

# 2012 Hanford Organizational Climate and SCWE Survey

ORP Site

Findings Report

October 4 2012



# Survey Purpose

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- DOE tasked EurekaFacts to conduct a Hanford site-wide (federal and contractor) employee survey
- Purpose - evaluate current state of Hanford's
  - Organizational Climate
  - Safety Culture
  - Safety Conscious Work Environment (SCWE)
  - Establish a baseline to develop and measure continuous improvement effort

# Study Description

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- 2012 Hanford organizational survey was conducted between June 6, 2012 and 27, 2012.
- Data were gathered through an online and hard copy survey
- All Hanford employees, DOE employees and contractor personnel were asked to participate.
- Average survey completion time 25 min.
- In total, 6,532 Hanford employees participated in the survey.
- A total of 3,047 employees at the ORP Site participated in the survey.

# Survey Description

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- Survey measures organizational and safety climate by examining 4 focus areas, and 21 factors
- Focus Areas:
  - Leadership Involvement
  - Employee Engagement
  - Organizational Learning
  - Safety Conscious Work Environment (SCWE)
- 4 organizational outcomes, that provide independent measures of organizational climate
- Each of the factors is measured by 3-5 questions/rating statements
- Question/Statements rated on a scale of 1 to 5, where 5 is the most positive score, 1 is the lowest (most negative score), and 3 is neutral.
- The focus areas and factors included in the survey are based on the model of safety culture in DOE G 450.4-1C, *ISM Safety Focus Areas and Associated Attributes*

# Focus Areas and Factors

Focus Areas	Commitment to:	Factors
Leadership Involvement	Safety through actions, a culture that values safety, a workplace free from harassment, opportunities to improve skills, and clearly defined job- and safety-related roles and responsibilities.	Demonstrated Safety Leadership Risk-Informed, Conservative Decision Making Management Engagement and Time in Field Staff Recruitment, Retention, and Development Open Communication and Environment Free from Retribution Clear Expectations and Accountability
Employee Engagement	Safety, teamwork, and active involvement in planning and improvement of work practices, and identification and prevention of hazards.	Personal Commitment to Everyone's Safety Teamwork and Mutual Respect Participation in Work Planning and Improvement Mindfulness of Hazards and Controls Job Characteristics
Learning Organization	Continuous improvement, effective problem resolution, sharing and utilization of operational experience, free expression of differing opinions, and respect from co-workers, and managers.	Credibility, Trust and Error Reporting Effective Resolution of Reported Problems Performance Monitoring Through Multiple Means Use of Operational Experience Questioning Attitude Effective Safety/General Communication
Safety Conscious Work Environment	An environment where employees feel free to raise concerns to their management and/or a regulator without fear of harassment, intimidation, retaliation or discrimination.	Management Support/Encouragement to Raise Safety Concerns Internal Avenues of Redress Alternate Problem Identification Processes Detection & Prevention of Retaliation

# Survey Design Process

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- Review of Current Research
- Survey Instruments Review and Mapping (instruments used in nuclear industry and industries related to Hanford's activities; instruments used by DOE and DOE contractors, the NRC, the NEI, and the NPO)
- Expert review
- Pre-test of electronic and hardcopy version of survey
- Reliability analysis:
  - The reliability assessment shows how precisely the questionnaire measures the safety climate factors
  - Most widely used index – Cronbach alpha (estimation of internal consistency)
  - The widely-accepted rule is that Cronbach's alpha should be .70 or higher
- Cronbach alpha ranges 0.91 – 0.97 and indicate very high reliability of the instrument

# Analysis and reporting

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- Analyzed the data using descriptive and advanced analytics including reliability, correlation, factor analysis, regression, means testing, and ANOVA.
- Factor and regression analysis shows the drivers of 21 climate factors and three organizational outcomes
  - The report examines overall climate, drivers of climate, views by factor, sub-organization and employee categories.
  - Comparisons to the overall Hanford site are made.
  - Comparisons to three benchmarks: US National Norm, US Transitioning Companies Norm, and US Engineering and Construction Companies Norm.

