



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BLVD
ARLINGTON, TEXAS 76011-4511

September 25, 2012

LICENSEE: Omaha Public Power District (OPPD)
FACILITY: Fort Calhoun Station
SUBJECT: SUMMARY OF SEPTEMBER 11, 2012 MEETING WITH OMAHA
PUBLIC POWER DISTRICT

On September 11, 2012, a Category 1 meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and Omaha Public Power District (OPPD) at The Dana College Gardner-Hawks Center (gymnasium), 2848 College Drive, Blair, Nebraska.

The NRC presented an update of issues and oversight activities at Fort Calhoun Station (Enclosure 1). OPPD presented details of the integrated performance improvement plan, plant status, ongoing work, and corrective action program updates (Enclosure 2).

A video of the public meeting, and responses to the questions directed to the NRC, will be posted on the website devoted to the special oversight at Fort Calhoun Station, available at: <http://www.nrc.gov/info-finder/reactor/fcs/special-oversight.html>.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agency wide Documents Access and Management System (ADAMS). ADAMS is accessible from the Public Electronic Reading Room page of the NRC's public web site at: <http://www.nrc.gov/readingrm/adams.html>.

To receive a summary of future meetings and other plant-specific e-mail distributions, you must subscribe to the Operating Reactor Correspondence electronic distribution for this plant via <http://www.nrc.gov/public-involve/listserver/plants-by-region.html>. Once subscribed, if you wish to discontinue receiving electronic distribution, you may unsubscribe at any time by visiting the same web address above.

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Docket No. 50-285

Enclosure 1: NRC Presentation slides
Enclosure 2: OPPD Presentation slides

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9/14/12	9/14/12	9/20/12	9/25/12

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Fort Calhoun Station Public Meeting

Nuclear Regulatory Commission
September 11, 2012
Blair, Nebraska

Opening and Introductions

- Welcome
- Introduction of NRC personnel

Purpose

- Convey the overall status of NRC and OPPD actions
 - NRC will present status of inspections
 - OPPD will present details of plant issue resolution
- Allow for public interaction and questions

NRC Inspections

- Ongoing inspections
 - Permanent local-based resident inspectors
 - Inspections by other NRC Specialists

NRC Inspections

- Continuing or planned inspections
 - Flooding Recovery Plan Inspections
 - Intake structure
 - Geotechnical
 - Confirmatory Action Letter Inspections
 - Electrical distribution
 - Systems readiness for restart
 - Safety Culture
 - Security inspections
 - Baseline Inspections
 - Surveillance testing
 - Operability evaluations
 - Fire Protection

NRC Inspections

- Licensee actions in progress
- All Confirmatory Action Letter items remain open

Item Number	Description	Closure Date
1	Causes of Significant Performance Deficiencies and Assessment of Organizational Effectiveness	
1.a	Flooding Issue – Yellow finding	
1.b	Reactor Protection System contact failure – White finding	
1.c	Electrical bus modification and maintenance – Red finding	
1.d	Security – Greater than green findings	
1.e	Third-Party Safety Culture Assessment	
1.f	Integrated Organizational Effectiveness	
2	Flood Restoration and Adequacy of Structures, Systems, and Components	
2.a	Flood Recovery Plan actions associated with facility and system restoration	
2.b	System readiness from extended shutdown	

Item Number	Description	Closure Date
3	Adequacy of Significant Programs and Processes	
3.a	Corrective Action Program	
3.b	Equipment design qualifications	
3.c	Design changes and modifications	
3.d	Maintenance programs	
3.e	Operability process	
3.f	Quality assurance	
4	Review of Integrated Performance Improvement Plan	

Item Number	Description	Closure Date
5	Assessment of NRC Inspection Procedure 95003 Key Attributes	
5.a	Design	
5.b	Human performance	
5.c	Procedure quality	
5.d	Equipment performance	
5.e	Configuration control	
5.f	Emergency response	
5.g	Occupational radiation safety	
5.h	Public radiation safety	
5.i	Security	

Item Number	Description	Closure Date
6	Licensing Issue Resolution	
6.a	Review of necessary licensing amendments or actions	
6.b	Review of licensing commitments necessary for restart	
7	Readiness for Restart	
7.a	Operations organization ready for restart	
7.b	Systems ready for restart and Mode restraints properly addressed	
7.c	Final review of corrective actions program for restart items	

Item Number	Description	Closure Date
8	Confirmatory Action Letter Resolution	
8.a	Verification that all restart-related Confirmatory Action Letter items are appropriately resolved	
8.b	Conduct public meeting regarding plant readiness for restart	
9	Final Recommendation for Restart	
9.a	Manual Chapter 0350 Panel recommends restart to Region IV Administrator. Region IV Administrator obtains concurrence for restart from the Deputy Executive Director for Reactor and Preparedness Programs and the Director of the Office of Nuclear Reactor Regulation.	

OPPD Presentation

Gary Gates
President / Chief Executive Officer
Omaha Public Power District

NRC Remarks

Closing Remarks

Open discussion

Open to the public

- The NRC places a high priority on keeping the public and stakeholders informed of its activities
- At www.nrc.gov, you can:
 - Find public meeting dates and transcripts;
 - Read NRC testimony, speeches, press releases, and policy decisions;
 - Access the agency's Electronic Reading Room to find NRC publications and documents; and
 - Subscribe to automatically receive correspondence from the NRC



Contacting the NRC

- Report an emergency
 - (301) 816-5100 (call collect)
- Report a safety concern
 - (800) 695-7403
 - Allegation@nrc.gov
- General information or questions
 - www.nrc.gov



