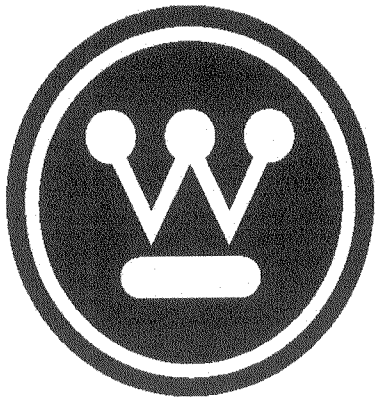


Westinghouse

Columbia Plant Commitment to Continuous Improvement in Safety Performance

Licensee Performance Review
April 12, 2005

Columbia Plant LPR
Agenda

- W Perspective on Safety Performance
- Corrective Action Status & Effectiveness
  - Nuclear Criticality Safety
  - Human Performance
  - Supervisory and Management Oversight
- Additional Measures to Improve Performance
  - Design & Licensing Basis Control
  - Elimination of Administrative Controls
  - Valuing the Prevention of Errors
- Conclusion

Columbia Plant LPR
Westinghouse Concurs with NRC Perspectives

- Safety Operations
  - Good performance in chemical safety and fire safety
  - Improvement needed in nuclear criticality safety and in consistent procedure adherence for plant operations
- Radiological Controls
  - Good performance in minimizing employee exposures, environmental protection, waste management and transportation
- Facility Support
  - Good performance in emergency preparedness and maintenance of items relied on for safety
  - Improvement needed in supervisor and manager oversight and in training
- Special Topics
  - Good performance in safety licensing and open communications with the NRC

We continue to operate the Columbia Plant safely
Specific improvement efforts to be focused in noted areas

Columbia Plant LPR
Status - Criticality Safety Improvement

- Background
  - Recent events highlight areas for further improvement in nuclear criticality safety program
  - This conclusion was validated by two independent criticality safety reviews
- A comprehensive strategy has been developed, including:
  - Methodology for NCS technical basis evaluation: *accomplished*
  - New procedure for Calc Notes and Criticality Safety Evaluations: *accomplished*
  - Improved NCS training of plant personnel: *accomplished*
  - Augment and develop NCS staff: *currently underway*
  - Strengthen NCS programs: *currently underway*
  - Confirm the NCS technical basis: *currently underway*
- Metrics & Reinforcement
  - Project plan and milestone tracking
  - Steering committee oversight

Columbia Plant LPR
Effectiveness - Criticality Safety Improvement

- This is an effective improvement program
  - Dedicated management and technical resources
  - Added 2 NCS managers, 2 NCS engineers and multiple contract staffing
  - Risk-informed prioritization of evaluations
  - Planned milestones are being accomplished
  - Increased capital plan investment to eliminate administrative controls, replace non-favorable geometry equipment and to improve margin and equipment reliability

- Actions to improve future effectiveness
  - Creating a dedicated team for systematic, risk informed elimination of administrative controls
  - Support through Valuing the Prevention of Errors program
  - Initiate periodic management reviews

Columbia Plant LPR
Status – Human Performance Program

- Background
  - Human Performance for reducing the severity and frequency of events
- We began Human Performance implementation 2 years ago
  - Fundamentals training: *accomplished*
  - Area-specific performance/behavior standards: *accomplished*
  - Antecedent/Behavior/Consequence education: *accomplished*
  - HuP Tools training and implementation: *accomplished*
  - Training, recertification and reinforcement effort: *currently underway*
  - This is a journey that we are very committed to
- Metrics & Reinforcement
  - Event clocks and local area scorecards
  - Management observation program
  - Daily EH&S compliance inspections

Columbia Plant LPR
Effectiveness – Human Performance Program

- This is an effective improvement program
  - Many Human Performance success stories; gaining momentum
  - Dedicated manager and team for Human Performance implementation
  - Reduction in violations and safety significant events in URRS
  - Self-identification of incinerator and other events using questioning attitude
  - Process stops preventing events (e.g., malfunction at polypak dump station; numerous maintenance team examples; daily reports in station meeting)