# Overall ORP Site Ratings

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- The overall rating for the ORP Site is 4.07 on a 5-point scale.
- All the ratings of the organizational and safety climate focus areas for the overall ORP site are slightly higher than 4.0 and are in the range of 4.03 to 4.12 on a 5-point scale
- The focus area scores for the ORP Site are not significantly different than the scores for the Overall Hanford Site.

Focus Area	Overall Hanford	ORP Site	
	Mean	Mean	Diff
Leadership Involvement	4.04	4.06	0.03
Employee Engagement	4.12	4.12	-0.01
Learning Organization	4.04	4.06	0.02
Safety Conscious Work Environment	4.00	4.03	0.02

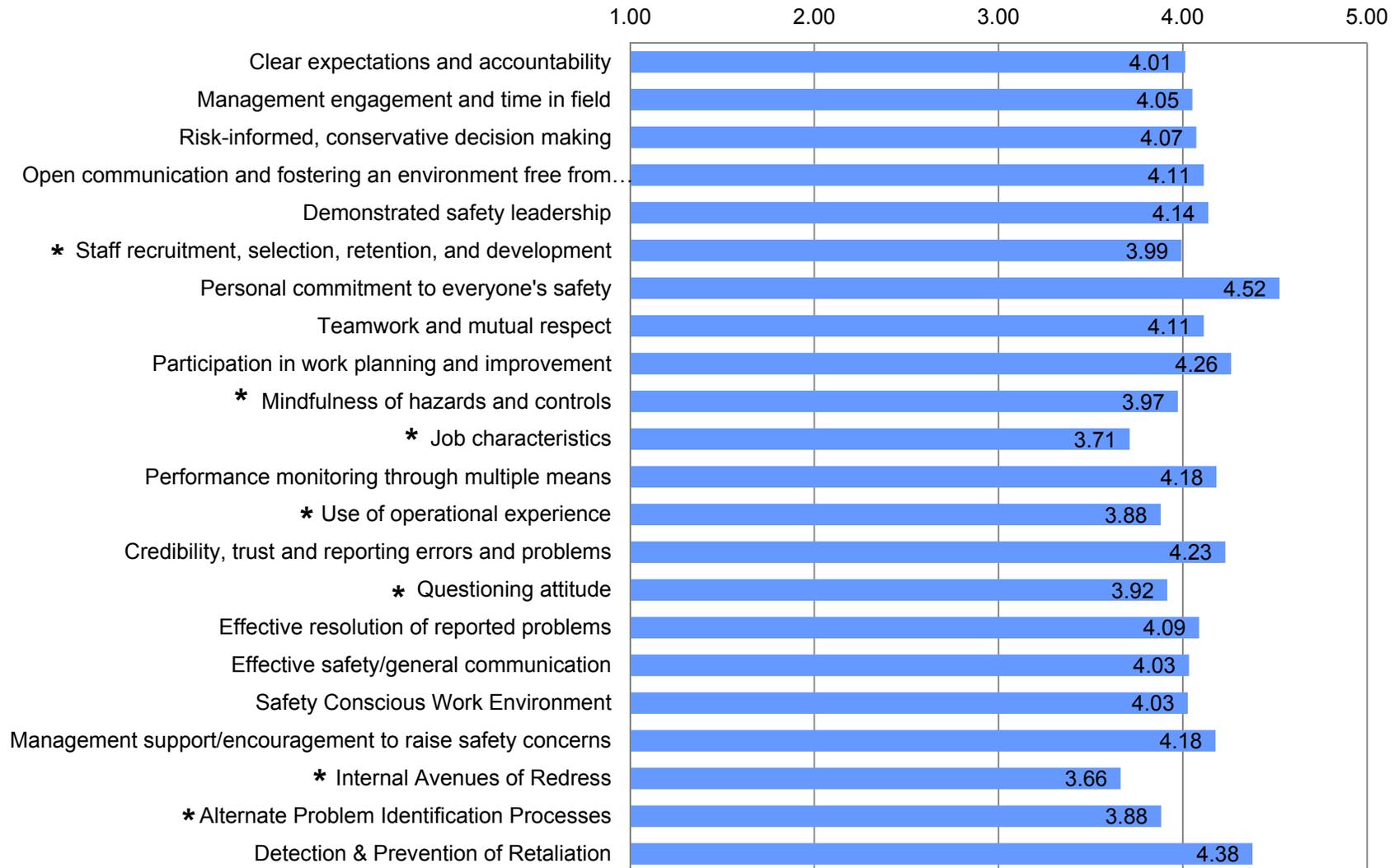
# Overall ORP Site Ratings

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- Seven factors at the ORP Site-level are below 4.0 :
  - Leadership Involvement focus area (1 factor):
    - Staff Recruitment, Selection, Retention and Development
  - Employee Engagement focus area ( 2 factors):
    - Mindfulness of Hazards and Controls, and Job Characteristics
  - Learning Organization focus area (2 factors):
    - Use of Operational Experience, Questioning Attitude
  - SCWE focus area (2 factors)
    - Internal Avenue of Redress, and Alternate Problem Identification Processes
- Factors have ratings in the mid-range (3.66 - 3.99)
  - Ratings less than 4.0 are less desirable among high-performing organizations
  - Reflect only moderate agreement that desirable climate characteristics exist
  - Indicate a need for growth

# ORP Site Factors Ratings



# What Drives ORP Site Climate?

A factor analysis shows that some factors have much more effect on overall climate than others.

Impact	Organizational and Safety Climate Factors	Focus Areas
Very High Impact	Open Communication and Environment Free From Retribution	Leadership Involvement
	Credibility, Trust, And Reporting Error And Problems	Organizational Learning
	Demonstrated Safety Leadership	Leadership Involvement
	Performance Monitoring Through Multiple Means	Organizational Learning
	Management Support To Raise Safety Concerns	SCWE
