site-wide monitoring of safety culture
  - Challenges in identification and evaluation of department-specific work environment trends

# 2018 NRC CWEL Follow-up Inspection

- June 2018 NRC inspection results of Radiation Protection Department
  - Majority willing to raise nuclear and radiological safety concerns
  - Some reluctant or feel others may be reluctant to raise certain concerns
  - Concluded a Chilled Work Environment exists
- Mid-Cycle Assessment
  - Safety Conscious Work Environment (SCWE) Cross Cutting Issue opened

# Nuclear Safety Culture Monitoring

- TVA Implements Various Means to Monitor Nuclear Safety Culture
  - Nuclear Safety Culture Monitoring Panel (NSCMP)
  - Site Leadership NSCMP
  - Nuclear Safety Culture Peer Team
  - Nuclear Safety Review Board
  - Employee Concerns Program
  - Independent Safety Culture Assessments
  - Executive Leadership Team (Corporate) Oversight





# Nuclear Safety Culture Monitoring

- Routine monitoring identified work environment issues within Radiation Protection Department
- Safety culture assessments performed with issues identified in:
  - Staffing
  - Number of containment entries per week
  - Management trust concerns
- Watts Bar actions:
  - Implemented staffing plan that included a bridging strategy
  - Introduced a containment entry reduction initiative
  - Initiated employee advisory group

# Watts Bar Initial Response to RP CWE

- Watts Bar response actions:
  - Plant Manager conducted All Hands Meetings with employees to discuss the inspection results
  - Enlisted help from experts in resolving work place environment issues and Initiated Root Cause Analysis to:
    - > Understand Radiation Protection drivers
    - > Identify root and contributing causes for the RP chilled work environment
    - > Identify challenges in department SCWE monitoring
    - > Develop and implement corrective actions

# CWEL and SCWE CCI Closure Actions

- Improve Watts Bar SCWE
  - Address Radiation Protection Department CWE
  - Sustained improvement in Operations Department
  - Continued support of workforce to raise concerns without fear of retaliation
  - Increase personnel confidence in:
    - > Problem identification and resolution
    - > Environment for raising concerns
    - > Methods to detect and prevent retaliation and chilling effects
- Understand department monitoring to detect declining trends and mitigate chilled work environment precursors

# Sustainability of Performance Improvement

We are committed to healthy safety culture sustainability

- Site Leadership Accountability
- Training and Communications
- Adverse Employment Action Process
- Nuclear Safety Culture Monitoring Panel
- Employee Concern Program Surveys
- Nuclear Safety Culture Surveys
- Corporate Oversight

# Summary

- Watts Bar has made improvements in the overall work environment for raising concerns and will continue to develop and implement corrective actions to ensure a sustained environment to raise concerns without the fear of retaliation
- TVA is committed to resolving the chilled work environment in Radiation Protection Department and addressing the closure criteria determined by the NRC
- We are committed to ensuring sustained improvement in Operations Department and effective implementation of our fleet process for Nuclear Safety Culture monitoring.
- We are committed to preventing a chilled work environment from developing in another department at Watts Bar.



Questions?

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**TVA**