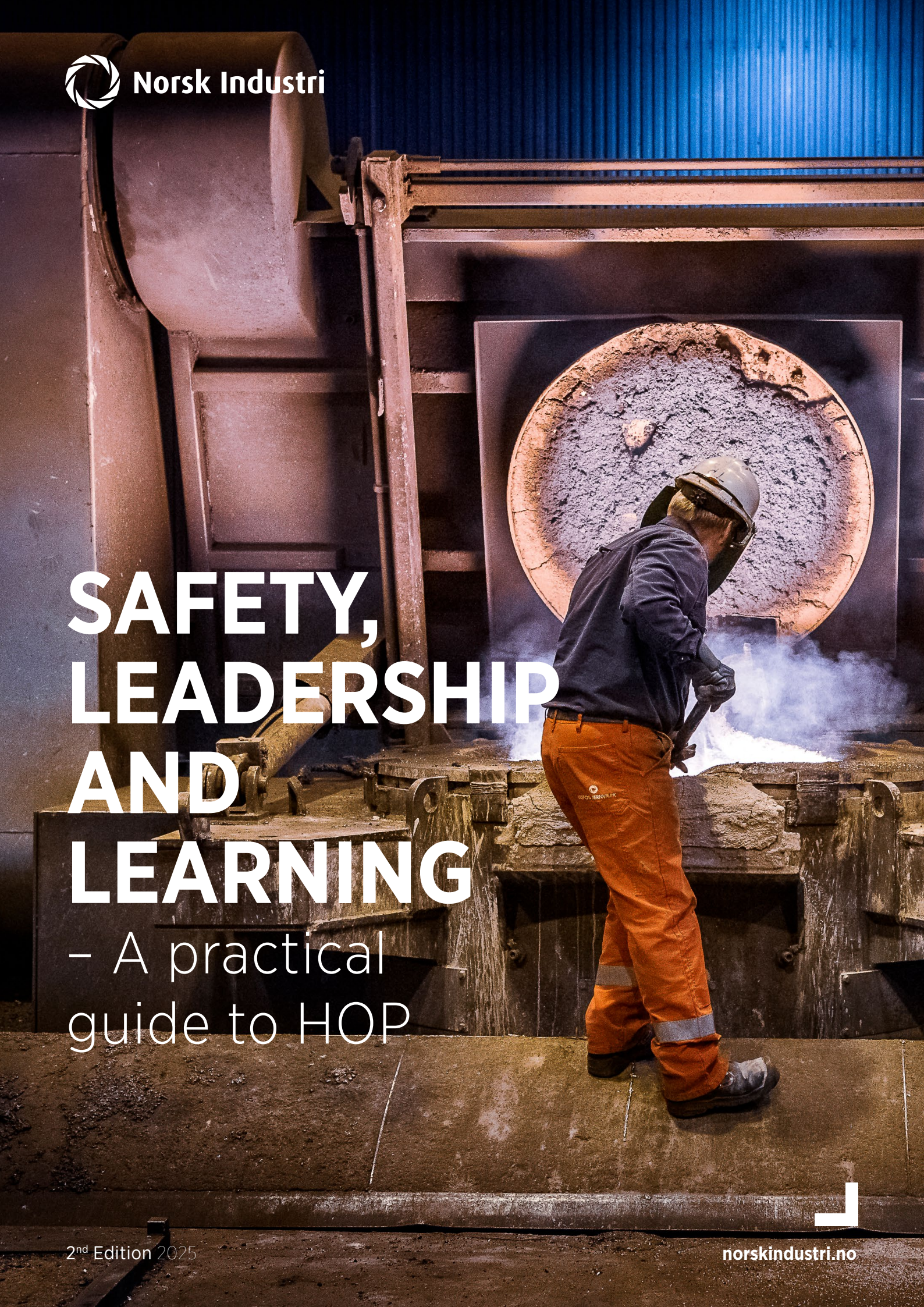
Norsk Industri



SAFETY, LEADERSHIP AND LEARNING

– A practical guide to HOP

2nd Edition 2025

norskindustri.no

Foreword

Kings Bay, Alexander Kielland, Åsta, Helge Ingstad. Major accidents are tragic milestones in Norwegian history. Over the years, these have become rarer, largely due to learning from these events. Technology has improved, and regulations have become stricter.

However, we must not become complacent. There are still too many workers who are seriously injured in our industry every year. More importantly: Safety is never something we have; it is something we constantly create. In recent years, companies have faced challenges from the pandemic, war, increased operating costs, and unstable market conditions. Social unrest can create vulnerabilities at the organisation level. An organisation's ability to adapt is crucial to ensuring safe operations.

Serious accidents rarely have a single cause. It is usually not individual components or individuals that fail, rather it is the systems that fail. The conditions that create accidents have often been present long before things go wrong. The organisation has operated with the same routines, personnel, and equipment over time. Learning and improvement cannot only be done after an incident – it must also be done when nothing is happening. This gives us a better opportunity to identify conditions that hinder safety.

Prevention has always been a high priority in Norwegian HSE work. The basis for this guide is that HSE work can be done even better, based on some simple but important ideas: Regulations alone do not create safe workplaces. Those who do the job know best where the problems are. Leaders must have the trust of those who do the job to be told where the problems are. This idea is simple on paper but often challenging in practice.

This guide is not only about why we need a new approach to safety but also how it can be done. It lays the foundation for improvements regardless of organisation size, industry, or risk profile. It primarily addresses the most common HSE activities carried out in companies and has been developed by representatives from The Federation of Norwegian Industries' HSE committee, the HSE council of The Federation of Norwegian Industries Offshore Technology Suppliers, and BehaviorLab.

The industry is in continuous change, with new challenges requiring new solutions. The guide lays an important foundation for finding these solutions ahead of events.

Happy reading!

Harald Solberg
Chief Executive Officer
The Federation of Norwegian Industries

Human and Organisational Performance (HOP)

The conceptual basis for this guide is Human and Organisational Performance, or HOP. HOP is an approach aimed at improving safety by understanding and enhancing the ability of individuals and organisations to function in complex and risky situations. HOP focuses on the interaction between people, technology, tasks, and organisational factors to achieve safe and efficient work.

HOP is based on various safety frameworks, such as human factors, Safety 2, resilience engineering, etc. The purpose of HOP is to make the ideas in these frameworks easy to use in practice. HOP originates in different fields and industries, especially aviation and the nuclear industry. Today, the approach is used by companies in, among others, the oil and gas, maritime, pharmaceutical industry, healthcare, construction, and defence.

PHOTO Moreld Apply

As leaders, we must be present where the work is actually done, and we must be curious. We need to get better at asking good questions and listening to those who do the job. They are the experts, they know what the challenges are and often what is needed to create improvement. The HOP approach can help us identify unsafe and hazardous conditions BEFORE an incident occurs.

STÅLE KYLLINGSTAD, CHAIRMAN OF THE BOARD IN THE FEDERATION OF NORWEGIAN INDUSTRIES AND CEO OF IKM GROUP

Content

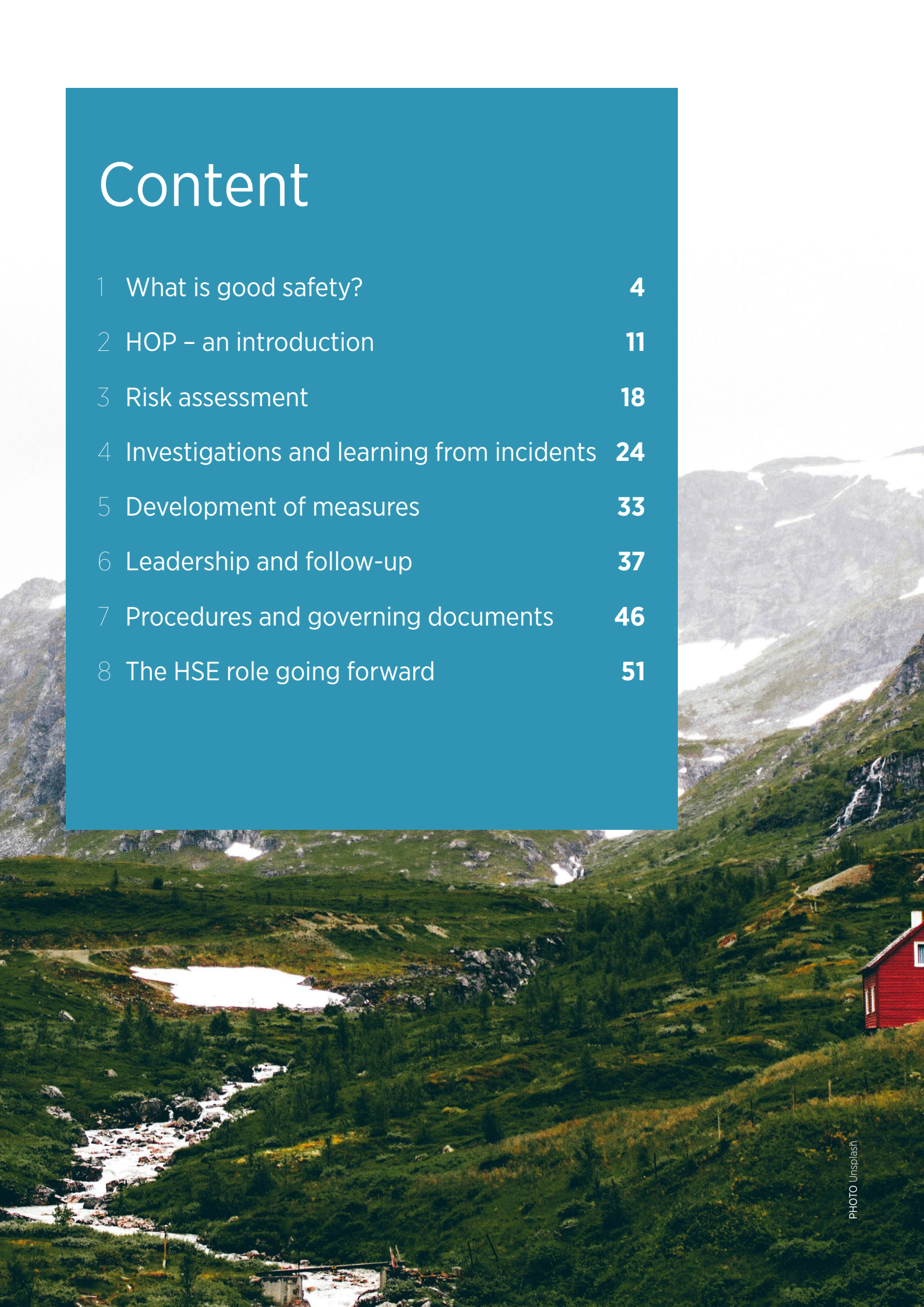


PHOTO Unsplash

CHAPTER 1

What is good safety?

