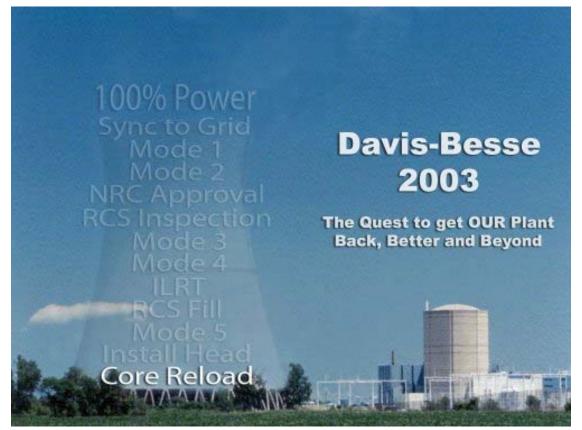


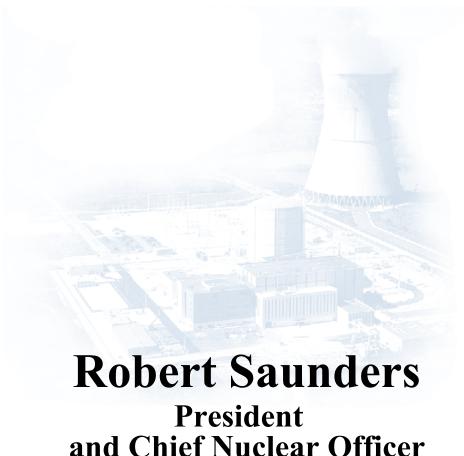
Davis-Besse Nuclear Power Station



Safety Culture and Safety Conscious Work Environment



Opening Remarks



and Chief Nuclear Officer - FENOC





Agenda

Opening Remarks
FirstEnergy Commitment to Nuclear Safety.Robert Saunders
• Retrospective View of Davis-Besse Lew Myers
• Anchoring Safety Culture in Our Business.Lew Myers/Bill Pearce
 Anchoring the Changes in Safety Culture for
Operations
• Human Resources Leadership DevelopmentFred Giese
• Safety Culture Review Methodology Dr. Sonja Haber
• Monitoring Safety Culture for RestartLew Myers/ Bill Pearce
Closing Comments





Desired Outcomes

- Re-emphasize FirstEnergy's Commitment to Nuclear Safety
- Provide an update on the Davis-Besse Safety Culture and Safety Conscious Work Environment
- Obtain NRC feedback





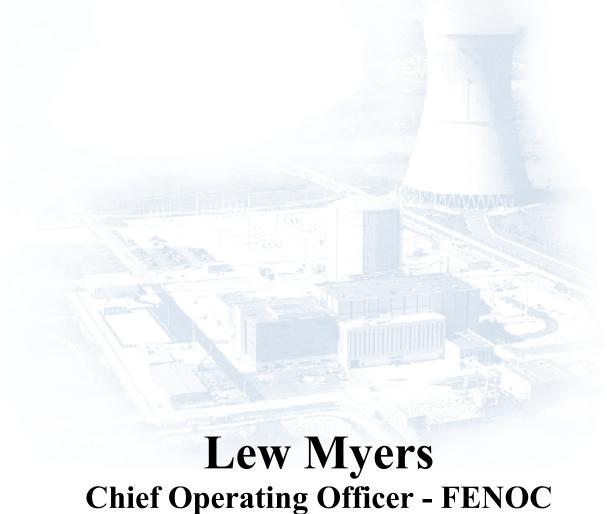
FirstEnergy's Commitment to Nuclear Safety

- Chairman and Chief Executive Officer Commitment
- FirstEnergy Board of Directors Resolution
- FENOC Commitment to Safety Culture
 - Policy Level Commitments
 - Management Commitments
 - Individual Commitments





Retrospective View of Davis-Besse







Background

- November 1997: FirstEnergy Formed
- April 1999: Commenced Transition of Beaver Valley Operations
- Root Cause Report on RPV Head Degradation found that Management had a Less than Adequate Nuclear Safety Focus
 - Production focus, established by management, combined with taking minimum actions to meet regulatory requirements, resulted in acceptance of degraded conditions
 - Davis-Besse was operated as a stand alone plant
 - Conditions were identified at relative low threshold, but not properly classified or evaluated by management
 - Quality Assurance finding were mixed quality
 - Operations not active in role of improvements in plant conditions
- Building Block Plans Identify Improvements in Total Safety Performancε
- Need to Anchor these Improvements in our Management of Nuclear Safety





Anchoring Safety Culture in Our Business

Lew Myers
Chief Operating Officer FENOC

Bill Pearce Vice President -FENOC Oversight



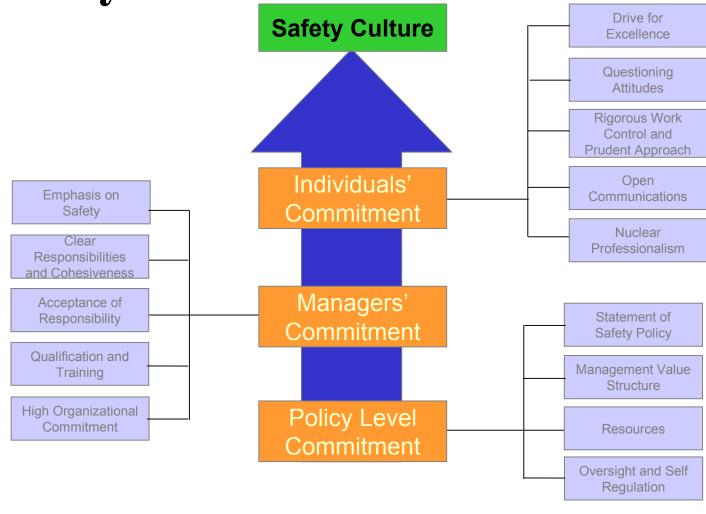


Definitions

- Safety Culture: "That assembly of characteristics and attitudes in organizations and individuals which establishes an overriding priority towards nuclear safety activities and ensures that issues receive the attention warranted by their significance."
- Safety Conscious Work Environment: "That part of a Safety Culture addressing employee willingness to raise issues and management's response to these issues."

