DEKRA
TECHNICAL WHITE PAPER

THE MAKING SAFE DECISIONS® SOLUTION

Executive Summary

Culture, leadership, systems, and processes play a significant role in whether exposure is controlled in the workplace. We know that when leadership is focused on production over safety, incidents are more likely because exposures go uncontrolled. We also know that when work schedules and overtime demands require people to work in a fatigued state, errors are more frequent. And we know that when safety processes like Lockout/Tagout or Management of Change are not vigorously instituted and given the level of management oversight required, more errors occur.

For leaders, the challenge is embracing how the brain functions and not falling into the trap of thinking that people who make mistakes are bad people. Leaders also have to recognize that telling people to be more aware will not solve the problem.

Yet, even when organizational culture, leadership, systems, and processes are strong and supportive, good people still make mistakes, because they don't:

- See or discern the exposure, given how the human vision system operates.
- Recognize exposure as a problem.
- Complete all steps in a procedure because of fatigue, distraction, or running on autopilot (habits).
- Involve others in the process of error identification and prevention.

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The Seven Brain-Centered Hazards™

Fast Brain Functioning

Conducting important tasks without conscious thought and reliance on habits.

Visual Recognition

Missing important information due to the human visual system.

Divided Attention

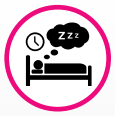
Attempting to multi-task leads to missed information and error.

Memory

Operating on information that feels correct in the moment and relying on our memory system.

Social Think

Our innate need to go along with our group/tribe prevents us from approaching others.



Fatigue

When our brains or bodies are fatigued, our risk for error increases significantly.

Stress and Urgency

When we notice hints of urgency from others, we put pressure on ourselves to complete tasks.

We're particularly susceptible to these errors when we are working by ourselves, but working in teams is not necessarily a fix and may foster additional opportunities for error. In fact, some incidents occur because other people are present, such as in the following incident example:

- Two construction workers are building scaffolding and are already 10 feet (3m) in the air but need to build it to a height of 20 feet (6m).
- As one worker is attaching the horizontal ledger for the next level to the vertical uprights through a coupler, he runs into a problem. The coupler has some dirt stuck in it and the tube won't seat properly.
- The second worker comes over to help. Together they try to jam the tube into the coupler, but it still won't go. The first person thinks to himself that they should inspect and try to remove the debris. The second person thinks to himself that jamming it was making progress and they should try again.
- The first worker puts his finger in the coupler to try to remove the material at the same time the second worker tries to jam the tube in again, severely cutting the first worker's finger.

For leaders, the challenge is embracing how the brain functions and not falling into the trap of thinking that people who make mistakes are bad people. We also have to recognize that telling people to be more aware will *not* solve the problem.

Instead, increasing human performance requires a science-based approach. The Making Safe Decisions® (MSD) solution helps people understand brain-oriented vulnerabilities and teaches techniques for overcoming them. MSD participants learn how their brains can help or hinder their actions and what they can do to optimize reliability in real time to avoid unplanned events.

The Challenge of Brain-Centered Hazards™

To appreciate the value of the Making Safe Decisions solution, a discussion of how it fits within the Brain-Centric Reliability™ system (BCR) is required.

For decades, safety leaders have been trying to unlock the mystery of why good employees occasionally make incorrect decisions. For example:

- Why does a worker, with years of experience conducting the same task, suddenly make an error that results in a serious injury or disruption to the operation?
- Why do people miss important information when they are monitoring gauges that are right in front of them?
- Why does a driver swear the light was green when the drive cam video shows differently?

Recent neuroscience research indicates how the brain is related to these errors. In many cases, these characteristics, which we call Brain-Centered Hazards™, help our brains be more efficient but, in some cases, can increase our exposure to injury and error.

We all can visualize physical hazards, such as ice on a sidewalk, an unguarded rotating shaft, a speeding driver, or the movement of a heavy load with workers nearby. But it is more difficult to visualize hazards housed in our brains. If left unattended, Brain-Centered Hazards can create high-consequence exposures.

In fact, some of the most serious organizational accidents involving Brain-Centered Hazards are classified as "human error."

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The Brain-Centric Reliability System

DEKRA has leveraged findings from neuroscience research to create a new human and organizational performance service called the Brain-Centric Reliability System.

Controlling these Brain-Centered Hazards requires that critical organizational elements be aligned with how the human brain actually works. The BCR system addresses reliability gaps within work environments, technological interfaces, operating procedures, training, work schedules, decisions, risk perceptions, and the leadership-driven messages that shape organizational culture. All components of operational reliability must be aligned and draw on the latest neuroscience research to achieve sustainable success.

