A WODA Information Paper

WODA's Framework for Safety Culture in the Dredging Community

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WORLD ORGANIZATION OF DREDGING ASSOCIATIONS – WODA

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This Framework has been produced by a group of experts with various backgrounds, perspectives, and a broad range of expertise and experience with dredging projects. The list is by no means meant to be exhaustive. It seeks to encourage/urge/inspire parties to implement safety in the dredging community as a standard to "BE SAFE and STAY SAFE".

Special thanks to CEDA's Dredging Management Commission (DMC) for allowing us to use their format of its Checklist for Successful Dredging Management.

Be SAFE - STAY SAFE

Introduction:

WODA'S FRAMEWORK FOR SAFETY CULTURE IN THE DREDGING COMMUNITY

BE SAFE – STAY SAFE

The World Organization of Dredging Associations (WODA) is an independent, non-profit, professional organization. It is composed of three separate, autonomous sister dredging associations, with separate geographical corporate structures. WEDA | CEDA | EADA

The WODA Safety Commission (WSC) was established to initiate and facilitate sustained discussion of safe operations within the dredging community in the broadest sense. The Safety Culture Framework is the WSC's inaugural work product, one we are proud to share with the world dredging community. The overview has been created by a multi-national team with many years of safety success who share a lively interest in the ways in which safety culture can evolve to protect people and their families from harm.

It is our intention with this resource to share safety culture perspectives and information, raise awareness, and facilitate collaboration between safety and operations professionals worldwide. The framework is a simple, comprehensive overview of information related to how safety is perceived, applied, managed, and sustained to improve safe operations across dredging tenders.

The Safety Culture Framework is NOT an endorsement of any "premier" safety standard nor is it intended to challenge or replace any regulation.

We understand that global cultural differences inform distinct understandings and perceptions of safety, which makes it challenging to prepare a WODA-wide document which perfectly fits the cultures represented by CEDA, WEDA, and EADA collectively. So, we have created a tool aimed to inspire, validate, offer cohesive structure, and invite members of the dredging community to learn from one another.

The WODA Safety Working Group

WODA's Safety Culture Framework

The following Framework reflects dredging safety best practices as identified and summarized by the WODA Safety Commission.

In organizing the following summary, the Safety Commission drew upon their combined 100+ years of successful executive and safety leadership as well as on models and approaches that have informed their work over the years. Phases of safe operations are framed as the familiar "journey," a process by which people travel from one place or mindset to another—and one which occasionally has false starts when leaders mis-assess being further along the path than their leading and lagging, quantitative and qualitative data will validate.

Because safety culture improvement can only begin from the place a company occupies when it decides to do this work in earnest, there is no right or wrong "first step"; rather, we must assess our respective situations and decide what actions will make the most reliable progress as we begin.

Figure 1 from (https://www.safetycultureladder.com/wp-content/uploads/2021/01/Safety-Culture-Ladder-Manual_4.0_ENUK_def.pdf) has been copied with the permission of NEN at Delft (the Netherlands) – www.nen.nl

To reflect this necessary flexibility, we have presented our information in two parts:

1. Safety Culture Ladder and the Safety Interventions, a table listing standard safety interventions used by the international dredging community ranked from comprehensive safety culture development to targeted response.
2. Annotated Safety Interventions, brief definitions and explanations of how normative safety interventions work.

Safety Interventions and the Safety Culture Ladder

In this table the interventions are organized by Topic, as follows:

- Safety Philosophy
- Safety Rules and Guidance
- Safety Training
- Safe Management Best Practices
- Safe Operations Best Practices
- Incident Preparedness and Response

Additional columns show focus areas and examples for each topic. The triangles indicate the earliest point when the intervention either would be implemented or could reliably be initiated in the process of advancing organization safety norms.

Color gradation implies the correlation between the stage in safety culture development and the level of impact of the intervention – the lighter color indicates the intervention being less impactful due to additional interventions being in place. Examples noted are further summarized in the following pages.