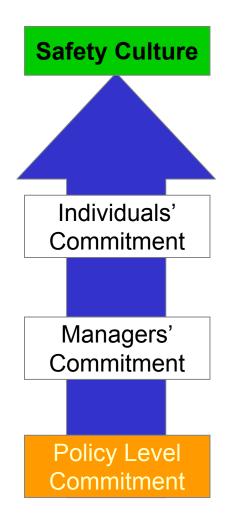
FirstEnergy_®

Anchoring Safety Culture in Our Business Safety Culture - - FENOC Model





Policy Level Commitment



- •FirstEnergy Board Passed Resolution on Nuclear Safety
- •CEO FirstEnergy Reinforced Safety Commitment
- Policy Established on Safety Culture
- •Enhanced FENOC Values, Mission, and Vision
- •Business Plan Focus Areas on Safety
- •Board Strengthened Incentive Programs Tie to Safety
- •Implemented FENOC Corporate Organizational Structure Changes
- •Reviewed Resources for Adequacy
- •Established Independent Executive-Level Quality Assurance
- •Greatly Strengthened Employee Concerns Program
- Established a SCWE Policy

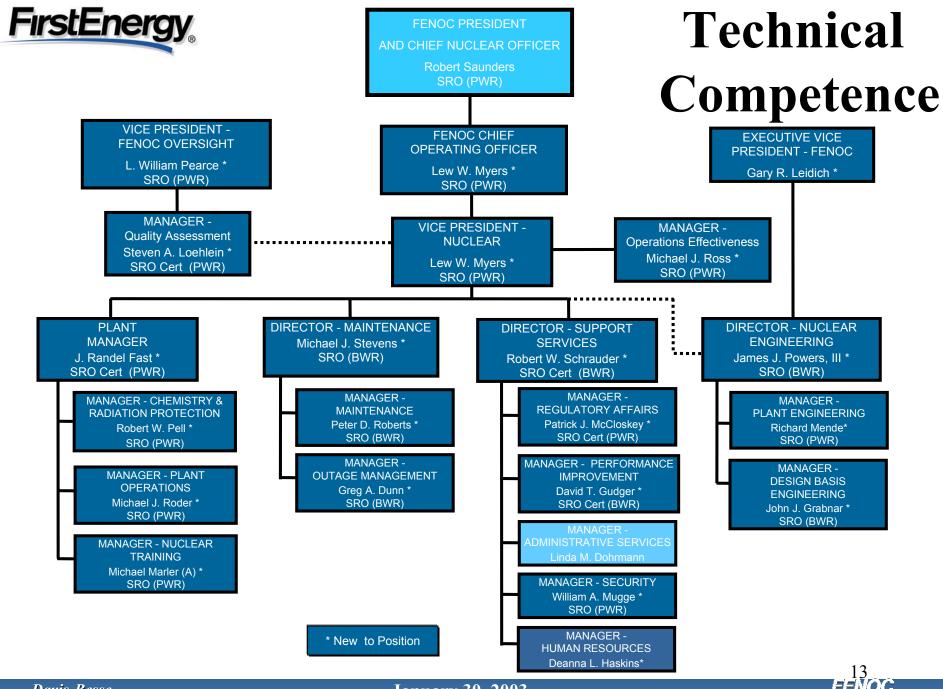
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Managers' Commitment



- Improved Management Technical Competence
- Strengthened Corrective Action Review Board
- Established Engineering Assessment Board
- Increased Manager Involvement in Safety-Related Work
- Revised Competencies in Appraisal Process
 - Nuclear Professionalism
 - Nuclear Safety Consciousness
- Leadership in Action Training on Additional Competencies
- Assigned Owners and New Expectations for Engineering and Programs
- Established Strong Management Observation Program
 - Field and Training Observations
- Established High Organizational Commitments
 - Programs Benchmarked to Industry's Best
 - Design Modifications to Improve Safety Margins
- Improved Problem Solving and Decision-Making Procedure
- Restart Review Meetings for Changes in Plant Modes
- Lincoln Consulting Group Strategies and Activities to Increase Leadership, Teamwork and Alignment





ProDucy Native Opening Company

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Managers' Commitment



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FirstEnergy Strategy and Activities to Increase Leadership Teamwork and Alignment

Leadership Teamwork and Alignment

- Senior Management Team Strategy Alignment Meetings
- Manager Alignment Meetings
- Coaching with Directors and Managers
- Site-wide Supervisors and above Alignment Meetings
- Transition Meetings
- Manager Team Meetings to drive Restart work forward
- Restart Readiness Meetings
- RHR Assessment Roundtable Debriefs and follow on Individual Developmental Plans and Coaching
- Transition from Common Process to Standardization across Nuclear Fleet



FirstEnergy. Strategy and Activities to Increase Leadership Teamwork and Alignment

