OPPD's Fort Calhoun Station

SAFETY CULTURE IMPROVEMENTS AND MONITORING

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Fort Calhoun Station Safety Culture

- History
- Independent Safety Culture Assessment Results
- Fundamental Performance Deficiencies
- Safety Culture Improvement Actions
- Safety Culture Monitoring
- Performance Metrics
- Restart Milestones
- Path Forward
- Summary

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

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Fort Calhoun Station History

- **March 2011** – Moved to ROP Column 3 (Yellow finding: flood-protection)
- **April 2011** – Offline for scheduled refueling outage
- **June 6, 2011** – Notification of Unusual Event declared due to flooding
- **June 2011** – Alert declared due to 480VAC switchgear fire (Red finding)
- **Sept. 2011** – Moved to ROP Column 4 (White finding: RPS M2 contactor failure)
- **Dec. 2011** – Transition from ROP to IMC 0350
- **Spring 2012** – Independent Safety Culture Assessment and Report
- **May/June 2012** – Root Cause performed on Organizational Effectiveness and Safety Conscience Work Environment
- **Aug. 2012** – Monthly Safety Culture Pulse Survey Monitoring started
- **March 2013 –** Safety Culture/SCWE and Organizational Effectiveness CAL closure achieved

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Fundamental Performance Deficiency Root Causes

- Organizational Effectiveness
  - Less than adequate (LTA) Governance and Oversight
  - Station Leadership / Culture
  - LTA Policy Implementation
- Safety Culture/SCWE
  - Inadequate program oversight, and shortfalls in communicating standards for the FCS SCWE by station leadership has resulted in erosion of trust in management's ability to effectively implement the core components of a healthy SCWE.
  - In certain cases, station leaders have exhibited inappropriate behaviors creating a chilled work environment by discouraging employees from writing Condition Reports, minimizing discussion when dissenting opinions were raised and responding in an untimely manner to identified concerns.

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Examples of Corrective/Improvement Actions Taken

- Created and trained on Governance, Oversight, Support and Perform policy.
- Signed Operating Service Agreement with Exelon
- Leadership Change-out in Senior Leadership Team positions
- Initial and Continuing Safety Culture/SCWE training for Leaders and site personnel
- Implemented 2 C's meetings (compliments and concerns)
- Implemented a Site Employee Issues Advisory Committee
- Implemented a monthly Safety Culture Pulse Survey
- Developed a Safety Culture and Organizational Effectiveness Performance Indicators
- Weekly Leadership and station alignment meetings to discuss survey results

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Safety Culture Pulse Survey Monitoring

- Designed a confidential pulse survey to be given monthly to 1/6 of the total station population on a random basis.
- Six month the entire population is surveyed.
- 38 questions that cover all 10 Nuclear Safety Culture traits graded on a 0-4 scale
- Respondents are allowed to add written comments
- FCS trends rolling quarter data to gain a 95% confidence level in the data trends
- FCS can determine not only station safety culture trend, but also department level trends for departments of 10 people or larger
- FCS can generate demographic trends as well
- Use data to populate a Station Safety Culture PI and Organizational Effectiveness Performance Indicators

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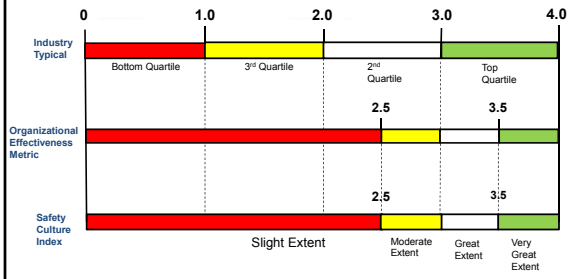
Indicator Scale Comparison

A High Standard of Excellence



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Example Safety Culture PI

	Rolling Q3	Rolling Q4	Sep-13	Oct-13	Nov-13
Continuous Learning					
Training provides me with the knowledge I need to perform my job.		2.71	2.84	2.59	2.68
Training reinforces safe worker behaviors and establishes high expectations for maintaining nuclear safety.		3.17	3.27	3.08	3.10
My supervisor reinforces capturing and using operating experience.	2.96	3.14	3.24	3.13	3.12
Our group uses self-assessments to identify improvement opportunities.	2.50	2.65	2.78	2.73	2.65
Continuous Learning Average	2.73	2.90	3.03	2.88	2.89
Decision Making					
Conservative decision making is evident throughout the plant organization.	2.63	2.83	2.98	2.88	2.94
I have confidence in the nuclear safety decisions made higher in the organization.		3.18	3.26	3.07	3.30
My supervisor ensures that there is appropriate understanding of issues prior to making decisions.	2.90	2.96	3.08	2.91	2.87
Decision Making Average	2.76	2.90	3.12	2.96	3.04
Effective Safety Communication					
Use of error reduction tools (procedure use, self -checking, and three-way communication) are reinforced by my supervisor.	3.53	3.42	3.41	3.41	3.37
My input is solicited for how to improve the quality of my work.	2.62	2.71	2.78	2.72	2.54
Resources are shared appropriately among organizations.	2.13	2.24	2.37	2.27	2.38
There is effective communication between departments.	1.92	2.18	2.34	2.18	2.29
There is an effective upward flow of information to management.	2.46	2.57	2.69	2.54	2.59
Effective Safety Communication Average	2.53	2.62	2.72	2.62	2.63
Environment for Raising Concerns					
I believe that management supports the Employee Concerns Program.	2.80	3.13	3.30	3.11	2.87
I would raise a safety concern to my supervisor/management.	3.69	3.73	3.75	3.73	3.76
I believe that the Employee Concerns Program will maintain confidentiality of my concern at my request.	2.86	3.12	3.19	3.16	2.95
I would escalate my concern if I felt the response was unacceptable.	3.28	3.40	3.45	3.45	3.29
Environment for Raising Concerns Average	3.11	3.34	3.42	3.36	3.22
Leadership Safety Values and Actions					
Nuclear Safety is a top priority for our workgroup.	3.92	3.88	3.89	3.85	3.84
Nuclear safety is foremost in plant operations.	3.52	3.57	3.68	3.55	3.70
I view pay and rewards as well balanced at my plant.	1.89	1.91	1.97	1.96	1.83
Management's expectations are consistent with performance reviews, rewards, and discipline.	2.17	2.22	2.44	2.18	2.22
Leadership Safety Values and Actions Average	2.80	2.84	2.95	2.83	2.85