Topic	Focus Areas	Examples	Safety Culture Model: Initiation Level				
			Pathological	Reactive	Calculating	Proactive	Progressive
Safety Philosophy	Employee-focused constructs	Accountability as care and concern Personal safety responsibility Workforce engagement, shared responsibility Zero injury vs human error without life-changing result			▲		
	Organization-based constructs	Embed into operations Personal safety responsibility Safety as an operational imperative Safety "Journey" Models – Safety Culture Ladder; Hierarchy of Controls; Safety Pyramid; Three Stages of Safety The role of data			▲		
Safety Rules and Guidance	External controls	Client requirements	▲				
		Guidelines • International • Federal • State • Local		▲			
		Laws and Regulations • International • Federal • State • Local	▲				
	Internal systems	Corporate Safety Programs			▲		
		Safety Management System		▲			
Safety Training	Continuous learning	Recognized as a learning organization Refresher training Stretch assignment				▲	
	Training methods	Dedicated • Online • In person Just-in-time On-the-job		▲			
	Training topics	Material Handling Pipelines		▲			

Topic	Focus	Examples	Safety Culture Model: Initiation Level				
			Pathological	Reactive	Calculating	Proactive	Progressive
Safety Management Best Practices	Behavior-Based Safety (BBS)	Collaborative Safety Rules Revision Leading indicators Positive Project Management New hire mentors			▲		
	Empowering the front-line	Brother's Keeper Safety Stop			▲		
	External - Client safety	Partner vs. consumer Project Launch meeting inclusion of Client			▲		
	External - Trade Partner safety	Project Launch meeting inclusion of Trade Partner Trade Partner responsibilities and accountabilities			▲		
	Incorporated processes	Annual safety culture survey Colored Hard Hat Program—New Hire Green Hat, Visitor Blue Hat, etc. Embed of safety into estimates			▲		
	Incorporation into localized management	Interactive Safety Audits Safety Briefings Safety Moment Team-based incentives				▲	
	Integration into Ops management systems	Project Launch Meetings Safety Action Plans Senior Safety Teams VP-level safety director			▲		
Safe Operations Best Practices	Data collection	Leading and lagging indicators: good catch, near miss, falls overboard and incident reports Safety training tracking system			▲		
	Data communication	Action alerts Safety dashboards Sharing lessons learned through internal communication channels			▲		
	Hazard identification and control	Energy Wheel Hazard hunts JSA/JHA Mechanical reliability Safety culture assessments Safety inspections			▲		
	Implementation of gap analysis	Employee reviews Safety audits			▲		
	Industry knowledge and continuous learning	WODA partnership		▲			

Topic	Focus	Examples	Safety Culture Model: Initiation Level				
			Pathological	Reactive	Calculating	Proactive	Progressive
Safe Operations Best Practices (continued)	Management of external partners	Client • Embed of safety in contracts • Observation Programs • Transparent incident identification				▲	
		Trade Partner • Observation Programs • Prequalification • Transparent incident identification				▲	
	Organization-wide safety communication	Feedback opportunities Messaging genres Source/voice Timing			▲		
	Stakeholder identification	Who does or should care about Roles and Responsibilities			▲		
	Standardization of the work environment	Proper use, availability, and maintenance of PPE, Tools, and Equipment			▲		
Incident Preparedness and Response	Emergency Response	Third party triage	▲				
	Incident tracking and follow up	Initial review of incident, First call to involved employee	▲				
		Incident Analysis (MCIA), Corrective Action implementation and follow up, SIF analysis			▲		

Trade Partner Safety

As with client contracts (one association's client may be another's contractor), an organization with well-functioning safety culture will consider the safety of all those working alongside them on a project. That said, we need to recognize that the level of control or influence we exercise varies with the scope of a partnership. For those working on sites we control, a responsible organization will hold those partners to its standards, starting with requiring safety plans and policies compatible with our safety goals. Even when we don't control all of a site (e.g., when working as a subcontractor), we have a responsibility to keep up our standards, even to the point of refusing to continue if we cannot ensure the safety of our personnel or the public.

Level	Who	Actions
Concern	• Clients • Fellow contractors • Vendors with offsite operations (i.e., parts suppliers)	• Communicate and maintain our standards (set the example) • Inquire after safety and wellbeing
Influence	• Clients • JV partners • Vendors whose sites we visit (e.g., shipyards or bespoke fabrication yards)	• Maintain our standards (set the example) • Instruct if possible • Control our site • Report as if they meet our standards
Control	• Our employees • Our subcontractors (on site) • Our visitors	• Follow our plans • Require safety plans that meet our standards • Require proper training and/or orientation • Take control of safety of required • Stop unsafe work

Framework Detailed Descriptions

As a committee we strive to improve and maintain safety awareness in the global dredging community to which the framework can contribute. This synopsis has a wide choice of tools and practices that contribute to a safer community. It is understood that not all topics apply to everyone and that some are more apparent than others or need more investment. The framework addresses the various topics in brief and additional, detailed information can be found on the internet, through training courses, in regulations, and in literature. As a committee we aim to publish papers in the future on the topics that deserve further attention.