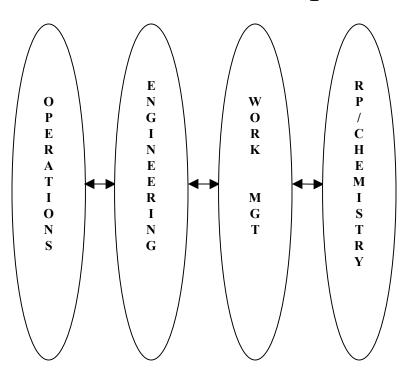
- Employee Communication and Alignment
 - Town Hall Meetings (Weekly)
 - 4C Meetings (Weekly)
 - All Site Meetings (Monthly)
 - Department Meetings
 - Reactor Head Case Study Training
 - Stand Downs
 - Restart Oversight Panel Meetings
 - Other site-driven activities and communications, e.g.
 - Staff Meetings
 - SCWE Meetings / Training
 - "Daily Focus" regarding Restart Implementation Status
 - "Online" Newsletter



FirstEnergy Strategy and Activities to Increase Leadership Teamwork and Alignment

- Management and Human Performance Root Cause & Improvement Plan
- Change Management Consulting
- Cross-functional Integration
- Design/Facilitate Strategic Mtgs.
- OD Leadership Plans
- Individual & Team Coaching
- New Management Transitions
- Organizational Restructuring
- Sensing / Pulsing Employees
- Individual Interviews and Focus Groups with Summary Reports
- Field Observations
- Leadership in Action Training Sessions

Functional Groups





Evidence that Demonstrates Increased Teamwork and Alignment

- Active Involvement in Plant work activities
- Cross-functional problem solving and decision making
 - Restart Safety Review Board demonstrated ability to make collaborative decisions (tough decisions)
 - Restart Readiness Meetings
 - Mode Restraint Meetings
 - Operations Leadership: M.
 Roder stepped up to lead
 Manager Team Alignment
 Meetings
 - Management of Contractor Reductions

- Cross-functional design and development of the Transformational and Transactional Organizations
- RHR Assessments reinforced caliber of current leadership
- Engineering's expanded leadership team for Project Management strength
- Employee Testimonies (Managers, Supervisors, staff)





Individuals' Commitment

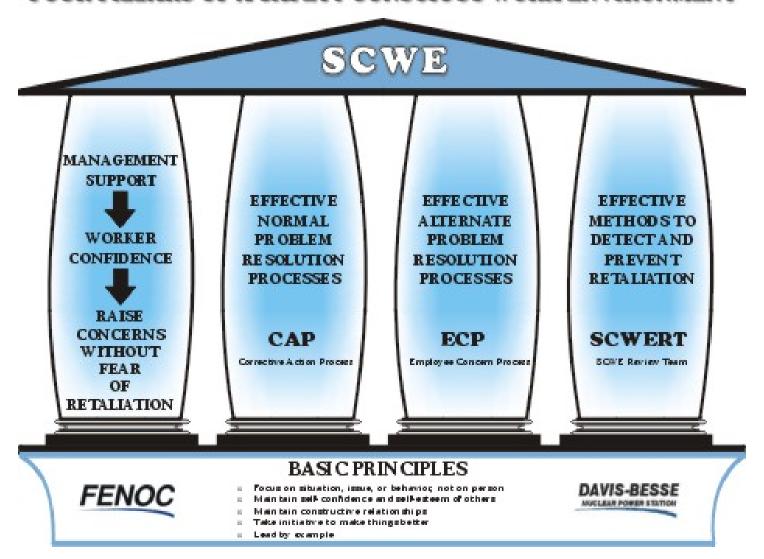


- Evaluated Supervisors
- Provided Case Study Training
- Provided Supervisor Refresher Training on Leadership in Action
- Provided Supervisor Training on SCWE
- Strengthened Individual Ownership and Commitment
 - Engineering Rigor
 - Operability Decision-Making
 - Operator License Responsibilities Training
 - Shift Manager Command Responsibility
 - •Participation in Town Hall and 4-C Meetings
 - •Participation in Monthly All-Hands Meetings
 - Strengthened Questioning Attitude
 - Standard Format for Pre-Job Briefings
 - •Implemented Operator Leadership Plan
 - •Requalified All Root Cause Evaluators





FOUR PILLARS OF A SAFETY CONSCIOUS WORK ENVIRONMENT







• Management Support / Worker Confidence

- Issued FENOC Policy on SCWE
- Site Vice President has Met with >
 400 Employees in Groups of ~ 15
 to Reinforce Management Support
- Trained all Managers and Supervisors on SCWE
- Trained Operators on SCWE

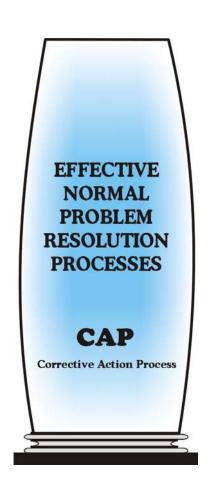






Corrective Action Process

- Enhanced Performance Indicators and Performance Monitoring
- Independent validation of Completed Condition Reports
- Other Restart Improvements
 - Process Changes
 - Procedure Enhancement
 - Oversight Changes
 - Training







Employee Concerns Program

- Program became Effective 12/30/2002
- Benchmarked Other Nuclear Plants (Millstone, Diablo Canyon, San Onofre, Nuclear Management Company)
- Reports Directly to the Vice President of Oversight
 - Independent of Site Management
- Protection of Confidentiality
- Four Independent Investigators

