The International Regulators' Forum Culture Study Report (2016/17)

The IRF culture study aimed to test the suite of North American Regulators Working Group on Safety Culture (NARWGSC) indicators against the following evaluation criteria:

Validity. The indicators should be associated and predictive of an organization's safety culture. While it was not feasible to test outcome validity in this study, expert judgement and theoretical arguments were used to confirm validity. The face validity of the indicators was also evaluated.

Usability. The indicators should be easy to use and not cumbersome and the user should be able to easily capture the information required to make a judgement on the indicator.

General Approach

The research was conducted in multiple phases. The first phase of the project captured general regulator perspectives on how safety culture indicators might be employed in the various jurisdictions. Executive management from each of the regulators were asked to complete a questionnaire regarding their agencies' existing regulatory framework and how safety culture indicators might be best used in the future. This information was used as context for the project outputs and recommendations.

The second phase of the project consisted of a review of the suite of indicators by a group of international safety culture experts; this phase was designed to test the general validity of the indicators.

The third phase of the project included an online survey of several industry associations across multiple jurisdictions. A number of offshore industry associations from the United Kingdom, United States, Mexico, Canada, and The Netherlands were invited to participate in this evaluation. The survey asked for a rating of 39 of the original 90 indicators; these 39 were most highly rated by the subject matter experts during Phase II of the project. The results of this assessment were compared with those of phase II to determine if there were considerable differences in the evaluation and feedback.

Study Findings – Phase I, II, and III

Phase I Findings: Regulator Perspectives on Safety Culture Activities

The regulator surveys revealed the following key points:

▶ Some regulators noted that they already have culture-focused activities and interventions while others are just beginning exploration of how to best incorporate cultural considerations into their regulatory approach; and
▶ There are more commonalities than differences in terms of the regulators' desire to consider organizational culture and its impact on safety and environmental protection.

Phase II Findings: Subject Matter Expert Evaluation

Twelve international safety culture experts from academia and other high hazard industries (e.g. nuclear power) completed the survey that focused on the validity of each of the 90 indicators included in the NARWGSC suite. Each individual indicator was assessed based upon the degree to which it reflected an organization's safety culture. The indicators were evaluated as *poor* (indicator is not associated with a positive safety culture)*, good* (indicator is associated with a positive safety culture), or *significant* (indicator is strongly associated with a positive safety culture and is a critical part of a positive safety culture*).* The survey results indicated:

▶ There was broad acceptance of the indicators by the experts with 90% of the indicators being rated as *good* or *significant* (total of 83 indicators);
▶ Nine indicators were rated as *poor* and subsequently rejected from the study; and
▶ Comments from the expert panel suggested that minor edits to a selection of the indicators would improve clarity and strength.

The research team developed a set of criteria to further reduce the remaining 83 indicators to a more manageable subset. A secondary usability assessment was conducted for each indicator; this assessment noted the ease with which indicator evidence could be identified and collected during typical regulatory interactions (e.g., inspections, audits, investigations, company meetings). The 83 indicators were reduced to 39 using the following evaluation criteria:

1. The chosen subset was representative of the four positive cultural dimensions (i.e., committed safety leadership, vigilance, empowerment and accountability, resiliency);
2. A minimum of 50% of experts rated the selected indicators as *significant* with less than 10% of the experts rating them as *poor*;

3. All indicators noted as difficult in the usability assessment were rejected; and
4. Any indicators noted as similar in category were also rejected.

Please see Appendix A – yellow highlighted indicators represent the sub-set of 39 indicators.

Phase III Finding: Sampling of Industry Association Feedback

Industry associations from Mexico, The Netherlands, the United States, Canada, and the United Kingdom were invited to participate in the study. Associations from each of the jurisdictions completed the survey with the exception of Canada.

The association surveys[*] revealed the following notable findings:

▸ There was general consistency between the industry associations and the (Phase II) subject matter expert ratings (of *good* or *significant*) in the case of 28 of the 39 indicators. These 28 indicators are denoted with the symbol ♦ in Appendix A.
▸ There was no consistency in the negative ratings (*poor*) of the indicators. As a result, the association ratings did not provide adequate data to support a reduction in the list of 39 indicators.
▸ Several associations provided comments regarding the indicators that they rated as *poor* – the remarks suggest that an indicator may not be *poor* in and of itself, but rather it may be context-specific and may require some customization (i.e., may need to be adapted for a specific company or operation).
▸ When asked to describe association initiatives designed to advance safety culture, the efforts described tended to relate more specifically to human factors' improvement efforts.

Aggregate Results

1. Regulatory agencies are at various stages with respect to regulatory adoption of safety culture initiatives.
2. Overall, the indicators received positive ratings regarding face validity (provided by association evaluation) and positive ratings of construct validity (provided by subject matter expert evaluation).

