

Industry Nuclear Safety Culture* Process

Thomas C. Houghton
Director, Safety Focused Regulation
Nuclear Energy Institute
March 12, 2009

**Nuclear Safety Culture: An organization's values and behaviors—modeled by its leaders and internalized by its members—that serve to make nuclear safety the overriding priority.*



Current

- **NRC**
 - Looks at inspection results using **13 Cross-Cutting Safety Culture Components (SCC)**
 - Process established for evaluation and assessment
- **Industry**
 - Looks at **Nuclear Safety Culture Issues based on INPO Principles and Attributes**
 - Various processes established for evaluation and assessment. Licensees take action.



Goals

- **Industry and the NRC employ common methodology and terminology**
- **Enhance the industry's ability to assess Nuclear Safety Culture and implement effective corrective action**
 - Industry Responsibility
 - Oversight by NRC

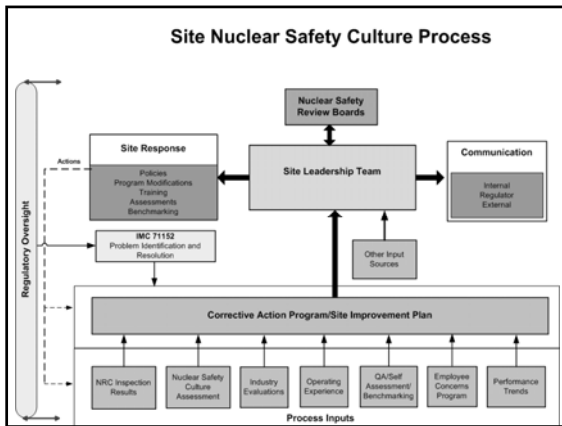


Industry Approach

- Uses inspection results, cultural assessments, industry evaluations, self assessments, audits, input from Employee Concerns, etc.
- Conduct Biennial and other Safety Culture Assessments
 - Based on INPO Principles and Attributes
 - Based on proven Utilities Service Alliance approach
 - Methodology can be scaled for self, independent and third party assessments
- Replaces part of NRC process



Site Nuclear Safety Culture Process



NRC

- NRC would continue to monitor via:
 - Licensee's corrective action program
 - PI&R inspections
 - Baseline inspection program
 - Licensee Safety Culture Assessments in CAP
- NRC would not assign substantive crosscutting issues



Next Steps

- Obtain NRC agreement in principal
- Complete development of processes (Industry and NRC)
- Pilot at several plants (similar to ROP initiation)
- Workshops/training prior to implementation
- Implement in 2010



Nuclear Safety Culture Assessment



Nuclear Safety Culture Assessment


- NRC and industry dissatisfied with 95003 safety culture assessment experience at Palo Verde
- NEI volunteered to develop an industry guideline for a third-party assessment
- Established a Nuclear Safety Culture Assessment TF to develop guideline that could be used for self, independent and third party assessments
- All sites perform self assessments on a biennial basis (INPO SOER 02-4)
 - Some use contractors for surveys/assessments
 - No industry-wide consistency
 - USA has a methodology it has used successfully for five years



9

Creating Guideline Building on USA Nuclear Safety Culture Assessment (NSCA) Process


- **USA (Utility Services Alliance) utilities (15 companies, 27 reactors)**
- **Companies outside the Alliance:**
 - Progress Energy, Constellation, Entergy
 - Tecnatom (Spain) (7 reactors)
 - Ontario Power Generation
 - Oak Ridge National Laboratory



10

The USA NSCA Process


- **Structured on INPO's *Principles and Attributes for a Strong Nuclear Safety Culture*; results are provided in that context**
- **Process includes:**
 - Pre-assessment automated survey and data review
 - Assessment of leadership and worker attitudes, opinions, and perceptions through interviews and behavioral observations



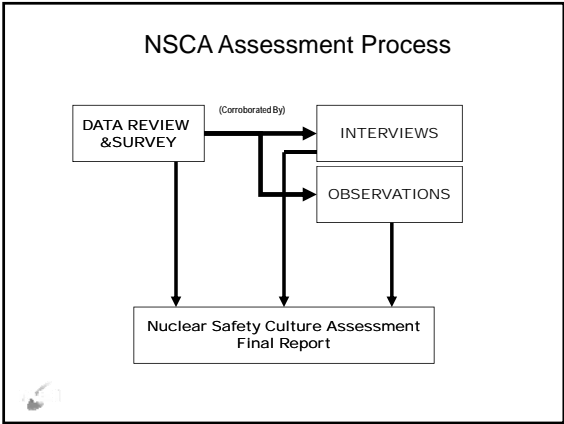
11

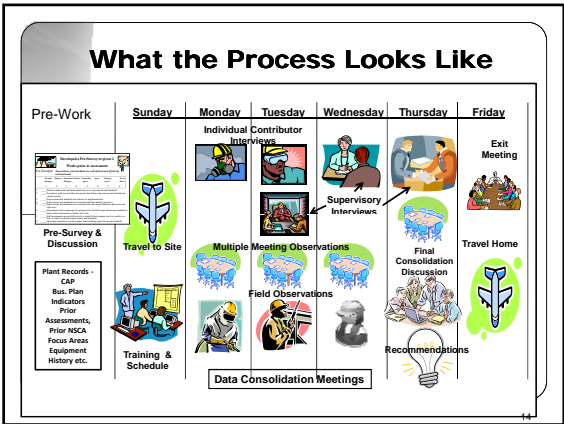
Peer-assisted Self Assessment Process

- **Team Leader, 4 evaluators and Executive Sponsor provided by alliance, similar number of host peers**
- **Pre-evaluation survey and data review**
- **Full week evaluation with Friday exit**
- **Comprehensive manual to manage data**
- **Can be scaled up for “independent” or “third party” assessment**
 - More team members
 - More independence
 - Additional focus areas



12





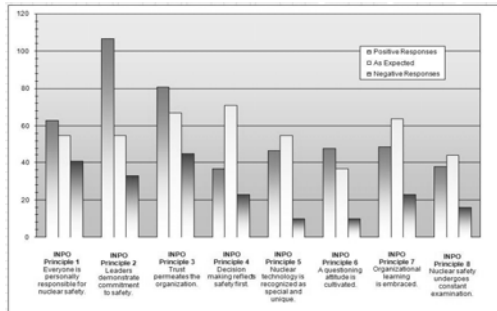
- ### Typical Coverage Pattern
- **Start with individual contributors, then supervision**
 - **Generally includes:**
 - 60 Interviews of individuals or small groups
 - Attend 10-15 different types of meetings
 - make 10-12 formal Field Observations
 - **Provides varying levels of coverage for 250-300 employees on site**
 - **Typically over 1000 data points go into profile**

Assessment Results

- Exit meeting followed by written report
- Can include other areas of Site VP interest
- Both descriptive and graphic results
- Strengths, weaknesses, recommendations
- Follow-up from previous assessment
- Entered in the CAP and/or improvement plan
- Wide communication of results



Typical Summary Graphic of Assessment



Additional graphs exist to show individual attributes of each principle 17

NSCA is Being Upgraded

- Modified to reflect three levels of assessment (self, independent and third party)
- Upgrade survey to distinguish between departments and levels in the organization
- Conduct validation of survey
- Reviewed against revised 95003



In conclusion

- **Industry is completing a guideline and manual for conducting third party, independent and self assessments**
- **USA is conducting about a dozen assessments this year**
- **Industry will provide the guideline and manual to NRC and invite NRC to observe**
- **After industry training/workshops, industry will implement the assessment approach**