- Actions to improve future effectiveness
  - Complete training, recertification and reinforcement plan for operators, team managers, engineers and area managers
  - HuP tools for SNM area administrative safety significant controls
  - HuP Steering Team monthly review of performance and reinforcement
  - Support through Valuing the Prevention of Errors program

Columbia Plant LPR
Status – Supervisory & Management Oversight

- Background
  - Internal challenge
  - Identified in prior year LPR feedback
- Status of program elements
  - Antecedent/Behavior/Consequence education: *accomplished*
  - Observation program and area scorecards implementation: *accomplished*
  - Behavior Action Plans developed for supervisors spending time on the floor, reinforcing desired operator procedure adherence behaviors: *accomplished*
  - Major steps still ahead
- Metrics & Reinforcement
  - Team manager goals and expectations for observations
  - Management team time on the production floor

Columbia Plant LPR
Effectiveness – Supervisory & Mgt Oversight

- We believe supervisory/management oversight effectiveness needs further improvement
  - Procedure adherence improvement pace is not fast enough
  - Improvement progress has been inconsistent across the plant
  - Expectations for oversight not specific enough
  - Maturing competence level with HuP and observations
- Actions to improve future effectiveness
  - Clarify and reinforce expectations for supervisor and area manager behaviors
  - Focus management/supervisory oversight on administrative safety significant controls, HuP implementation and completion of training commitments
  - Review supervisor qualifications and span of control
  - Institute monthly training program for supervisors and managers
  - Support through Valuing the Prevention of Errors program

Columbia Plant LPR
Reflections on Progress

- Recent events have caused us to re-evaluate our approach and progress
  - We believe we are focused on the right fundamentals
  - Pace & sustainability needs to improve
- Effectiveness can be further improved
  - Expectations, Measures and Reinforcement
  - Managing hazards, not eliminating them
  - Not valuing the prevention of errors as a core management value and behavior

Columbia Plant LPR
Additional Measures to Improve Performance

- Strengthen design and licensing basis control
- Eliminate administrative controls on a risk-informed basis
- Value the Prevention of Errors

Columbia Plant LPR
Design & Licensing Basis Control

- Background
  - Our Integrated Safety Analyses establish the design safety basis for the plant

- We began our ISA journey nine years ago
  - Identification of items relied on for safety and management measures: *accomplished*
  - Plant training on items relied of for safety: *accomplished*
  - Identification of process design improvements: *accomplished*
  - Strengthened review and approval for change management processes (plant configuration and procedures): *accomplished*

Columbia Plant LPR
Design & Licensing Basis Control

- Metrics & Reinforcement
  - Plant staff and senior management tracking of criticality safety improvement plan, including regularly scheduled status reviews
  - Plant staff and senior management tracking of training, recertification and reinforcement plan, including regularly scheduled status reviews
- Future Actions
  - Accelerate implementation of training, recertification and reinforcement plan for operators, team managers, engineers and area managers
  - Implement plans to eliminate high risk administrative controls, replace non-favorable geometry equipment and to improve margin and equipment reliability
  - Conduct an independent assessment of our design control process
  - Continuing improvement efforts in criticality safety, HuP and management oversight and control

Columbia Plant LPR
Elimination of Administrative Controls

- Background
  - Many of the Columbia Plant's safety significant controls are purely administrative
  - The reliability of these controls is important, particularly for those without additional layers of protection

- Status of program elements
  - Perform a Failure Modes and Effects Analysis on all purely administrative controls: *accomplished*
  - Identify those purely administrative controls which are potential single points of failure for double contingency protection: *accomplished*
  - Combine the FMEA and single point of failure assessments and rank the controls for reliability on a risk-informed basis: *accomplished*
  - Communicate results with team managers & operations staff: *accomplished*
  - Focus supervisory oversight on key administrative controls: *currently underway*