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[*] Please note that the researchers were unable to use data from the Dutch jurisdiction due to receipt of responses from multiple stakeholders (regulators, companies, and industry associations) that could not be adequately parsed.

3. The study findings suggest a subset of 39 indicators could be used as a starting point for future culture research, piloting, and evaluation.
4. Competency and capacity related to safety culture remains a key factor in future safety culture advancement in the offshore industry.
5. Cultural indicators should be written in such a way that they may be interpreted and applied broadly across organizations and operational activities while still providing the necessary clarity regarding the cultural signal that is being collected.
6. In order to effectively collect evidence associated with these indicators, additional assessment methodologies would need to be developed and tested.
7. The term safety culture may be interpreted as being synonymous with human factors – there is an opportunity to increase understanding of the differences between safety culture, broader organizational factors, and human factors.

Recommendations/Next Steps

The following recommendations are offered by the Culture Working Group for consideration:

1. The IRF conduct an industry-regulator workshop on culture at the 2018 offshore safety conference, Safety 30, in Aberdeen, Scotland, UK.

2. The IRF design and develop a safety culture indicators pilot project intended to support collaborative learning across jurisdictions. Interested IRF members could apply and test the use of indicators within their respective regulatory regimes (as deemed appropriate by each agency) and share lessons learned with other members.

Appendix A: NARWGSC Suite of Safety Culture Indicators

Committed Safety Leadership		
Safety is an organizational value demonstrated by a leadership commitment and expressed by providing adequate resources, systems, and rewards to serve this end. Senior leaders recognize that commercial goals and safety can come into conflict and take measures to identify and resolve such conflicts in a transparent and effective manner. The strategic business importance of safety is reflected in the company's strategy, business plans and processes. Committed Safety Leadership Attributes: • Direct participation of leaders in the safety system • Leader inquiry, knowledge and understanding of threats • Leaders taking action to address hazards and deficiencies in the system • Leaders valuing safety efforts and expertise		

	Indicators of Significant Weakness	Indicators of Some Weakness	Indicators of Strength
1.	Leaders are not knowledgeable about the regulations, their own procedures and current worksite safety activities, issues and challenges (i.e. causes of recent incidents, results of previous audits, etc.). Their description of safety status/performance does not match with documented issues or with inspector's assessment of worksite.	Leaders are somewhat knowledgeable about the regulations, their own procedures and current safety activities, issues and challenges (i.e. causes of recent incidents, results of previous audits, etc.). There is awareness of general trends or themes but little detailed knowledge demonstrated during interactions.	Leaders are knowledgeable about the regulations, their own procedures and current safety activities, issues and challenges, such as causes of recent incidents, results of previous audits and ongoing or new safety programs.
2.	Leaders are not involved at all in incident investigations/reviews and all safety issues are delegated to safety professionals.	Leaders are involved in some incident investigations/reviews or are brought in to assist in the resolution of safety issues on an ad hoc basis.	Leaders are routinely involved in incident investigations/reviews and in resolving safety issues.
3. ♦	Leaders do not allocate specific time to safety (including engaging directly with frontline staff about safety concerns and solutions).	Some leaders dedicate a limited amount of time to safety (including speaking to the frontline about safety concerns and solutions).	All leaders routinely dedicate significant time to safety, which includes talking to frontline staff about safety concerns and potential solutions.
4. ♦	Leaders do not adhere to safety rules and procedures.	Leaders sometimes comply with safety rules and procedures, but occasionally do not adhere to them for the sake of expediency, convenience, etc.	Leaders comply with all safety rules and procedures.
5.	There is no accountable officer designated.	An accountable officer has been designated, however this individual does not have the level of authority and control for the organization's	There is an accountable officer (AO) designated. This delegation is appropriate based upon the organizational structure (i.e. the correct person is

