



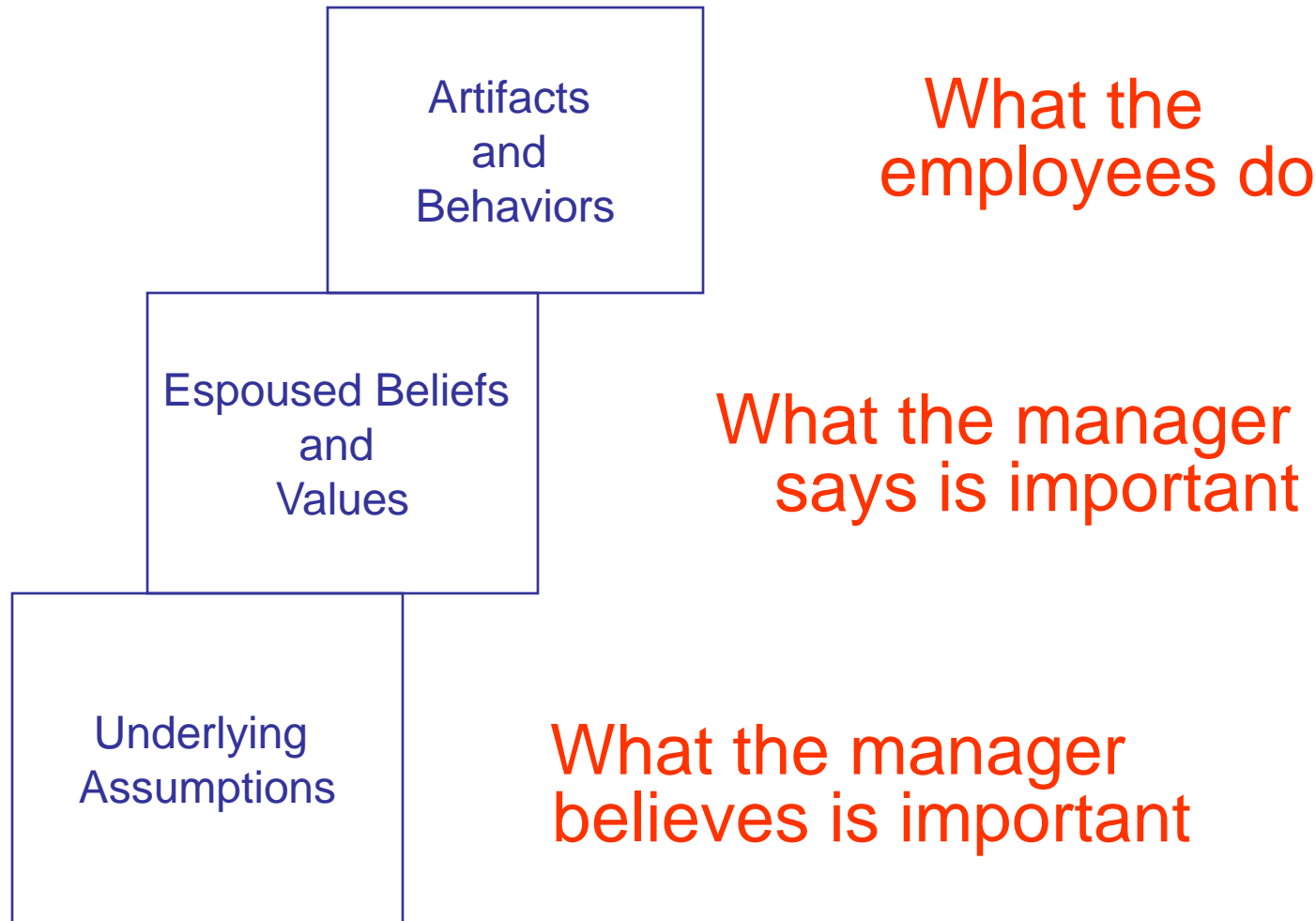
# **Assessing Safety Culture**

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# Quick Review of Levels of Culture

(misalignment indicates unhealthy safety culture)



# Healthy/Strong Safety Culture

Exists when Underlying Assumptions Line up with  
Espoused Values which Line up with Artifacts