	Effective Resolution of Reported Problems	Organizational Learning
	Staff Recruitment, Selection, Retention, And Development	Leadership Involvement
	Management Engagement And Time In Field	Leadership Involvement
High Impact	Questioning Attitude	Organizational Learning
	Use Of Operational Experience	Organizational Learning
	Clear Expectations And Accountability	Leadership Involvement
	Internal Avenues Of Redress	SCWE
	Teamwork and Mutual Respect	Employee Engagement
	Participation In Work Planning And Improvement	Employee Engagement
Moderate/Low Impact	Detection and Prevention Of Retaliation	SCWE
	Personal Commitment To Everyone's Safety	Employee Engagement
	Effective Safety/General Communication	Organizational Learning
	Mindfulness Of Hazards And Controls	Employee Engagement
	Alternate Problem Identification Processes	SCWE
	Job Characteristics	Employee Engagement

# High-Impact Factors Implications

- Focus on high-impact factors with ratings below overall ORP Means

	ORGANIZATIONAL AND SAFETY CLIMATE FACTORS	ORP Site	
		Mean	Diff <sup>1</sup>
<b>Very High Impact</b>	Open Communication and Environment Free From Retribution	4.11	▲
	Credibility, Trust, And Reporting Error And Problems	4.23	▲
	Demonstrated Safety Leadership	4.14	▲
	Performance Monitoring Through Multiple Means	4.18	▲
	Management Support To Raise Safety Concerns	4.18	▲
	Effective Resolution of Reported Problems	4.09	
	Staff Recruitment, Selection, Retention, And Development	3.99	▼
	Management Engagement And Time In Field	4.05	
<b>High Impact</b>	Questioning Attitude	3.92	▼
	Use Of Operational Experience	3.88	▼
	Clear Expectations And Accountability	4.01	▼
	Internal Avenues Of Redress	3.66	▼
	Teamwork and Mutual Respect	4.11	▲
	Participation In Work Planning And Improvement	4.26	▲
<b>Moderate/Low Impact</b>	Detection and Prevention Of Retaliation	4.38	▲
	Personal Commitment To Everyone's Safety	4.52	▲
	Effective Safety/General Communication	4.03	▼
	Mindfulness Of Hazards And Controls	3.97	▼
	Alternate Problem Identification Processes	3.88	▼
	Job Characteristics	3.71	▼
<b>Overall ORP Site Mean</b>			4.07