		human and financial resources necessary to hold the position OR the appointed AO fails to demonstrate understanding of and commitment to the role.	delegated with the authority and control for human and financial resources). The AO demonstrates understanding of and commitment to the role and responsibilities. There is evidence of the AO taking action to resolve issues.
6. ♦	The AO is inaccessible to key safety personnel.	The process of contacting the AO limits direct access by staff.	Mechanisms are in place and key safety personnel are able to demonstrate that there is unfettered access to the AO to inform and advocate for appropriate resourcing to address safety issues.
7.	The AO is unaware of safety issues (including efforts to manage/mitigate concerns).	AO demonstrates some knowledge of current safety issues.	AO demonstrates knowledge of current safety issues including efforts to manage/mitigate concerns.
8.	Leaders do not attend system safety training.	There is variability across the organization. Some leaders choose to attend system safety training alongside other staff while others do not or only participate in abbreviated training for leaders.	All leaders (including AO) attend system safety training alongside other staff.
9. ♦	Leaders express and/or demonstrate an over-confidence in the safety system. They fail to inquire about what is going wrong in specific parts of the organization (i.e. seek out evidence of system weaknesses that require attention and/or resolution).	Some leaders inquire about and seek to know what is going wrong in specific parts of the organization (i.e. system weaknesses that require attention and/or resolution).	All leaders actively inquire and seek to know what is going wrong (rather than right) across the organization (i.e. system weaknesses that require attention and/or resolution).
10.	Leaders are not involved and cannot demonstrate or articulate how they and their staff contribute to the achievement of safety goals, objectives, and targets.	Some department leaders are able to demonstrate or articulate how their department's activities contribute to safety goals, objectives, and targets.	Leaders of all departments (including HR, Finance, and Procurement) can demonstrate or articulate an understanding of their personal, team, and departmental role in achieving safety goals, objectives, and targets.
11.	Safety performance meetings with leaders occur very infrequently or not at all, prohibiting the reporting of performance trends or issues requiring timely resolution.	Safety performance meetings with leaders occur at a minimum semi-annually. These meeting present performance data and track completion of corrective actions.	Quarterly safety meetings are held with all leaders (including the AO) to discuss safety performance to date, incident trends, audit and inspection findings and resultant complete or overdue corrective and preventive actions, and review and possible redeployment of resources to meet organizational safety needs.
12.	Executive meetings do not include safety briefings and discussions regarding current performance, issues of concern (threats), and resourcing adequacy.	Some executive safety meetings, which include safety briefings and discussions regarding current performance, issues of concern (threats), and resourcing adequacy are conducted on an ad hoc basis, typically	All executive meetings include safety briefings and discussions about current performance, issues of concern (threats), and resourcing adequacy.

	Indicators of Significant Weakness	Indicators of Some Weakness	Indicators of Strength
	following an incident or significant near-miss.		
13.	Board meetings do not include safety briefings and discussions regarding current performance, issues of concern (threats), and resourcing adequacy as part of the organization's governance process.	Safety briefings and discussions regarding current performance, issues of concern (threats), and resourcing adequacy are conducted with Board Members on an ad hoc basis, typically following an incident or significant near-miss.	All board meetings include safety briefings and discussions regarding current performance, issues of concern (threats), and resourcing adequacy.
14. ♦	Safety expertise does not appear to be highly valued within the organization. Safety professionals do not hold higher management positions within the organization.	Some safety professionals hold higher management positions within the organization.	Safety expertise is highly valued within the organization and safety professionals hold higher management positions.
15.	Leaders of operational departments fail to engage safety personnel with specialized skills related to hazard identification and risk analysis when developing business cases, making process or procedural changes or other operational decisions.	On occasion, certain leaders of operational departments engage safety personnel with specialized skills related to hazard identification and risk analysis when developing business cases, making process or procedural changes or other operational decisions in order to support the identification of new, increasing or changing risk.	Leaders of operational departments actively engage safety personnel with specialized skills related to hazard identification and risk analysis when developing business cases, making process or procedural changes or other operational decisions in order to support the identification of new, increasing or changing risk.

Vigilance

Vigilance refers to organizational preoccupation with failure and the willingness and ability to draw the right conclusions from all available information. The organization implements appropriate changes to address the lessons learned. It includes the continual collection and analysis of relevant data in order to identify hazards (human, technical, organizational and environmental factors) and manage related risk. The organization actively disseminates safety information in order to improve overall awareness and understanding of risks to safety. People are encouraged and willing to report safety concerns (unsafe conditions, errors, near-misses, incidents) without fear of blame or punishment. Employees trust that the information they submit will be acted upon to support increased awareness, understanding, and management of threats to safety. Errors and unsafe acts will not be punished when these events are unintended; however, it is clear that those who act recklessly or take deliberate and unjustifiable risks will still be subject to disciplinary action.

Vigilance Attributes:

- Knowing what is going on, through a proactive surveillance process
- Understanding safety information through analysis and interpretation
- Everyone proactively reporting errors, near-misses, and incidents
- Sharing information and interpretation to create collective understanding of current status of safety and anticipated future challenges
- Taking action on learning

Indicators of Significant Weakness	Indicators of Some Weakness	Indicators of Strength

