

Nuclear Safety Culture Assessment

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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**

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**

The USA NSCA Process

- **Structured on INPO's *Principles and Attributes for a Strong Nuclear Safety Culture*; results are provided in that context**
- ***Safety Culture*:**
An organization's values and behaviors – modeled by its leaders and internalized by its members – that serve to make nuclear safety an overriding priority.
- **Process includes:**
 - Pre-assessment automated survey and data review
 - Assessment of leadership and worker attitudes, opinions, and perceptions through interviews and behavioral observations

Peer-assisted Self Assessment Process

- **Team Leader, 4 evaluators and Executive Sponsor provided by alliance, similar number of host peers**
- **All interviews and observations done in pairs**
- **Pre-evaluation survey profiled and explained**
- **Full week evaluation with Friday exit**
- **Final report sent in about four weeks**
- **Information managed carefully, strong systems**
- **Comprehensive manual is followed closely**
- **Can be scaled up for “independent” or “third party” assessment (more team members, more independence, additional focus areas)**

What the Process Looks Like

Pre-Work

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Developed a Pre-Survey to given 2 Weeks prior to assessment

For Example: *Expectations and standards are well defined and effectively communicated.*

Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree	Don't Know
1	2	3	4	5	6	7	8
<input type="checkbox"/>							

- Workers understand and demonstrate buy-in to expectations and standards.
- Procedures, policies and other documents that define expectations and standards are clearly written.
- Expectations and standards are realistic for implementation.
- Expectations and standards are consistent with best industry practices.
- Expectations and standards are consistent with and support business plan goals and objectives.
- Departments and workgroups use progressively detailed expectations and standards to link worker performance to higher tier goals.
- Self-assessments are used effectively to identify shortcomings (such as conflicts or lack of clarity) in defined expectations and standards.
- Operating experience is used as input when defining expectations and standards.

Pre-Survey & Discussion

Plant Records - CAP
Bus. Plan
Indicators
Prior Assessments,
Prior NSCA
Focus Areas
Equipment
History etc.



Travel to Site



Training & Schedule

Individual Contributor Interviews



Multiple Meeting Observations



Field Observations



Supervisory Interviews



Final Consolidation Discussion



Recommendations



Exit Meeting



Travel Home



Data Consolidation Meetings

Tools Utilized

- **Assessment Manual**
- **9 Questionnaire Booklets**
- **Pre-survey Data**
- **Pre-read data/information provided by plant**
- **Computerized data entry system (access database)**
- **Computerized tracking of attributes covered**
- **Spreadsheet producing report graphics**
- **Various templates, checklists, observation lists**

Pre-Assessment Survey

- Questions based on INPO Principles and Attributes
- Usually given to entire plant population; have had 60-80% response rate
- Two-three weeks to complete
- Will add capability to distinguish by organization level and department
- Prior to assessment the summary findings of the survey are reviewed, as well as selected documents
- Thursday of assessment week data is re-reviewed and compared to data from interviews & observations

Interviews and Behavioral Observations are Derived from INPO Principles and Attributes

- Multiple questions on 56 attributes and eight principles
- Added question category on work management
- Nine Questionnaire Booklets:
 - Senior Manager
 - Mid Level Manager
 - First line Supervisor
 - Craft
 - Oversight
 - Engineering
 - Operations
 - Security
 - Behavioral Observations

Typical Coverage Pattern

- **Start with individual contributors before moving into supervision**
- **Generally have around 60 interviews of individuals or small groups**
- **Typically attend 10-15 different types of meetings**
- **Typically 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**

Scoring of Interviews and Observations

- **Use 3-point system**

+ = exceeds industry performance expectations

0 = is on track with industry performance expectations

-- = is below industry performance expectations

All + or – scores must be accompanied by examples that explain in behavior terms the variance