PHOTO Ulefos

In the industry, people work with safety-critical tasks every single day. Safety-critical work occurs in all parts of the organisation and can be demanding: equipment may be unavailable, time pressure can be high, there may be a shortage of people, and contracts may be at stake. Sometimes things go wrong.

In the industry, the number of incidents, personal injuries, and accidents has decreased in recent decades. At the same time, serious accidents still happen with consequences for people, the environment, and the companies' reputation.

Frequency and severity usually do not correlate. A low number of minor injuries tell us little about the likelihood of serious accidents. A goal of better safety should therefore start with the question "what do we mean by good safety?". Many companies equate "good safety" with "low numbers". We must look at both what numbers we are measuring and how these numbers are interpreted.

?

Is safety the absence of incidents or is safety the presence of capacity to prevent incidents from happening?

PHOTO Stena Recycling

A new perspective on the ”zero vision”

We must expect that challenging situations arise and that people sometimes make mistakes. It is unrealistic to assume that all incidents can be prevented. In manual work, it is also unreasonable to assume that all minor injuries such as sprains, cuts on fingers, and debris in the eye can be eliminated. A zero vision should aim to prevent all deaths, life-changing injuries, and other serious consequences. That is realistic.

This shift in perspective on the “zero vision” has practical implications for how safety results are measured, interpreted, and rewarded.

Proactive safety work requires prioritisation

A zero vision based on zero incidents will often be accompanied by a defined goal of few or zero personal injuries (typically TRIF or H2). If this number is used to compare departments or suppliers, it can lead to undesirable side effects, such as underreporting or excessive focus on classification. Additionally, it will lead to much of the management’s attention being directed towards following up on minor injuries – safety work that is reactive. This prioritisation will often come at the expense of time and attention directed towards conditions that can lead to serious consequences.

H2/TRIF (Total Recordable Injury Frequency) is the number of all injuries including medical treatment and reassignment to other work per million hours worked.

REFERENCE Norsk Industris veileder for personskadestatistikk (2019; Only available in Norwegian); Incident Statistics Program Reporting Guidelines (IADC)

Prioritising proactive safety work is not just about changing mindset, but also about how we measure and report.

What are good leading indicators?

We cannot only measure what has happened, we must also measure conditions that indicate what might happen. Leading indicators (also called proactive indicators) are an important counterbalance to lagging indicators (also called reactive indicators) in safety. Leading indicators can give us a picture of conditions that affect safety before incidents have occurred. There are many examples of these:

- Observations of error traps
- Pre-job conversations
- Learning reviews
- Courses/competence requirements
- Things that go well
- Psychological safety (and other data from employee surveys)
- Open corrective actions
- Safety rounds and other forms of management involvement
- Technical condition, maintenance backlog, etc.

These indicators also have limitations. They vary in how sensitive, demanding, specific, diagnostic, and transferable they are. They are often more subjective (and manipulable) than lagging indicators. Therefore, leading indicators should not be considered a solution on its own, but more as a tool to indicate the state of safety in the organisation.

REFERENCE Casper Pilskog Orvik, NTNU

Good practice for measuring safety:

- Prioritise measuring conditions and incidents with the potential for serious injury or death
- Avoid setting goals or KPIs for H2/TRIF, but use them as indicators
- Avoid linking bonuses or other financial incentives to injury numbers
- Balance the emphasis on lagging indicators (e.g., H1/H2) with leading indicators
- Look at what learning opportunity an event provides and not just the consequence when investigating events
- Focus as much on what lies behind the numbers as on the numbers themselves

PHOTO Elkem

- What conditions can lead to serious injuries or deaths at your workplace?
- Which measurement indicators provide a picture of these conditions today?
- How do you identify incidents with the greatest learning value?

Good safety: Not just the absence of incidents, but also the capacity to work safely

The number of injuries or incidents gives us a picture of what has happened, but it does not tell us where we are vulnerable to future incidents. "Good safety" is as much about the organisation's capacity to avoid and handle things that have not yet happened.

From focusing on everything to focusing on avoiding serious incidents

REFERENCE A/S Norske Shell

To understand how we can facilitate increased safety tomorrow, we must be more proactive and learn from the work we do every day. We must identify conditions that require attention and address them before an incident occurs.

We want to:

Work purposefully based on injury potential
- Focus on serious incidents and high-potential jobs

Measure indicators that promote learning
- Leading indicators with the greatest potential to prevent serious injuries

Use data to understand serious incidents
- Investigation and learning resources are used where they have the greatest impact and significance

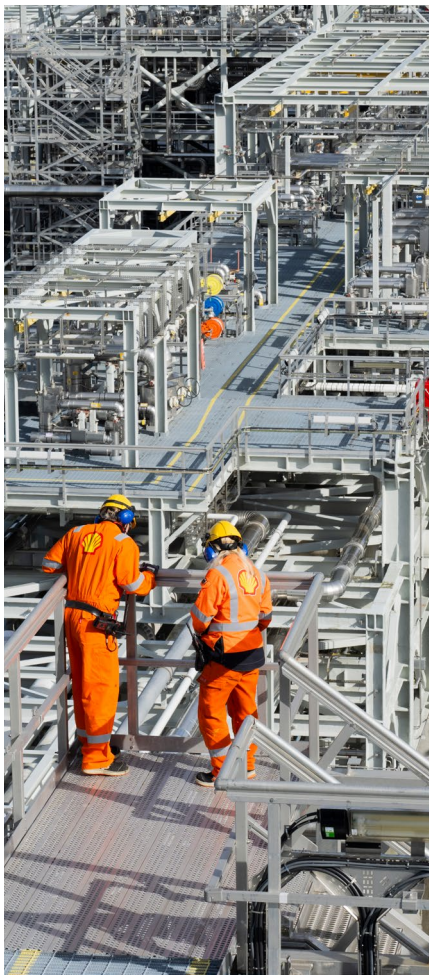


PHOTO A/S Norske Shell

From
- Pressure from goals and Key Performance Indicators
- Investigation of all incidents
- General focus on safety
- Belief that all minor consequences and incidents can predict the likelihood of a more serious incident

To
- Care for the individual
- Use investigation resources on incidents with high learning value
- Indicators with the greatest potential to prevent serious incidents
- Focus on strengthening barriers and avoiding serious incidents

"With the introduction of SIF (Serious Incident Frequency) as the main KPI for safety, we have shifted the top management's focus from following up on all types of incidents to a more focused approach aimed at high-potential incidents. This, combined with a clear classification of high-potential incidents into the categories Fail Safe and Fail Lucky, has allowed us to better recognise strong barriers and focus investigations on incidents with the highest potential and learning value.

JOSTEIN FJOGSTAD, HSSE & SP MANAGER AT A/S NORSKE SHELL

When nothing happens, a lot is happening

Serious accidents are fortunately rare, but the conditions that lead to them are not. There is often little that separates days when things go really wrong from days when nothing goes wrong. The work we do daily is affected by various conditions and circumstances that can make it difficult to comply with requirements and regulations.

In most situations, it is not possible to foresee everything. What can make it difficult or get in the way of doing the job? These can be conditions such as:

- Less available time than necessary
- Lack of people, equipment, or information
- Bad weather
- Unclear plans or procedures
- The work area looks different in reality
- Unclear who is responsible for what

Variation in how we perform the work is natural, and most of the time this goes well. In some cases, this flexibility helps us find better solutions than those described in requirements and procedures. Other times, significant deviations occur. When the gap between requirements and practice becomes too large, the risk and likelihood of errors increase.

Do we have robust systems in place so that our employees can fail safely?

Framework conditions that affect operative personnel can, for example, include increased time pressure when a customer needs equipment three days earlier than agreed, or situations where a job requiring three people must be done with only two.

Framework conditions also affect managers. For instance, clients might want to cancel contracts if deliveries aren't on time, or senior leaders may solely focus on financial indicators, disregarding middle management's perspective on operational challenges.

REFERENCE Antonsen, S. (2009). Safety culture assessment: A mission impossible? Journal of contingencies and crisis management, 17(4), 242–254.

Errors

People make mistakes. Not because we want to make mistakes and harm ourselves or others, but because it is normal. We must assume that most people want to do a good job according to what is expected of them. In practice, this can be challenging. Our decisions and actions are influenced by the systems and conditions around us. To manage challenging conditions, we must understand them first.

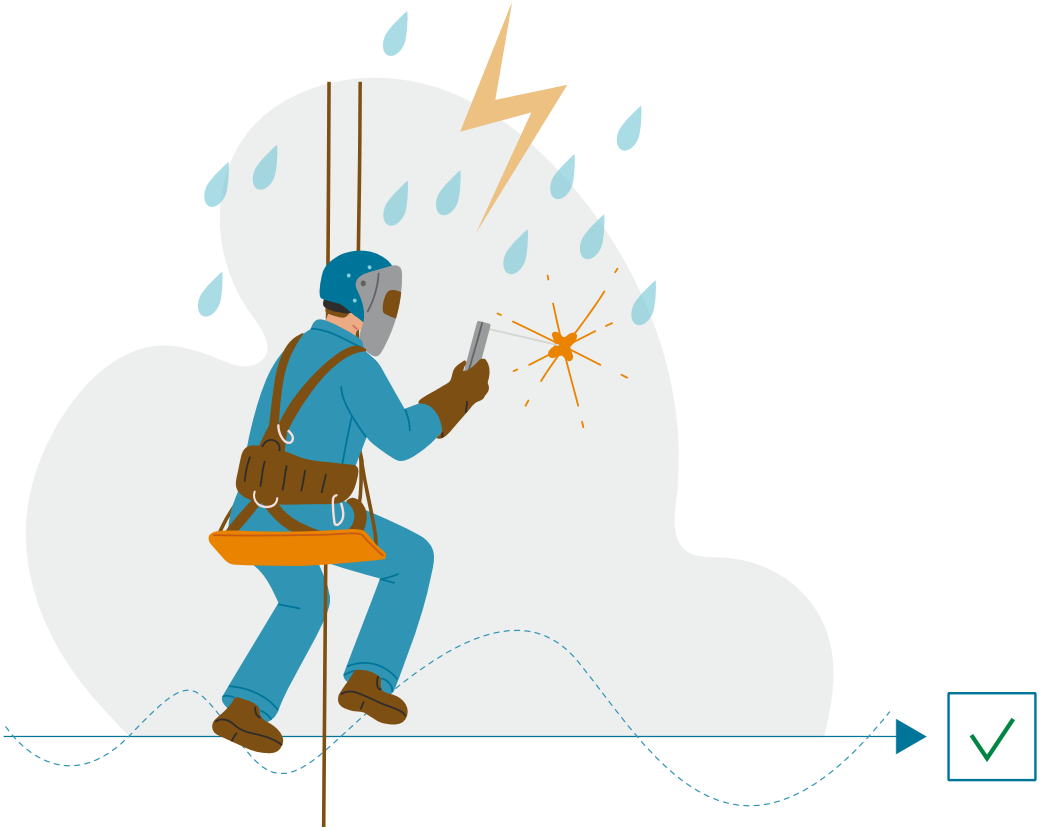


PHOTO Aibel

We can assume that most people who are going to do a job want to comply with requirements and expectations, but that conditions around the job can make this difficult. We must therefore understand these conditions to make the work safer.