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1.	Incident investigations are only conducted when required by regulation. Near misses and minor incidents are not investigated.	All recordable incidents are investigated and high potential near misses are investigated.	All incidents, near misses and other safety events are investigated, including contractor incidents.
2.	Investigations are not completed in a timely manner. Results of investigations are so delayed they are of limited value.	There is significant variability in the speed with which investigations are completed.	All investigations are completed in a timely fashion (relative to risk posed).
3. ♦	Investigations only focus on the direct causes of the incident with no consideration of human and organizational factors.	Some investigations consider human and organizational factors.	All investigations consider the complete range of potential causes including human and organizational factors.
4.	Investigations are conducted by staff that does not have the required training or experience to be considered competent at conducting investigations.	Some investigations are conducted by staff that does not have the required training or experience to be considered competent at conducting investigations.	All investigations are conducted by staff that have the required training or experience to be considered competent at conducting investigations.
5. ♦	No meaningful action is taken to resolve issues identified during investigations or to prevent a reoccurrence of incidents.	Limited actions are taken to resolve issues identified during investigations or to prevent a reoccurrence of incidents.	All issues identified by investigations are resolved in a timely manner across the organization. The effective implementation of improvement actions is tracked.
6.	Investigations focus on identifying the individuals responsible rather than learning about system failings.	Investigations focus on the immediate conditions that contributed to the incident.	Investigations focus on identifying the system failures.
7.	Investigation findings are viewed as unique events that are not likely to occur again and not relevant to other parts of the organization.	Some investigation findings are generalized to the entire organization.	All investigation findings are generalized to the entire organization.
8.	Investigation findings are not communicated within the organization.	There is limited or variable communication of investigation findings.	Investigation findings are communicated across the organization and with other relevant stakeholders (contractors, broader industry and regulator).
9. ♦	No trending of incidents and near-misses is conducted.	There is limited trending of incidents and near-misses.	Incidents and near-misses are trended on a regular basis in order to identify themes and trends that require redress based on similarities of type and repeat occurrences.
10.	There is a reliance on incident and lost time injury rates as overall indicators of system safety.	The company has a small suite of safety performance indicators, which capture data related to more than just incident and lost time injury rates as a measure of system safety.	The company has a suite of performance indicators, which capture data related to process safety, environmental performance, emergency management, security, and occupational health and safety.
11.	Performance against safety objectives, targets and goals are not monitored for potential organizational correction as necessary.	Performance against safety objectives, targets, and goals is tracked and some trending is conducted in order to inform the organization of	Performance related to indicators is tracked, trended and organizational adjustments are made when targets, goals, and objectives are not met.

		areas of improvement.	
12.	Incident, near-miss, hazard and error reporting rates are declining.	Incident, near-miss, hazard and error reporting rates are static.	Incident, near-miss, hazard, and error reporting rates (quantity) are increasing.
13. ♦	Incident, near-miss, hazard, and error reports submitted are of poor descriptive quality.	There is variability in the descriptive quality of incident, near-miss, hazard, and error reporting.	Incident, near-miss, hazard, and error reporting quality is good or improving as people recognize that more descriptive and meaningful data supports improved system safety.
14.	There is no non-punitive reporting policy in place and employees are fearful of repercussions should they report incidents, near-misses, hazards or errors.	There is a non-punitive reporting policy in place; however employees are unaware of it and/or remain apprehensive about possible repercussions should they report incidents, near-misses, hazards or errors.	Employees are aware of the organization's non-punitive reporting policy and feel comfortable reporting incidents, hazards, near-misses, and errors. There is no fear of reprisal.
15.	There is no communication back to those who submit incident, near-miss, hazard or error reports acknowledging receipt of the report, results of the related review or investigation and mitigation actions taken.	There is limited communication to those who submit incident, near-miss, hazard or error reports acknowledging receipt of the report, results of the related review or investigation and mitigation actions taken.	Individuals who report incidents, hazards, near-misses, and errors receive feedback on related reviews or investigations and actions taken.
16.	Hazards and mitigations are not communicated to those who may be exposed in advance of starting an activity or operation that puts them in harm's way.	Limited hazards and mitigations are communicated to those who may be exposed in advance of starting an activity or operation that puts them in harm's way.	Hazards and mitigations are communicated to anyone who may be exposed in advance of starting an activity or operation that puts them in harm's way.
17.	Hazard identification efforts fail to identify or address human and organizational factors that may impact system safety.	Some human and organizational factors that may impact system safety are identified or addressed in hazard identification efforts. Some mitigation measures may be implemented.	Human and organizational factors that may impact system safety are identified or addressed in hazard identification efforts. Mitigation measures are implemented to manage related risk.
18.	Management reviews are not conducted annually.	Management reviews are conducted infrequently and/or without senior leadership's direct involvement.	Management reviews are completed annually with senior leadership's direct involvement.
19.	There is no formal audit plan, which covers all functional areas of the organization.	A formal and comprehensive audit plan exists, but is not consistently resourced or executed to plan.	Formalized audits are planned and conducted in all functional areas of the organization in order to identify non-compliances, non-conformances, and other potential hazards related to safety and environmental protection.
20.	Risk management processes and procedures are not documented. Those performing the work are not adequately trained or competent to perform the work.	Risk management processes and procedures are poorly documented. As a result, they are inconsistently applied.	Risk management processes and procedures are documented and consistently employed by trained and competent personnel.
21. ♦	Risk assessments are conducted without follow up to assure implementation and effectiveness.	Risk assessments are conducted with little follow up to assure implementation and effectiveness.	Risk assessments are conducted, and mitigation measures are developed, implemented and assessed for effectiveness.