Driving Through Restart

Public Meeting with the U.S. Nuclear Regulatory Commission



September 11, 2012

1



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Topics for Discussion

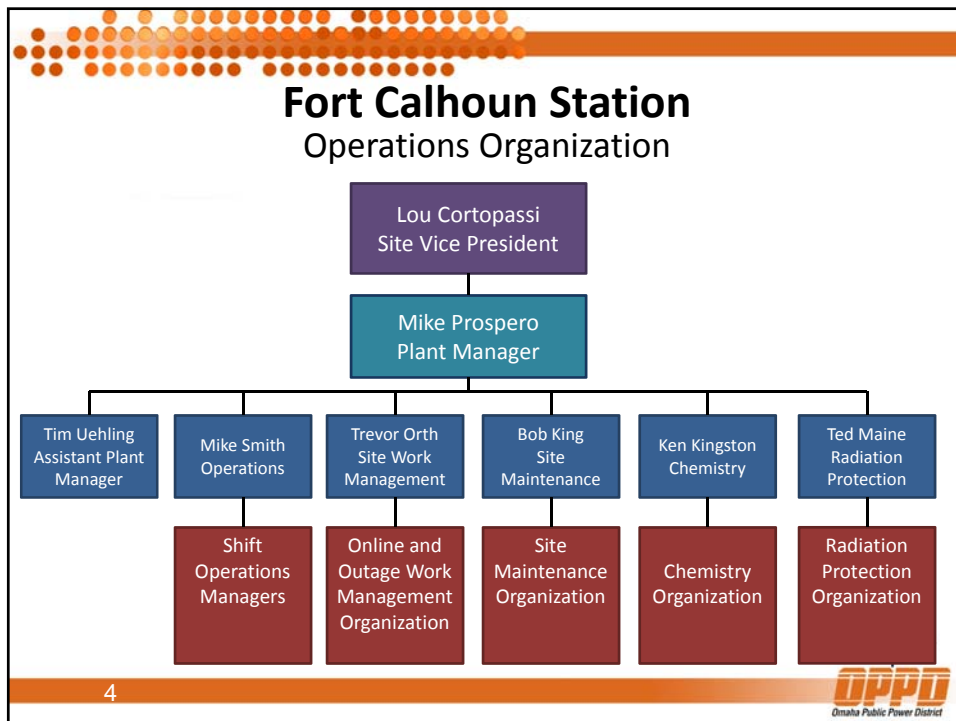
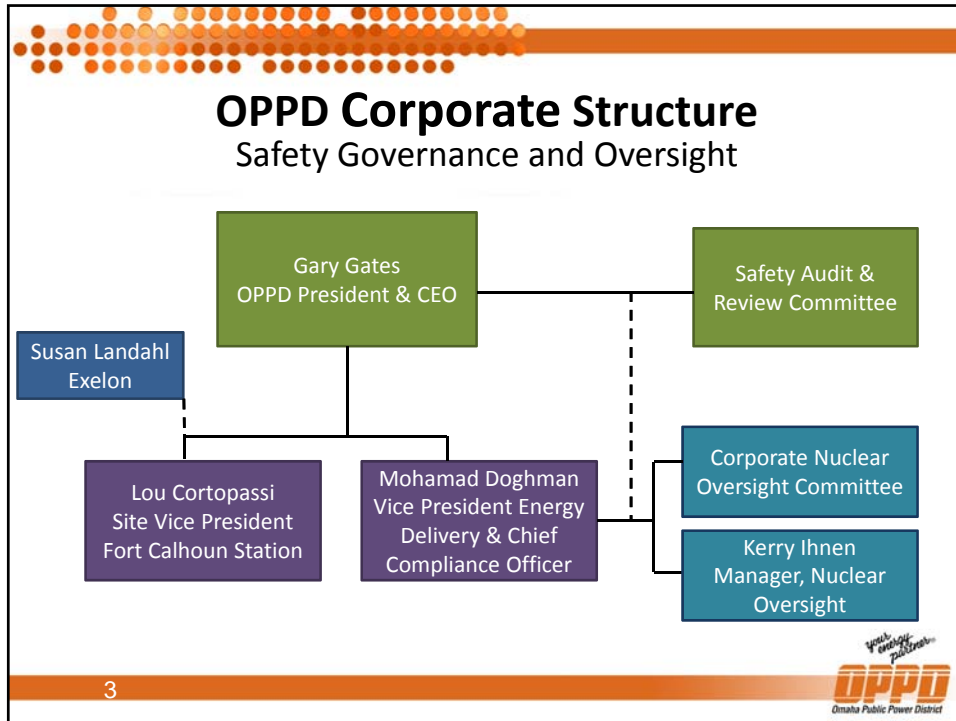
- Leadership Team
- Vision, Mission and Values
- Plant Status
- Progress on Commitments for Restart
- Closing Remarks

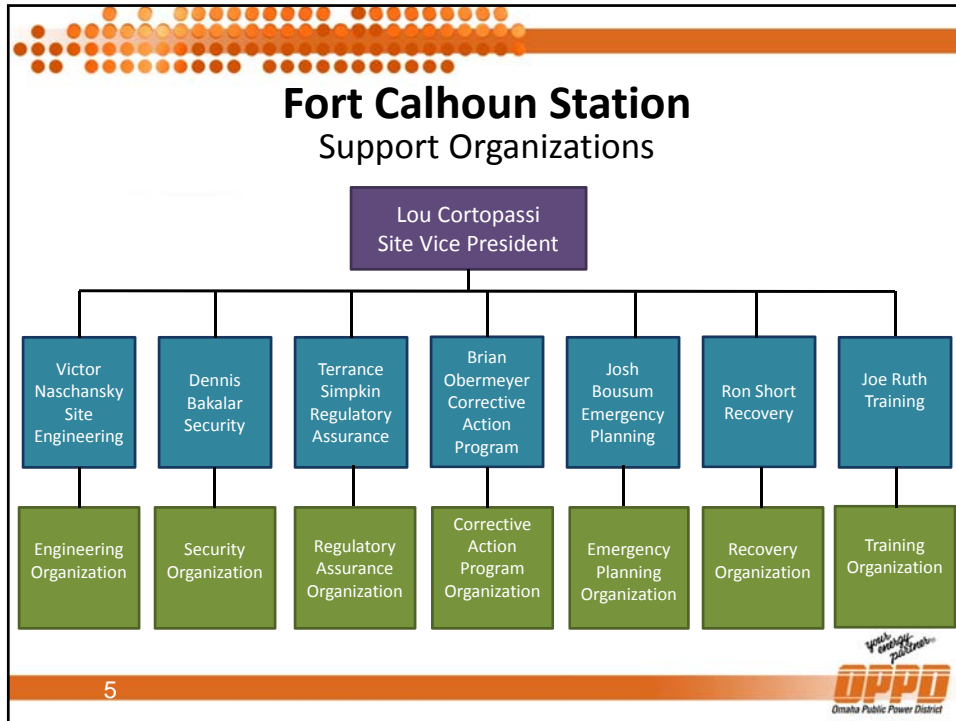
Fort Calhoun Station
Vision
Safe and efficient restart of Fort Calhoun Station and achievement of sustained excellence
Mission
Safe, event-free, cost-effective, nuclear production of electricity
Values
<ul style="list-style-type: none">• Safety – Nuclear, Industrial, Radiological, & Environmental• Alignment• Accountability• Bias for Action• Strong Nuclear Safety Culture

2



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Vision

Safe and efficient restart of Fort Calhoun Station and achievement of sustained excellence

6





Mission

Safe, event-free, cost-effective,
nuclear production of electricity

7



Values

- Safety – Nuclear, Industrial, Radiological, & Environmental
- Alignment
- Accountability
- Bias for Action
- Strong Nuclear Safety Culture