Viewing errors as normal, and often as a result of complex causal relationships, does not mean that we remove accountability. We all have a responsibility for safety and to do what we can to ensure that our work and surroundings are safe (see more about this in chapter 6). We should report challenges or problems in our work and follow up to ensure improvements are made. We must eliminate conditions that make it harder to work safely and in accordance with requirements and procedures, while also strengthening our systems to make it easier to perform work safely.

Learning from normal work

Learning from incidents is important. But it is also important to learn from normal work before an incident occurs. This is about learning from what people do as part of their daily work. Most of the jobs we do go well. Here lies a great potential for learning. The conditions that become visible after an incident have often been present in normal work (before the incident) as well. If we become good at learning from normal work, we can identify and manage these conditions and help prevent undesired incidents. We are usually focused on planning and executing tasks, not looking back at what we just did. Therefore, this requires willingness and prioritisation.

Success

Errors

Safety as capacity

> We operate in an industry that involves significant risks due to energetic materials, and it is therefore extremely important for us to understand our processes. A HOP-based approach is beginning to be integrated into our management system, and a concrete example is what we now call ”Event Learning”. The focus has shifted from a single root cause to understanding the context around an incident and verifying the barriers that helped us avoid an injury or minimise the extent of an injury. By focusing on learning, we identify where our systems are robust and where we need to strengthen them to build more capacity, allowing people to make mistakes safely without serious consequences.
>
> MAURICE “CHIP” MUSER, DIRECTOR HESS AT NAMMO

We must have sufficient capacity to perform our tasks safely. It is important to have both the necessary competence and resources to carry out the tasks effectively and safely. If we lack one of these factors, we cannot perform the tasks properly.

When someone makes a mistake, we must have safety measures in place to handle the situation as best as possible. The goal is to build resilient systems that reduce the likelihood of errors while recognizing that errors can occur. This also involves limiting the consequences of errors.

> In our industry, it is unrealistic to believe that we can avoid all incidents. People will make mistakes. However, we believe it is possible to avoid serious consequences of incidents.
>
> PEER CHRISTIAN ANDERSSEN, DIRECTOR HSSQ AT SKANSKA NORGE A/S

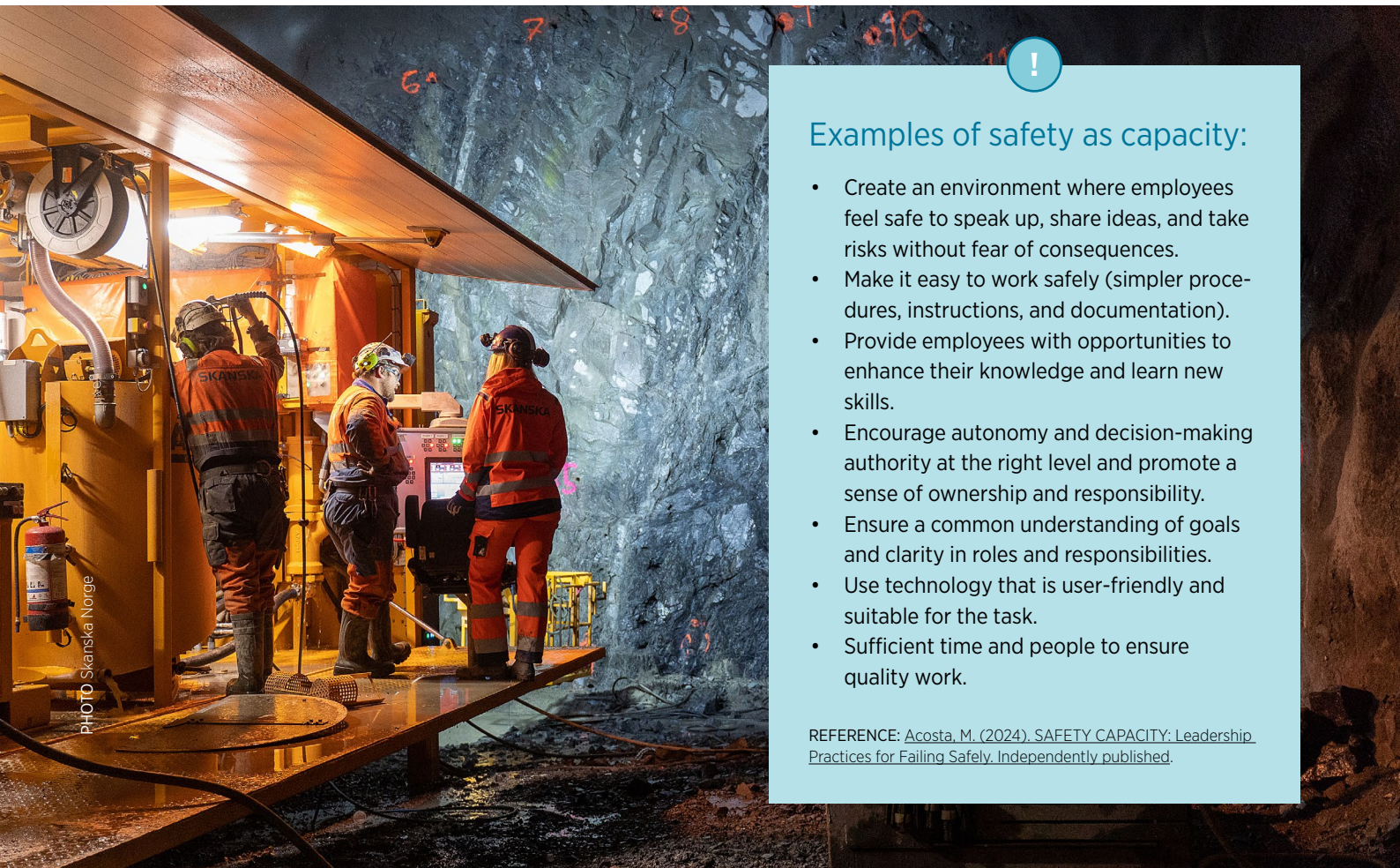


PHOTO Skanska Norge

Examples of safety as capacity:

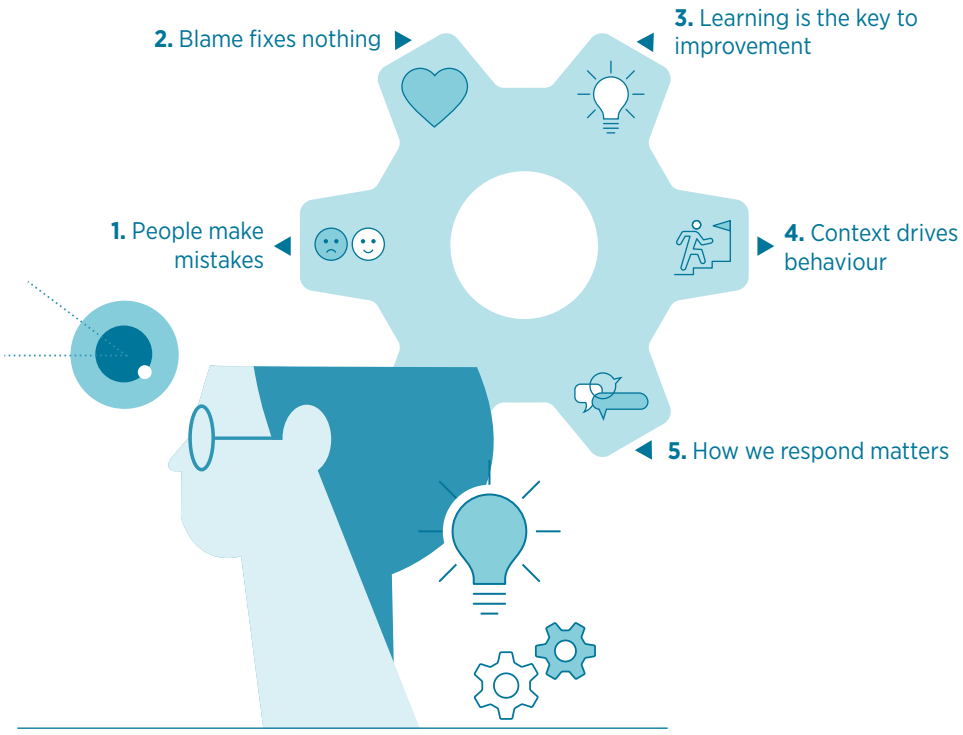
- Create an environment where employees feel safe to speak up, share ideas, and take risks without fear of consequences.
- Make it easy to work safely (simpler procedures, instructions, and documentation).
- Provide employees with opportunities to enhance their knowledge and learn new skills.
- Encourage autonomy and decision-making authority at the right level and promote a sense of ownership and responsibility.
- Ensure a common understanding of goals and clarity in roles and responsibilities.
- Use technology that is user-friendly and suitable for the task.
- Sufficient time and people to ensure quality work.

REFERENCE: Acosta, M. (2024). SAFETY CAPACITY: Leadership Practices for Failing Safely. Independently published.

CHAPTER 2

HOP – an introduction

Human and Organisational Performance (HOP) offers a lens through which we can understand our work processes, including how organisational systems influence our decisions, actions, and the likelihood of our success. The HOP approach helps us see better solutions and create better results by looking at things in a new way.



Traditionally, we have viewed and explained safety with a focus on people and their behaviour: an error is a result of non-compliance or poor quality of work. The problem with this is that it limits our learning and the improvements made afterwards. Since the focus and measures are at the individual level, we risk the same errors happening again when other people perform the same task under similar working conditions.

We need to create lasting change and work on improving safety by fixing the work, not the worker. Those who do the job are experts in their work, not the cause of the problems that arise. They are resources that can help us find solutions to the problems. HOP uses a systems approach to safety, looking at what influences people's behaviour and what we can learn from this to create improvement.

In this way, we can implement measures that make conditions safer for everyone who will perform the same task in the future.

PHOTO Skanska Norge

What is different about HOP?

A traditional approach to safety often focuses on employee behaviour or a failed component. HOP emphasises the situation in which the work takes place.

Those who are to perform a job must have the prerequisites to do the job well. At the same time, we must also assume that the job can be done better. There is always room for learning and improvement. It is also important that what is done has value, and that this value is clear to the person doing it. It is not just about following a requirement, but about what one is trying to achieve by working as described in the requirement.