Topic: Safety Philosophy

Focus	Examples	Definitions
Employee-focused constructs	Accountability as care and concern	Safety systems align well with the correlation between personal accountability and "care and concern." Positive and redirecting performance feedback rooted in personal relationships connects with the whole person: mindset, psychological, and cognitive states of mind. Firm redirecting guidance toward safe work pathways resets expectations, reinforces seriousness about agreed-upon controls, elevates self-discipline, and continuously recommits to safe operations for all.
	Personal safety responsibility	As an entry-level safety culture principle, employees must commit to fulfilling the safety responsibilities of one's own position. This includes completing tasks in the recommended safe manner, implementing hazard awareness, and reporting unsafe conditions. Personal safety accountability is the cornerstone of workforce engagement.
	Workforce engagement, shared responsibility	Fundamental to organization-wide prevention of harm is the journey of each individual to personal safety responsibility—"doing the right thing when no one is looking." Such development includes critical engagement at the responsibility level rather than surface-level attention to tasks, using the whole brain rather than only "following orders." This personal responsibility is stressed through discussion of the impact of life-altering injury on the individual's family and home life. Organization-level and peer to peer mutual permissions to intervene in less-safe decision making and actions, "Stop Work" programs for example, increase persons' ability to return home safely.
	Zero injury vs. human error without life-changing result	As safety science has matured, the standard of safety excellence has shifted from backward-looking "zero injuries" to the aggregation of system-wide actions that prevent injuries with life-changing results. This mindset drives results and builds momentum through the accumulation of diverse, continuous preventive measures. It reinforces behavioral culture norms such as the inclusion of safety resources in project estimates, collaborative job safety analysis and planning, mutual accountability, and multicausal incident analysis that includes near misses frequently reported from the front line.
Organization-based constructs	Embed into operations	As organizations' progress through their safety journey, the safety function migrates from discreet, primary responsibility for safety results to embed into the daily responsibilities of leaders from the senior team to the front-line supervisor and individual worker. "Safe work" that relies on trusted relationships and transparent communications is a baseline expectation.
	Safety as operational imperative	Since the late 2000's safety has been embraced as a key differentiator in an organization's ability to deliver quality services and win contracts. Dredgers commit to safe operations to reinforce profitability and sustainable growth, as well because it demonstrates integrity in the treatment of personnel.

Focus	Examples	Definitions
Organization-based constructs (continued)	Safety "Journey" Models – Safety Culture Ladder; Hierarchy of Controls; Safety Pyramid; Three Stages of Safety	Safety culture development is often compared to a journey, with phases against which organizations measure their safety awareness and conscious safe acting (culture and behavior). Two of the numerous models which lay this out from traditional to innovative are the Three Stages of Safety (Rules ⇨ Programs ⇨ Process) and the Safety Culture Ladder (Pathological ⇨ Reactive ⇨ Calculating ⇨ Proactive ⇨ Progressive).
	The role of data	Quality models promote the tenet that "you achieve what you measure." This is also a safety fundamental. Data systems that are reliably, perpetually populated by engaged management and front line workforce with high hazard recognition and documentation skills is an essential component to systems safety. They inform collected understanding of systems strengths and vulnerabilities and guide incisive decision making and resource allocation.

Topic: Safety Rules and Guidance

Focus	Examples	Definitions
External controls	Client Requirements	In addition to safety regulations from applicable governmental agencies and from non-governmental organizations, a project and contractor may also have to abide by safety regulations from its client. Those may not be derived based on dredging situations and may therefore require additional attention.
	Guidelines • International • Federal • State • Local	Guidelines for safety are not mandatory, but those issued by leading dredging community organizations typically define community-standards, common best-practices and an expectations level for safety measures that is best to be adhered to. Non-governmental safety regulations are typically guidelines and are usually not considered mandatory or legally binding. However, depending on the issuing organization, they could have great relevance and importance in the dredging community.
	Laws and Regulations • International • Federal • State • Local	Governmental safety regulations are often mandatory and, in those cases, must therefore be abided to. Depending on the equipment, people, work, location, and more, multiple governmental agencies may have jurisdiction, including those in different countries. Required actions may include conducting and documenting emergency and safety drills on a predetermined timeline.
Internal systems	Corporate Safety Programs	Implementation of an SMS is generally undertaken when a company is in the Calculating section of their safety culture. Given the formal nature of the SMS, they are generally developed and administered by safety professionals, with Operational personnel conforming to the roles and requirements of the SMS. That said, an SMS is an important piece of a functioning safety culture.
	Safety Management System	"A Safety Management Systems [SMS] means a structured and documented system enabling company personnel to implement effectively the Company safety and environmental policy." (https://wwwcdn.imo.org/localresources/en/OurWork/HumanElement/Documents/104(73).pdf, Sec 1.1.4) Often adopted to meet statutory or regulatory requirements, the SMS formally defines roles and responsibilities (job titles and descriptions), checklists for safe operation and maintenance, maintenance of records relating to safe operations, and procedures for handling non-conformities with the SMS. The SMS will generally provide for certification of compliance and periodic audits (in-house and/or third-party) of the system.