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Plant Status Update



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Plant Status



- Safety and Human Performance
- Major Accomplishments
- Outage Tasks Remaining

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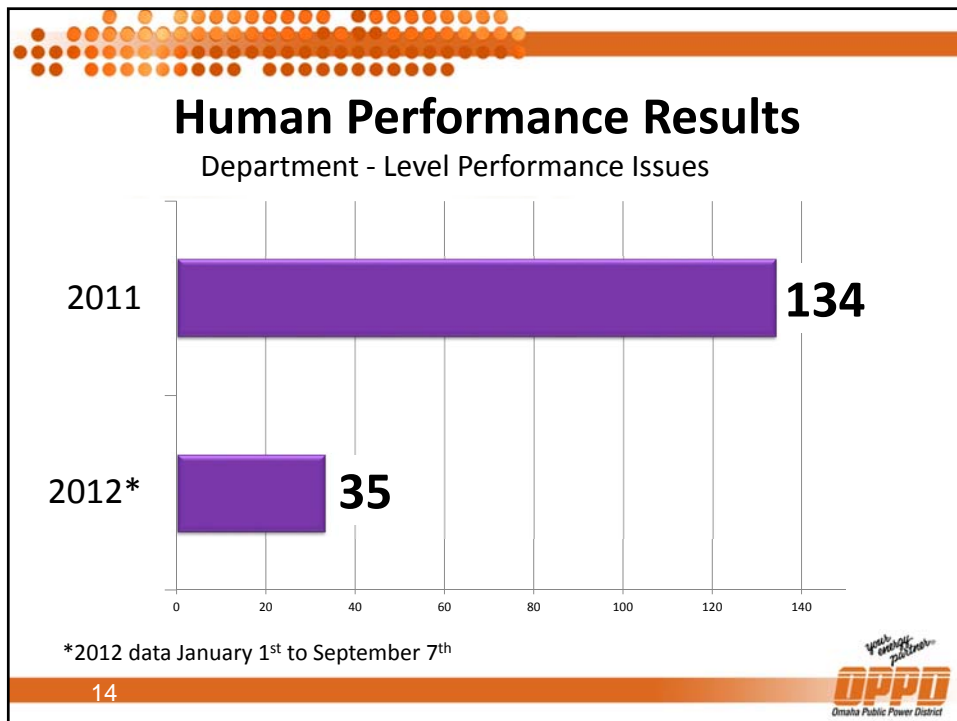
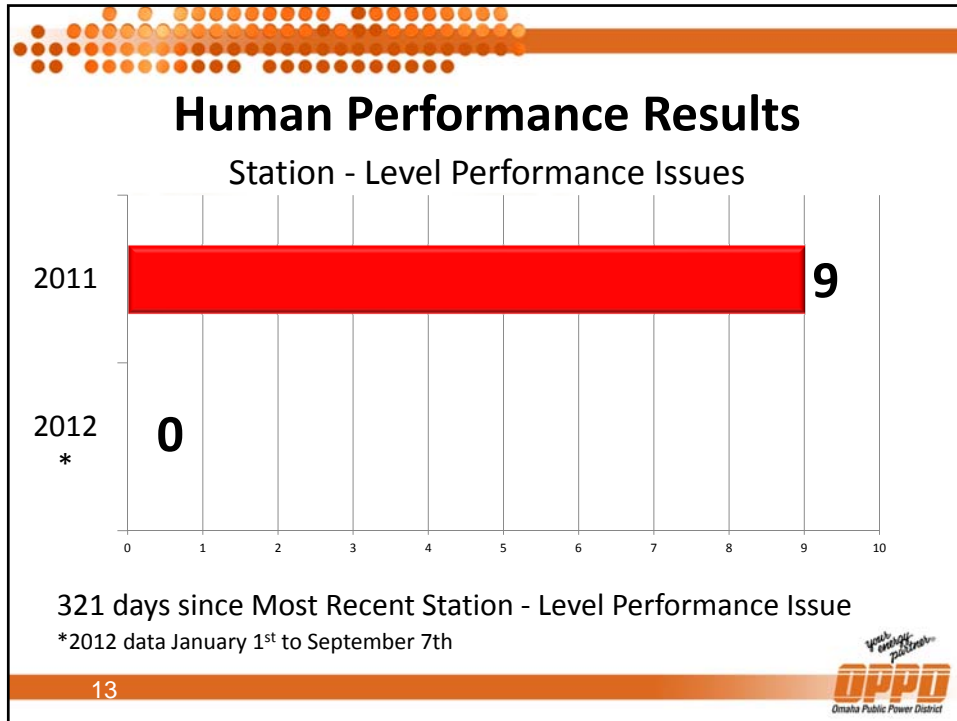
Industrial Safety Overview

Injury Comparison Summary:

	<u>2011</u>	<u>2012</u>
Untreated Injuries:	23	10
First Aid Injuries:	22	4
OSHA Recordable:	21	1
Lost Time/Restricted:	1	0

2012 data January 1st to September 7th

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Major Accomplishments



- Dedicated work management control center established

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Major Accomplishments



- Fuel is being removed from reactor and safely stored

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Major Accomplishments

- Man-hole 31 B train complete and raw water pump reliability improved



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Major Accomplishments

- Safety feedwater pump motor being refurbished



18



Major Accomplishments

- Protected area vehicle access facility refurbished



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Outage Tasks Remaining


- **Manhole 31 Train A restoration**
- **Backup diesel generator reliability enhancements**
- **Finalize geotechnical report**
- Address preventative maintenance tasks
- Repair chemical and volume control piping welds
- **Resolution of containment internal structure issue**
- Resolution of electrical equipment qualification issues including **containment electrical penetrations**
- Core reload and reactor reassembly
- Reactor coolant system fill and plant heat-up
- Plant start up / Turbine testing / Breakers closed

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Outage Tasks Remaining

- Manhole Restoration – Train A


➔

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Outage Tasks Remaining


- Backup Diesel Generator Reliability Enhancements




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Continued Progress



- Station Priorities
 - Safety
 - Human Performance
 - Fix the Plant
 - Corrective Action Program
- Human behavior is changing
- Physical work on plant is being completed


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OPPD Commitments to NRC for Restart of Fort Calhoun Station




Omaha Public Power District

OPPD Commitments to NRC

- OPPD has made commitments to the NRC for successful recovery and restart
- Commitments documented in Confirmatory Action Letter and summary Restart Checklist
- OPPD Integrated Performance Improvement Plan provides extensive detail on recovery and Restart Checklist Implementation

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OPPD Commitments for Restart

1. Identify causes and implement corrective actions for safety significant findings (Checklist 1.a through 1.d)
2. Assess safety culture and organizational effectiveness and implement improvement actions (Checklist 1.e and 1.f)
3. Assess and resolve flooding impact, evaluate systems, and ensure plant is ready for restart (Checklist 2.a and 2.b)
4. Assess and improve programs and processes that caused significant performance decline (Checklist 3.a through 3.f)
5. Implement the Integrated Performance Improvement Plan (Checklist 4)
6. Submit Recovery and Restart Report

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CAL Commitment No. 1

✓ Commitment 1

Progress on addressing safety findings

- 1.a Flooding Issue
- 1.b Reactor Protection System Contactor Failure
- 1.c Electrical Bus Modification and Maintenance
- 1.d Security Information Control

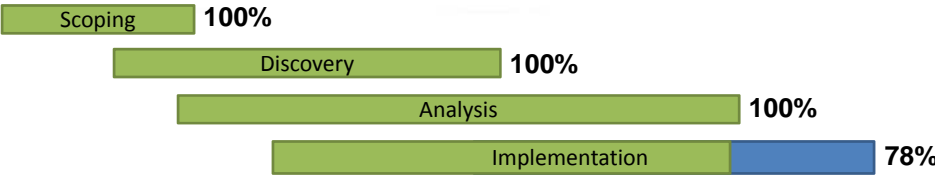
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CAL Commitment No. 1