> Good safety is crucial to achieving our vision at Statkraft. In our work with safety culture, we actively use the HOP principles. HOP is now also integrated into the way we work with HSE.
>
> ANNELI NESTENG, SENIOR VICE PRESIDENT CORPORATE HSS AT STATKRAFT

Individual-oriented approach

Non-compliance and errors

↓

Focus on behaviour

↓

Measures aimed at the individual's competence, experience, understanding, and attitudes

HOP

Conditions and circumstances influence choices and actions

↓

Conditions that influence behaviour

↓

Systems-level measures: organisational, task-related, and technical

The HOP principles

The HOP approach is based on five principles. These are the foundation for how we can think about how people do their jobs, how we think about errors, and how we can think about learning and improvement.

1. **People make mistakes**
2. **Blame fixes nothing**
3. **Learning is the key to improvement**
4. **Context drives behaviour**
5. **How we respond matters**

REFERENCE Conklin, T. (2019). The 5 Principles of Human Performance – A Contemporary Update of the Building Blocks of Human Performance for the New View of Safety, PreAccident Media.

> These principles don't prescribe how we work safely – that's what the requirements in our management systems do, but they define what we believe is best practice. What these principles offer is guidance on how we can learn to become better.
>
> KRISTIAN GOULD, SPECIALIST HUMAN FACTORS AND ORGANISATIONAL SAFETY AT EQUINOR ASA

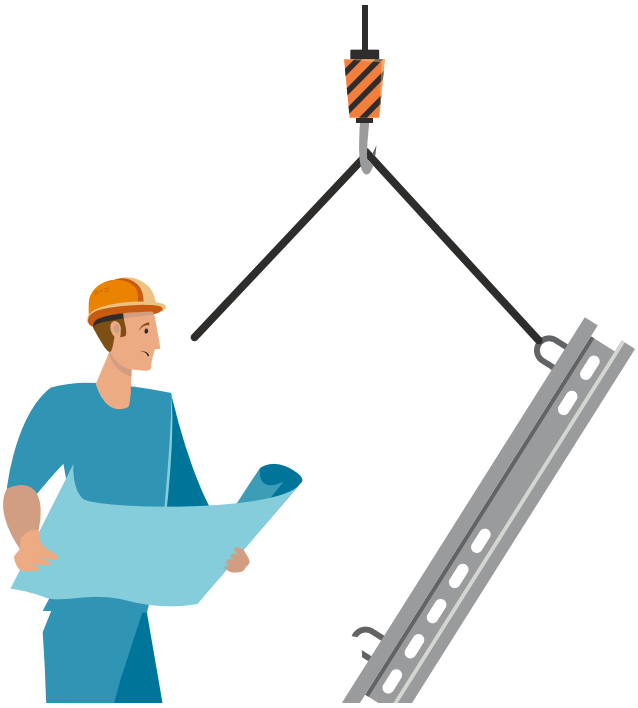


PHOTO Equinor

Principle 1: People make mistakes

How do we approach human errors in our organisation?

Mistakes are normal. We all make mistakes. Even the most skilled leader and the most experienced employee sometimes make bad decisions. In hindsight, it may seem obvious that the assessments made were wrong, but we do not make mistakes on purpose. Variability, uncertainties, and unforeseen circumstances can result in decisions that seem right in the moment, but don't yield the expected outcomes. When others make mistakes, our first instinct is often to attribute it to individual characteristics, such as lack of competence or bad attitudes. In most cases, the conditions and circumstances in the situation are more important. Errors and non-compliance are usually not the cause of incidents, but symptoms of underlying problems.

Principle 2: Blame fixes nothing

How do we treat individuals when mistakes happen in our organisation?

Holding people liable is sometimes important in situations that require legal processes and as a reaction to intentional actions or serious negligence, such as intoxication or gross negligence. But it is not appropriate as a response to human errors, especially if the goal is learning and improvement. Blaming reduces trust and safety, leading individuals to avoid reporting issues for fear of repercussions. This reduces our insight into important conditions influencing our work that require improvement. After all, we can't fix what we don't know.

It is important to note that blame is not the same as punishment. Blame is often subjective and is to a large extent about the story of what went wrong. This story will often revolve around who was involved, what was lacking, and what they should have done instead. The language we use says a lot about where we place blame. When we talk about "lack of risk awareness", "insufficient leadership follow-up", or "lack of precision" after incidents, we communicate that it is individuals who are to blame.

Experience from the industry

One of the first things I did when I started my job was to say that "one thing you can be sure of is that if you are honest with me, you will never be reprimanded, no matter what it is about. I will never reprimand. It may well be that we need to have a chat about various things that have happened or incidents, but you will never be reprimanded". I repeated this very often because there was a culture where people did not report anything, which in turn led to them not registering the important cases. But gradually, as we started to change this, people began to come in and ask questions. Before, no one asked questions because it was not as open a culture. But when we started this change, we saw that work where learning and competence building were central became easier because there was already a sense of security that honesty, openness, and questions were actually welcomed with open arms.

KRISTINE PEDERSEN, HESQ & HR MANAGER AT TROSVIK INDUSTRI AS

PHOTO Hydro

Principle 3: Learning is the key to improvement

How do we focus on learning in our organisation?

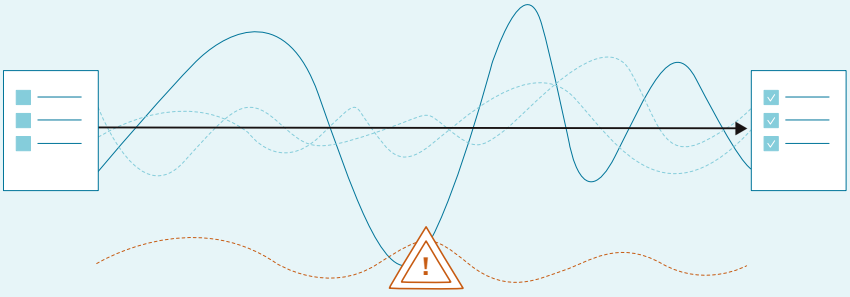
What happens when we shift the focus from who to what? Learning is vital for our ability to improve. Instead of focusing on the individual and what was done wrong, there is great potential in understanding the circumstances that influence how work is carried out and create variation. We need to understand how requirements are translated into practice where the job is done. What makes the job difficult and increases the risk of errors? How can we manage this in the best possible way? This is important learning we must not only derive from incidents but also from the work we perform that does not result in incidents: normal work.

Principle 4: Context drives behaviour

How do we account for the circumstances people are working under when explaining how they perform their tasks?

No matter how well a job is planned and prepared, there will always be deviations, large or small, from what we expected. The map doesn't always align with the territory. Circumstances such as weather conditions, unclear or outdated requirements and procedures, challenging design and layout of workspaces and equipment, simultaneous operations, staffing, and training, influence how tasks are carried. These circumstances are examples of what we call error traps. Because of these, variation occurs in the work. We make adjustments, adaptations, solve problems, fine-tune, and make trade-offs to solve the task in what we consider the best way. Variation in how we perform the job is natural. Sometimes it leads to something positive because we solve the job in a better and safer way than described in requirements and procedures. Other times, we make adaptations that lead to greater deviations and less safe execution. When the gap between procedures and practice becomes too large, the risk of an error or incident increases.

Variation between requirements and practice



Error traps are conditions that make the job difficult and increase the likelihood of making mistakes. We need to understand how the work is actually done, what error traps are present and create variation, and how we can reduce the gap between requirements and practice.

REFERENCE Hollnagel, E. (2017). Safety-II in practice: Developing the Resilience Potentials. Routledge.

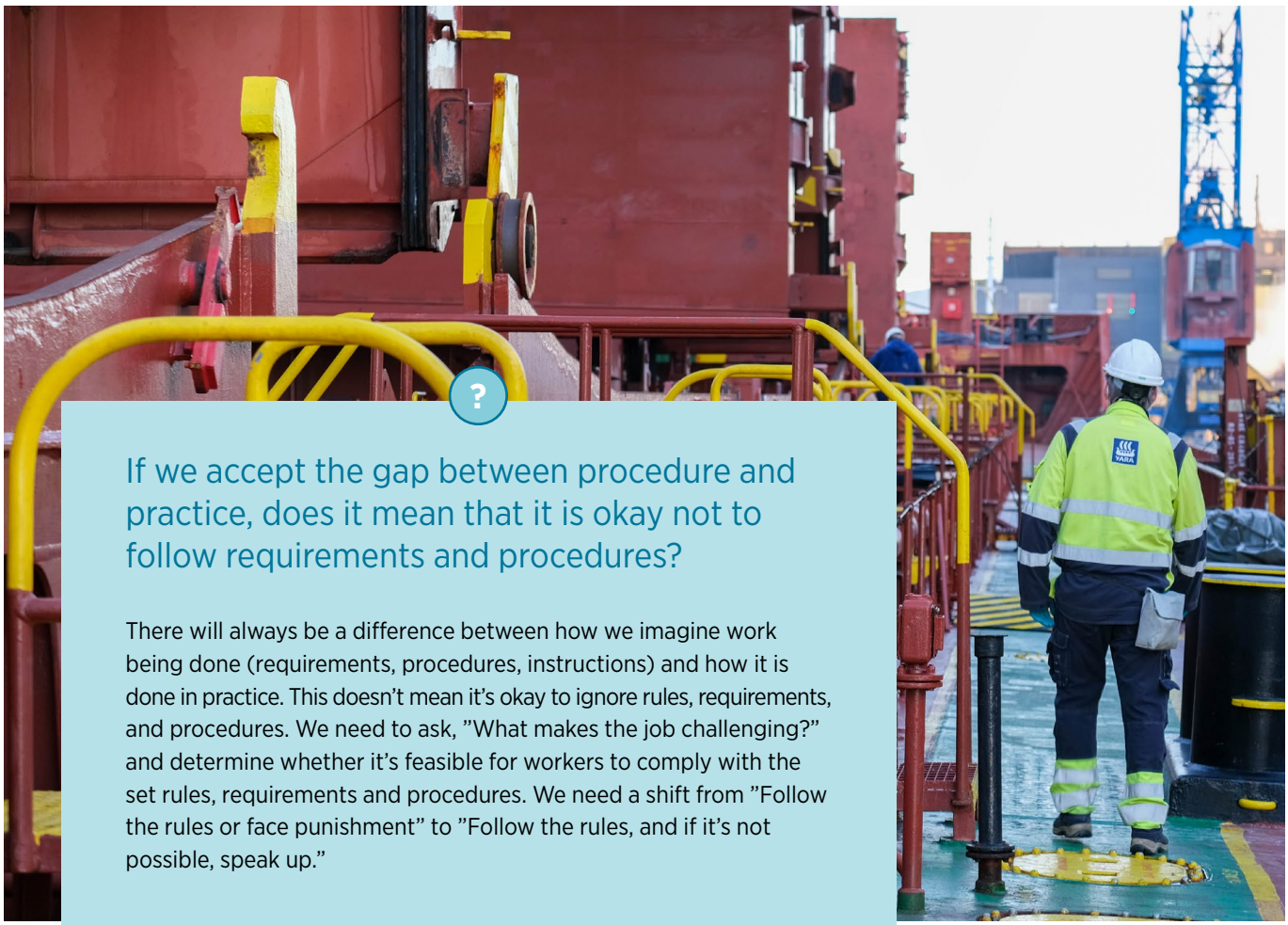


PHOTO Yara

If we accept the gap between procedure and practice, does it mean that it is okay not to follow requirements and procedures?