## Healthy/Strong Safety Culture



*The next level of safety improvement will be the most challenging*

*Its what you do, not what you say.*

Alignment between espoused values and artifacts or behaviors indicates **employees buying-into safety culture**

Alignment between underlying assumptions and espoused values indicates **managers walking-the-talk**



# Manager's Path Forward – Safety Culture

- Understand that safety culture is the collective response of organizations to external and internal stimuli
  - Evaluation of safety culture provides an indication of the effectiveness of HRO programs
- Educate yourself on safety culture
  - Develop a common understanding of concepts & terminology
  - Sensitize yourself to indicators of safety culture bot good and bad
- Baseline your organization's current culture, decide if your HRO programs are achieving their desired results
- Change your safety culture as required

## **The Manager's Role in an HRO:**

“When we examine culture and leadership closely, we see that they are two sides of the same coin; neither can really be understood by itself . . . it can be argued that the only thing of real importance that leaders do is to create and manage culture; that the unique talent of leaders is their ability to understand and work culture; and that it is an ultimate act of leadership to destroy culture when it is viewed as dysfunctional.” (Schein, 2004)

# **Evaluating Your Organization's Safety Culture**

# Words of Wisdom When Assessing Safety Culture - I

- Organizational culture can be studied in a variety of ways
- The method one chooses should be determined by one's purpose
- Just assessing culture is as vague as assessing personality or character in an individual
- Think of the assessment in terms of the problem you want to correct – start with the end in mind
- Use the tools to get the information required to fix the problem, not necessarily to fix the culture

# Words of Wisdom When Assessing Safety Culture - II

- When human subjects are involved in culture assessments, there is a tendency for them to either
  - resist and hide data they feel defensive about or
  - to exaggerate in order to impress the observer
- Even best organizations generate “toxins” – frustrations with boss, tension over missed targets, scarce resources, etc.
  - When assessing culture, observer may find himself listening to tales of woes from frustrated employees who have no other outlet
- If culture observer has any hopes of getting an accurate picture of organization, a method must be found that encourages the insiders to “tell it like it is” rather than trying to impress the observer, hide data, or blow off steam



# Words of Wisdom When Assessing Safety Culture - II

- Observer may be seen as a nuisance, a disturbance, or an audience to whom to play
- Key point is the observer has no way of knowing which of the many possible intervention outcomes are happening and whether or not they are desirable either from a data gathering or ethical point of view
- As a result, one should examine carefully the broad range of interventions and carefully choose which method to use

Level of “Subject” Involvement	Level of “Observer” Involvement	
	Low to Medium	High
Minimal	Observations at a distance	Participant observations, symbols, artifacts
Partial	Questionnaires	Interviews
Maximal	Statistical quality tools	Clinical research, organizational development