Flooding Issue



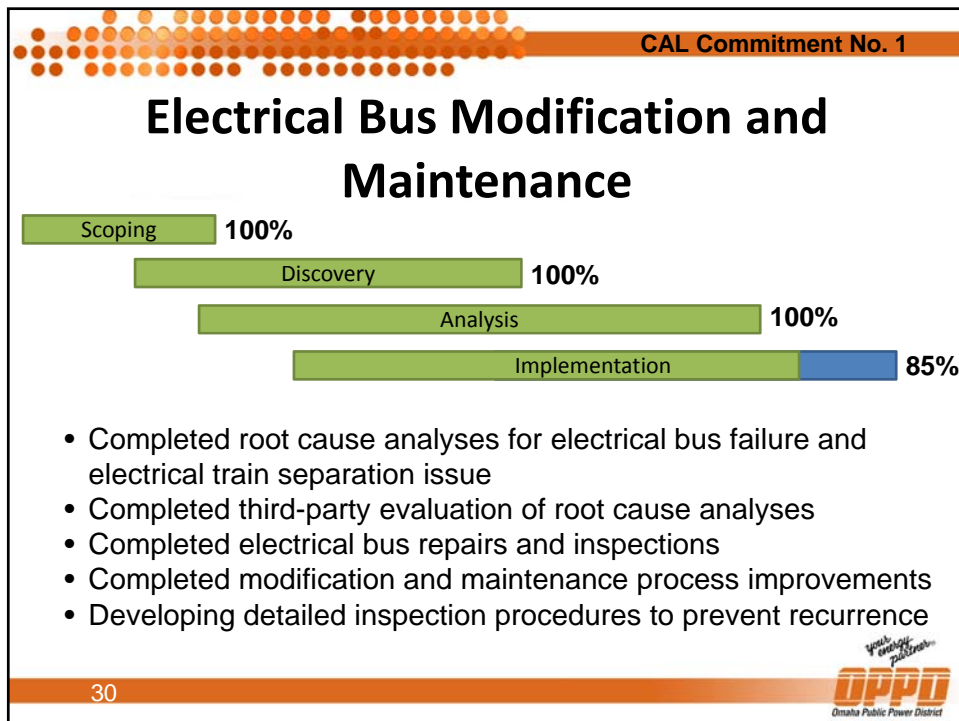
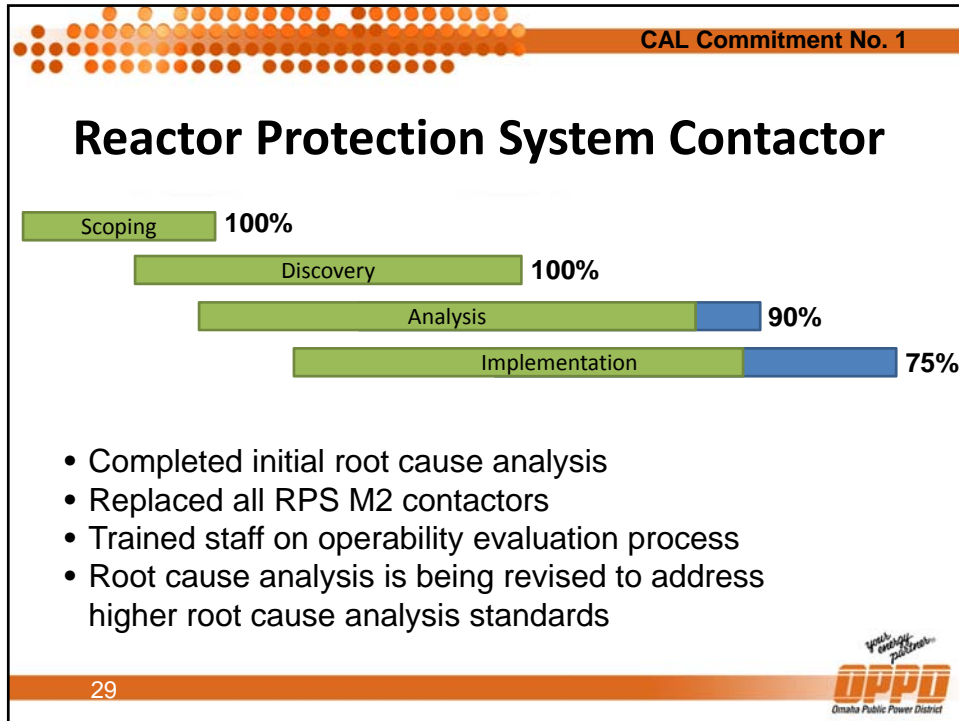
Phase	Progress
Scoping	100%
Discovery	100%
Analysis	100%
Implementation	78%

- Root cause analysis complete
- Key corrective actions complete
 - Includes external flood procedures
- Driving to inspection close-out

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CAL Commitment No. 1

Security Information Control

Phase	Completion Status
Scoping	100%
Discovery	100%
Analysis	100%
Implementation	50%

- Root cause analyses completed
- Independent evaluation of root cause analyses identified need for collective evaluation and improved corrective actions
- Collective evaluation of all root cause analyses will integrate and focus corrective actions

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CAL Commitment No. 2

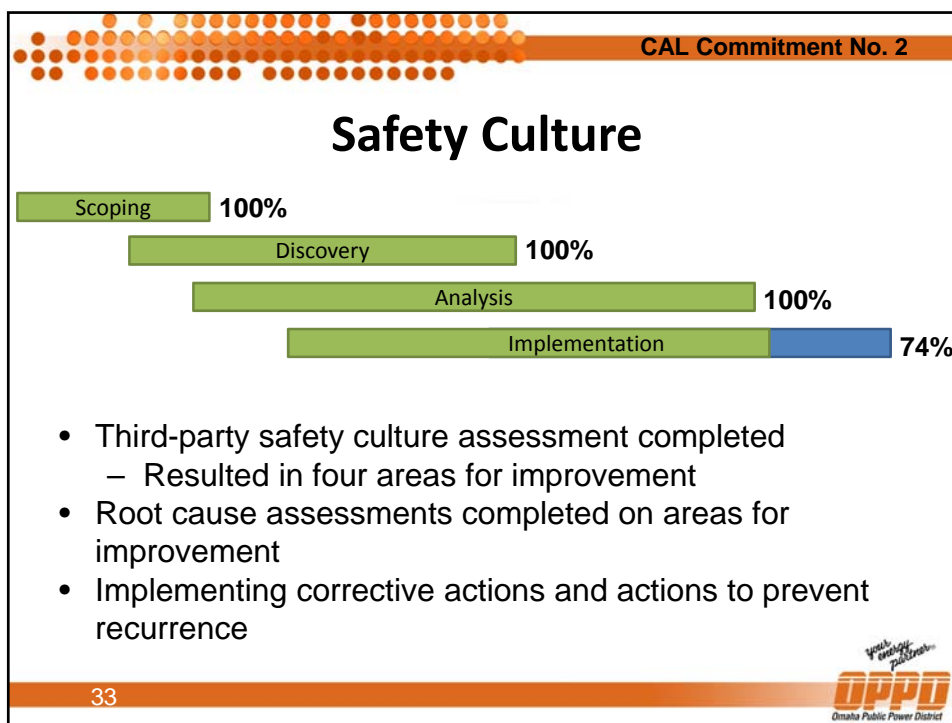
✓ Commitment 2

Progress on Safety Culture and Organizational Effectiveness

- 1.e Third-Party Safety Culture Assessment**
- 1.f Integrated Organizational Effectiveness Assessment**
 - **Comprehensive organizational performance assessment**

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CAL Commitment No. 2

Safety Culture Corrective Actions

- Develop strategic plan and define the vision, mission and values that clearly establish safety and behavioral expectations
- Establish corporate nuclear oversight committee
- Assess leaders to ensure skills and abilities meet our standards, and identify training and development needs
- Change Employee Concerns Coordinator reporting relationship to an independent corporate executive enhancing credibility and anonymity