Topic: Safety Training

Focus	Examples	Definitions
Continuous learning	Recognized as a learning organization	A learning organization's best competitive advantage is the ability of its people to learn. Its five key activities are a good fit with progressive safety culture: systematic problem solving, experimentation with new approaches, learning from experience, learning from others, and transferring knowledge efficiently throughout the organization. Encourage reporting of safety observations, near misses, and incidents, and not punishing workers for reporting these. This reporting will contribute to organizational learning.
	Refresher training	Implement a training plan. Decide on what refresher courses your staff will need periodically and if they are returning to the workplace to keep staff updated. It is easily registered in a database. Workers may not always recognize the importance of safety training or think of it as unnecessary because they have "been doing it for years" but an important benefit of periodic safety training is the reminder that a danger can exist and the no one is immune to accidents.
	Stretch assignments	"Stretch" assignments are assignments at the limit of an employee's abilities, that challenge and will require additional supervision and guidance. "Stretch" assignments develop the safety culture by defining challenging goals for the employees in order to learn and grow. They build your employees knowledge and abilities beyond the current level of safety expertise and skills.
Training methods	Dedicated • Online • In person Just-in-time On-the-job	Training is a critical element of any safety management system. Training can improve competence and alter behavior and attitudes. It is more than just imparting information. Training can improve the safety culture of an organization, create more positive attitudes and safety behavior among staff and reduce accident rates. Health and safety training may be based broadly on one two methodologies: * Face-to-face methods, such as classroom-based training, "toolbox talks", job instruction, workshops, role play and exercises. * Resource-based learning, such as online training and open learning/distance learning, some of which may utilize social media platforms or hand-held devices. The choice of training method is determined by the objectives, e.g., whether concerned with the recall of information, individual attitudes and perceptions, or physical activities or tasks.
Training topics	Material Handling Pipelines	Training topics vary depending on the operations and activities at a particular location. Toolbox meeting topics are used to cover a variety of short safety training subjects and to remind employees each day before they go to work the importance of being safe. Prepare relevant safety training for each employee based on survey results within the company. All employees must be trained, including managers, supervisors, operators, and temporary workers.