# High-Impact Factors Implications

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- Five factors with high impact, have means below the overall ORP mean, indicating that the relative importance of those factors combined with the relatively low scores is repressing overall ORP ratings.
  - Staff Recruitment, Selection, Retention, and Development, Questioning Attitude, Use of Operational Experience, Clear Expectations and Accountability, and Internal Avenue of Redress
- Four high impact factors are below 4.0
  - Staff Recruitment, Selection, Retention, and Development, Questioning Attitude, Use of Operational Experience, Internal Avenue of Redress
- The relative importance of those factors combined with the relatively low scores is repressing overall ORP ratings.

# High-Impact Factors Implications

- Focus on high-impact factors with ratings below overall ORP mean.
- Seven factors with very high impact have scores higher than the 4.0, which indicate organization-wide agreement with the presence of a positive climate and are driving the results in a positive direction
- One high-impact factor has mean below overall ORP mean.

	ORGANIZATIONAL AND SAFETY CLIMATE FACTORS	ORP Site	
		Mean	Diff <sup>1</sup>
<b>Very High Impact</b>	Open Communication and Environment Free From Retribution	4.11	▲
	Credibility, Trust, And Reporting Error And Problems	4.23	▲
	Demonstrated Safety Leadership	4.14	▲
	Performance Monitoring Through Multiple Means	4.18	▲
	Management Support To Raise Safety Concerns	4.18	▲
	Effective Resolution of Reported Problems	4.09	
	Staff Recruitment, Selection, Retention, And Development	3.99	▼
	Management Engagement And Time In Field	4.05	
<b>Overall ORP Site Mean</b>			<b>4.07</b>

# High-Impact Factors Implications

- Focus on high-impact factors with ratings below overall ORP mean.
- Five factors with high impact, have means below the overall ORP mean
- Three high-impact factors are below 4.0 score.
- The relative importance of those factors combined with the relatively low scores is repressing overall ORP ratings.

	ORGANIZATIONAL AND SAFETY CLIMATE FACTORS	ORP Site	
		Mean	Diff
<b>High Impact</b>	Questioning Attitude	3.92	▼
	Use Of Operational Experience	3.88	▼
	Clear Expectations And Accountability	4.01	▼
	Internal Avenues Of Redress	3.66	▼
	Teamwork and Mutual Respect	4.11	▲
	Participation In Work Planning And Improvement	4.26	▲
<b>Overall ORP Site Mean</b>			4.07

# High-Impact Factors Implications

- These six factors have the lowest impact on employees' views
- Indication that Hanford employees feel that these issues are already being addressed, or the issues discussed above may be more pressing.
- Although improvements to these factors are important, it may be more advantageous to concentrate on the factors mentioned above.

	ORGANIZATIONAL AND SAFETY CLIMATE FACTORS	ORP Site	
		Mean	Diff <sup>1</sup>
<b>Moderate/Low Impact</b>	Detection and Prevention Of Retaliation	4.38	▲
	Personal Commitment To Everyone's Safety	4.52	▲
	Effective Safety/General Communication	4.03	▼
	Mindfulness Of Hazards And Controls	3.97	▼
	Alternate Problem Identification Processes	3.88	▼
	Job Characteristics	3.71	▼
<b>Overall ORP Site Mean</b>			4.07

# The Organizational Climate Outcomes

- The Organizational Climate Outcomes were measured based on the four factors.
- These outcomes were proven by research and best practices as important end-states of positive organizational climate.
- Provide independent but related measures for organizational climate.