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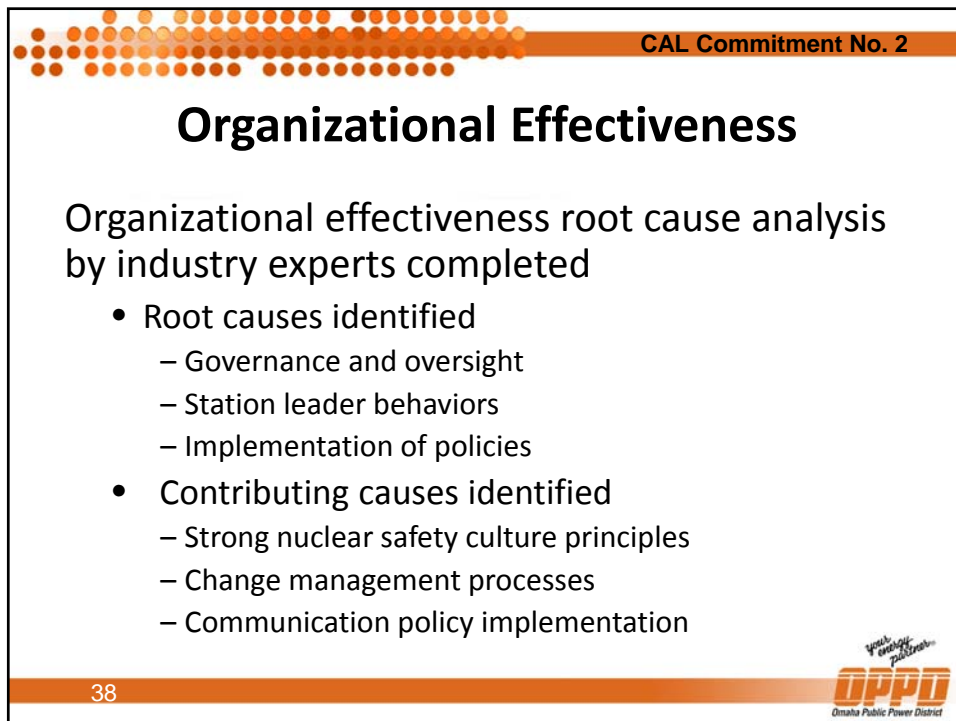
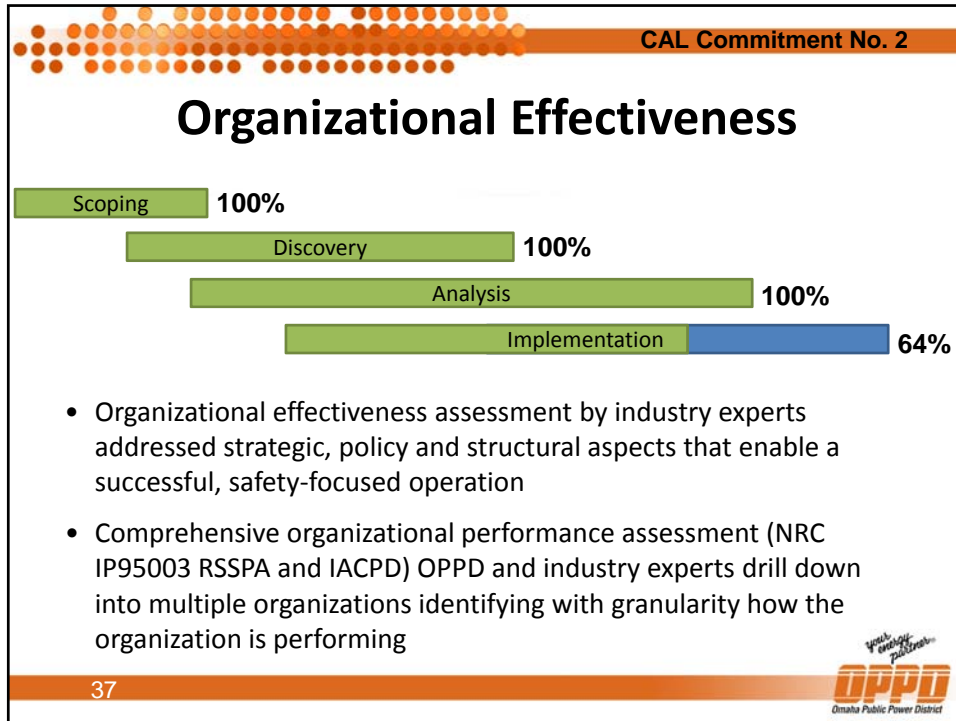
CAL Commitment No. 2

Safety Culture Corrective Actions

- Provide position-specific safety conscious work environment training on expectations
- Establish effectiveness metrics, conduct pulse surveys, Site VP hold “2Cs” (Compliments and Concerns) meetings with staff
- Develop a Differing Professional Opinion process
- Describe the “right picture” mental model for beliefs, values and behavior expectations, train the staff, develop scorecards and observe and provide feedback at key meetings and activities
- Develop communication and alignment plans

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CAL Commitment No. 2

Organizational Effectiveness Corrective Actions

Fort Calhoun Station

Vision
Safe and efficient restart of Fort Calhoun Station and achievement of sustained excellence

Mission
Safe, event-free, cost-effective, nuclear production of electricity

Values

- Safety – Nuclear, Industrial, Radiological, & Environmental
- Alignment
- Accountability
- Bias for Action
- Strong Nuclear Safety Culture

Our History. Our Future.

- Develop OPPD Governance and Oversight Policy
- Establish Corporate Nuclear Oversight Committee
- Revise Strategic Plan and Vision, Mission, and Values
- Assess leadership team
- Enhance communications plan

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Omaha Public Power District

CAL Commitment No. 2

Comprehensive Organizational Performance Assessment

- Comprehensive evaluation of organizational performance
 - Reactor Safety Strategic Performance Assessment

<ul style="list-style-type: none"> ▫ Operations ▫ Engineering ▫ Maintenance ▫ Emergency Preparedness ▫ Environmental and Radiological protection 	<ul style="list-style-type: none"> ▫ Security and safeguards ▫ Procedures ▫ Human performance ▫ Equipment performance
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 - Identification, Analysis and Correction of Performance Deficiencies Assessment
- Utilized NRC Inspection Procedure 95003 methodology

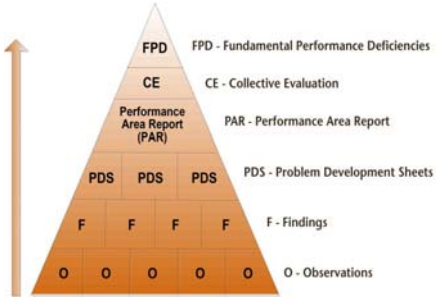
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CAL Commitment No. 2

Comprehensive Organizational Performance Assessment

- Organizational performance and cause assessments to date has involved 240,000 person hours of effort by over 200 OPPD staff and outside experts
- Identified organizational performance issues across the station providing opportunity for additional granularity of corrective actions



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CAL Commitment No. 2

Comprehensive Organizational Performance Assessment

- 15 focus areas identified and cause assessments being conducted
- Any additional common factors will be identified and addressed
- Will continue to report out on corrective actions and outcomes

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Organizational Effectiveness

Results to date

- Senior leaders with strong managerial and technical skills in place
- Station leaders aligning to the Integrated Performance Improvement Plan and vision, mission, and values
- Potential training and development needs being identified
- Improvement in behaviors and performance being observed

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✓ Commitment 3

Progress on systems ready for restart

- 2.a Flood Recovery Plan actions - facility and systems restoration
- 2.b Systems ready for restart
 - 2.b.1 System Readiness Reviews
 - Containment Internal Structure
 - Steam Generators
 - 2.b.2 Reactor Safety Strategic Performance Review
 - 2.b.3 Impact of sub-surface water on structures
 - Geotechnical

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CAL Commitment No. 3

Containment Internal Structure

Stage	Progress (%)
Scoping	65%
Discovery	50%
Analysis	50%
Implementation	5%

- OPPD identified deficient original design drawings and calculations for certain structural elements inside containment
- Certain structural elements are functional but may not be within design requirements
- Interim actions taken
 - Work involving containment beams and internal structure suspended pending review
 - Containment function not affected

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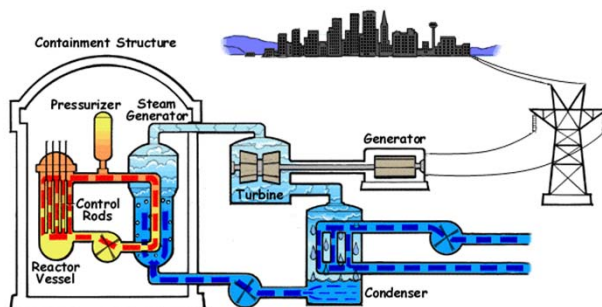
CAL Commitment No. 3

Containment Internal Structure

- Discovery Status
 - Developed scope and strategy for discovery utilizing outside experts - **Complete**
 - Performed as-built verifications - **Complete**
 - Performed root cause assessment with third-party review - **Complete**
 - Developed engineering models for analysis - **Complete**
 - Performing analysis of internal structure using current licensing basis methods
- Recovery Status
 - Evaluate integrated solutions for modifications
 - Re-run design model with revised load inputs
 - Complete implementation of modifications

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Steam Generators



- Fort Calhoun Station steam generators replaced in 2006
- 100 percent of steam generator tubes inspected prior to service and in 2008 following first cycle of operation
- No flaws identified in either exam