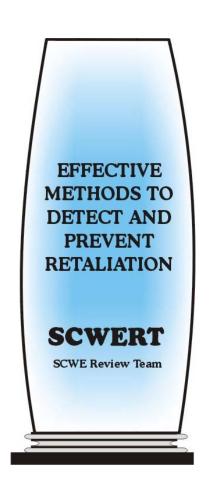






Review Team

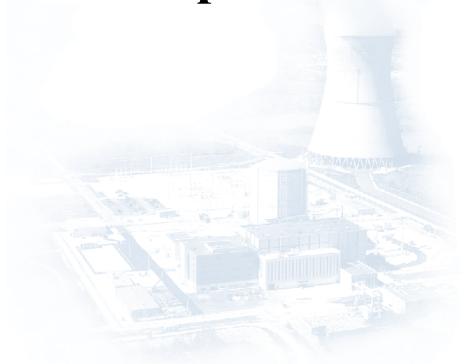
- Chartered to Review Pending Action Dealing with People
- Team Made up of Top-Level Managers, Human Resources, and Legal
- Team Oversaw Contractor Reduction Effort
- Team Actively Looks for Issues Which May Even Give the Perception of Discrimination







Anchoring the Changes in Safety Culture for Operations



Randy Fast Plant Manager



FirstEnergy

Anchoring the Changes in Safety Culture for Operations

- Site-Wide Commitment to Safe Plant Operation
 - Continuous Improvement Culture
 - Training Program Improvements
 - Leadership in Action Operations Leadership Program
 - Benchmarking Program
- Measures to Prevent Recurrence
 - Safety Culture Supporting Policies, Programs, and Procedures
 - Strong Oversight
 - Continued Safety Culture Monitoring
- FirstEnergy CEO Meeting with Each Shift Manager





Human Resources Leadership Development



Fred Giese

Manager - FENOC Human Resources





Human Resources Leadership Development

- FENOC Corporate: Strengthened the Human Resources Function
- Responsible for Leadership Development Process
- Actions Taken/Improvements Made
 - Two New Competencies Added to Ownership for Excellence (Nuclear Professionalism and Nuclear Safety Consciousness)
 - Management Team Assessment
- Hired Independent Contractor Performance, Safety and Health Associates
 - Sonja B. Haber, Ph.D. Project Manager



Safety Culture Review Methodology

Presented to:

U.S. Nuclear Regulatory Commission Region III

Presented by:

Sonja B. Haber, Ph.D. January 30, 2003





Background

- Human performance issues in nuclear industry
- U.S. Nuclear Regulatory Commission research
- Canadian Nuclear Safety Commission research and application
- Organizational cultural assessments at Soviet Designed Reactors
- International Atomic Energy Agency activities in Safety Culture

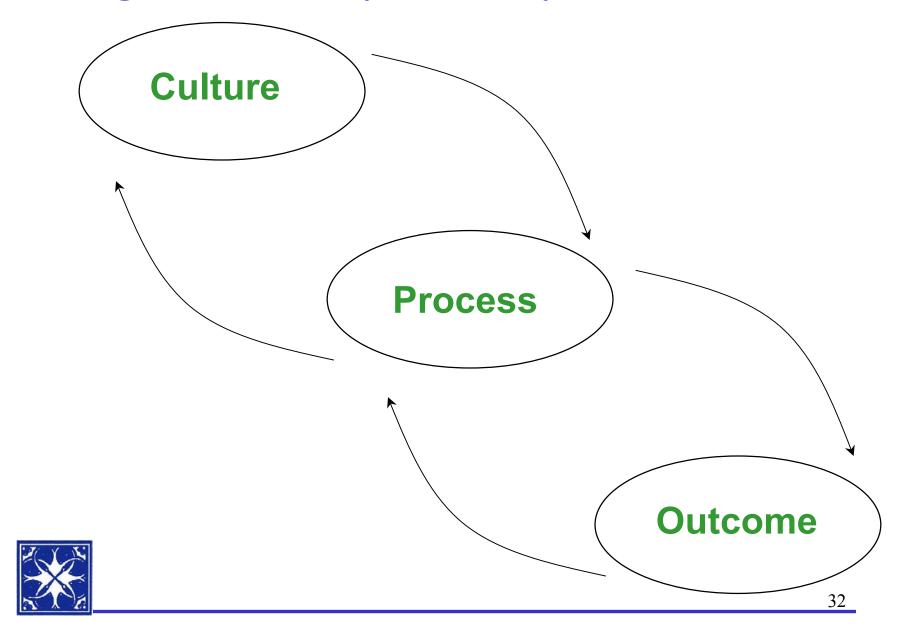


Premise of the Methodology

- Safety culture exists in an organizational context
- Schein model of culture
 - Artifacts
 - Claimed Values
 - Basic Assumptions
- Stages of safety culture development
 - Compliance
 - Performance
 - Process



Management of Safety and Safety Culture



Safety Culture

• Safety culture refers to the characteristics of the work environment, such as the values, rules, and common understandings that influence employees' perceptions and attitudes about the importance that the organization places on safety



Safety Culture Characteristics

Generic

- Aggressively seeking to know what you don't know
- Designing a reward and incentive environment to recognize the costs of failure as well as the benefits of reliability in which there is respect for people
- Consistently communicating the big picture and getting everyone to talk about it with each other



Safety Culture Characteristics

Specific

- Safety is a clearly recognized value
- Accountability for safety is clear
- Safety is integrated into all activities
- A safety leadership process exists
- Safety culture is learning-driven



Mapping Expectations to the Methodology

Expect to see behaviors indicative of:

- Constructive Values
- Drive for **Perfection**
- Facilitation of Questioning Attitude
- Minimal **Avoidance** Behavior
- High Organizational Commitment
- Strong Work Group Cohesion
- Effective Work Coordination
- High Job Satisfaction
- Open and Effective Communication
- Heavy Emphasis on Safety



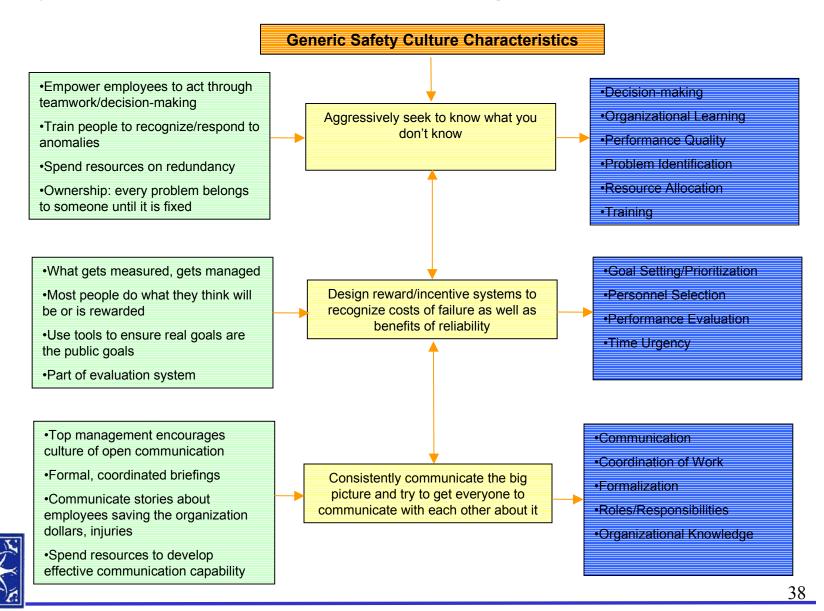
Organizational Behaviors Impacting Safety Culture

- Attention to Safety
- Coordination of Work
- Decision-making
- External Communication
- Formalization
- Goal Setting/Prioritization
- Interdepartmental Communication
- Intradepartmental Communication
- Organizational Culture

- Organizational Learning
- Organizational Knowledge
- Performance Evaluation
- Performance Quality
- Personnel Selection
- Problem Identification
- Resource Allocation
- Roles & Responsibilities
- Time Urgency
- Training



Safety Culture Characteristics and Organizational Behaviors



Multiple Methods for Review of Behaviors

Methods are:

- Capable for broad-based use
- Objective
- Quantitative and qualitative
- Able to withstand high scrutiny and use
- Able to provide convergent validity



Multiple Methods for Review of Behaviors

Methods include:

- Functional Analysis
- Structured Interviews and Focus Groups
- Behavioral Anchored Rating Scales (BARS)
- Behavioral Observations
- Organizational and Safety Culture Survey



Implementation of Methodology

		Functional Are	eas of Facility			
Strategic Level	Operations	Maintenance	Technical Support	Training & Qualifications	Support Staff	
4		Safety is a Value			\	Sai
•		Accountability & Ownership of Safety			-	Safety Culture Characteristics
•		Safety is Integrated into all Work				ture Cha
4		Safety Leadership Process			-	aracteri
•		Safety is Learning Driven			•	stics



Functional Analysis:

- Documentation Review to include: (examples)
 - -Organizational charts
 - -Important administrative procedures
 - -Past relevant evaluations conducted by (for) the organization
 - -Charters for steering committees and performance improvement initiatives
 - -Relevant external assessments
 - -Any information the organization thinks may be useful
- Some preliminary focus groups



Structured Interviews & Behavioral Anchored Rating Scales (BARS):

- Personnel to be interviewed include individuals from all organizational components and levels
- Positions will be identified during the functional analysis; individuals to be chosen by the site
- Interviews last no more than one hour; occasionally follow-up interviews may be requested
- BARS are administered at the end of interview; no more than 4 rating scales completed by any interviewee

Behavioral Observations:

Activities to be observed include:

- Scheduled meetings
- Routine activities; e.g., shift turnovers, work planning meetings
- Unscheduled activities
- Work processes (when applicable)



Organizational and Safety Culture Survey:

- Administered in as large groups as possible
- Shift personnel scheduled at their convenience
- Coordinate administration schedule with Human Resources
- Conducted during first week of the review
- Coordinate use of demographic variables with site



Applications of Methodology

- Fully implemented in 18 different organizations; partially implemented in 17 additional organizations
- Implemented across different industries including:
 - Nuclear Power Fossil Fuel
 - Chemical Reprocessing Health Care
 - Mining Research
- Methodology used effectively in 5 different countries
- Methodology discriminates between organizations



Deliverables from Methodology

- Debriefing sessions on results with management and employees
- Report which includes:
 - -Overall conclusion on Generic Safety Culture Characteristics
 - -Summaries of Specific Safety Culture Characteristics with description of strengths and areas for improvement
 - -Conclusions on absence or presence of Safety Culture Characteristics
 - -Identification of trending of each Specific Safety Culture Characteristic
- Initiation of transfer of technology for use by site in self-assessment process

Outcomes of Methodology

- •Status of generic and specific Safety Culture Characteristics
- •Comparative results to other nuclear and nonnuclear organizations
- •Results need to be integrated with other ongoing activities