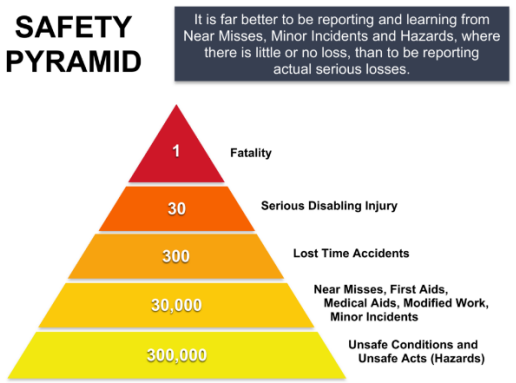
Topic: Safety Management Best Practices

Focus	Examples	Definitions
Behavior-Based Safety	Collaborative Safety Rules Revision	Rule writing that lays the foundation for co-ownership between workers and management of who gets to say what is required and what is recommended. Rule books that are fair, accessible, positioned to guide firmly (tight) and require professional judgment (loose) as appropriate, and lived to by all.
	Leading indicators	Proactive measures that focus on the effectiveness of safety interventions and reveal potential hazards in daily practices or worksite configuration. Leading indicators can highlight operations-based, systems-based and behavior-based indicators. Examples include, but are not limited to safety audits, good catch and near miss reporting.
	Positive Project Management	A project management style that conducts all activities in accordance with company high ethical and business practice standards while also treating team members and stakeholders with dignity, respect, and professionalism.
	New hire mentors	Assignment of experienced safety champions to new employees as informal coaches and resources to answer safe-work questions.
Empowering the front-line	Brother's Keeper	The concept of taking on responsibility for the safety and welfare of your coworkers. An example includes letting others know of dangerous situations and removing both yourself and employees in the area.
	Safety Stop	The Safety Stop establishes that it is the right and responsibility of every employee no matter their level of experience or authority to halt work and report dangerous situations when they feel it is unsafe for work to continue.
External - Client safety	Partner vs. consumer	A strong safety culture considers all stakeholders take responsibility for their own and other's safety. For the client, this means active involvement in the safe performance of the project. A client in the Pathological stage of their safety culture will act merely as a consumer of dredging services, turning over the work area at the start of a project then taking it back when complete. The client is also the interface between contractors and the public, and as such is responsible for ensuring that all personnel on the project can work safely alongside those from other organizations. The client should have safety procedures (such as the EU Framework Directive for Safety and Health at Work (89/391/EEC) or the USACE's EM385) that the contractor must conform to, including project-specific safety plans and procedures, but must not consider their involvement ends there. A client who acts as a safety partner will also find that those skills transfer to the operational side, ensuring a better project overall.
	Project Launch meeting inclusion of Client	Safety should be a standard topic on the Project Launch Meeting. A Client may attend this meeting to emphasize its safety policy. It may not lead to additional Contractor obligations other than stated in the contract to avoid claims. A Project Launch Meeting, attended by all (or most) project personnel, the client, and other key stakeholders (e.g., Pilots), is a valuable start to a project. The client's presence signals that the client will be actively engaged in the project, including the safety culture on-site.
External - Trade Partner safety	Trade Partner responsibilities and accountabilities Project Launch meeting inclusion of Trade Partner	See "Trade Partner Safety" on page 6.

Focus	Examples	Definitions
Incorporated processes	Annual safety culture survey	The gathering of employees' feedback on the effectiveness of safety on an annual basis demonstrates the understanding that people are the heart of the safe-operations system. The survey data is used to improve mindset, processes, tools, and practices and reflects collective safety performance over time.
	Colored Hard Hat Program—New Hire Green Hat, Visitor Blue Hat, etc.	Color cues are a long-standing strategy for quickly communicating what level of protection is needed. Colored hard hat programs require hat colors based upon the wearers' knowledge, skill, and experience in the workspace. For example, green = New Hire so extreme caution; blue = Visitor, extreme caution; white hat = experienced professional, standard caution, and source of knowledge.
	Embed of safety into estimates	Inclusion of dedicated budget for safe-work processes, equipment, and materials legitimizes safety as an agreed-upon value for client and contractor alike. It sets the expectation of safety leadership for managers and validates planning for well-paced work that is right the first time.
Incorporation into localized management	Interactive Safety Audits	Safety audits are designed to assure effective program elements are in place for identification and control or elimination of hazards that could adversely impact an organization's human and capital assets. Interactive audits include dialogue with system users while at work and/or through dedicated interviews and focus groups.
	Safety Briefings	Safety tool for employees to use daily. Best conducted before beginning work or a meeting to outline potential safety problems or concerns that may be faced during the day. Also, a time to highlight safety resources and locations in case of emergency situations.
	Safety Moment	Brief talk outlining a safety-related topic at the beginning of a meeting or prior to starting work. Could be related to the work environment or something experienced during non-work hours that colleagues could benefit from being aware of the potential hazard.
	Team-based incentives	Inarguably, return home to one's family is the ultimate incentive for safe work. Mature systems tie safety to compensation—annual bonuses, raises, and promotions. Safety success relies on keeping hazard awareness and control in the forefront of people's minds, both integrated into daily habits and thought and continuously refreshed. So, incentives like "Spot Bonuses," in which a supervisor commends someone who has excelled in specific safe work are sometimes used to gain attention and provide encouragement. Most effective are reasonably-sized incentives which reward teams for collective performance that drives positive outcomes and advances safety excellence.
Integration into Ops management systems	Project Launch Meeting	A Project Launch Meeting attended by all (or most) project personnel, the client, and other key stakeholders (e.g., Pilots) is a valuable start to a project. Stakeholders' participation in the meeting ensures their perspective is considered in planning and signals their active engagement, including supporting its safety culture on- and off-site.
	Safety Action Plan	The Safety Action Plan (SAP) establishes the organization's short list of priorities, goals, Key Performance Indicators, resource needs, and timelines for one calendar year. It is informed by aggregated leading and lagging safety data and aligned with broad organization priorities. The most effective plans are co-developed and co-owned by stakeholders throughout the safe-operations system.