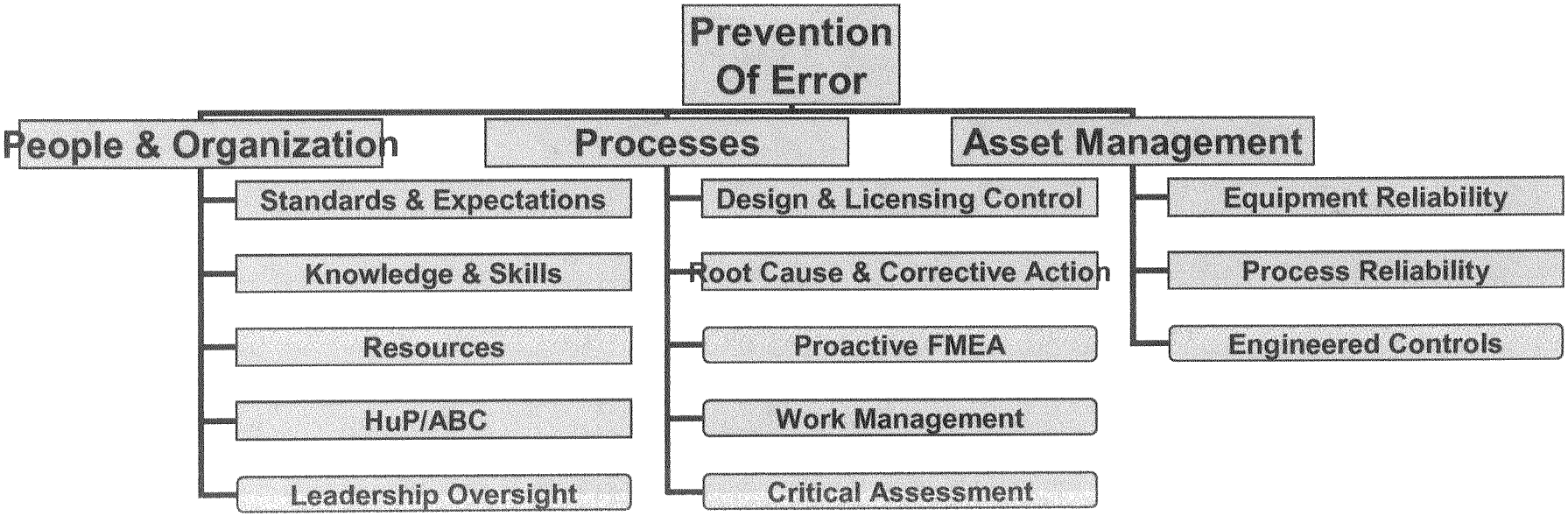
Columbia Plant LPR
Elimination of Admin Controls

- Metrics & Reinforcement
  - Daily supervisory oversight through focused observations and documented results
  - Daily reporting of results in Plant Station meeting
  - Bi-weekly trending of performance results

- Future Actions
  - Implement stronger reliability actions with deployment of focused HuP tools for each control on a risk-informed basis
  - Dedicated team to systematically eliminate administrative controls on a risk-informed basis

Nuclear Fuel Business
Additional Measures to Improve Performance

Valuing the prevention of errors by providing resources, oversight and engaging line management



Columbia
Additional Measures to Improve Performance

- People and Organization
  - Expectations and accountability for nuclear safety
  - Monthly leadership training sessions
  - Review supervisor qualifications & span of control
  - Review operations management skills & structure
  - Staffing strategy for 7-day operations
  - Increase plant staff engagement time with supervisors
  - Site leadership workshop
  - VP monthly review of action plan progress
- Process
  - Independent assessment of design control process
  - FMEA on process quality variation
  - Install systematic work management system
  - WANO Peer Review
- Asset Management
  - CFL projects for equipment and process reliability
  - Capital investment projects for safety margin

Columbia
Summary

- Columbia Plant is being operated safely
- Continuing safety improvements are underway
  - –Safety is and will always be our top priority
  - –By accelerating actions in current programs
  - –By *valuing the prevention of errors*
- Leadership will ensure resources and oversight are provided to ensure sustainable improvement

A BNFL Group company