There will always be a difference between how we imagine work being done (requirements, procedures, instructions) and how it is done in practice. This doesn't mean it's okay to ignore rules, requirements, and procedures. We need to ask, "What makes the job challenging?" and determine whether it's feasible for workers to comply with the set rules, requirements and procedures. We need a shift from "Follow the rules or face punishment" to "Follow the rules, and if it's not possible, speak up."

Principle 5: How we respond matters

How do we receive and respond to bad news in our organisation?

How we respond to bad news, whether it is leaders, colleagues, or others in the organisation, is crucial for trust. Trust takes a long time to build and a short time to break down. It is both about what we say and what we do. When someone has made a mistake, there is a big difference between the responses "No, why did you do that?!" and "What can I do to help?"

To gain insight into conditions that require improvement, we must build trust. This involves responding constructively to deviations and unwanted situations and focusing on learning rather than blame. Responding constructively means showing care, empathy, and curiosity. We need to ask open-ended questions that make people feel safe to give honest descriptions of their experiences and perceptions. Being met with care and a desire to understand what led to a mistake motivates employees to willingly share.

PHOTO Vard

Reflections from the industry

All these 5 core principles in HOP should be second nature to you. With that mindset, I believe the questions will come to you more naturally. When a leader recognises that employees are the experts, it automatically leads to a more humble and curious approach. You don't just go out and make conclusions; you go out and ask. Demonstrating genuine curiosity in "what actually happened here?" or "what are your thoughts on this work operation?" when speaking with someone. Such conversations often don't take much time, but it is crucial that it is coming from a leader with a genuine interest in what I'm doing.

JO MINKEN, HSE AND QUALITY MANAGER AT DYNEA AS

CHAPTER 3

Risk assessment

PHOTO INEOS Tyssedal

At its core, a risk assessment aims to identify whether someone can be injured or fall ill due to the work being done, and how we can prevent this from happening. It's about recognising what can go wrong, both in terms of obvious risk factors and factors that may not be so obvious or that can develop over time (Botnmark, K.M., 2021. HMS-boka. 2nd edition. Fagbokforlaget.).

It can be challenging to answer the questions used in a risk assessment. It is important to avoid risk assessments being used only as a simple checklist exercise without sufficient reflection on the task to be performed and the circumstances that may affect the risk. Managing risk is about reducing uncertainty related to achieving the objectives of the task, including safe execution (Provan, D., 2022. A Field Guide to Safety Professional Practice. Safety Futures.).

Which questions provide the best insight into factors that can make the job difficult, areas where it is easy to make mistakes, and situations where there is uncertainty?

> Risk assessments can quickly become a mandatory exercise that simply has to be done before the project can start. The traditional guiding words limit imagination and dialogue, and we end up with a checklist for protective equipment and competence requirements. But by asking other types of questions that open up for more dialogue and reflection, we see that the creative concern becomes greater. This evokes better conversations, and we gain better insight into conditions that can affect safety.
>
> ELISE MIDTHUN, HSE MANAGER AT SINTEF

PHOTO Stena Recycling

Traditional questions in an operational risk assessment:

- What is the job?
- Who is responsible?
- What risks are associated with the job?
- What measures are in place to reduce risk?
- Does the personnel have sufficient training, competence, and experience?
- Do we have the necessary tools and protective equipment?

HOP-based questions in a risk assessment:

- What can make this job difficult?
- What can go wrong?
- Where can it be easy to make mistakes?
- Which requirements or procedures are relevant? Is anything unclear or ambiguous?
- Are there circumstances or conditions that can make the requirements or procedures difficult to comply with?
- Are there any changes that need to be considered?
- What do you need to ensure that this job goes well?

By including more open-ended questions about the tasks and what can make the job difficult during the risk assessments, one will increase the level of safety and avoid the risk assessments becoming too general.

> We are generally good at conducting risk assessments in the industry, but I think we can make our workplace even safer if we work more on making the assessments more situational and specific to the task to be performed. Risk assessments can become generic, general, and repetitive, and there can be a risk of not being specific enough regarding the particular job and what can affect its execution. At the same time, we quickly become accustomed to various work operations, and this increases the risk of weaker identification of barriers and measures.
>
> ØYVIND REIERSEN, HSSE MANAGER AT AKER SOLUTIONS

The difference between hazards and error traps

To conduct good risk assessments, it is important to know the difference between hazards and error traps.

"Hazards are any condition that can cause short or long-term harm or illness. They are omnipresent in the working environment, whether it's related to falls, crush injuries, punctures, violence, burns, or exposure to chemical and biological agents." (Botnmark, K.M., 2021. HMS-boka. 2nd edition. Fagbokforlaget.).

"Error traps" are conditions that make it more difficult to work safely and increase the likelihood of mistakes. By identifying and understanding error traps, we can work more safely and prevent incidents.

Categories of error traps

We can divide error traps into four different categories: organisational error traps, task-related error traps, technical error traps, and individual error traps. We tend to focus on the individual level, but to facilitate safe job performance, we must also understand the system around people.

PHOTO Moreld Apply

Examples of error traps

Organisational error traps

- Unclear roles and responsibilities
- Task conflicts
- Communication/ collaboration problems
- Staffing and resource management
- Organisation of work (e.g., workload and planning)

Task-related error traps

- Unknown tasks
- Unpredictable tasks
- Complex tasks
- Time pressure
- Trivial or repetitive tasks

Technical error traps

- Equipment or system failures
- Deficiencies in documentation (e.g., incomplete, incorrect, outdated)
- Unclear instructions, labelling, or signals
- Unsuitable tools
- Poor access
- Noise, lighting conditions, temperature, air quality

Individual error traps

- Formal training
- Experience level
- Rest
- Health challenges
- Stress
- Reading and writing difficulties
- Language problems

How can we identify error traps?

To understand and identify error traps, we need to talk about the job, ask each other good questions, and observe the work in the field.

?

Examples of questions we can ask:

- What previous experiences do we have from similar jobs?
- What are common challenges in this type of job?
- Are the job requirements easy to comply with? (If no, why not?)
- Is there anything about the job that is new, unknown, or unpredictable?
- Is there a particular part of the job where it can be easy to make mistakes?

REFERENCE Alwayssafe.no; Q2 2022/2023. Identifying and understanding error traps.

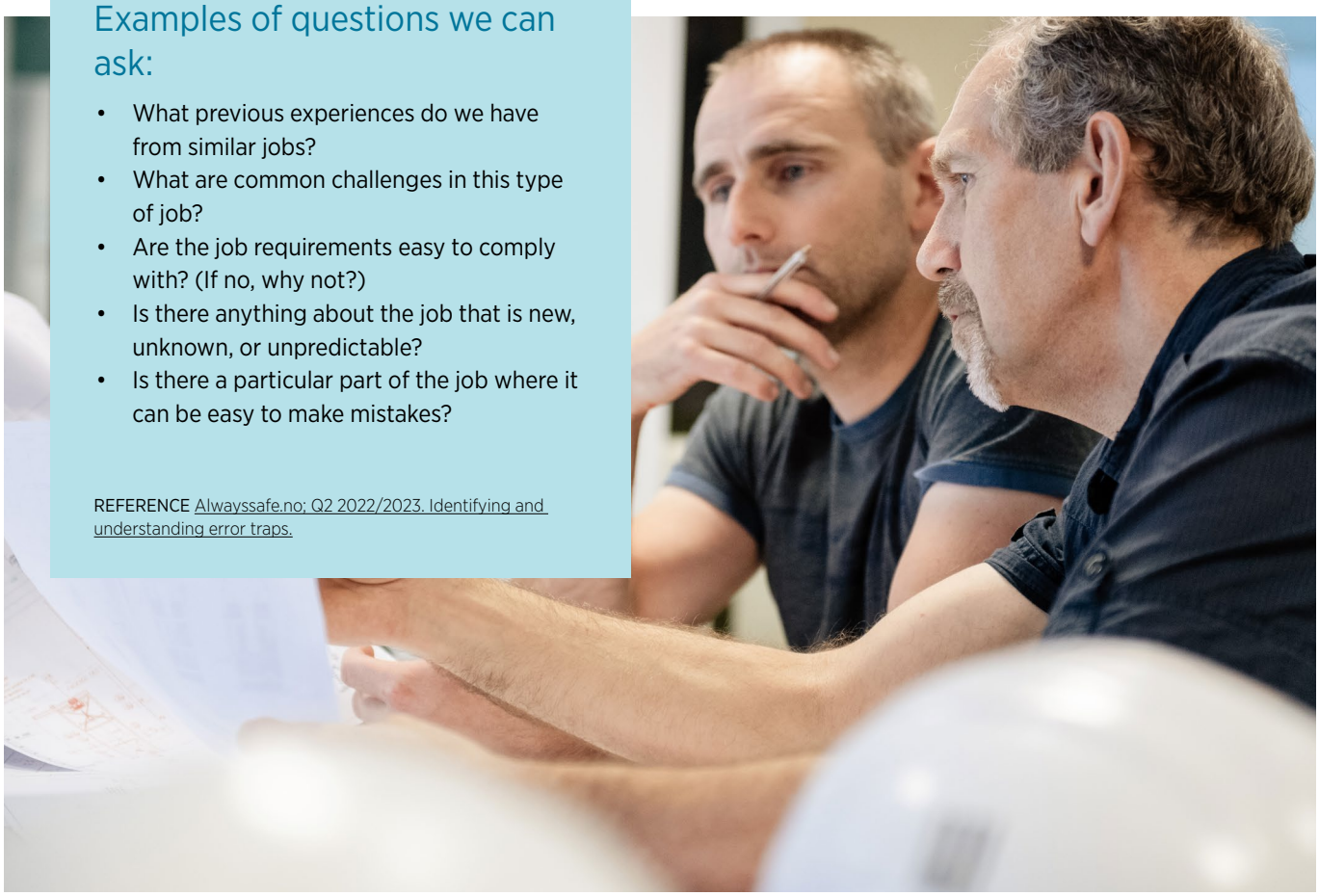


PHOTO Elkem

Situations that increase the likelihood of mistakes

Certain work situations can increase the likelihood of mistakes and errors. Here is a list of circumstances where it may be wise to pay particular attention:

- Steps or tasks where it is easy to make mistakes
- Steps or tasks that cannot be performed or are time-consuming to do in reality
- Unusual, rare, unknown, or new situations
- Boring, trivial, or repetitive actions
- Systems and equipment that are not user-friendly
- Steps or tasks where there may not be enough time available
- Steps or tasks that are complex or difficult to understand
- Unclear signs, signals, or instructions
- Difficult physical work environment (noise, heat, cramped conditions, lighting, ventilation, access)
- Situations with potential for interruptions or distractions
- Situations that involve multitasking
- The right tool is not available or cannot be used
- Where one is dependent on good communication with colleagues, management, suppliers

REFERENCE Energy Institute: Task improvement process.