Schedule of Safety Culture Review

Phase	Initiated
Team Preparation	Jan. 8, 2003
Functional Analysis	Jan. 15, 2003
Survey Administration	Feb. 4, 2003
(except for some shift crews)	
Observations	Feb. 4, 2003
Interviews and BARS	Feb. 10, 2003
Analysis and Evaluation	Feb. 21, 2003
Final Report	March, 2003
	Team Preparation Functional Analysis Survey Administration (except for some shift crews) Observations Interviews and BARS Analysis and Evaluation



Summary

- The Safety Culture Review Methodology will provide an independent evaluation of the current status of the safety culture characteristics
- The methodology will also assist in the enhancement of safety culture by identifying ways in which the organization can continuously improve safety culture through selfassessment
- The Review will facilitate the progression of the development of safety culture from the compliance to performance-based, to continuous improvement stages





Lew Myers
Chief Operating Officer
-FENOC

Bill Pearce Vice President -FENOC Oversight



FirstEnergy_®

- Prior to 2002, Davis-Besse's Safety Culture was Mixed
 - Several Areas of Good Performance
 - Good Plant Material Condition
 - Good Plant Performance with Few Trips
 - Good Addressing of Industry Issues on Thermo-Lag
- FENOC's Assessment in 2002 Have Shown Some Weaknesses (e.g., Corrective Action, Technical Rigor, and Minimum Regulatory Standards)
- FENOC's goal is to verify that an adequate Safety Culture exists and take actions to address weaknesses





- Safety Culture Commitments Rating
 - Green: All Major Areas are Acceptable with a Few Minor Indicator Deviations
 - White: All Major Areas are Acceptable with a Few Indicators Requiring Immediate Management Action
 - Yellow: All Major Areas are Acceptable with Several Indicators Requiring Immediate Management Action
 - Red: Several Major Commitments do not Meet Acceptable Standards and Require Immediate Management Action





- Ratings Based on Convergent Assessment
 - Performance Indicators (e.g., Risk Index, Backlogs)
 - Management Observations
 - Demonstrated Performance During Critical Plant Conditions (e.g., Fuel Load)
 - Feedback from Independent Safety Culture Review and Nuclear Quality Assurance Assessments
 - Performance, Safety and Health Associates
 - Sonja B. Haber, Ph.D.



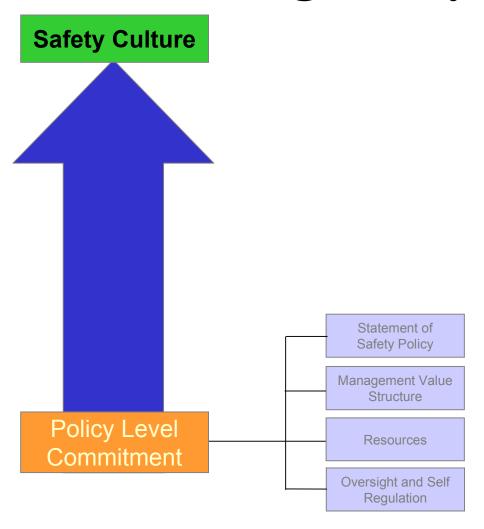


- Readiness for Restart
 - Improving Safety Culture is a Long-Term Activity
 - For Restart, no red areas, however, not Every Area Must be Green
 - FENOC Expects that Some Areas may be White or Yellow
 - Keys for Restart
 - Show Improving Safety Culture
 - Remedial Actions for Any White or Yellow Areas



FirstEnergy_®

Monitoring Safety Culture for Restart



Convergent Assessment

- Establishment of safety policy and emphasis on a regular basis by senior management
- Ad-Hoc surveys of employee awareness of safety policy
- Oversight will evaluate SCWE and safety performance
- Anchor in performance appraisal program
- Assess adequacy of resources during Restart Readiness Review





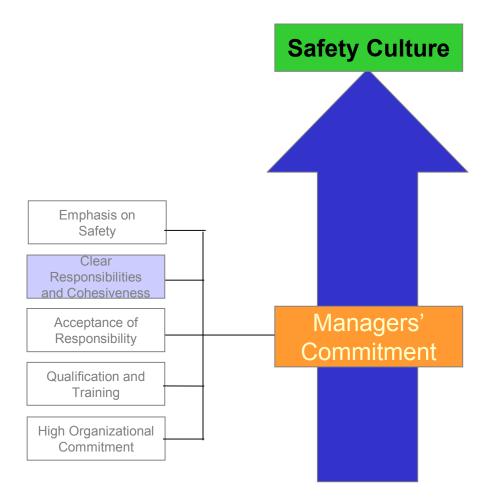


Convergent Assessment

- Implementation of Management Observation Program
- Frequency of plant tours and questioning of observed conditions
- Nuclear safety emphasized to employees on a regular basis
- Completion of Leadership in Action and SCWE Training
- Encouragement of employee questioning attitude on safety (e.g., newsletters, 4 C's Meetings)
- Recognition of employees who improve safety
- Application of NOP-ER-3001, Problem Solving and Decision Making
- Program ownership (e.g., fuel reliability)
- Modifications to improve margins (e.g., containment emergency sump)
- Operator Recertification Program