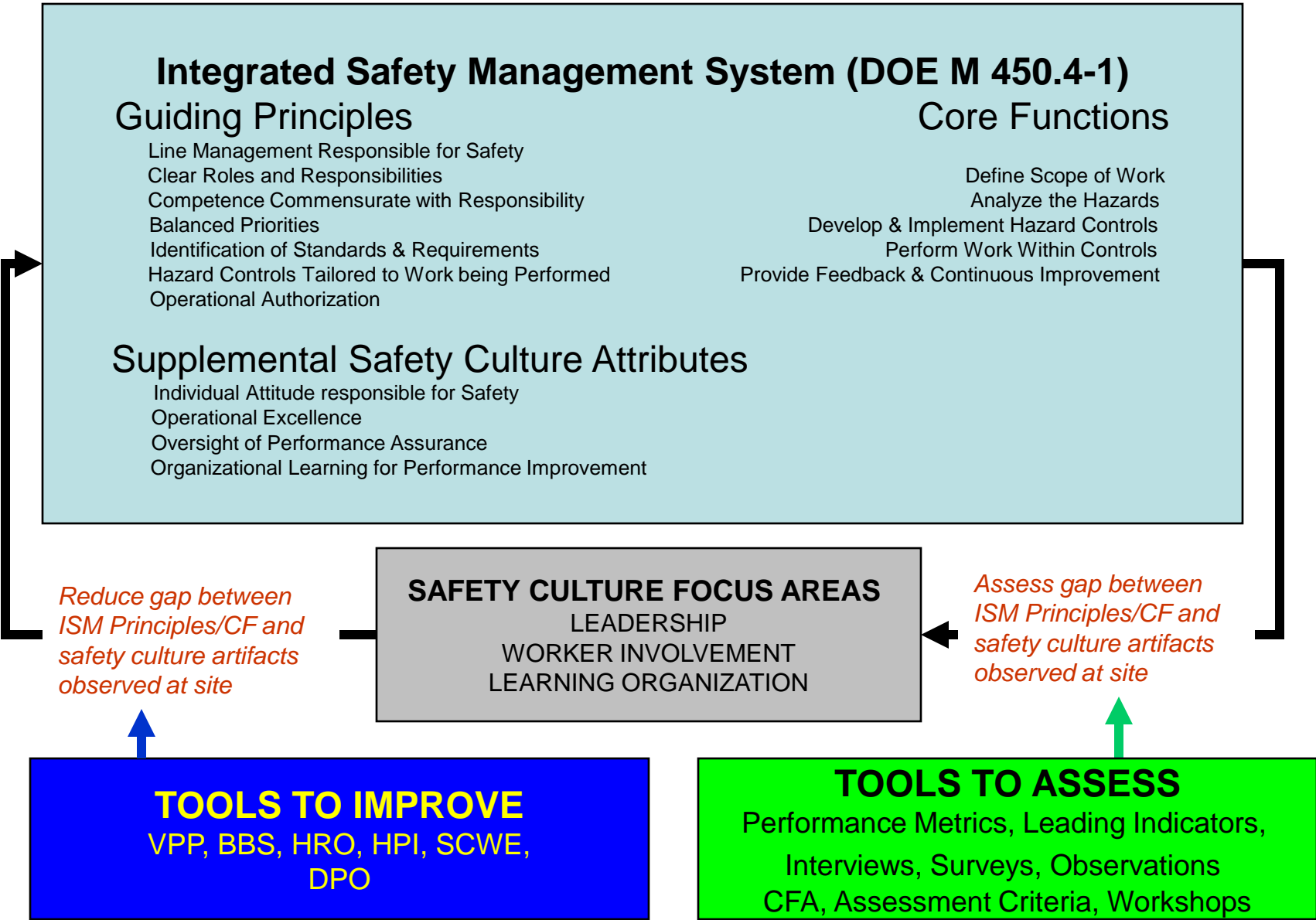
# Definition of Safety Culture

An organization's values and behaviors, modeled by its leaders and internalized by its members, which serve to make safe performance of work the overriding priority to protect the public, workers, and the environment.

*EFCOG Safety Culture Task Group, 2008*



# Continuous ISMS Improvement Thru Strengthening Safety Culture



# Safety Culture Focus Areas w/ Attributes

## (DOE M 450.4-1)

- Leadership
  - Clear expectations and accountability
  - Management engagement and time in field
  - Conservative decision making
  - Open communication/raising issues in an environment free from retribution
  - Demonstrated safety leadership
  - Staff recruitment, selection, retention, & development
- Employee/Worker Engagement
  - Personal commitment to everyone's safety
  - Teamwork and mutual respect
  - Participation in work planning and improvement
  - Mindful of hazards and controls
- Organizational Learning
  - Performance monitoring through multiple means
  - Use of operational experience
  - Trust
  - Questioning attitude
  - Reporting errors and problems
  - Effective resolution of reported problems



# Methods of Assessing Safety Culture

- Direct observations of work place behavior
- Causal Factors Analyses or Root Cause Analyses
- Surveys
- Face-to-face interviews
- Review of key safety culture related processes
- Performance indicators
- VPP assessments
- Stream analysis



# Direct Observations of Work Place Behavior

- Provide objective information regarding the effectiveness of training, management effectiveness, accountability, and behavior expectations
- May indicate whether a supervisor is receptive to concerns and supports and rewards employees for raising concerns
- Provide valuable insights into the employees' buy-in to the ISMS and their questioning attitude and willingness to challenge perceived unsafe behavior
- Provide new information on cultural phenomena, but they cannot be quantified and used for statistical purposes
- Be careful as there is the risk of over-generalization from too few observations



# Causal Factors Analysis

## (Root Cause Analysis)

- Start with facade of a perfect safety culture stripped away because investigating either
  - A serious incident or accident
  - An “information-rich” event
- Key to successfully assessing safety culture in an investigation is having good lines of inquiry.