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Example Safety Culture PI

Personal Accountability					
As a nuclear worker, I am responsible for identifying problems and adverse conditions.	3.76	2.88	2.65	2.16	3.76
Employees take ownership for problems.	2.65	2.63	2.65	2.63	2.65
I help my team be as successful as possible.	3.61	3.58	3.53	3.57	3.62
I am satisfied with my current job (satisfied with my current accomplishments).	2.68	2.63	2.74	2.70	2.63
Workers are willing to coach co-workers.	2.95	2.99	3.06	2.99	2.98
Personal Accountability Average	3.13	2.94	2.93	2.81	3.13
Problem Identification and Resolution					
My management takes action on employee nuclear safety concerns brought to them.	3.16	3.27	3.31	3.29	3.29
I am encouraged to bring forward problems with recommendations.	3.18	3.24	3.24	3.25	2.92
The CR System is utilized effectively at my Station to resolve conditions adverse to quality in a timely manner.	2.33	2.52	2.64	2.59	2.71
I am confident that issues reported through the Condition report System are prioritized appropriately and thoroughly investigated.	2.43	2.55	2.74	2.51	2.64
Problem Identification and Resolution Average	2.78	2.90	2.98	2.91	2.89
Questioning Attitude					
Personnel do not proceed in the face of uncertainty.		2.77	2.74	2.80	2.71
People here are comfortable challenging each other, regardless of level, when they feel something is not correct.		2.79	2.82	2.77	2.52
Overall, workers maintain a "questioning attitude" and a rigorous approach to problem solving.		3.09	3.11	3.06	2.97
Questioning Attitude Average		2.89	2.89	2.88	2.74
Respectful Work Environment					
I feel like a valued employee and asset to the company.	2.38	2.51	2.66	2.51	2.40
I believe my work environment is generally professional and open (i.e., free of any harassment, intimidation, discrimination or retaliation).	2.96	2.98	3.12	2.99	2.83
At this site, differing opinions are welcomed and respected.		2.69	2.70	2.68	2.49
Respectful Work Environment Average	2.67	2.74	2.83	2.73	2.57
Work Processes					
Distractions are managed and kept low, including overlapping or simultaneous evolutions	2.08	2.20	2.34	2.24	2.39
Coordination issues between work groups are effectively resolved.	2.12	2.23	2.41	2.23	2.39
Workers at this station usually follow procedures.		3.21	3.21	3.21	3.21
Work Processes Average	2.10	2.22	2.65	2.56	2.66
OVERALL	2.79	2.88	2.95	2.85	2.87

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Example "Rolling Quarter" by Department September to November 2013

Department	September to November 2013
Work Management	2.98
Radiation Protection	3.01
Maintenance	2.97
Operations	3.05
Training	3.09
Design Engineering	2.90
Program Engineering	2.93
System Engineering	3.18

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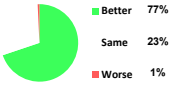
What are People are Saying

Thinking back over the past six months, is Safety Conscious Work Environment (SCWE) at FCS…

Thinking back over the past six months, is nuclear safety culture at FCS…



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2013 Major Restart Milestones

- **July 29** – Fuel loaded
- **Aug. 23** – Installed reactor vessel head
- **Nov. 2** – First plant heat-up
- **Dec. 2** – Submitted integrated restart report
- **Dec. 17** – Received restart permission
- **Dec. 18** – Took reactor critical
- **Dec. 21** – Closed breakers
- **Dec. 26** – Achieved 100% power

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Post-Restart Plan Path Forward

- Key Drivers address 10 areas
  - Organizational effectiveness, safety culture and safety-conscious work environment
  - Problem identification and resolution
  - Performance improvement and learning programs
  - Design and licensing basis control and use
  - Site operational focus
  - Procedures
  - Equipment performance
  - Programs
  - Nuclear oversight
  - Transition to Exelon Nuclear Management Model (ENMM) and integration into Exelon nuclear fleet (Completed early implementation of ENMM Performance Improvement policy and program, and procedure for Performance Improvement Integrated Matrix)

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OPPD's Fort Calhoun Station Achieving Sustained Excellence

- OPPD has **improved the safety margins** of Fort Calhoun Station and conducted a safe and efficient restart
- OPPD has **addressed the overarching causes** of performance decline
  - Organizational effectiveness
  - Safety culture and safety-conscious work environment
  - Corrective Action Program (CAP)
  - Independent oversight
- OPPD is implementing the Plan for Sustained Improvement and working to achieve **sustained excellence**

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Summary

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