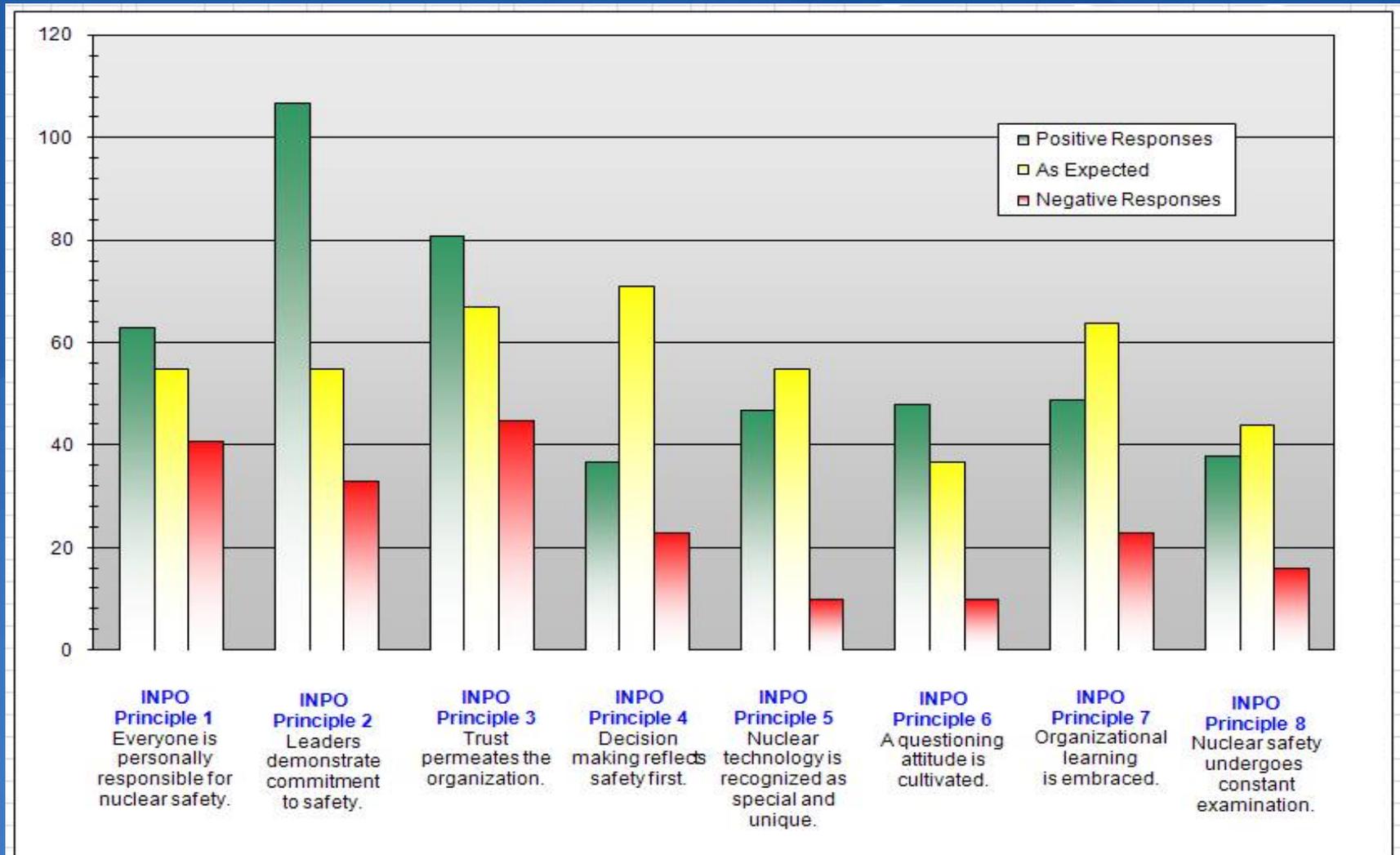
Industry performance expectations are agreed to by the 2-person teams with the remainder of the assessor group as consultants where required.