Enhancing the skills and capabilities of the worker represents the last line of defense in this system and cannot be ignored. The Making Safe Decisions solution represents this element of the BCR system and is targeted at front-line workers and the supervisors who support them.

The Making Safe Decisions Solution

Successful implementation of the Making Safe Decisions solution entails five critical steps: Planning the Implementation, Managing/Supporting the Implementation, Building Capability, Tracking Progress, and Sustaining Success.

1. Planning the Implementation

Implementing the Making Safe Decisions solution begins with evaluating the exposure profile of the organization, understanding the safety activities performed by leaders and workers, and planning the key steps and milestones of the implementation.

The purpose of the evaluation is to understand the work environment, typical work activities, safety/performance tools, work/process flow, and exposures. This evaluation is also used to understand the site culture, supervisor/manager activities, and safety processes and systems. Information gleaned from the evaluation enables the implementation to be customized to the organization's situation and to tailor the learning modules to best resonate with supervisors and front-line workers.

After the evaluation, a planning meeting is conducted to review the organization's goals and objectives, define roles and responsibilities, determine the rollout, and develop a communication and governance strategy. Critical to the rollout is ensuring that site leaders understand Brain-Centered Hazards and support the efforts of front-line workers to control these hazards on the job. This happens through the Controlling Brain-Centered Hazards for Leaders workshop and subsequent leadership coaching.

2. Managing/Supporting the Implementation

Leadership governance of the implementation is focused on planning and communication and on removing obstacles to ensure a successful implementation. Management of these responsibilities can be coordinated through an existing EHS cross-functional team or through a project governance team.

Key Leadership Governance Team responsibilities include the following:

- Planning the implementation
- Identifying and selecting internal trainers (if this delivery approach is used)
- Ensuring that internal trainers are certified and given the time and resources to implement training across the organization
- Communicating the purpose, objective, value, and project plan for the implementation
- Tracking progress of the implementation

The Making Safe Decisions® Approach

Seeing

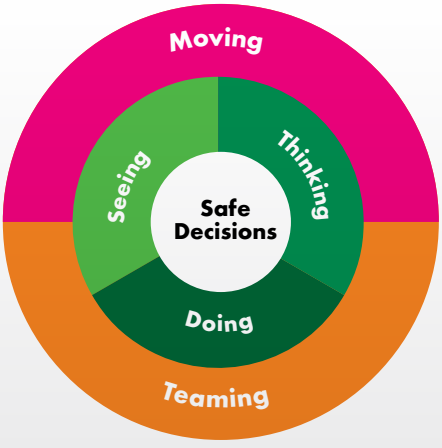
- Noticing more exposures
- Detecting change

Thinking

- Interpreting implications
- Comprehending meaning

Doing

- Checking and verifying work
- Evaluating work



Moving

- Identifying and taking action on soft-tissue load factors

Teaming

- Validating team member's perceptions
- Approaching team members on exposures

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- Measuring leading indicators of progress
- Removing barriers to success
- Ensuring that leaders perform their sustainability activities

Key responsibilities for managers include the following:

- Identifying the best way to get front-line workers across shifts trained
- Communicating the purpose, objective, value, and project plan for the implementation
- Ensuring that their supervisors attend the modules
- Providing time for front-line workers to attend training modules
- Reinforcing messages from each module as they occur
- Integrating seeing, thinking, doing, moving, and teaming prompts into safety activities
- Reinforcing sustainment activities
- Echoing success stories
- Recognizing front-line workers for applying strategies
- Utilizing visual reminders
- Measuring leading indicators of progress

3. Building Capability

The foundation of the Making Safe Decisions solution centers on four half-day sessions for front-line workers and are designed to cover the five modules essential to every human action when they work alone or with others: Seeing, Thinking, Doing, Moving, and Teaming.

Front-line workers will then apply skills learned in the sessions through on-the-floor sustainment activities and supervisor field coaching. Additionally, to enable informed leadership and support of this change initiative, leaders will participate in a session on Controlling Brain-Centered Hazards.

Seeing

Noticing exposures and detecting change.

- **Content:** The first phase of every human action is perception, usually through our vision system. You cannot manage hazards that you have not seen. In this module, we introduce the concept of Brain-Centered Hazards and focus on: Fast-Brain Functioning and Visual Recognition.
- **Development:** Participants learn the flaws in human perception and how they make us vulnerable to error and injury. We then introduce strategies and skills to enhance the ability to see visual exposures. Participants will practice these strategies several times within the module and on the actual job site.