Factors	Question/Ratings Statements
Work Environment	The work environment in my company has improved over the past year.
Organizational Trust	I trust my company to do the right things to protect environmental and public safety.
	I trust my company to do the right things to protect workers' safety and health.
Overall Satisfaction	I would recommend my company as a good place to work.
Senior Management Assessment	In your judgment, with all things considered, how good a job is your senior management doing:
	a) Stating objectives clearly
	b) Establishing priorities
	c) Making decisions promptly
	d) Providing leadership
	e) Communicating with people

# The Organizational Climate Outcomes

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- The ORP Site received ratings below 4.0, on two organizational outcomes: Work Environment Assessment and Senior Management Assessment.
- These ratings, however are significantly above the Overall Hanford mean, as is a Overall Satisfaction with the Organization.
- Three out of four organizational outcomes ratings for the ORP site are significantly higher than Overall Hanford ratings.

Organizational Outcomes	Overall Hanford	ORP Site	
	Mean	Mean	Diff
Work Environment Assessment	3.39	3.46	0.08 ▲
Organizational Trust	4.07	4.15	0.08 ▲
Overall Satisfaction with Organization	4.04	4.09	0.05 ▲
Senior Management Assessment	3.55	3.58	0.02

# The Overall Focus Areas by Organizations

- The mean scores for the focus areas range from 3.84 to 4.14 across ORP Site organizations.
- Only one organization – DOE-ORP – has results significantly different, and lower than the ORP site.

MEAN SCORES BY ORP ORGANIZATIONS									
Focus Area	ORP Site	DOE-ORP		ATL		BNI/URS		WRPS	
	Mean	Mean	Diff	Mean	Diff	Mean	Diff	Mean	Diff
Leadership Involvement	4.06	3.96		4.07		4.05		4.10	
Employee Engagement	4.12	4.00		4.11		4.11		4.14	
Learning Organization	4.06	3.84	▼	4.06		4.05		4.10	
Safety Conscious Work Environment	4.03	4.02		4.04		4.03		4.03	

# The Outcomes Scores by Organizations

- WRPS ranks significantly higher on two organizational outcomes than ORP Site: Work Environment and Senior Management Assessment.
- DOE-ORP ranks lower than ORP Site on two organizational outcomes: Senior Management Assessment and Overall Satisfaction with Organization.
- ATL ranks lower than ORP Site on one outcome – Work Environment Assessment.

MEAN SCORES BY ORP ORGANIZATIONS									
Organizational Outcomes	ORP Site	DOE-ORP		ATL		BNI/URS		WRPS	
	Mean	Mean	Diff	Mean	Diff	Mean	Diff	Mean	Diff
Work Environment Assessment	3.46	3.33		3.04	▼	3.40		3.62	▲
Organizational Trust	4.15	3.99		4.21		4.16		4.12	
Overall Satisfaction with Organization	4.09	3.74	▼	3.91		4.13		4.08	
Senior Management Assessment	3.58	3.23	▼	3.52		3.54		3.69	▲

# Comparison to External Benchmarks

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- The 2012 SCWE Survey includes a group of questions that match those of external surveys
- These questions are linked to Towers Watson standardized normative data.
- Frame of reference or benchmark to compare Hanford site climate to other organizations.
- The ORP Site-level results for these questions are compared to three benchmarks: U.S. National Norm, U.S. Transitioning Companies Norm, and U.S. Engineering and Construction Companies Norm.

# Comparisons to the U.S. National Norm

- ORP Site results are significantly higher on 5 questions.
- Company’s focus on prioritizing safety and quality 14% higher than national norm. Large favorable differences were noted for the stability of work objectives at - 12% above the national norm.
- ORP Site results are significantly lower on three indices than national norm
- Rating of senior leadership ability in establishing priorities is 5% lower than the national average.
- The employees’ willingness to recommend their company as good place to work is rated 1% lower than national norm.