22.	Non-compliances/non-conformances are not documented, tracked, or trended (regardless of their source).	Non-compliances/non-conformances are poorly documented and tracked; limited trending is performed.	Non-compliances/non-conformances (identified by the regulator, third party auditors or by other internal means) are documented, tracked, and trended.
23.	Non-compliances/non-conformances are viewed as unique events that are not likely to occur again and not relevant to other parts of the organization.	Some non-compliances/non-conformances are generalized to the entire organization.	All non-compliances/non-conformances are generalized to the entire organization. Systemic failures, which may have caused or contributed to them, are identified.
24.	No meaningful actions are taken to resolve safety issues identified or to prevent a reoccurrence of a non-compliance/non-conformance.	Limited actions are taken to resolve safety issues identified or to prevent a reoccurrence of a non-compliances/non-conformance.	All non-compliances/non-conformances and other safety issues identified are resolved in a timely manner across the organization. The effective implementation of improvement actions is tracked.
25.	Appropriate non-compliances/non-conformances and related corrective and preventive actions are not communicated within the organization.	There is limited or variable communication of appropriate non-compliances/conformances and related corrective and preventive actions.	Appropriate non-compliances/non-conformances and related corrective and preventive actions are communicated across the organization.
26.	There are no means for collecting, analyzing and acting upon information about potential hazards from external sources (regulators, local responders, contractors, communities, etc.).	There are some mechanisms for collecting, analyzing and acting upon information about potential hazards from external sources (regulators, local responders, contractors, communities, etc.).	Information from a wide range of sources (regulators, communities, local responders, contractors, etc.) is collected, analyzed, and acted upon in support of hazard identification and system safety.
27. ♦	The company takes a defensive or hostile posture when receiving negative feedback from others (regulators, local responders, communities, etc.) on safety and environmental protection issues/performance.	The company is disinterested in feedback from others (regulators, local responders, communities, etc.) on safety and environmental protection issues/performance. It will take action only if issues are viewed as critical.	The company is receptive to feedback (positive and negative) from others (regulators, local responders, communities, etc.) on safety and environmental protection issues/performance.
28.	The company does not actively engage in the sharing of safety related information and intelligence with others (regulators, communities, local responders, other companies, other industries, etc.).	The company shares limited safety related information and intelligence with others (regulators, communities, local responders, other companies, other industries, etc.).	The company actively shares safety related information and intelligence with others (regulators, communities, local responders, other companies, other industries, etc.) through conferences, working groups, benchmarking exercises, etc.
♦	The company does not engage with other high hazard industries (e.g. nuclear, chemical, and aviation) in order to learn from their experiences.	The company infrequently engages with other high hazard industries (e.g. nuclear, chemical, and aviation) in order to learn from their experiences.	The company seeks opportunities to learn from other high hazard industries such as nuclear, chemical, and aviation.
30. ♦	There is no external communication (through industry working groups, etc.) of incidents and near-misses, their causal and contributing	There is late (untimely) or limited external communication (through industry working groups, etc.) of incidents and near-misses, their	Incidents and near-miss scenarios are shared externally (through industry working groups, etc.) along with results of investigations, including the

	factors, and corrective and preventative actions.	causal and contributing factors, and corrective and preventative actions.	causal and contributing factors and actions taken to prevent recurrence.
31.	Incentive programs promote the withholding of information (reporting of incidents, near-misses, errors) and prevent organizational learning from these events.	Incentive programs do not encourage suppression of incident reporting but they also do not promote organizational learning.	Incentive programs are developed in such a way that they promote organizational learning processes and behaviours.
32.	As a matter of practice, the company waits for the regulator to clarify regulatory expectations rather than clarifying these expectations proactively.	The company infrequently engages the regulator to clarify regulatory expectations in an effort to meet the minimum regulatory requirements.	The company routinely engages the regulator to clarify regulatory expectations in order to ensure that its actions are both compliant and effective (i.e. actions meet the letter and spirit of the regulatory requirements).
33.	During interactions with the regulator, direct engagement with field level staff is restricted (e.g. staff are not permitted to ask or answer questions or participate in kick-off or closing meetings). Workers seek out the regulator privately to raise concerns.	During interactions with the regulator, direct engagement with field level staff is limited.	There is unrestricted access to and communication with field level staff during regulatory oversight activities.
34.	Regulatory whistle blower mechanisms are frequently employed by personnel in order to resolve safety concerns after internal attempts fail or because of fear of reprisal by management.	Regulatory whistle blower lines are rarely used and reflect localized or individual issues rather than systematic failures.	Regulatory whistle blower mechanisms are never used, as internal mechanisms are perceived as safe and effective.