Example of a safe job analysis with integrated error traps

Most templates for safe job analysis (SJA) - or Job Safety Analyses (JSA) - typically include a description of the job, risks and hazards to be aware of, as well as measures to mitigate or eliminate these. Error traps are seldom an integrated part of SJA.

Subtasks	Potential hazards	Potential error traps	Measures

EXAMPLE HAZARDS

- Chemical exposure
- Ignition sources
- Fire / explosion
- Spills
- Pressure
- Falls
- Lifting
- Noice

EXAMPLE ERROR TRAPS

- Time pressure
- Simultaneous activities
- Staffing
- Access
- Correct tool not available
- Complex procedure

PHOTO Vard

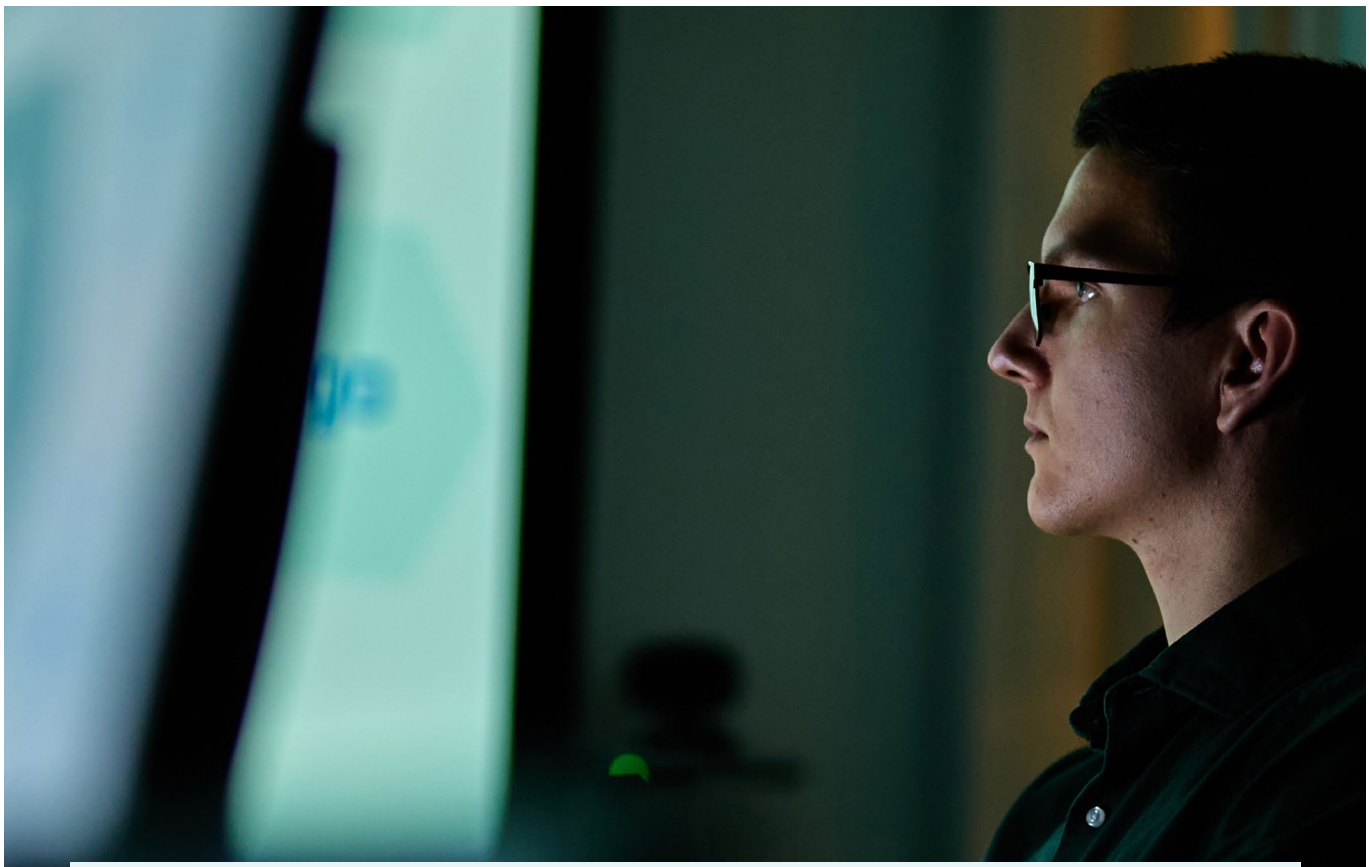


PHOTO Moreld Apply

Checklist for the risk assessment process in your organisation

	Often	Sometimes	Seldom
Your risk assessment process covers error traps in addition to hazards.			
Training in risk assessment covers error traps, how to identify them, and how to address them.			
Error traps are integrated into various forms/ templates for risk assessment, from pre-job conversations to control of work processes.			
Shortcuts are considered behavioural patterns linked to how the work is organised. These are identified and addressed.			
Operators, managers, and others who support operations understand the concept of error traps and can identify them. This can be related to for instance design, quality of the procedure, and available time.			
People assigned to the task conduct a risk assessment before the job to discuss the challenges they will face.			

REFERENCE SPE International (2021). Are You Applying Human Factors / Human Performance as per Industry Guidance?

CHAPTER 4

Investigations and learning from incidents

When an incident occurs, we have a responsibility to learn from it to reduce the chance of a recurrence by improving work conditions. How well we succeed is determined by how we conduct learning and investigation processes. After an incident, it can be easy to place blame on the individuals involved and focus on the most apparent or direct causes. Examples include explanations such as lack of compliance, inadequate risk awareness, carelessness or inattentiveness. The problem is that learning often stops here, and the measures proposed are usually at the individual level. This prevents us from learning about important underlying causes. The main reason we tend to focus on the most obvious is that we are used to focusing on the individual doing the job and not as much on the surrounding circumstances that influenced the work.

People seldom harm themselves or others intentionally. Human errors or non-compliance are usually signs of underlying problems and error traps that affect how the work is carried out.

Under similar conditions, with the same experience and training, could I have made the same mistake?
(In many instances, the answer to that question is yes.)

The way we investigate an incident greatly affects the lessons we draw from it. Do we fully understand what influenced the decisions and actions that led to an incident? If we do not uncover and address these conditions, we risk another individual making the same mistake later on.

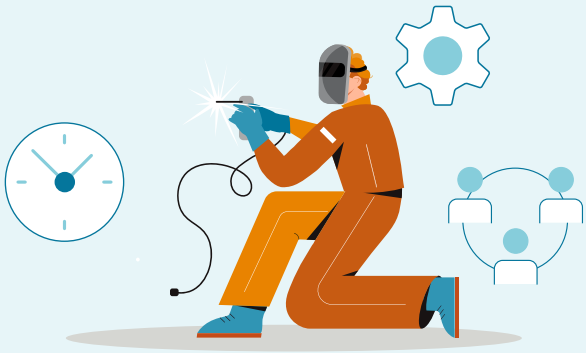
Approach to human error

How we view those who do the job largely dictate what we see. How do you view human errors and non-compliance in your organisation?

Human errors and non-compliance are the cause of incidents

Focus on people and their choices and actions

Human error and non-compliance are signs of underlying problems



Focus on what influences choices and actions

If a very serious incident has occurred, such as a violation of a life-saving rule, we have reviewed it with the person or persons who were present in the situation. This is not an interrogation. We try to understand what happened and how. Could others have done the same?

HARALD EIK, MANAGER QUALITY & CORPORATE AFFAIRS AT GLENCORE NIKKELVERK AS

To learn more from incidents, it is important to remember the following:

1. Those involved are important sources for understanding what happened and what conditions influenced the decisions made.
2. Many jobs involve multiple people and environments at different levels, which means that incidents often have complex causes and rarely one single root cause.
3. We must ensure that those involved who share their experiences feel safe enough to share openly. The focus must be on learning, not on blame.

Focus on learning rather than blame

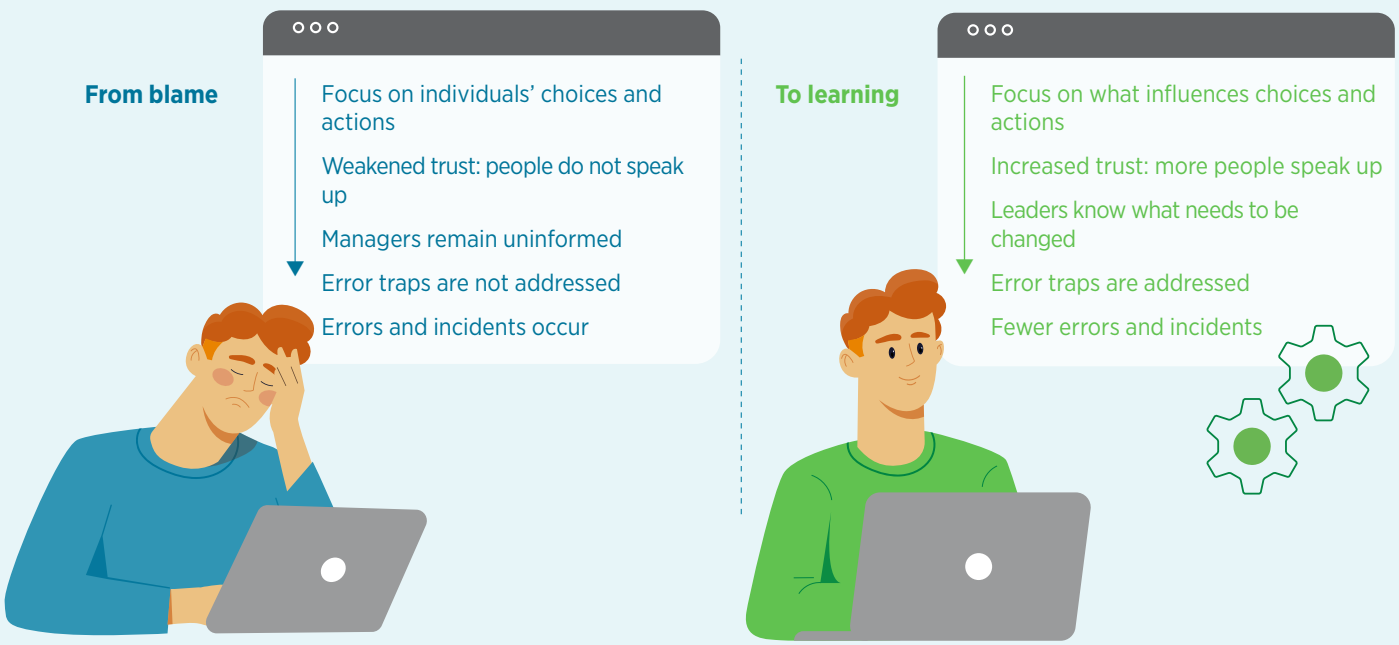
When we focus on individuals' choices and actions, and on assigning blame, we weaken the trust between colleagues and leaders. This can result in people being afraid to report errors and shortcomings, and we can lose valuable insight into what makes the work difficult and what can increase the risk of errors and incidents.