Items	ORP Site	U.S. NATIONAL NORM	
	Mean	Mean	Diff
In your judgment, with all things considered, how good a job is your senior management doing in establishing priorities	3.58	3.78	-5% ▼
My company <i>does not</i> sacrifice the quality of our products/services in order to meet schedules/deadlines*	3.53	3.09	14% ▲
People in my immediate work group continually try to improve our performance.	4.09	4.13	-1% ▼
Priorities or work objectives are <i>not</i> changed so frequently I have trouble getting my work done*	3.24	2.88	12% ▲
My company has established an environment where people can challenge our traditional ways of doing things.	3.61	3.56	2% ▲
I would recommend my company as a good place to work.	4.09	4.13	-1%
I feel comfortable expressing differing opinions within my immediate workgroup	4.18	3.83	9% ▲
The people I work with are willing to help each other, even if it means doing something outside their usual activities.	4.33	4.16	4% ▲

# Comparisons to U.S. Transitioning Companies Norm

- ORP Site stands above the average benchmark level in all except one category.
- The stability of work objectives assessed far above the transitioning companies average.
- Large favorable differences were noted for the stability of work objectives and comfort in expressing differing opinions and company focus on prioritizing safety and quality .
- The senior management rating is significantly lower than national average.

Items	ORP Site	U.S. TRANSITIONING COMPANIES NORM	
	Mean	Mean	Diff
In your judgment, with all things considered, how good a job is your senior management doing in establishing priorities	3.58	3.60	-1%
My company <i>does not</i> sacrifice the quality of our products/services in order to meet schedules/deadlines*	3.53	3.11	14% ▲
People in my immediate work group continually try to improve our performance.	4.09	-	
Priorities or work objectives are <i>not</i> changed so frequently I have trouble getting my work done*	3.24	2.76	17% ▲
My company has established an environment where people can challenge our traditional ways of doing things.	3.61	3.50	3% ▲
I would recommend my company as a good place to work.	4.09	3.96	3% ▲
I feel comfortable expressing differing opinions within my immediate workgroup	4.18	3.67	14% ▲
The people I work with are willing to help each other, even if it means doing something outside their usual activities.	4.33	4.10	6% ▲

# Comparisons to U.S. Engineering and Construction Companies Norm

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- For this industry, the normative data exist only for three questions.
- ORP Site employees were more favorable in assessing their company's environment in terms of their ability to challenge traditional ways of doing things and coworkers willingness to help each other even if it requires additional effort.
- ORP Site results do not differ from the benchmark in terms of employee's willingness to recommend company as good place to work.

# Key Drivers of Organizational Outcomes

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- Key driver analysis is a statistical technique that provides an explanation of which safety climate factors have the largest influence on employee's perceptions of key organizational outcomes.
- For each outcome, the analysis identified a unique combination of key drivers that have the highest impact on employees' perceptions of organizational outcomes.
- Three factors have consistent significant and high impact across all outcomes, which indicate their large importance for employees' attitudes.
- These factors include: Demonstrated Safety Leadership, Staff Recruitment, Selection, Retention and Development, and Questioning Attitude.

# Key Drivers

- Three factors have consistent significant and high impact across all outcomes

<b>Work Environment Improvement Drivers</b>	<b>Effect</b>	<b>Sig</b>
Demonstrated Safety Leadership	0.40	✓
Use of Operational Experience	0.20	✓
Questioning Attitude	0.19	✓
Staff Recruitment, Selection, Retention, and Development	0.15	✓
<b>Organizational Trust Drivers</b>	<b>Effect</b>	<b>Sig</b>
Demonstrated Safety Leadership	0.53	✓
Risk-informed, Conservative Decision Making	0.26	✓
Performance Monitoring through Multiple Means	0.16	✓
Effective Resolution of Reported Problems	0.11	✓
<b>Senior Management Assessment Drivers</b>	<b>Effect</b>	<b>Sig</b>
Internal Avenues of Redress	0.31	✓
Demonstrated Safety Leadership	0.24	✓
Effective Resolution of Reported Problems	0.19	✓
Staff Recruitment, Selection, Retention, and Development	0.18	✓
<b>Overall Satisfaction with Organization Drivers</b>	<b>Effect</b>	<b>Sig</b>
Questioning Attitude	0.27	✓
Staff Recruitment, Selection, Retention, and Development	0.25	✓
Demonstrated Safety Leadership	0.20	✓

# Key Drivers of Organizational Outcomes

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- Demonstrated Safety Leadership has significant effect on three out of four organizational outcomes – Work Environment, Organizational Trust, and Senior Management Assessment.
- Staff Recruitment, Selection, Retention and Development, has significant effect on three out of four organizational outcomes – Work Environment, Senior Management Assessment, and Overall satisfaction with Organization.
- Questioning Attitude factor has significant effect on employees' perceptions of two organizational outcomes: Work Environment and Senior Leadership Performance.