Assessment Results

- **Presented at exit meeting; written report in about four weeks**
- **Organized by INPO Principles and Attributes**
- **Can include other areas of Site VP interest**
- **Includes both descriptive and graphic results**
- **Strengths, weaknesses, recommendations**
- **Follow-up of weaknesses from previous assessment**
- **Entered in the CAP and/or improvement plan**

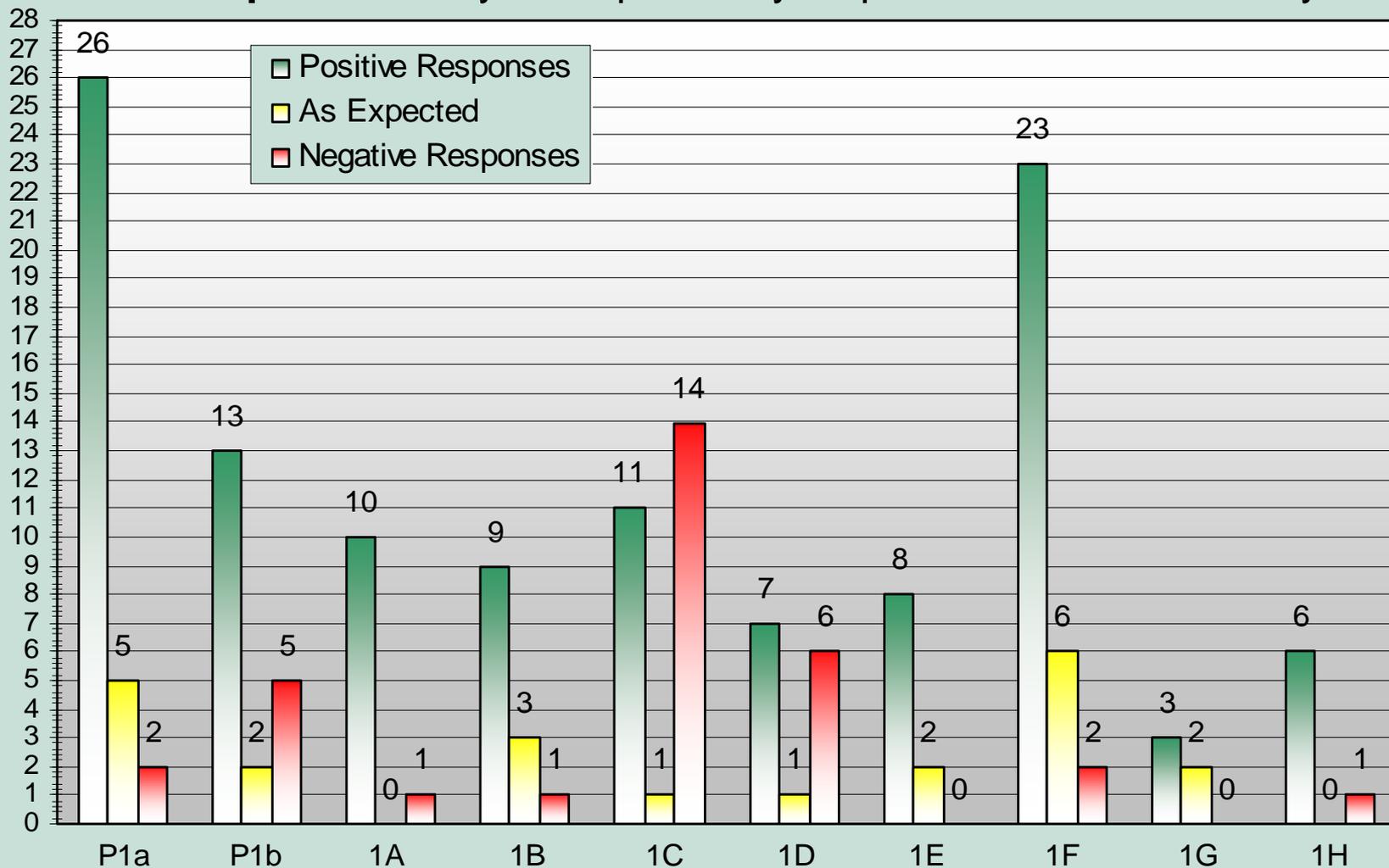
 **Wide communication of results**

Typical Summary Graphic of Assessment



Summary includes breakdown of attributes for each principle

INPO Principle P1: Everyone is personally responsible for nuclear safety.



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**