UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

February 24, 2010

J. V. Parrish
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SUBJECT: SUMMARY OF MEETING WITH ENERGY NORTHWEST REGARDING COLUMBIA GENERATING STATION PERFORMANCE AND IMPROVEMENT INITIATIVES

Dear Mr. Parish:

This refers to the meeting conducted at NRC Region IV in Arlington, Texas on February 22, 2010, between the NRC and your staff. The participants discussed performance improvement initiatives and equipment reliability at the Columbia Generating Station.

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 Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Should you have any questions concerning this matter, we will be pleased to discuss them with you.

Sincerely,

/RA/

Wayne C. Walker, Chief
Project Branch A
Division of Reactor Projects

Docket: 50-397
License: NPF-21

Enclosures:
1. Attendance List
2. Presentation Slides.

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JMelfi	DProulx	WCWalker		
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02/24/2010	02/24/2010	02/24/2010		

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NRC PUBLIC MEETING ATTENDANCE	
LICENSEE/FACILITY	Energy Northwest Columbia Generating Station
DATE/TIME	February 22, 2010; 12:00 noon
LOCATION	Region IV Training Conference Room Arlington, Tx
NAME (PLEASE PRINT)	**ORGANIZATION**
WAYNE WALKER	US NRC - R IV
Greg Cullen	Energy Northwest
David Swank	Energy Northwest
Scott Oxenford	Energy Northwest
JOHN BEKHAZI	Energy Northwest
David Proulx	DPE - NRC-RIV
Nicholas Hernandez	
RON COHEN	US NRC SRI CGS
DWIGHT D. CHAMBERLAIN	USNRC DIRECTOR
A. Vegel	NRC - Deputy Director DRP
Mike Hay	NRC - Chief / DRS
Elmo Collins	NRC - RA/RIV

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Equipment Reliability / Performance Improvement at Columbia Generating Station

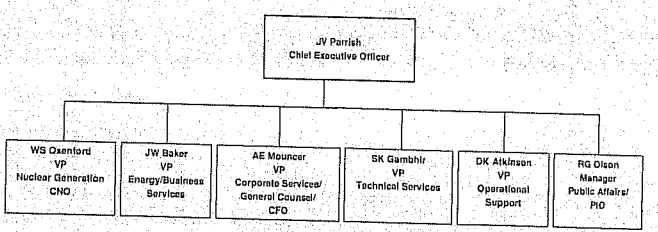
NRC Region IV Headquarters
February 22, 2010

Agenda

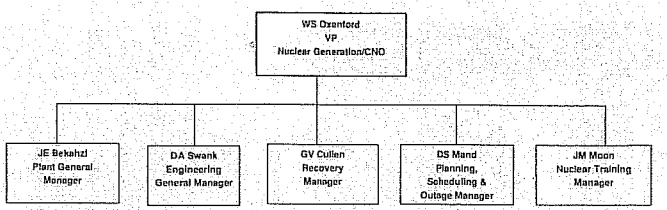
- Welcome and Introductions
- Current Organization
- Performance Assessment
- Pride in Performance
- Unplanned Scrams Common Cause Evaluation
- Technical Conscience Focus
- Summary and Closing Remarks

Current Organization

Current EN Organization



Nuclear Generation Organization



Performance Assessment

Performance Assessment

- Station Continuous Improvement Programs
- NRC
- INPO
- Other Oversight

Pride in Performance

Pride in Performance - ROLES

- **R**adiological Safety
- **O**utage & Forced Outage Excellence
- **L**eadership Effectiveness
- **E**quipment Reliability
- **S**afety & Human Performance

Radiological Safety

- Vision of Excellence

WE must demonstrate high standards for radiological safety through individual ownership for each millirem of exposure, effectively integrate ALARA principles into our work activities, sustain source term reduction efforts, and effectively manage radiological risks.

Outage / Forced Outage Excellence

- Vision of Excellence

WE must minimize differences from outage and on-line processes, prepare for refueling outages over the entire operating cycle, and practice behaviors for outage success every day. WE must always be in ready-status for a forced outage and capitalize on them when they occur to permanently fix our problems and improve reliability in the safest and most efficient manner possible.