We must create a safe environment where those involved feel comfortable sharing their thoughts and experiences. In this way, we can gain insight into what went wrong, how it happened, and what we can do to avoid similar situations in the future.

Does our organisation have a culture that places blame on individuals, or a culture that emphasises learning and improvement?

"We have started calling investigations "learning meetings". No one is to be blamed here. It is normal to make mistakes, and we are here to learn. Many times, I have witnessed how those words can help someone relax. Emotions can run high. I have seen tears from adults when they realise that they can let their guard down and not be afraid. Once they actually understand the purpose of the meeting, it becomes much easier to gain insight into what happened and why."

TOM MICHAEL ØKSENDAL, LEADER SAFEWORK CENTRE AT GLENCORE NIKKELVERK AS



Questions that provide insight

The questions we ask influence the insight we gain. Deep understanding is essential for learning about the conditions that led to the incident so we can reduce the chance of a recurrence. Which question do you think provides the best insight:

1. Why did you do that?
2. Can you describe what happened?

When we ask "Why" questions following an incident, it can come across as accusatory, leading people to feel the need to justify and defend themselves. This often results in less candid answers; people might try to provide answers they believe are right or acceptable, or that will reduce the likelihood of potential negative consequences for themselves or others around them.

To gain a better understanding of the situation, it is important to ask open-ended questions about the circumstances that influenced choices and actions along the way. Encouraging honest descriptions of one's own experiences and perceptions in the situation creates safety and trust, which in turn leads people to share more information. Below is a list of questions that can be useful in gaining insight into both individual and systemic conditions.

How can we understand what underpins decisions and actions?

Individual conditions

RATIONALITY

- What was the goal?
- What was most important?
- How was the situation perceived?
- How did they envision their decisions/actions would lead to the desired outcome?

KNOWLEDGE AND ASSUMPTIONS

- What was known about the situation?
- What was previously experienced?
- What was normal practice?

System conditions

RESOURCES

- What equipment was available?
- What information was available?
- How much time was available?
- How much personnel and competence were available?

MOTIVATION

- What was the advantage of doing the task this way?
- What were the alternative ways to do the task?
- What would have happened if the task was done this way?
- What economic (or other) incentives were significant?

STRUCTURE

- What was planned?
- What were the relevant requirements?
- How well did the requirements fit the situation?
- What was normal variation in how the requirements were translated into practice?
- What were the typical causes of this variation?

EXPECTATIONS

- What was expected from leadership?
- How were the expectations communicated?
- What potential unexpected circumstances occurred?

Good practice for investigations that promote learning

- **We avoid judgment.** We recognise that everyone is trying and aiming to do their best, wanting to return home safely.
- **We put ourselves in the situation.** Could I, or anyone else in the same situation with the same experience and training, have made the same decision?
- **We understand "why".** We investigate how the incident occurred and what influenced various choices and actions.
- **We avoid hindsight bias.** With the whole picture and the final outcome (the incident), it is easy to look back and point out mistakes. Information that becomes apparent later on might not have been available at the time.
- **We look for normalisation of behaviour.** We investigate whether the incident has happened before and whether this is a behaviour that has been normalised within the group or at the workplace.
- **We identify error traps.** We investigate and identify conditions that contributed to making the job difficult and increased the likelihood of making mistakes.
- **We include the injured/involved.** Instead of just relying on statements and descriptions from those involved after the incident, we actively involve them in the investigation of the incident. We ask what they thought along the way, what options they had, and what improvement opportunities they see.
- **We ensure identification of causes at the systems-level.** We actively question how the systems around the job set the involved up for failure until the underlying causes are uncovered. We do not stop at answers such as "human errors", "lack of compliance", or "lack of risk awareness".
- **We identify corrective measures.** We identify actions at the highest possible level in the hierarchy of controls and describe the specific steps required to ensure implementation.

REFERENCE Kormaz, S. & Donnelly, J. (2018, 22.–25.04). Don't investigate – Learn. Ask How! 2018 Spring Meeting and 14th Global Congress on Process Safety, Orlando, Florida.

PHOTO Unsplash

How to ensure a solid foundation for learning?

A good report provides a detailed description of the incident, allowing others to understand what happened and the conditions that contributed to it. These descriptions are based on dialogue with those involved, where you try to understand the situation and the background for the decisions made. The report can point to several underlying causes that contributed to the incident and suggest systems-level improvement measures.

To produce a good report, you should:

- Focus on error traps that contributed to the incident
- Provide detailed descriptions giving the reader a thorough understanding of the situation and context
- Examine the dynamics between individuals and teams
- Suggest measures at the systems-level

Try to avoid:

- Focusing on a single root cause
- Causes that focus on human error or lack of compliance
- Use judgmental language, such as careless, unfocused, lazy, or lack of risk awareness
- Emphasising what people did not do or should have done
- Suggest measures at the individual level

PHOTO Ulefos

Improvement is about the stories we tell

REFERENCE John Wilkes, 2023 – Safety II Practical Applications Conference.

Incidents can be described in different ways

"He was inattentive" tells a different story than "it was a confusing situation". The story we tell has a significant impact on what we learn, and how we try to improve safety. If we have a mindset that assumes people do not care enough about following rules, we will often ask questions like "were our requirements followed?". The story will quickly end up with focusing on the mistakes made, the requirements broken, and what should have been done differently. The learning will therefore conclude with people not caring enough, which will reinforce the existing mindset. The following measures will often be aimed at compliance, that people should be more attentive, care more, etc. This is often called "name, blame, shame and retrain".

An alternative approach is to assume that people usually want to do their best, and that their decisions and actions were sensible to them in the situation they found themselves in. Accordingly, we should rather ask questions such as "what made the job difficult?", "what was normal?" and the other questions on page 26. The story will then be directed towards how the situation was perceived by those involved, and why it made sense to do as they did. The learning will be about the conditions that made the work unsafe, and what can be done to improve this.

PHOTO Hyrdo

Language in investigations and learning after incidents

The language we use has a significant impact on our understanding of how an incident occurred. Through language, we can either assign blame or create a space for learning. When an incident occurs, we tend to try to explain why it happened. When we explain an incident, we look at it from an outside perspective. We use what we know today and what is easy to imagine in order to say something about what happened. By doing so, we also risk falling into the trap of hindsight bias. Phrases such as "lack of risk awareness", "lack of compliance" or "insufficient competence" indirectly point to individual failure or error. But what learning can be extracted from such phrases, that we can use for developing robust measures?

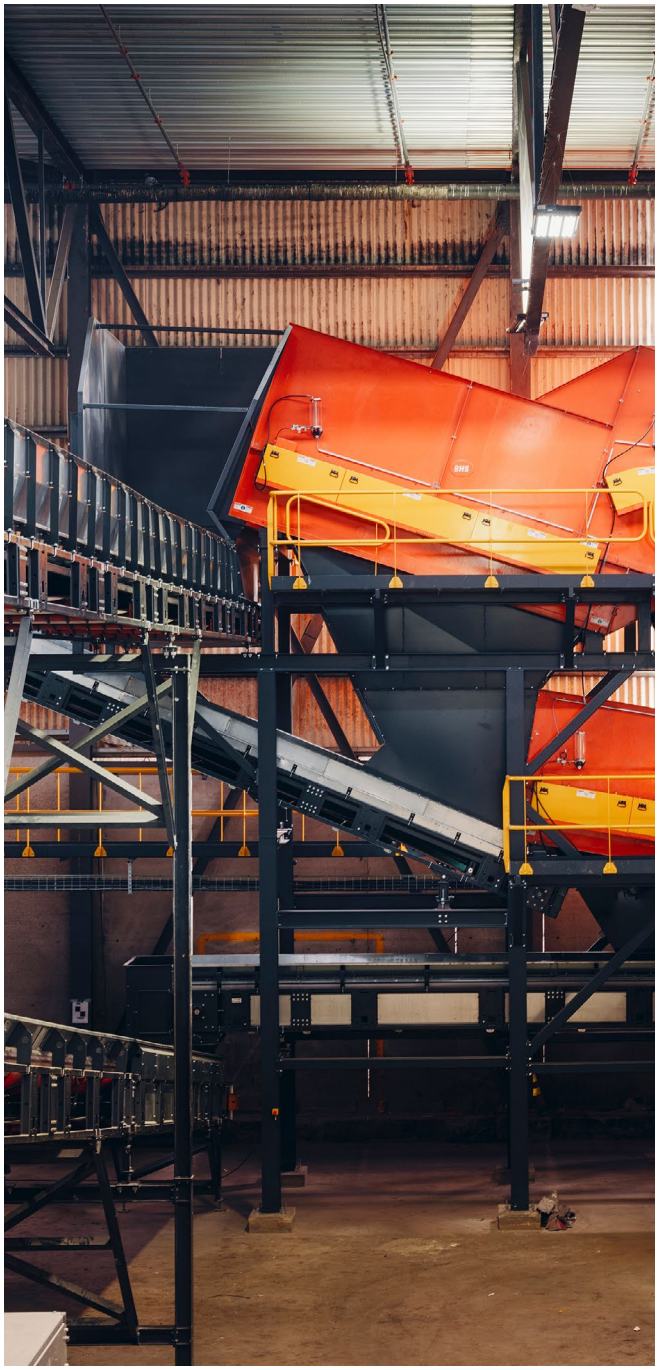


PHOTO Norsk Gjenvinning

To learn from an incident, we need to understand the conditions and circumstances leading up to the incident. We want to describe the course of events. The description should depict what happened – a story that allows us to understand the course of the events of the incidents without judging or drawing conclusions. It is about describing actions, decisions, context, and conditions, without assuming intentions or errors.

Through the description, we want to answer why the actions and decisions before the incident seemed reasonable in the situation, what challenges or obstacles those involved faced, how they perceived the circumstances around them, what frameworks they worked within (e.g., organisational, task-related, or technical), what resources they had available or lacked, and how things and systems actually function in practice in a dynamic everyday life. We want to focus on the system around those involved and how they handled various frameworks and conditions in order to solve the task.