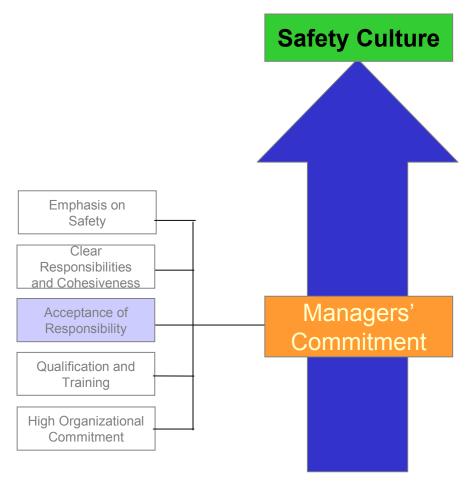






- Convergent Assessment
- Personnel Error Rate
- Demonstration of clear ownership of programs
- Ad-Hoc surveys to pulse organization's understanding that nuclear safety is the highest priority
- Corrective Action Review Board assessments of ownership
- Engineering Assessment Board evaluations of ownership
- Program ownership (e.g., Leak Rate Program, Boric Acid Control Program, Reactivity Management Program)





•Convergent Assessment

- Performance Appraisals/Development Plans
- Ad-Hoc surveys of willingness to challenge employees, other managers and superiors regarding safety considerations
- System assessment as a means to increase safety margins, such as
 - -Flüs Leak Monitoring System
 - -Containment Emergency Sump
 - -Diesel Starting Air
- Nuclear Quality Assurance Field Assessments
- Number of Management Observations Requiring Coaching



Monitoring Safety Culture for Restart Convergent Assessment



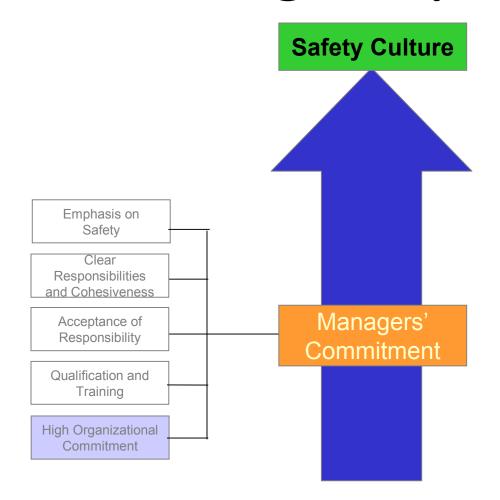
- Performed Benchmarking of organizational staffing
- Completed restart required training
- Completed root cause training completed (e.g., Tap Root)
- Completed operability determination training (> 175 individuals)
- Completed training on legal responsibilities of licensed operators
- Completed SCWE Training (>300 Individuals)
- Completed standdown on January 27 on Safety Culture Policy
- Completed training on NOP-ER-3001, Problem Solving and Decision-Making (e.g., Decay Heat Pump, Cavity Seal Post Mod Testing)
- Completed training on Case Study
- Completed training on Standards and Expectations
- Continuing training identified by Curriculum Review Committee meetings

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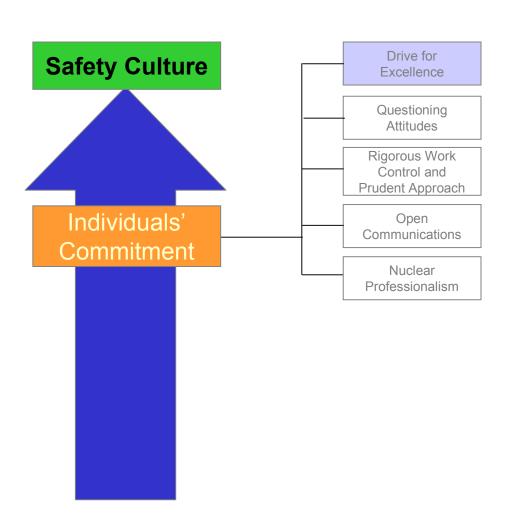


•Convergent Assessment

- Implementation and training of employees on Safety Conscious Work Environment
- Effective Employee Concern Program
- Restart Oversight Panel Assessment
- Licensed Operator Pipeline
- Benchmark programs against industry standards
- Operator crew benchmarking
- Scheduled Management Observation Program
- Goals for zero temporary modifications, zero control room deficiencies, and zero operator work arounds



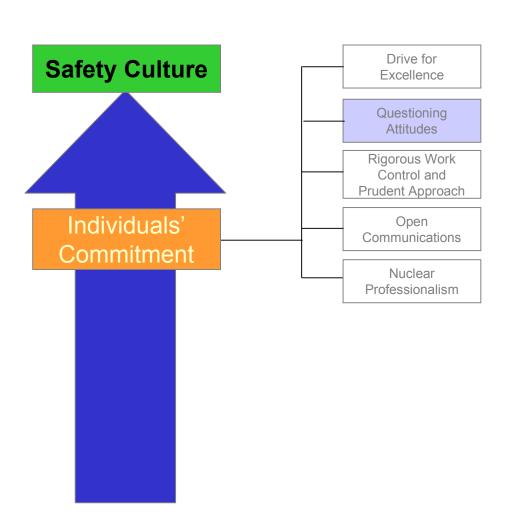




- Number of Systems Classified Maintenance "a (1)"
- Number of Workarounds
- Number of Temporary Modifications
- Number of Control Room Deficiencies
- Individual Error Rates
- Number of Long-standing Equipment Problems
- Percent of Self-Identified Condition Reports
- Number of Engineering Condition Reports Outstanding
- Engineering Assessment Board Index