Thinking

Interpreting implications and comprehending meaning.

- **Content:** The second phase of every human action is thinking. Once we've noticed the exposure, we need to recognize it as a threat and consider how to control it. This session addresses how the brain is susceptible to thinking errors that occur during planning and decision-making that can lead to error and injury. Thinking and Seeing together represent situational awareness capabilities.
- **Development:** Participants learn skills that prompt more work pauses, questioning, and deeper analysis during planning, problem-solving, and abnormal conditions. The human brain tries to conserve energy and jumps into action too quickly at times, so learning to switch on thinking and adjusting how we think help ensure safety.

Doing

Checking, verifying, and evaluating work.

- **Content:** The final phase of every human action is doing. This session covers how our brain is designed to shift attention during tasks, changing from focused and purposeful to unintentional, habitual, and automatic to conserve energy.
- **Development:** Participants learn skills to hone their ability to work consciously during critical tasks or high-exposure points. Fostering safety focus during these tasks results in better execution and enhanced precision, verification of correct actions and results, and course corrections before errors occur that can impact safety or operational continuity.

Moving

Noticing and controlling the load factors that lead to soft-tissue injuries.

- **Content:** Often the exposures to soft-tissue injuries are silent because they can occur for years below skin level before emerging as pain and injury. Therefore, the key is to identify the nine load factors in the work that cause soft-tissue injuries and employ the controls necessary to mitigate them, such as reducing the load through critical behaviors or increasing capacity.
- **Development:** Participants will learn how to identify load factors, the skills needed to reduce load, and techniques for increasing capacity to mitigate exposure to soft-tissue injuries.

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Teaming

Validating team member's perceptions and approaching others on exposure.

- **Content:** Two brains are usually better than one. Yet too often, workers do not speak up in disagreement or make safety suggestions because they want to avoid conflict. In fact, our "social brain" will by default "go along to get along" so we are in lockstep with our work group or tribe.
- **Development:** Skills built in this session include improved critical communications — how to best approach others with either safety suggestions or life-protecting interventions, how to increase safety-related collaboration, and how to inoculate the team against groupthink.

4. Tracking Progress

When the Making Safe Decisions solution is implemented effectively with leadership support and sustainability actions, the organization sees changes in several leading measures such as:

- Increased number of physical hazards identified (Seeing) as more workers notice hazards in the work environment.
- Increased number of work pauses (Thinking/Doing) as exposure changes are noticed, key decision points are reached, and workers become more attuned to the factors (e.g., urgency, distraction) that drive mistakes and take active steps to refocus and make thoughtful decisions.
- Increased and improved communication and coordination between workers on the same task (Teaming).
- Increased number of workers approaching each other respectfully on at-risk behaviors and actively combating social-think errors (Teaming).
- Increase in quality and a reduction in errors or rework (Thinking/Doing).

These leading indicators are predictive of enhanced organizational safety culture and fewer injuries.

5. Sustaining Success

Implementation of the Making Safe Decisions solution requires putting in place a comprehensive and consistent set of sustainment activities. Training skills and habits are more likely to stick if reminders and reinforcers of key techniques are rotated regularly in the daily work environment. Supervisor and manager actions taught in the Controlling Brain-Centered Hazards session are critical for the success of MSD and are reinforced through a series of field coaching events with supervisors and leaders of leaders.

It is important that what the worker sees (posters, pictures, and visual reminders), hears (pre-shift briefings and success stories), and experiences (integration with technical training events and personal success) all reinforce the same key MSD strategies and concepts.

Conclusion

Exposure in the workplace depends on culture, leadership, systems, and processes. Yet, even when all of these are working, workers can still make mistakes. They may not see an exposure, recognize it as a threat, or execute job procedures as precisely as needed. And working with others may exacerbate the situation.

The Making Safe Decisions solution helps leadership understand how the brain plays an important role in exposing workers to vulnerabilities and teaches them specific techniques for overcoming them. This is a way for employees at all levels to learn how the brain can help or hinder and what they can do in real time to avoid unplanned events.

There is no silver bullet for eliminating all error from the workplace. What we can do, however, is put strong defenses and countermeasures in place. Effective leadership, a mature culture, brain-aligned systems, and countermeasures, such as the Making Safe Decisions solution, enable "Right First Time" performance to occur more often and more consistently across the organization, especially within safety and operation critical tasks.

Learn More

Want to learn more about how your organization can enable "Right First Time" performance every time? Connect with us:

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