Leadership Effectiveness

- Vision of Excellence

WE must invest in the development of our workforce, set the right priorities, maximize efficiencies, and demonstrate ownership for achieving our vision.

Equipment Reliability

- Vision of Excellence

WE must create a culture of intolerance for unplanned critical component failures.

Safety & Human Performance

- Vision of Excellence

WE must demonstrate ownership for our own personal performance, focus on the most important aspects of our activities, and remove barriers that introduce impediments to completing tasks safely and efficiently.

Leadership Effectiveness

- Leaders have the right picture of excellence
  - Implemented weekly management alignment meeting
  - Adopting industry best practice performance indicators
  - Developing department Pictures of Excellence
- Leaders evaluate performance against standards of excellence
  - Implementing Performance Excellence Forums following industry best practice
    - **Department Roll-up Meetings**
    - **Station Roll-up Meetings**
    - **Management Review Meetings**
    - **Pride in Performance Meetings**

Leadership Effectiveness

- Leaders establish high personnel performance standards
  - Identifying key behaviors supporting equipment reliability
    - **Supervisors**
    - **Individual Contributors**
    - **General behaviors**
    - **Department specific behaviors**
  - Incorporating behaviors into performance review process
- Leaders engage in the field, positively reinforce desired behaviors, and consistently coach and correct undesired behaviors.
  - Developing department observation plan templates
  - Implemented Paired Observation expectations
  - Implementing monthly department review of observations
  - Increasing expectations for performance management

Leadership Effectiveness

- We are focused on clear ownership and reinforcing behaviors and results.
- Managers and supervisors are being more consistently held accountable for their areas of responsibility

Ownership is Key
Focus on Behaviors
Results Matter

Equipment Reliability

- In recent history, substantial effort applied to:
  - Preventive Maintenance Programs
  - Trend Reporting
  - Single Point Vulnerabilities
  - Top Ten List Initiatives
  - Equipment Reliability Index
  - Work Management and Backlog reduction

Equipment Reliability

- Progress made:
  - Preventive Maintenance Program
    - **Criticality**
    - **Basis Documents**
    - **Optimization**
  - Resolution of some long-standing equipment issues
  - Single Point Vulnerabilities identified and addressed
  - Maintenance backlog reductions
  - Safety system performance and issue response

Equipment Reliability

- Progress made:
  - Preventive Maintenance Program
    - **Criticality**
    - **Basis Documents**
    - **Optimization**
  - Resolution of some long-standing equipment issues
  - Single Point Vulnerabilities identified and addressed
  - Maintenance backlog reductions
  - Safety system performance and issue response

Equipment Reliability

- In the past several years, Columbia has transitioned from having a primary focus on Safety System margins, to including a focus on BOP system reliability
- Focus is on establishing clear standards and behaviors and focusing on reinforcement to avoid cyclical performance

Equipment Reliability

- **Intolerance of Equipment Failure**
- **Process Improvements and Initiatives**
- **Assessments and Measurement Tools**

Equipment Reliability

- **Intolerance of Equipment Failure**
  - Reinforce Equipment Reliability as a *station* focus vs. an Engineering focus
  - Define departmental contribution to ER excellence
  - Establish behavior expectations and monitor performance to these standards
  - Train site personnel on Equipment Reliability fundamentals and behaviors
  - Improve focus on critical equipment (includes Single Point Vulnerabilities)

Equipment Reliability

- **Intolerance of Equipment Failure (Cont.)**
  - Implement Technical Conscience plan
  - Assign component owners in shops
  - Enhance management focus and oversight

Equipment Reliability

- **Process Improvements and Initiatives**
  - Improve Plant Health Committee
  - Improve Equipment Failure Cause Analysis Process
  - Create Preventive Maintenance Basis for I&C
  - Update Preventive Maintenance Bases for Critical Equipment
  - Improve monitoring and trending
  - Color coded Work Order packages

Equipment Reliability

- **Process Improvements and Initiatives (Cont.)**
  - Implement monthly engineering/maintenance meetings on feedback and issue resolution
  - Raise standards for System Health Reports
  - Improve teamwork and process for timely implementation of system health impacting actions

Equipment Reliability

- **Assessments and Measurement Tools**
  - Perform in-depth review of four systems
  - Improve rework metrics
  - Single Point Vulnerabilities
  - Leadership Effectiveness initiative
  - INPO Assistance