# Characterization of Safety Culture

## MENTAL CONTENT – THE WAY WE THINK

- Attitudes
- Goals
- Visions of Excellence
- Skills
- Abilities
- Professional Principals

## NORMS – WHAT WE DO

- Question assigned work
- Recognize & report events
- Consider HP Error Precursors
- Recognize Barriers to Protect Worker
- Perform Pre-job Walk-down & Brief
- Follow Procedures

## INSTITUTIONS – HOW THINGS GET DONE

- Training
- Work Planning & Control
- Safety Management
- Operating Experience Program
- Assessments (self, mgt, independent)
- Process Ownership, Corrective Actions

## PHYSICAL ITEMS – WHAT YOU RUN INTO

- Signs
- Procedures
- Controls (administrative & engineering)
- Corrective Action Tracking (PER/ESTARS)
- Safety Analysis Reports
- PPE



# NRC Characterization of Safety Culture (Category and Component)

- **Human Performance**

- Decision Making
- Resources
- Work control
- Work Practices

- **Safety Conscious Work Environment**

- Willingness to Raise Concerns
- Preventing and Detecting Retaliation

- **Problem Identification & Resolution**

- Corrective Action Program
- Operating Experience
- Self and Independent Assessments

- **Organizational Issues**

- Accountability
- Continuous Learning Environment
- Organizational Change Management
- Safety Policies



# Surveys

- Extent of surveys vary depending on the size and organizational structure of the organization
- Results can indicate employee beliefs, attitudes, and satisfaction with key attributes and suggests ways to strengthen the safety culture
- Pre-survey communications important consideration
  - Build ownership
  - Get employees involved
  - Think through data collection and processing
  - Develop assessment criteria



# Consideration on Surveys

- In a large organization not practical to regularly hold culture focus groups with all workers, so culture surveys are necessary
- Ensure surveys measure important aspects of cultural dynamics and provide information to fix problems
- Surveys alone don't work, will only measure superficial characteristics of culture, not the deeper shared assumptions
- Surveys can indicate only in a general way whether espoused values are being met
- Focus groups are needed to identify the true culture, the “shared tacit assumptions”.
- Survey data is almost irrelevant, it's conversations around survey, and the actions based on those conversations that are important
- Surveys should not attempt to answer every conceivable culture question, because
  - hundreds of possible questions
  - not possible to discern the true culture in this manner

# Face-to-Face Interviews

- Play significant role culture assessment
- Provide data to assist survey design or to explore qualitatively the issues
- Advantages:
  - Respondent can use own words and expressions
  - Allows greater flexibility in questioning, with the possibility for follow-up questions, making it easier to get to the deeper meanings and to clarify ambiguities in meaning.
  - Provide more depth than normally available using a survey
- Disadvantages:
  - Not directly comparable with one another
  - Time consuming
  - Because based on limited sample -- can make be difficult to generalize results for the whole organization

# Review of Safety Culture Related Processes

- Corrective action programs
- Processes for raising concerns (e.g., employee concerns program, DPO)
- Human resources (e.g. disciplinary action, etc.)
- Internal and external operating experience
- Whether or not employees feel free to identify issues using the various processes available to them, whether or not these processes are viewed as effective
- Effectiveness of root cause analyses and corrective action programs
- Use of self-assessments
- Worker participation in work planning and feedback



# Review of Safety Culture Related Processes

- Typically done by reviewing documentation
  - Organizations within DOE generally possess an extensive hierarchy of documentation
- Employees may be involved in preparation of documents relevant to their work
  - Demonstrates organization recognizes employee involvement is desirable in achieving better performance of safe work
- Safety culture cannot be assessed by only reviewing documentation but documentary evidence can reinforce information gained from other methods of assessment



# Performance Indicators

- Provide continuous feedback on health of an organization's safety culture as opposed to assessments which represent a snapshot in time
- Although no single indicator is sufficient in itself to identify the state of the safety culture, monitoring trends in various characteristics of safety culture with performance indicators as a function of time may provide insights into strengths and weaknesses
- Complexity and number of performance indicators depend on the size and organizational structure of the organization
- Identify a portfolio of indicators that measure important characteristics of a positive safety culture as provided in the three focus areas of this presentation