# Employee's Perspectives on Safety Improvement

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- What one thing would you recommend to improve safety in your company?
- Employee's responded with 8 top common themes:
  1. Streamline the Safety System.
  2. Set clear expectation and accountability
  3. Prioritize safety over production, costs and schedule.
  4. Reduce fear of retaliation for reporting safety concerns.
  5. Improve resolution of reported problems.
  6. Address staffing and skill deficiencies resulting from layoffs.
  7. Increase communication across units and between management and workers.
  8. "Listen to the workers".

# Employee's Perspectives on Safety Improvement

## Looking More Closely Employee's Identify

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### 1. Streamline the Safety System

- A large volume and repetition of safety information
- Safety information that is irrelevant to their work
- Regulations difficult to understand
- Hard to keep track of updates to regulation
- Many safety programs and initiatives add too much complexity

### 2. Set clear expectation and accountability

- Consistent standards, expectations regardless of position

### 3. Prioritize safety over production, costs and schedule.

- Perception that pressure to meet production deadlines undermines safety

# Employee's Perspectives on Safety Improvement

## Looking More Closely Employee's Identify (cont.)

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4. Reduce fear of retaliation for reporting safety concerns
  - Perception that retaliation takes on subtle and hidden forms
5. Improve resolution of reported problems.
  - Too complicated, too much paperwork, too slow
6. Address staffing and skill deficiencies resulting from layoffs.
  - Belief that layoffs increase the risk for safety incidents.
7. Increase communication across units and between management and workers
  - Top down and laterally, to effectively reach first-line employees
8. "Listen to the workers".
  - Senior Management needs to spend more time on the floor and increase interaction with workers.

# Recommendations

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- Establish a **goal** for the ORP site. Aim for scores above a 4.0, as they indicate the presence of positive climate factors.
- To achieve goals of best performing and high reliability organizations the ORP Site need to strengthen their organizational and safety culture to set it well above the average level.
- **Focus on improving the Learning Organization focus area. Two high impact factors of these focus area received ratings below 4.0 score** and below overall ORP mean. These two factors - Use of Operational Experience and Questioning Attitude - have high impact both on the global assessment of organizational and safety culture and organizational climate outcomes.
- **Focus on improving the Safety Conscious Work Environment (SCWE) focus areas. The SCWE is the lowest rated focus area.** This focus should emphasize two lowest rated factors: Internal Avenue of Redress, and Alternate Problem Identification Processes.

# Recommendations

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- Focus on the factors that stand out as having a very high level of impact on the organizational environment, but lower than desirable scores:
  - Staff Recruitment, Selection, Retention, and Development,
  - Questioning Attitude,
  - Use of Operational Experience,
  - Clear Expectations and Accountability,
  - and Internal Avenue of Redress
- These factors the best opportunities for improvement because positive changes will have the most impact on the overall scores of the organization, the overall quality of ORP site organizational and safety climate.

# Follow-up

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- We recommend that DOE and each respective parent organization **offer organizational improvement workshops to members of its leadership teams to:**
  - Determine relative areas of strengths and weaknesses for each respective organizational unit.
  - Prioritize initiatives to target improvements.
  - Require commitments from each organizational unit for improvements that they can define based on the unique needs of each command and location.
  - Assign ownership and responsibility, such as under the human capital initiatives or through “Tiger Teams” with specific assignments.
  - Track improvements and results over time through appropriate available mechanisms to ensure accountability for results.
  - Re-survey within 12 months, to see if employee concerns in open end comments were addressed.