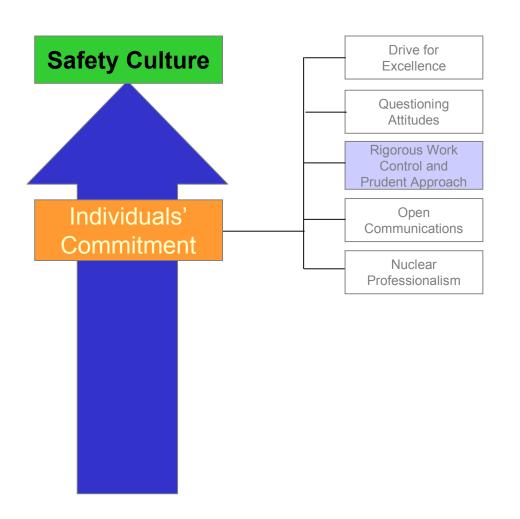




- Quality of pre-job briefings as a management observation
- Number of Condition Reports (CRs) per person per group
- Number of programmatic CRs
- Number of procedure problems
- Number and type of operational events (e.g., tagging errors, mispositioning)

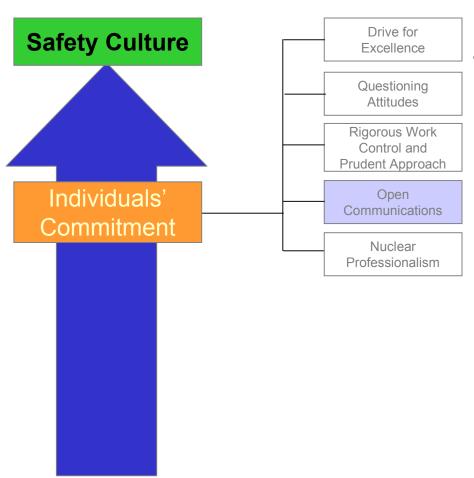






- Employee Event Free Clock
- Industrial Safety Index
- Employee error rate
- Program process error rate
- Significant human performance errors resulting in plant transients
- Backlog of procedure change requests
- Quality Control hold point/rework rate
- Number of work orders Scheduled/completed each week
- Number of late PMs
- Backlog of corrective maintenance
- Number of "a (1)" systems

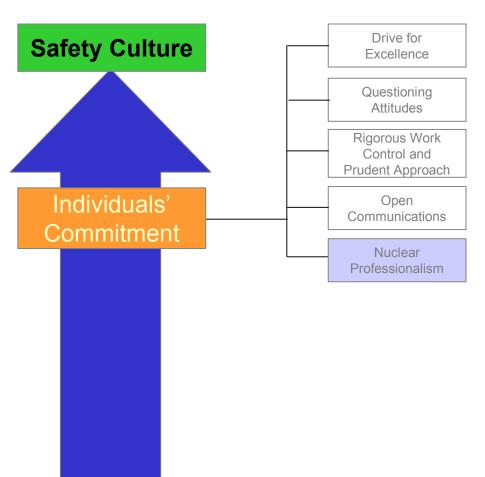




- Number of Condition Reports per person per group
- Number of concerns going to Employee Concerns Program vs. NRC
- Ad-hoc surveys pulsing of organization
- Feedback from 4C's Meeting
- SCORE Program: Safety Consciousness Our Responsibility Everytime



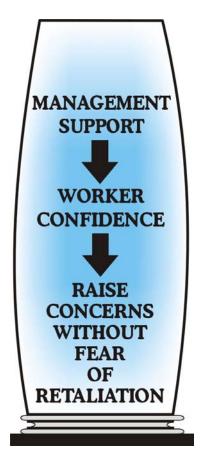




- Completion of Ownership for Excellence
- Training attendance
- Rework
- Individual Development Plans
- Results of Engineering Assessment Board Assessments
- Number of yellow windows in training
- Absence of low-level Radiation Protection events
- Chemistry Performance Index



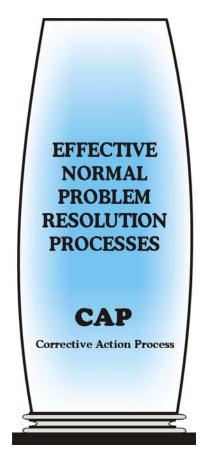




- Safety Conscious Work Environment Policy
- Monitor
 - Results of Survey Post Core Reload
 - NRC Concerns vs. Employee Concerns Program
 - Quality Assurance Interviews







- Corrective Action Process
- Monitor
 - Implementation of CAP improvements
 - Root Cause evaluation quality
 - Condition Report category accuracy
 - Basic Cause evaluation quality
 - Condition Report Self-Identification Rate
 - Results of Survey Post Core Reload
 - Quality Assurance Interview Results



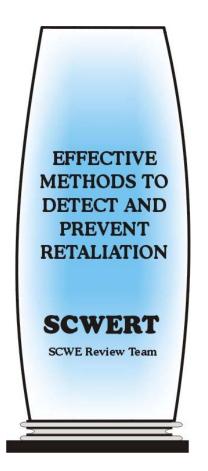




- Employee Concerns Program
- •Monitor
 - Use of ECP by Employees
 - Satisfaction of employees that have used the ECP
 - Number of issues directed to NRC vs. Employee Concerns Program







- Review Team
- Monitor
 - Use of SCWE Review Team
 - Effectiveness of SCWE Review Team in avoiding valid discrimination claims
 - All valid Harassment Intimidation Retaliation Discrimination Reports
 - Total number of actions reviewed vs. number of rejected issues





Closing Remarks

Robert Saunders

President and Chief Nuclear Officer - FENOC





Closing Remarks

- Conclusions
 - A work atmosphere for employees is being developed that:
 - focuses on safety
 - sensitizes individual awareness
 - identifies and reports concerns
 - encourages each other to report concerns
 - fosters cooperation between workers and management
 - seeks timely resolution of concerns
 - Safety Conscious Work Environment is being nurtured
 - Safety Culture has improved
- FirstEnergy is committed to nuclear safety