# Examples of Performance Indicators

- Leadership:
  - Number of deferred capital improvements
  - Average age and number of temporary modifications
  - Average overtime hours per person by department
  - Number of root causes due to non conservative decision making
- Employee/Worker Engagement:
  - Percentage of Alternate Process resolutions that meet timeliness goals
  - Percentage of personnel who have received initial & refresher training
  - Number and type of concerns raised to Alternate Processes and DOE
  - Number of Harassment, Intimidation, Retaliation, and Discrimination (HIRD) allegations
- Organizational Learning :
  - Number of repeat equipment failures in safety systems
  - Percentage of risk significant equipment that is assessed periodically (e.g. system health reports)
  - Percentage of Operational Experience evaluations that result in safety improvements or corrective actions
  - Number of condition reports written to review systems and procedures against Operational Experience
  - Number of repeat findings in self-assessments
  - Percentage of recommendations implemented as result of self-assessments
  - Number of corrective action program backlog
  - Number and significance of repeat events
  - Number of work planning deficiencies entered into the CAP
  - Percentage of pre-job reviews found unacceptable from quality assurance field observations
  - Percentage of post job reviews which identify good practices and improvements for the job
  - Percentage of events that are the result of violations (including administrative violations)



# Performance Indicators

- Advantages

- Continuous feedback, allows trends to be detected
- Managers pay greater attention to what is being measured -- use of safety culture indicators will increase their interest in areas
- Safety culture is an important aspect of organizational life hence it should be treated like other important aspects and measured

- Disadvantages

- Safety culture is complex and no obviously satisfactory measures exist, thus any attempt at measurement must be indirect
- Some elements of safety culture such as basic assumptions may be unconsciously held and present great difficulties for measurement
- Managers may feel little influence over trends in safety culture indicators when they have limited understanding of the concept of safety culture and the period of time needed to effect a change in safety culture



# VPP Assessments

- Assessments generally include a high level of worker participation which can provide a different perspective than typical assessments
- VPP assessment criteria include certain cultural aspects related to the three focus areas (e.g. employee involvement) that could provide valuable insights into organizational safety culture



# Words of Wisdom When Assessing Safety Culture - IV

- Regardless of the way the cultural data is gathered, the organization can be made vulnerable through having its culture revealed to outsiders
- If the organization's culture becomes known to outsiders either through publication or conversations, the organization or some of its members may be put to a disadvantage because data that would normally remain private not becomes public

**Analogy: If safety culture is to an organization as character is to an individual, how would you feel if your personality profile was published for all to see?**

# Words of Wisdom When Assessing Safety Culture - V

- If an organization is to understand its own strengths and weaknesses and to make informed strategic choices based on realistic assessments of external and internal factors, it must at some point assess and understand its own culture
- Note, however the process is not without risks:
  - Analysis of culture could be incorrect
  - Organization might not be ready to receive feedback about its culture

Analogy: If safety culture is like character – functioning in part as a set of defensive mechanisms to help avoid anxiety – conditions might make organization reluctant to accept cultural truth about itself.

# Words of Wisdom When Assessing Safety Culture - VI

- A potentially more dangerous risk is that some members will achieve instant insight and automatically and thoughtlessly attempt to produce changes in the culture that:
  - Some members may not want
  - Some members may not be prepared for
  - May not solve the root problem

Analogy: One reason people avoid therapy is that they are not ready for the insights that therapy brings. Insight sometimes produces change “automatically” because certain illusions and defenses can no longer be use.

# Words of Wisdom When Assessing Safety Culture - VII

- To study culture and reveal that culture to insiders can be likened to invasion of privacy, which under many circumstances is not welcome
- Therefore students of culture should make their client fully aware that there are consequences of having elements of one's culture laid bare

## Two keys to be successful at culture change:

- **Be prepared to handle large amounts of anxiety that may accompany relearning → mgt involvement a must !!!!!**
- **Determine if genetic potential for learning is present**

# Steps to Assess Safety Culture

- Review the Safety Culture Focus Areas and Attributes
- Review the ISM Guiding Principles and Supplemental Safety Culture Elements identified in the ISM Manual for additional clarification
- Assess the Safety Culture Focus Areas using the associated attributes with any of the tools and techniques introduced



# Why Safety Culture is Important to ISM