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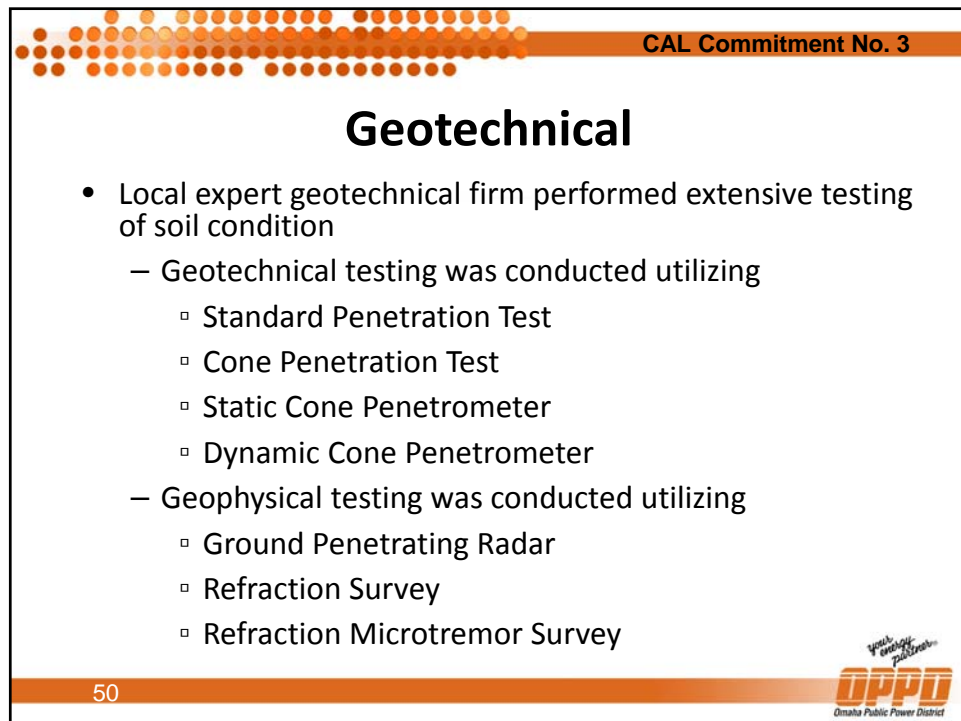
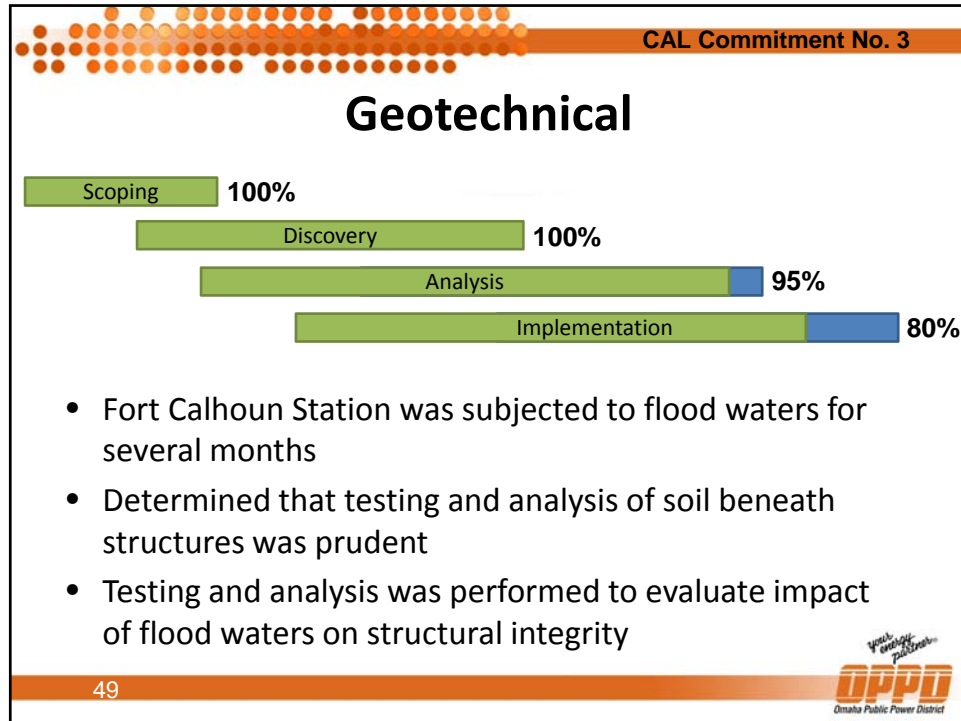


Steam Generators

- Unusual tube wear identified on newer steam generator at another plant
- Same manufacturer and similar design to Fort Calhoun Station's steam generators
- Fort Calhoun Station not affected by same degradation mechanism as other plant
 - Tube wear would be expected during first operating cycle
 - Size and flow rates at affected plant far exceed that at Fort Calhoun Station
 - Re-reviewed 2008 non-destructive test data - no anomalies identified

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Geotechnical Results for Non-Safety Related Structures

- Three issues identified
 - Maintenance Shop column settled due to soil wetting
 - Installed new screw pile foundation to bedrock under column
 - Turbine building drain piping degradation
 - Final engineering in-progress for piping repairs
 - Pavement between Intake Structure and Service Building was worn due to freeze/thaw, expansion/contraction, and traffic wear
 - Repaired pavement

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Geotechnical Results for Safety-Related Structures

- Testing demonstrated that there was no negatively affected soil beneath the Auxiliary Building and Containment Building
- Local geotechnical firm does not perform safety-related structural analyses
- Separate expert firm (10 CFR 50, Appendix B qualified) was contracted to perform safety-related structural analysis
- Separate firm completed bounding parametric analysis concluding that up to 10 feet of negatively affected soil under the Auxiliary Building and Containment Building could exist with no impact on the structures

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Geotechnical

Auxiliary Building Dynamic Cone Penetrometer Testing



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Geotechnical

Final Actions

- Local expert geotechnical firm's analysis
 - Incorporating the independent third-party review comments
 - Final report scheduled to be issued on 09-18-2012
- Separate safety qualified expert firm's analysis
 - Incorporating independent third-party review comments
 - Final report scheduled to be issued on 09-28-2012

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CAL Commitment No. 4

✓ Commitment 4

Progress programs and processes ready for restart

- 3.a Corrective Action Program (CAP)**
- 3.b Equipment design qualifications
 - 3.b.1 Safety-related parts program
 - 3.b.2 Equipment qualification program
- Containment penetrations**
- 3.c Design changes and modifications
 - 3.c.1 Vendor modification control
 - 3.c.2 10 CFR 50.59 screening and safety evaluation program

