

Westinghouse Columbia Safety Improvement Update

February 6, 2018

Agenda

- Westinghouse Performance Perspective
- S-1030 Scrubber Performance
- Confirmatory Order Status
- Nuclear Safety Culture Improvements
- Management Measures Improvements
- Columbia Excellence Plan
- Developing a Learning Organization
- Closing Remarks

Westinghouse Performance Perspective

- S-1030 scrubber controls have operated effectively for nearly 16 months
- Implemented a disciplined and rigorous approach to completing Confirmatory Order (CO) commitments
- Significant progress made in strengthening our nuclear safety culture and in implementing foundational work to strengthen our management measures
- Strong focus on critical self-assessment and effective learning as we progress on our journey to excellence
- Delivering sustainable, long-term improvement through execution of a comprehensive excellence plan

**Westinghouse is committed to the safety
of our employees, our operations and
our community.**



S-1030 Scrubber Performance

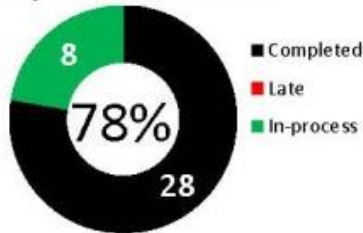
- Continued Weekly Inspections
- 6 Full Inspection and Cleanings Since Restart
 - 3 at 6-week frequency
 - 3 at 13-week frequency
- Consistent Results
 - Typical build-up projections ~ 1 kgU/yr. vs limit of 85.7KgU
- Strong emphasis on continuous improvements during inspection activities

New management measures have been consistently effective in preventing chronic mass accumulation.

Confirmatory Order Status

Regulatory Recovery Efforts

CO Item 13 - 2017 NSC Assessment
Gap Closure Activities



Confirmatory Order Items	Work In-process	Work Completed	CFF Objective Evidence Review	WEC Objective Evidence Review	Due Date	NRC Review of Item Closure	Change in Schedule Margin	Effectiveness Assessment
1. Written Corrective Action Statement					9/8/2017	IR 2017-004	-	NA
2. Future NSC Survey					8/9/2019		-	NA
3. Reduce Uranium Carry-over					8/1/2020		-	
3.1 Engineering Evaluation - Calciner					2/9/2019		↓	
3.2 Engineering Evaluation - Blue M Oven					2/9/2019		↓	
3.3 Implement Engineering Solutions					8/1/2020		-	
4. Notification process for S-1030 scrubber system changes*					8/9/2020		-	Jun-18
5. S-1030 Accumulation Monitoring System					8/9/2020		-	
6. Industry Forum Presentation					2/9/2019	EA-16-173	-	NA
7. Safety Significant Control (SSC) Database					2/9/2019		-	Sep-18
8. Leadership Behaviors					2/9/2018		-	Feb-19
9. Criticality Safety Program Metric/Report					11/9/2017	IR 2017-009	-	May-18
10. Procedure Improvement Project					5/9/2018		-	Sep-18
11. Closure of Open RCA CAPRS					5/9/2018		↓	Apr-18
CAPR 1					7/31/2017		-	Mar-18
CAPR 2					4/21/2017	IR 2017-004	-	Feb-18
CAPR 3					10/18/2016	IR 2017-004	-	Jan-18
CAPR 4					4/28/2017	IR 2017-004	-	Feb-18
CAPR 5					10/19/2016	IR 2017-004	-	Jan-18
CAPR 6					11/22/2017		-	Mar-18
12. RCA Corrective Action Effectiveness Reviews					12/31/2018		-	Jun-18
13. 2017 NSC Assessment Deficiencies Entered into CAP					9/8/2017		-	Aug-19
14. Confirmatory Order Closure Letter					11/9/2020		-	NA

Nuclear Safety Culture Improvements

- ✓ **Leader/Worker NSC Behaviors**
- ✓ **Leader Assessments**
- ✓ **Leader Selection Process**
- ✓ **Leader/Worker Training**
- ✓ **NSC Monitoring Panel**
- ✓ **Strengthened Use of Employee Concerns Program**
- ✓ **Independent Third Party NSC Assessment**
- ✓ **Leader Alignment Forums**
- ✓ **Worker Interfaces/Improved Communications**



Nuclear Safety Culture – Leader Behaviors



Nuclear Safety Culture — Employee Behaviors



Strengthening our Management Measures

- Bringing our procedure standards to industry best practices through our procedure upgrade project
- Protecting our safety basis through improved design control and engineering technical rigor
- Improved abilities to find and fix our problems through new leadership values and effective engagement in our corrective action program, metrics and performance improvement activities
- Implemented a robust criticality safety training program



We are invested in the broad strengthening of our management measures.

Columbia Excellence Plan

Ensuring Sustainable, Long-term Improvement

- Leadership alignment on the right values, behaviors and standards
- Program and process rigor to ensure desired, repeatable outcomes
- Well-defined/executed organization roles and responsibilities
- Strong self-identification, intrusive self-monitoring and critical oversight
- Investment in our people and plant equipment
- Industry emulation and engagement
- Effective risk recognition and mitigation

Using a proven approach to bring about sustained performance improvement

Excellence Plan Focus Areas



Performance
Monitoring



Operating &
Manufacturing
Excellence



Asset
Management



Organizational
Excellence



Safety
Excellence



Leadership
Alignment &
Employee
Engagement

Developing a Learning Organization

- ✓ Improving our focus on recognizing and mitigating risk, with improved emphasis on understanding potential consequences
- ✓ Building and preserving safety margins in our solutions
- ✓ Improved focus on organizational and behavioral challenges
- ✓ Implementing appropriately broad extent of condition reviews for important issues
- ✓ Instilling a sense of urgency in mitigating and resolving issues

**Improved focus on learning from issues
to prevent future events**

Summary

- Regulatory commitments are on track and are well-managed to ensure both compliance and effectiveness
- Our excellence plan provides the road map to sustainable safe, reliable and excellent operations
- Transfer of lessons learned with other Westinghouse fuel manufacturing locations
- Corporate assessment and oversight has been strengthened
- Corporate resources support Columbia

Westinghouse is committed to safe fuel manufacturing at Columbia.