Empowerment and Accountability

Management benefits from the expertise of frontline workers in order to achieve better solutions to meet safety challenges. Employees feel that they can stop any activity when they notice a potential hazard in order to mitigate, eliminate, or report it even when that may have an impact on production or costs. Accountabilities and responsibilities for safety are clearly established and documented at all levels of the organization. Ownership for safety outcomes is present at all levels and functional areas of the organization.

Empowerment and Accountability Attributes:

- Employee participation in safety management activities
- Organization-wide safety ownership and communication
- Willingness to do what is right in regards to safety
- Breaking down of organizational silos

	Indicators of Significant Weakness	Indicators of Some Weakness	Indicators of Strength
1. ♦	Teams, business units, etc. work in silos with little to no interactions with other parts of the	Some teams share information about their activities and seek feedback from other parts of	Teams willingly share information about their activities and seek feedback from other parts of

	organization when making decisions or taking future actions that may impact safety (short and long term).	the organization in order to understand the possible safety impact (short and long term) of decisions and future actions.	the organization in order to understand the possible safety impact (short and long term) of decisions and future actions.
2.	When asked, staff express a lack of understanding of safety related expectations and responsibilities.	When asked, staff express an inconsistent understanding of safety related expectations and responsibilities.	When asked, there is consistent understanding of safety related responsibilities and expectations expressed by staff across multiple locations.
3.	There is a notable difference between staff responses to questions during interviews or meetings when management is present. Employees present a positive picture of safety when in the presence of managers and only raise concerns when managers are not present.	Employees are somewhat more positive about safety in the presence of managers in comparison to when they are absent.	When interviewing or meeting with staff, consistent responses are given regardless of whether management is present.
4.	Site and safety orientations across locations are consistently poor.	There is variability in the quality of site and safety orientations across locations.	Regardless of location, site and safety orientations are consistently delivered to a high standard.
5. ♦	Personnel report feeling reticent to stop work as the first line of defense against an incident.	There is significant variability in personnel's sense of empowerment as it relates to stopping work or suspending operations (e.g. by site, regions, etc.) as the first line of defense against an incident.	Personnel (regardless of position) report feeling empowered to stop work and/or suspend operations as the first line of defense against an incident.
6.	If operations are suspended, there is pressure to bring operations back on line or resume work regardless of whether a cause or explanation has been identified, confirmed based upon the evidence available, and remedies put in place per recommendations of individuals with the greatest expertise.	There is significant variability in pressure to bring operations back on line or resume work after a suspension of operations (e.g. by site, regions, etc.) when the situation has not yet been fully understood and remedied. There is limited reliance on recommendations of individuals with the greatest expertise.	If operations are suspended, there is no pressure to bring operations back on line or resume work until the situation has been understood (i.e. a cause or explanation has been identified and confirmed based on the evidence available) and remedied per recommendations of individuals with the greatest expertise.
7. ♦	Personnel report feeling uncomfortable reporting concerns to supervisors, managers, senior leaders and/or investigators. They are afraid that doing so may result in some form of reprisal.	There is significant variability in personnel's described comfort to report concerns without fear of reprisal (e.g. by site, regions, etc.)	Most personnel report feeling comfortable reporting concerns to supervisors, managers, senior leaders and/or investigators without fear of reprisal.
8.	There is no evidence that Joint Occupational Health and Safety worker representatives are integral voices within the safety system. They are excluded from regulatory safety meetings, such as inspection kick-off discussions.	There is variability in the role that Joint Occupational Health and Safety worker representatives play within the safety system (e.g. by site, regions, etc.).	Joint Occupational Health and Safety worker representatives are viewed as important parts of the safety system, e.g. they are invited to and attend kick-off inspection or audit meetings.
9.	There is no evidence that Joint Occupational	There is variability the role that Joint	Joint Occupational Health and Safety worker

	Health and Safety worker representatives participate in incident/near-miss investigations.	Occupational Health and Safety worker representatives play during incident/near-miss investigations.	representatives participate in incident/near-miss investigations.
10. ♦	Personnel do not step in when they observe unsafe behaviours; there is no safety accountability to others on the team or in the organization. Personnel do not keep a look out for unknown hazards or fail to report them when they are observed.	There is significant variability in the degree to which personnel hold each other accountable for safe behaviours and remain vigilant to unknown hazards, and whether hazards are reported when they are observed.	Personnel hold each other accountable for safe behaviours and remain vigilant to unknown hazards, and whether hazards are reported when they are observed.
11.	Violations of the rules are ignored or even encouraged to get the job done (on budget, in time, etc.)	There is variability in how violations of the rules are handled by leaders.	Violations are investigated to determine causal and contributing factors and action is taken to prevent recurrence.
12.	Most personnel are unable to clearly articulate their own roles and responsibilities for safety and that way in which they manage their own personal safety.	Some personnel can articulate their roles and responsibilities for safety and how they manage their own personal safety.	Most personnel can articulate their roles and responsibilities for safety and how they manage their own personal safety.