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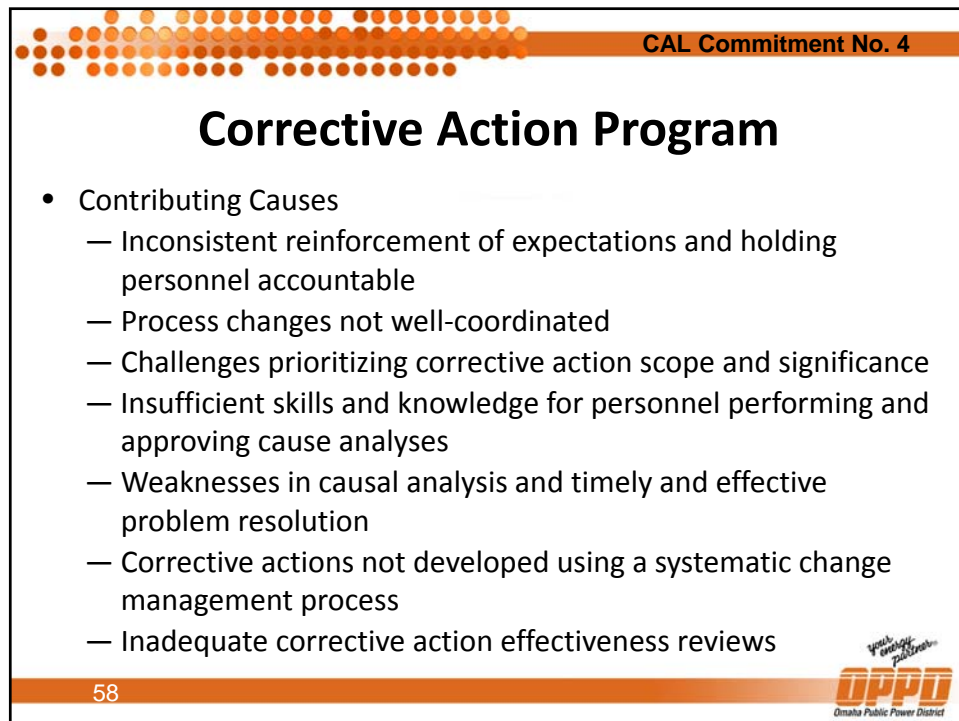
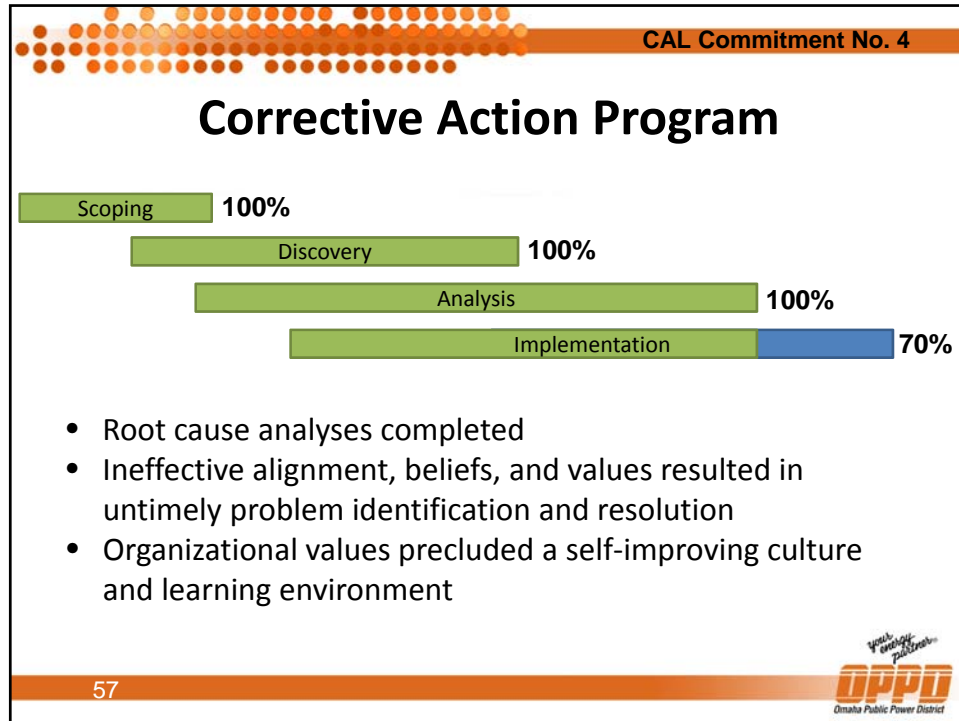
CAL Commitment No. 4

✓ Commitment 4

- 3.d Maintenance programs
 - 3.c.1 Vendor manuals and vendor information control program**
 - 3.c.2 Equipment service life program
- 3.e Operability process
 - 3.e.1 Operability determination program
 - 3.e.2 Degraded and non-conforming condition program
- 3.f Quality Assurance

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CAL Commitment No. 4

Corrective Action Program

- Actions Taken:
 - Benchmarked industry best
 - Developed streamlined procedures
 - Trained site personnel (process and behaviors)
 - Enhanced process:
 - Standards and expectations set by senior management
 - Corrective Action Program is core business and station priority
 - Senior managers chair and attend Station Corrective Action Review Board
 - Corrective Action Coordinator positions created and staffed – New “CAPCOs” mentored by industry experts
 - Program Health and Trending Reports published monthly