Focus	Examples	Definitions
Integration into Ops management systems (continued)	Senior Safety Team	Executive-level working groups (All Senior Operations leads, Safety, Finance, Legal, Human Resources) bridge the gap between traditional Safety Department-led Safety to transformative Safe Operations co-owned by all corners of the company. Senior Safety Teams lead the continuous safety work engine that is long-term safety culture change.
	VP-level safety director	While it is important to retain executive team responsibility for safe operations rather than delegating it to a single safety specialist, elevation of the lead safety professional to the executive team is advisable. It stabilizes the embed of safety into operations, ensures a safety perspective in systemic organization planning and decision making, and provides continuous mentorship for operations leaders.

Topic: Safe Operations Best Practices

Focus	Examples	Definitions
Data collection	Leading and lagging indicators: good catch, near miss, falls overboard and incident reports	Research on the actual number of near misses underlying an accident or fatality vary. Though it is proven that it can be visualized by the safety pyramid. And while the exact numbers may vary, near-misses are a warning sign that something is going wrong. Reporting of near misses can reduce accidents and improve safety. The valuable information reported can be acted upon to prevent more serious accidents from occurring as a result of bad practices. Taking action following near misses will not only protect the safety of your workforce but also improve your monitoring procedures and help your organization comply with its legal duties. A near miss reporting program, when implemented well, is a very effective proactive safety program to reduce accidents and improve health and safety on site. By identifying and addressing the hazard reported, you can act before an accident occurs. And often, the action needed is simple and easy to do- like changing a work procedure, providing training, or moving an item of equipment. 

Focus	Examples	Definitions
Data collection (continued)	Safety training tracking system	Tracking systems enable users to manage Workplace, Health, Safety and Environment (WHSE) data including workplace incidents and hazards, and quality non-conformances/defects. There are various systems on the market, or a database may be set-up by the company itself.
Data communication	Action alerts	An action alert is a message sent organization-wide to give employees a heads up about certain hazards that exist within the system. Typically, they outline a Recordable or Near Miss incident and include control strategies.
	Safety dashboards	A document that highlights relevant safety statistics. Can include both leading and lagging safety indicators. Examples include number of Near Miss reports, safety audit numbers, First Aid and Recordable rates. Typically updated monthly.
	Sharing lessons learned through internal communication channels	Communicate within the organization situations and/or observations that were encountered in the work environment for the purpose of highlighting safety-related items or issues to serve as a lesson on how to improve safety. These typically relate to situations where an incident happened or was narrowly averted, and where information about it can help avoid similar incidents by others.
Hazard Identification and Control	Energy Wheel	The Energy Wheel is an effective way to improve employee hazard recognition. This method focuses attention on the types of energy present in the work area rather than randomly attempting to identify hazards.
	Hazard hunts	A time in which employees take a critical and comprehensive look at their work environment to identify latent hazards. The goal of hazard hunts is to significantly reduce the amount of "unseen" hazards.
	JSA/JHA	A job safety analysis (JSA) or Job Hazard Analysis (JHA) is a procedure which helps integrate accepted safety and health principles and practices into planning for a particular task or operation. Some overlook the fact that the JSA/JHA is, in fact, the start of the work to be accomplished: identification and control planning for potential hazards to today's crew, in today's weather, work environment, and working conditions.
	Mechanical reliability	A standardized set of processes and tools used to plan, schedule, execute and document maintenance and repair tasks on vessels. The objective of such a system is to provide a consistent management approach across the fleet.
	Safety culture assessments	A comprehensive look at an organization's safe work environment, from executive leadership to frontline employees resulting in an actionable report of findings. A check on your safety pulse and how the safety you "talk" is being "walked."
	Safety inspections	An onsite walkthrough to identify potential hazards and identify options for corrective actions. After completion of a safety inspection, the responsible supervisor must be contacted to implement the recommended corrective actions. These actions are developed to aid in the prevention of future incidents, injury/illness, or property/equipment damage.