Resiliency

Resiliency is the capability to respond effectively to changing demands in order to manage potential or emerging risk. There are organizational mechanisms in place to manage complex activities, and to constantly meet the fluctuating demands of a high hazard industry. There is a reluctance to simplify problems and situations in order to arrive at a solution. The organization allows decisions to be made by frontline employees and allows authority to migrate to the employees with the most expertise, regardless of their level in the company. The organization is committed to developing capabilities to detect, contain, and rebound from errors that may occur.

Resiliency Attributes:

- Recognizing the introduction of new or changing threats in the operating environment
- Ensuring employees (at all levels) have adequate knowledge and skill related to error management
- The organization having the capacity, diversity and redundancy to manage risk
- The organization responding to unanticipated or changing conditions in a timely and effective manner
- High quality procedures, policy, and guidance

	Indicators of Significant Weakness	Indicators of Some Weakness	Indicators of Strength
1.	Personnel do not attend system safety training.	There is variability across the organization. Some personnel attend system safety training.	All personnel attend system safety training alongside other staff.
2. ♦	Most personnel are unable to identify and describe process safety hazards, which they are exposed to during their work. As a result, they are unaware of the related risks	Some personnel are able to identify and describe process safety hazards, which they are exposed to during their work. They understand the unique hazards and risk associated with their work and	Most personnel are able to identify and describe process safety hazards, which they are exposed to during their work. They understand the unique hazards and risk associated with their

	and required risk management interventions.	their facility.	work and their facility.
3. ♦	Decision making powers are removed from local management and centralized towards the top of the organization; this applies to decisions needed in the interest of safety.	There is variability in the degree to which local management is empowered to make decisions in the interest of safety.	Local management is empowered to make decisions in the interest of safety without seeking approval from senior leaders.
4.	Decisions are made by those with seniority rather than the person with the greatest knowledge or skill.	Decisions are made by those with seniority with input from those with greatest knowledge or skill.	Decisions are made by those with greatest knowledge or skill irrespective of level of seniority.
5. ♦	There is little sense of professionalism or operational excellence. There is a tolerance of inadequate systems, equipment, resources, and outcomes.	There is significant variability in the sense of professionalism and operational excellence expressed by personnel as demonstrated by the tolerance for inadequate systems, equipment, resources, and outcomes.	Personnel apply high and exacting standards to their work. They are unwilling to accept inadequate systems, equipment, resources, and outcomes, as well as poor conditions, or substandard results.
6. ♦	Personnel are assigned duties, which they are not trained, experienced, competent, or certified to perform. Inexperienced personnel are assigned duties without adequate oversight and supervision.	There is variability in degree to which personnel are trained, experienced, competent or certified to perform duties assigned (e.g. by site, region, activity, contractor, etc.).	All personnel are trained, experienced, competent or certified to perform all duties to which they are assigned.
7.	There are inadequate human resources allocated to meet inspection, audits, and review targets and plans.	Certain oversight activities (inspections, audits, or reviews) are resourced effectively to meet targets and plans, while others are not (i.e. disparities may exist by activity type or region).	There are adequate human resources allocated to meet inspections, audits, and review targets and plans. Oversight activities are carried out as scheduled.
8.	Poor relations or tensions exist between management and field level staff.	There is variability in the state of labour relations across the organization (e.g. by site, region, etc.).	There are positive labour relations characterized by things such as mutual respect, open communication, employee participation on Joint OSH committees, worker involvement in incident investigations, etc.
9.	Policies, procedures, and expectations are ambiguous or absent in company documentation.	Policies, procedures, and expectations are inconsistently documented. There is variability in the quality of written policies, procedures, and expectations.	Policies, procedures, and expectations are clear, up-to-date, and consistent in and across company documentation.
10. ♦	Procedures are outdated or not practical for the operating environment.	Some procedures are outdated or not practical for the operating environment; however, these issues have been identified via internal review and the amendment process is underway with appropriate timelines relative to risk.	Documented procedures are current and practical for the operating environment. If changes or improvements are identified, procedures are revised and communicated to those affected in a timely fashion.
11.	Documentation and manual updates, critical procedural reviews, operational and management system amendments, etc. are given a low priority and timelines are	Documentation and manual updates, critical procedural reviews, operational and management system amendments, etc. are given a high priority; however, there is a failure to meet identified	Documentation and manual updates, critical procedural reviews, operational and management system amendments, etc. are given a high priority and activities are completed in a