Unplanned Scrams Common Cause Evaluation

Scram Event Summary

- DEH fitting failure (8/08)
- DEH-SV-TRIP/B solenoid PMT (2/09)
- Loss of generator seal oil pressure (5/09)
- Turbine lube oil leakage (6/09)
- Non-segregated bus failure (8/09)
- Loss of DEH fluid inventory due to o-ring failure (11/09)

Common Cause Evaluation Results

- **CC 1: Failure to set high standards for equipment reliability.**
- **CC 2: Decision-making behaviors impacted equipment reliability.**
- **CC 3: Weaknesses in implementation of policies and programs (particularly maintenance) resulted in equipment failures.**

Common Cause Factors

- **CC 1: Failure to set high standards for equipment reliability**
  - Inadequate ownership
  - Insufficient follow-through to completion
  - Failure to establish high standards
  - Complacency
  - System performance

Common Cause Factors

- **CC 2: Decision-making behaviors impacted equipment reliability**
  - Decision-making not at right level in organization
  - Assuming or not recognizing risks

Common Cause Factors

- **CC 3: Weaknesses in implementation of policies and programs**
  - Deficiencies in Maintenance Program
  - Inadequate equipment causal evaluations
  - Use of Corrective Action Program

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CC1:Failure To Set High Standards

- **Intolerance of Equipment Failure**
  - Define departmental contribution to ER excellence
  - Establish behavior expectations and monitor performance to these standards
  - Train site personnel on Equipment Reliability fundamentals and behaviors
  - Improve focus on critical equipment (includes Single Point Vulnerabilities)

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CC1:Failure To Set High Standards

- **Ownership/Advocacy**
  - Implement Technical Conscience
  - Enhance Maintenance ownership
- **System Engineering**
  - Implement certification and mentoring process
  - Improve monitoring and trending
- **System Vulnerabilities**
  - Perform in-depth review of four systems
- **Behavioral Action Implementation**
  - Enhance management focus and oversight

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CC2:Decision Making Behaviors

- **Decisions/Risk**
  - Implement systematic process for decision making and risk consideration in Engineering, Maintenance, and Outage
  - Improve work control process with regard to risk

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CC3:Program and Policy Implementation

- **Corrective Action Program**
  - Broaden equipment cause evaluation application
  - Expanded use of multidiscipline teams for evaluations
  - Add tool for Organizational and Programmatic cause identification
  - Revise cause evaluation guidance and train on it
  - Increased root cause analyst support

CC3:Program and Policy Implementation

- **Maintenance Scoping**
  - Create Preventive Maintenance Basis for I&C
  - Update Preventive Maintenance Bases for Critical Equipment
- **Maintenance**
  - Assign component owners in shops
  - Improve rework metrics
  - Improve teamwork and process for timely implementation of system health impacting actions
  - Implement monthly engineering/maintenance meetings on feedback and issue resolution

Technical Conscience Focus

Technical Conscience Focus

Principles for a Strong Technical Conscience Culture

- All Leaders Demonstrate a Commitment to Technical Fidelity.
- Engineering Leaders Develop and Exercise their Technical Authority
- Individuals Identify and Communicate Technical Concerns and Promote Resolution
- Technical Staff Adhere to Sound Engineering Principles & Judgment
- Technical Staff are Willing to Stand Firm When Needed

Technical Conscience Focus

- **Actions Completed**
  - Columbia has taken an active role in this industry initiative
  - First introduced Technical Conscience concepts in September 2009 at summer engineering training
  - Two hour training on Technical Conscience in November/December 2009 to engineering population

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Technical Conscience Focus

- **Ongoing and Future Plans**
  - Incorporate Technical Conscience into Engineering observation program
  - Provide briefing to station Manager/Supervisor team
  - Integrate Technical Conscience into future engineering training sessions

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Technical Conscience Focus

- **Protection of Design Basis**
  - Additional oversight on smaller modifications
  - Product Quality Review Board
  - Focus on HU Tools for Engineering Observations
  - One-over-one review for plant impacting directions

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Summary/Closing Comments

- Scott Oxenford, Energy Northwest
- NRC

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