Focus	Examples	Definitions
Implementation of gap analysis	Employee Reviews	An employee review is held between a supervisor and an employee to discuss the employee's work, workplace conduct, and progress towards work goals. Including their contributions to safety culture and safe work outcomes creates a regular accountability cadence for maintaining safety standards and, best case, formal ties of positive safety results to remuneration.
	Safety Audits	Safety audits are designed to assure effective program elements are in place for identification and control or elimination of hazards that could adversely impact an organization's human and capital assets. Interactive audits include dialogue with system users while at work and/or through dedicated interviews and focus groups.
Industry knowledge and continuous learning	WODA partnership	The World Organization of Dredging Associations (WODA) is an independent, non-profit, professional organization. WODA was created to help dredgers from around the world get in contact with other people within the international / global dredging community and learn from each other's knowledge during conferences and seminars, from papers and presentations. The current Safety Culture Framework is a good example of a WODA work product.
Management of external partners	Client • Embed of safety in contracts	Safety is included as a contract requirement for dredging contractors unless the client relinquishes control of safety to the companies and regulators. The client needs to be aware of the capabilities of likely bidders, so that there is adequate competition. Modern contracts typically require the contractor to prepare safety plans and employ sufficient safety staff to support the work. In addition, contracts often will include site or region-specific safety practices (for example, coordination with local Vessel Traffic System). In strong safety system markets, the contract may specify review of those systems. For less established contractors, the client will need to take an active role ensuring the contractors live up to safety standards. The contract should outline the circumstances under which the client can stop work for safety reasons.
	Client • Observation Programs	Client may perform a Safety Observation Program for the works. The Safety Observation Program can proactively prevent incidents and injuries through the monitoring, trending, and management of safe vs. unsafe behaviors. The effective communication of safe and unsafe behavior trends to the contractors and project management is critical to a successful program. A trained, controlled group of observers will make observations of employees at work out on the site. The observations will note the date and time, location, company, and number of employees observed. Each observation will be designated safe or unsafe, and if unsafe, further information and categorization of the unsafe act. Also, observers are trained to constructively correct unsafe behaviors and provide positive feedback on safe behaviors. On a regular (weekly) basis, the observations are input into a tracking database from which the behavioral trends of the workforce are determined. The results of the week's observations are communicated both to the project as a whole and on individual basis to the contractor companies. Focus areas from the previous week's data are identified and emphasized to the workforce. Multiple formats for Job Safety Observations Forms are available. Consequences of failing safety performance during working may be specified in the contract.

Focus	Examples	Definitions
Management of external partners (continued)	Client • Transparent incident identification	To ensure safe operation of the project, the client should require reporting of safety incidents and accidents, along with analysis of the incident and it's causes, and remedial actions taken as a result. This is a minimum and will provide a mechanism for the client to impact safety on projects where the contractor may be at an early stage in the safety journey. A sophisticated client will expand this reporting to non-injury or damage-causing incidents such as violations of specific project safety rules. A contract may specify transparent incident identification in which are explained: - The name of the person reporting the incident. - The date and time the incident is reported. - A description of the incident (what is down or not working properly) - A unique identification number assigned to the incident, for tracking. - Follow-up on the incident. Client shall consider the objective in mind, including possible consequences, before obliging transparent incident identification in a contract. It also depends on nature and duration of the works.
	Trade Partner • Prequalification	The prequalification phase, which consists of selecting vendors or subcontractors to ask for proposals, is the start of the commercial relationship. Including safety requirements here demonstrates your commitment and intent with regard to safety on your sites. Safety-related prequalification items to request from potential vendors could include safety statistics, required certifications, commitment to safe practices, agreement to abide by your standards when on site and more.
	Trade Partner • Observation Programs	Client may perform a Safety Observation Program for the works. The Safety Observation Program can proactively prevent incidents and injuries through the monitoring, trending, and management of safe vs. unsafe behaviors. The effective communication of safe and unsafe behavior trends to the contractors and project management is critical to a successful program.
	Trade Partner • Transparent incident identification	Transparent incident identification for trade partners is similar to the prequalification phase, except when determining who is in charge of reporting. On our sites, any incident must be reported through our system. On work sites we don't control, such as shipyards, only incidents involving our employees will be reported in our systems. At vendor offsite operations, such as at foundries, we rely on the vendor to have their own system.