	protracted beyond a reasonable level.	timelines.	timely fashion.
12.	There are poor safety standards across multiple sites.	There is variability in safety standards across multiple sites.	Consistently high safety standards are demonstrated across multiple sites.
13.	The company consistently fails to meet regulatory requirements until formal regulatory enforcement action is taken against the company (via administrative monetary penalty, legal order, etc.)	The company consistently fails to meet regulatory requirements and standards until the regulator makes a field-level notification of a non-compliance.	The company consistently meets regulatory requirements and exceeds regulatory standards in many instances (e.g. introduces changes prior to regulations going into effect).
14. ♦	There are inadequate resources to resolve important safety issues once identified.	There is variability in the resourcing of activities intended to resolve safety issues once identified.	Personnel are able to provide multiple examples of proactively receiving adequate resources to resolve safety issues once identified.
15.	There is a poor level of knowledge about company policy and procedures demonstrated by personnel.	There is significant variability in the level of knowledge about organizational policy and procedures demonstrated by personnel.	Personnel demonstrate knowledge of organizational policies and procedures.
16.	The company fails to follow through on regulatory commitments (e.g. approval conditions) or is unresponsive to regulator requests.	The company is late following through on regulatory commitments and does not respond to regulatory requests in a timely fashion.	The company is committed to and meets all regulatory commitments, including approval conditions.
17.	There is no hazard inventory developed and/or documented prior to start of operations.	Some hazards have been identified prior to the start of operations, but these may be poorly or inconsistently documented.	All hazards are identified prior to the start of operations.
18.	Hazards are not identified and mitigation measures are not developed or implemented prior to start of operations (project or activity specific).	Some hazards are identified and some mitigation measures are developed or implemented prior to start of operations (project or activity specific).	Hazards are identified and mitigation measures are developed and implemented prior to the start of an operation (project or activity specific).
19. ♦	The hazard inventory is not updated as conditions change and/or new hazards are identified during the life of the activity or operation.	Some, but not all newly identified hazards are added to the hazard inventory during the life of the activity or operation.	The hazard inventory is updated as conditions change and/or new hazards are identified during the life of the activity or operation.
20.	Corrective and preventive action plans are not developed or are of poor quality, failing to adequately address identified deficiencies.	Corrective and preventive actions plans are developed; however there is no means for tracking progress, completion, or effectiveness.	Corrective and preventive action plans are developed and tracked for implementation and effectiveness.
21.	Following the identification of deficiencies, timelines are assigned to activities without consideration for level of risk posed.	Following the identification of deficiencies, timelines are assigned to activities based upon multiple factors with some consideration for the level of risk posed.	Risk assessments are conducted for identified deficiencies in order to determine appropriate response timelines.
22. ♦	Management reviews fail to actively identify organizational deficiencies and opportunities for improvement. There is	There is evidence of some improvement efforts following management reviews; however these efforts tend to represent marginal system	Management reviews are rigorous and focus on seeking opportunities for improvement. There is evidence of substantive improvement actions

	evidence that no substantive improvement actions are taken following annual management reviews.	enhancement.	being taken following the completion of management reviews (i.e. reviews target organizational deficiencies and improvement rather than simply validating current practices).
23.	There are consistent and recurring non-compliances over a period of years.	There are several recurring non-compliances over a period of years.	The company learns from past events and as a result, there are few to no recurring non-compliances.
24. ♦	There is poor upkeep of facilities across regions or sites.	There is no consistency in the upkeep of facilities across various regions or from site to site	All facilities are maintained to a consistently high standard (regardless of region or specific site).
25. ♦	Condition of equipment is consistently poor across sites.	At some sites, the condition of equipment is poor.	Equipment is consistently well maintained.
26.	There are poor, limited, or no records of operations and maintenance activities (e.g. there are record keeping lapses, inaccuracies, etc.).	There is variability in the accuracy and completeness of operations and maintenance records.	Operations and maintenance records are of a high standard (i.e. they are accurate, complete, and comprehensive).
27.	Environmental issues (minor spills and releases that affect the environment) are viewed as housekeeping issues rather than failures of environmental protection measures.	At some sites, environmental issues (minor spills and releases that affect the environment) are viewed as housekeeping issues rather than failures of environmental protection measures.	Environmental issues (minor spills and releases that affect the environment) are viewed as failures of environmental protection measures as opposed to simple housekeeping issues. As a result, these issues are investigated to understand how deficiencies may be addressed to prevent recurrence.
28. ♦	Oversight and monitoring of contractors is absent or very poor. There are absent or ineffective bridging documents and little to no surveillance of contractor activities.	Oversight and monitoring of contractors is poor. There is a primary reliance on the bridging documents with limited surveillance for implementation and effectiveness.	There is robust oversight and monitoring of contractor performance, including direct surveillance and auditing of adherence to obligations as noted in all bridging documents.
29.	Contractor procurement and selection process is based upon the lowest bid/price with no consideration of past safety performance.	Contractor procurement processes use limited safety indicators of past performance, but go beyond lost time injury rates.	Contractor procurement processes effectively vet potential third parties based upon overall safety performance (safety management system effectiveness and leading and lagging indicators).