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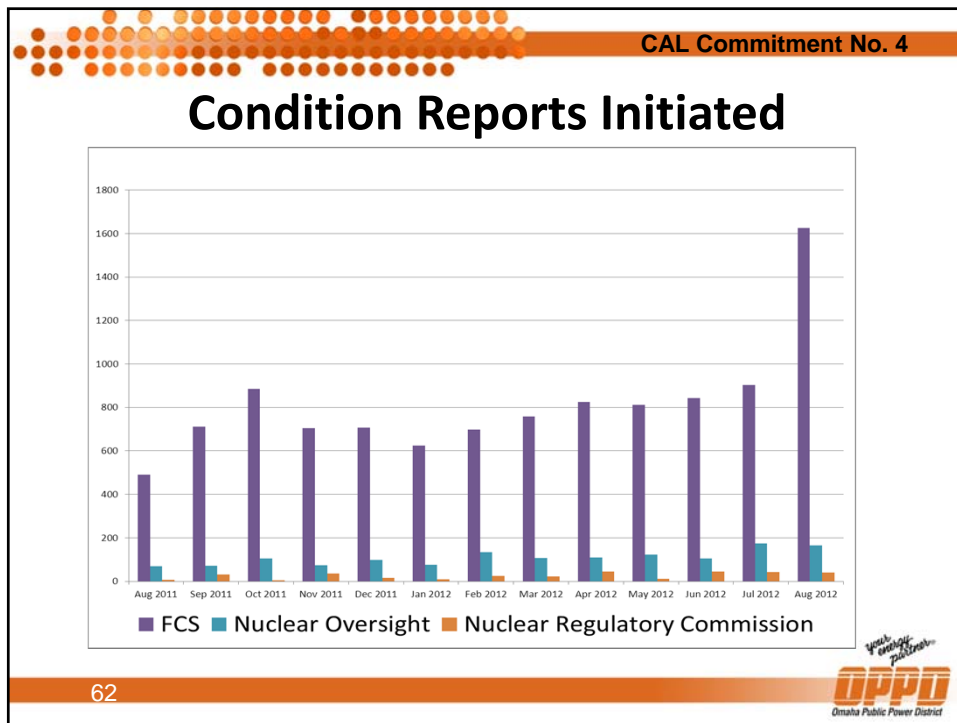
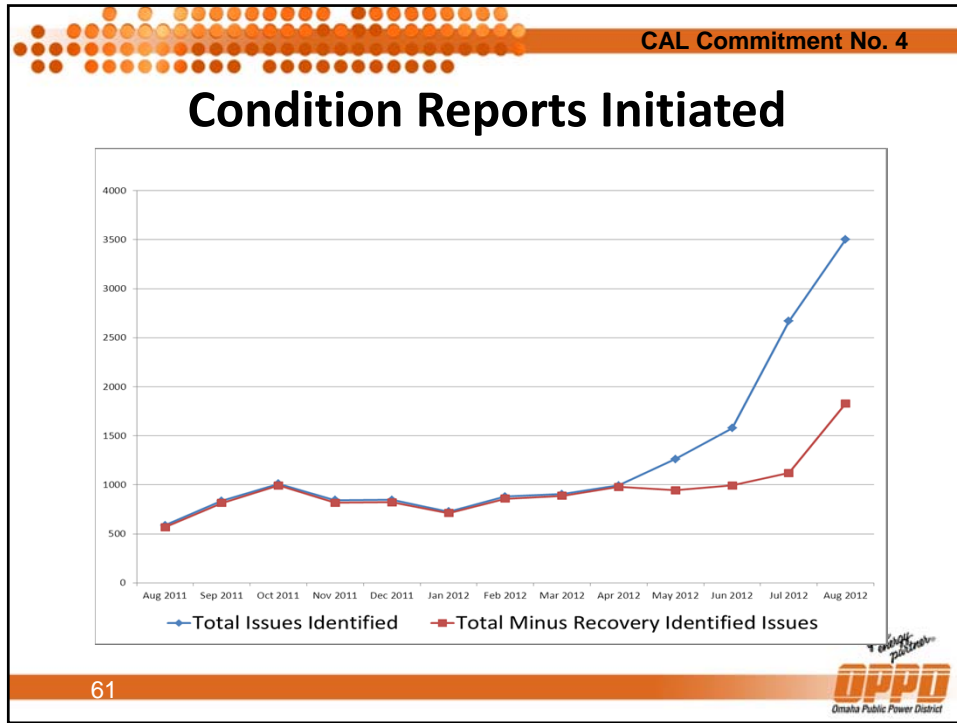
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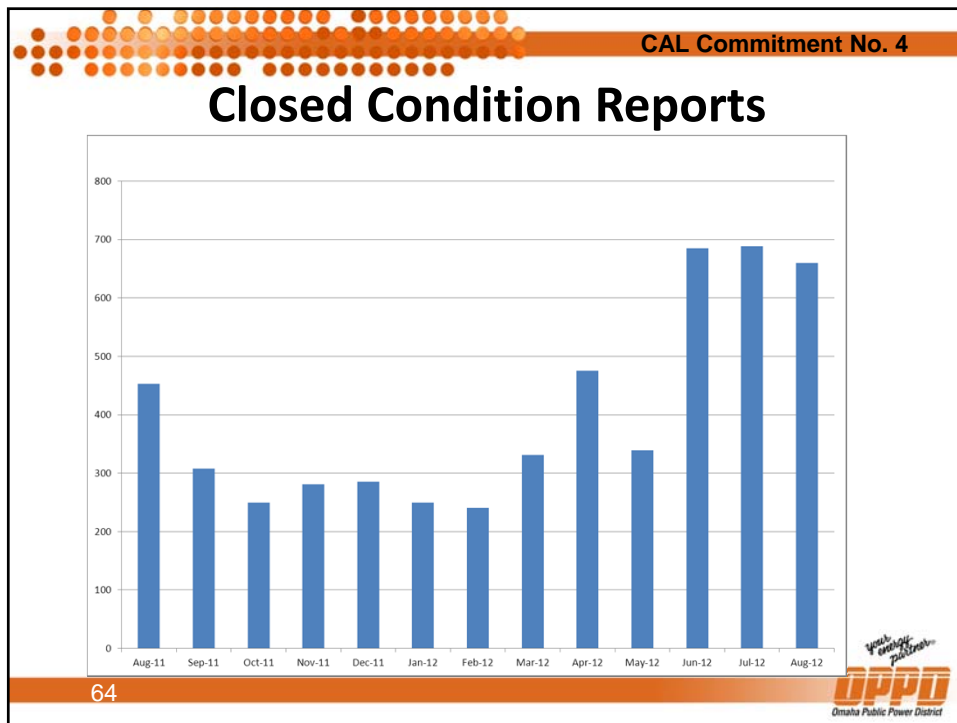
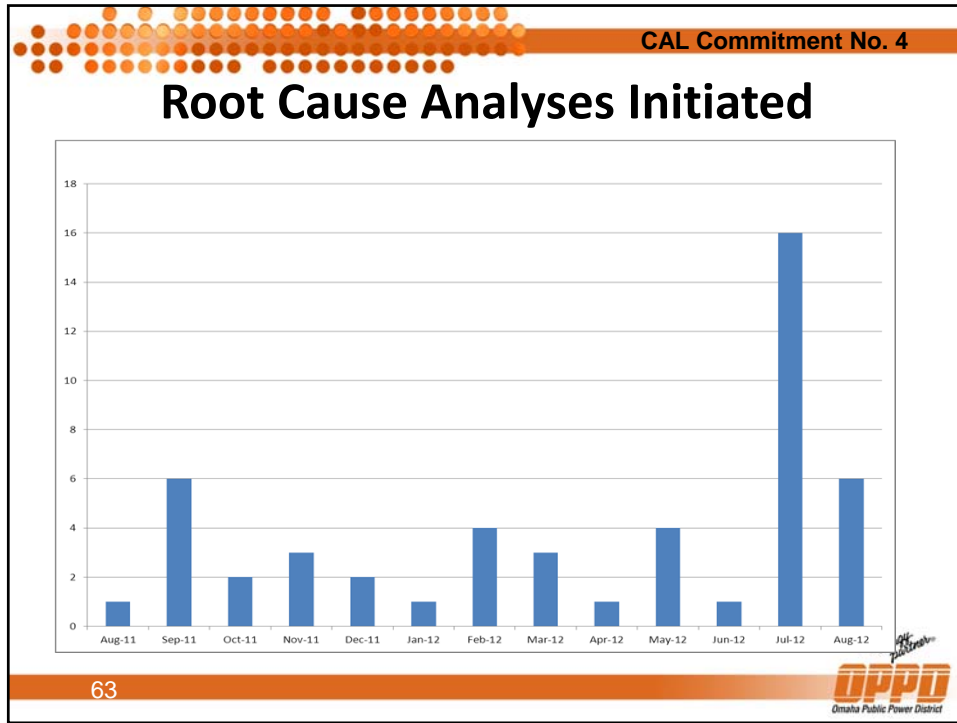
Corrective Action Program

- Results to date
 - Department Corrective Action Review Board reflecting improved leadership standards
 - Quality of products being delivered to Station Corrective Action Review Board is improving
- Next Steps
 - Monitor and reinforce expected behaviors

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CAL Commitment No. 4

Containment Penetrations

Stage	Progress
Scoping	100%
Discovery	100%
Analysis	50%
Implementation	0%


Problem Statement
 Fort Calhoun staff identified that 614 containment penetration feedthroughs contain Teflon materials that could degrade under certain accident conditions

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CAL Commitment No. 4

Containment Penetrations

- Three corrective actions identified
 - Approximately 170 unused penetrations will be capped
 - Approximately 10 coaxial and tri-axial penetrations for nuclear instrumentation will be replaced with qualified penetrations
 - A modification approach developed for the remainder of the penetrations involving a field splice with a sleeve using environmentally qualified materials
- Perform qualification testing of configuration



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CAL Commitment No. 4

Vendor Manuals

Phase	Completion Percentage
Scoping	100%
Discovery	100%
Analysis	90%
Implementation	50%

Problem Statement

- Vendor manuals have not been updated to assure technical instructions are being properly referenced, followed in the field and incorporated into associated plant documents

Discovery Plan

- Developed list of all vendor manuals for safety equipment and important non-safety equipment
- Perform technical reviews of station documents regarding installation, operation and maintenance activities in vendor manuals
- Initiate CRs to document and track correction of noted deficiencies

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CAL Commitment No. 4

Vendor Manuals

- Status Update
 - 899 vendor manuals reviewed - **Complete**
 - 57 Condition Reports issued for technical and seven Condition Reports issued for administrative updates
 - Vendor manual updated - **Complete**
 - Station document updates in progress
- A causal analysis will identify actions to prevent recurrence.

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CAL Commitment No. 4

✓ Commitment 4

Integrated Performance Improvement Plan (IPIP)

- Current IPIP (Rev 3) describes in detail the process for recovery and return to service
 - Governance and management oversight
 - Restart Checklist implementation strategy
 - Flood recovery actions
 - Schedule
 - Performance indicators
 - Communications strategy
- IPIP is being updated to address
 - Organizational changes
 - Detailed post-restart Plan for Sustained Improvement

**Fort Calhoun Station
Integrated Performance Improvement Plan**

Components: Flooding Recovery Plan, Reactor Safety Review, Identifying and Correcting Performance Deficiencies, Nuclear Safety Culture Assessment, Corrective Action Program, Engineering/Maintenance Issues.

Our History, Our Future

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OPPD's Commitment

Tonight we discussed

- Our "Team" at Fort Calhoun Station
- Our renewed Vision, Mission and Values
- The status of plant activities
- Our progress on completing our commitments for recovery and the safe restart of the plant

Fort Calhoun Station

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- Alignment
- Accountability
- Bias for Action
- Strong Nuclear Safety Culture

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Driving Through Restart



We're On Our Way!

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