<table>
<tr><th>Focus</th><th>Examples</th><th>Definitions</th></tr>
<tr><td rowspan="3">Organization-wide safety communication</td><td>Feedback opportunities</td><td>Safety systems align well with the correlation between personal accountability and “care and concern.” Positive and redirecting performance feedback rooted in personal relationships connects with the whole person: mindset, psychological, and cognitive states of mind. Firm redirecting guidance toward safe work pathways resets expectations, reinforces seriousness about agreed-upon controls, elevates self-discipline, and continuously recommits to safe operations for all.</td></tr>
<tr><td>Messaging genres</td><td>During preparation of safety messaging delivery, considering mode of delivery is essential. Early decisions about how to organize specific amounts of information set communications up to be best received and retained. Use of auditory, visual, and kinesthetic modes is recommended to address multiple languages and learning styles.</td></tr>
<tr><td>Source/voice</td><td>It is important to understand your audience and determine the appropriate person within your organization to deliver a specific safe operations message. Careful attention to how the message is composed to ensure reliable, accurate understanding by the intended audience is also recommended.</td></tr>
<tr><td>Timing</td><td>It is crucial to recognize when the delivery of safety messaging will be most impactful. When deciding on delivery timing, weigh the importance of a rapid response to an immediate, known threat (for example, calling an ALL STOP to call attention) with the need to construct a more considered response to unsafe conditions (for example, creating and distributing a Safety Alert when a serious hazard is identified that may be present system-wide).</td></tr>
<tr><td>Stakeholder identification</td><td>Who does or should care about Roles and Responsibilities</td><td>It is vital to get the “right” people in the room. The following table outlines stakeholders that would need to be identified. Examples include but is not limited to:<table><tr><td>Planning Team</td><td>Assessment and preparedness jointly between local and regional team</td></tr><tr><td>Regulatory Agencies</td><td>Clients, Maritime Boards, Customs Department, Navy, Coast Guard and Ports, Shipping Authority, Environmental municipal and national agency</td></tr><tr><td>Stakeholder Engagement</td><td>Subcontractors, Clients, Fire Department, Hospitals, Ambulance Centre, Police Department, Utility Companies, Government agencies, municipal & local government, Environment monitoring centre</td></tr><tr><td>Preparedness</td><td>Site crew, shore staff, client staff to have common or similar Standard Operating Procedures for responsibilities, liabilities, and accountability on safety aspects</td></tr><tr><td>Legal and Insurance Team</td><td>Post incident / accident matters on legal and insurance claims</td></tr></table></td></tr>
<tr><td>Standardization of the work environment</td><td>Proper use, availability, and maintenance of PPE, Tools, and Equipment</td><td>To assure tools, equipment and personal protective equipment (PPE) are always used safely and correctly, it is essential that those are available as needed and that everyone is familiar with how to properly use (and assess/maintain as applicable). Standardization of PPE and tools greatly reduces risks of mix-ups, lagging or inapplicable training/instruction, confusion and errors, and enables users to self-identify when tools or PPE need maintenance, repair or replacement.</td></tr>
</table>

Topic: Incident Preparedness and Response

Emergency Response / Chain of Command Examples	
Focus Area	**Examples**
Level 3 – local scale with minimum threat to safety and environment	First Aid incident – no medical intervention required Command with local team (local site manager or site operating authority)
Level 2 – local or regional scale with medium threat to safety and environment	Fire in a warehouse: no injuries, property damage under $25,000.00 USD Command with local & regional team (regional manager or specialized internal authority)
Level 1 – regional or large area scale with major threat to safety and environment	Oil spill that violates applicable water quality standards, causing a multiple square mile sheen across the water and upon adjoining shorelines Command with local & regional & province & national coordination team

Sample Chains of Command

Local Team
- Dredger, reclamation, and pipeline Crew – Primary Contact
- Dredging, technical and Q-HSES superintendent
- Site manager
- QHSES manager
- Operations manager
- Client, subcontractor mangers
- Port managers
- Other local stakeholders

Regional Team
- Ambulance, fire brigades, first responders
- Regional manager
- Regional Q-HSES manger
- Operations / Technical manager at HQ
- Port authorities
- Customs authorities
- Police authorities

State / National Team
- Company MR / DPA
- Client top management
- Port and customs authorities
- Shipping office authorities
- Navy, Coast Guard authorities
- Utility Companies
- Government agencies
- Environment monitoring centre

Focus	Examples	Definitions
Emergency Response	Third party triage Chain of Command	External vendor brought onsite to aid with initial outcome of incident A series of executive positions ranked in order of authority
Incident tracking and follow up	Initial review of incident, First call to involved employee	Coordinate with local, regional and province and national team to understand Standard Operating Procedures of different stakeholders and process
	Incident Analysis (MCIA), Corrective Action implementation and follow up, SIF Analysis	Joint inspection of Client – Contractor for potential safety hazards Review, collate, and analyze incident details and circumstances for corrective actions to avoid loss of downtime in the future