Assuming that mistakes happen and that context shapes behaviour has a significant impact on how we present an incident and what conclusions and learning points we draw from it. Below is an illustrative example from the Danish Maritime Accident Investigation Board (DMAIB) showing how a conclusion can be formulated without pointing to human errors.

> "Rather than pointing to the crewmembers' abilities and will to follow procedures, the DMAIB suggests taking a critical look at the performance of the procedures as a tool for supporting work in a dynamic environment. I.e. having more attention on the quality of the procedures' ability to bridge the gap between how work is prescribed and how work can be done in a dynamic work environment."
>
> REFERENCE Danish Maritime Accident Investigation Board (DMAIB; 2023), Nord Magic – Marine accident report on occupational accident, p. 38

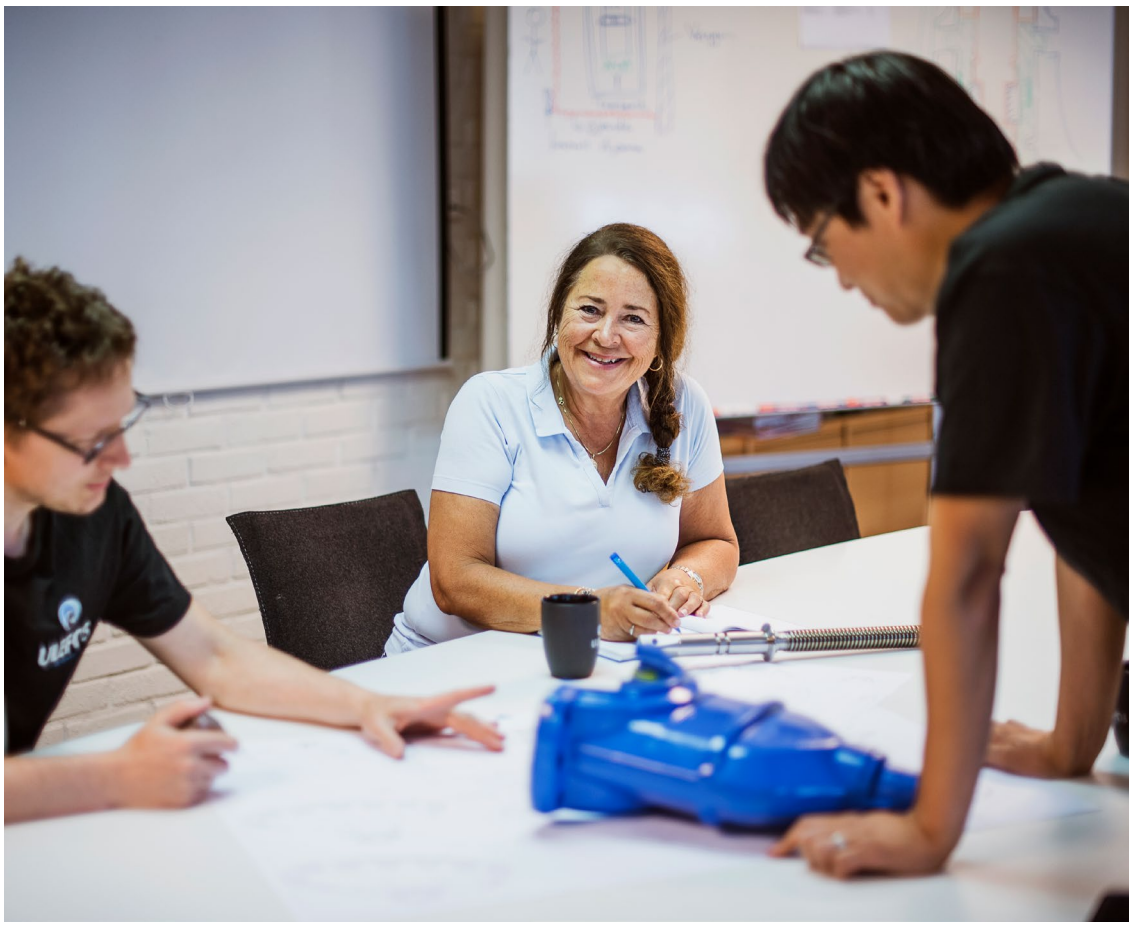


PHOTO Ulefos

Learning teams

Traditional methods for investigation often rely on root cause analysis, such as the "5 Why" method. This is largely a linear approach focused on mapping the course of events and analysing causal relationships. A central source of insight is often interviews with those involved. However, this approach often does not capture the complexity and dynamics of the systems and daily work that those involved must handle.

REFERENCE Robbins, T. m.fl. (2021). Evaluation of Learning Teams Versus Root Cause Analysis for Incident Investigation in a Large United Kingdom National Health Service Hospital.

"Learning teams" are becoming more widely used as an alternative to traditional investigation methodology. In short, it is a group process for generating insights and solutions. The method is particularly suitable for learning after operational incidents but can also be used for proactive learning.

Learning teams particularly focus on:

- Understanding how the work is actually done
- Normal variation in the work, and what creates this
- How employees adapt to get tasks done
- What contributes to things going poorly, but also what contributes to things going well

Learning teams is a relatively simple and time-efficient method but requires good anchoring, preparation, and facilitation. Since it is conducted as a group process, it is particularly dependent on trust within the group. Since its goal is to understand how work is "actually" done, it must be possible to share information that may potentially reflect negatively on the employee.

The steps in a learning group are described on the next page. Normally, they are conducted over a total of 2–3 days.

1. Prepare

- **Define the scope:** Not too broad, not too narrow. Focus on a specific problem or area.
- **Gather the right people:** About 5–7 people who are closest to the work. This includes those who perform the tasks, and preferably someone with an outside perspective.

2. Session 1: Learn about what is normal

- **The group learns about how the work is normally performed:** How is the work actually done compared to how it is described in procedures and requirements?
- **The group discusses conditions that can affect the work:** What factors (time pressure, resources, work environment, etc.) can lead to deviations from procedures? Where can unpredictability, goal conflicts, or other challenges arise?

3. Session 2: Learn from the incident

- **What were the conditions that led to the incident?** What factors played a role? (Time pressure, work environment, equipment, communication, etc.).
- **What other near-misses have occurred?** Are there similar situations or incidents that could have resulted in the same outcome?
- **What worked well? What failed or went wrong?** Identify both positive and negative factors.
- **Where else can a similar incident happen?** Can this happen in other parts of the organisation?
- **How did the actions or inactions of those involved make sense in their context?** What was their understanding, motivation, and prerequisites?
- **Who should this be shared with?** Ensure that important information reaches the right people.

4. Session 3: Brainstorming and prioritisation

- **Error traps and latent conditions are identified:** What factors in the system can increase the risk of errors? How can existing barriers be improved?
- **Solutions the group can control:** What concrete measures can the group itself implement to reduce risk and prevent errors?
- **The group agrees on what should be improved first:** Prioritise the most important measures based on impact and feasibility.

REFERENCE Conclin, T. (2018). Pre-Accident Investigations Better Questions - An Applied Approach to Operational Learning. Routledge.

PHOTO Hydro

CHAPTER 5

Development of measures

When we learn from normal work and incidents, we gain insight into conditions that make work difficult and increase the likelihood of errors. These conditions must be addressed and require measures to achieve lasting improvement. Hence, we must implement measures that eliminate immediate and significant hazards, targeting conditions that affect our ability and opportunity to perform tasks safely. Put simply, we should develop measures that fix the work, not the worker.

Following an incident, we tend to focus on the individuals involved and the most visible and direct causes of what happened, such as non-compliance, lack of risk awareness, taking shortcuts, misinterpretations, and so on. By trying to "fix" those who do the job, we emphasize assigning blame rather than learning. The focus shifts to fixing rather than improving. It is likely that measures primarily aimed at the individual (individual level) will not prevent others from making similar mistakes or errors under the same circumstances at a later time. Therefore, our measures should also aim to reduce or eliminate hazards or error traps that hinder safe work.

> It is not enough to simply understand the error traps. We must ask: how do we move forward? How do we achieve improvement and change? We must ask questions that are focused on understanding the vulnerabilities in the solutions we choose.
> ANNA KRISTINE OMA, MANAGER SAFETY AT EQUINOR ASA

Begin with the tasks that have the highest potential for harm or loss, or jobs where individual actions can lead to significant consequences. Immediately address the hazards that are most probable, and which can have serious consequences.

- There is no need to delay implementing measures that are simple, quick, and cost-effective

Ask open-ended questions about the work and systems to pinpoint conditions that create variation in how the tasks are done and what makes the work difficult.

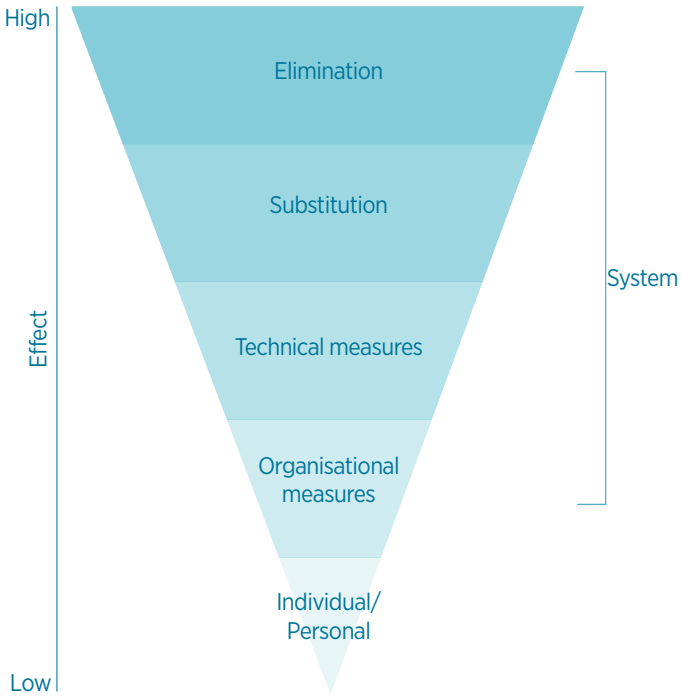
- We cannot fix what we don't know.
- Those doing the job are the experts; they know what makes the job difficult and what can make it easier – involve them in identifying, developing, and implementing measures.

Look at the conditions and systems that influence how the work is done and identify which conditions (error traps) can lead to errors.

- Incidents are rarely explained by a single root cause. Instead, they are often a result of an interaction between complex cause-and-effect relationships and various conditions. Effective development of measures acknowledges that there is not a single root cause and aims to address all these different conditions (e.g., how the work is planned and organised, what preparations we make and how, how the procedures are designed, the equipment is used, workplace design, etc.).

Effective use of the hierarchy of controls

Once we have pinpointed the conditions requiring improvement, we must prioritise and design the right measures. By using the hierarchy of controls, we can develop and implement measures maximising risk reduction (weighed against cost constraints). To eliminate the risk of errors, it is most effective to make changes and improvements at the systems level. Measures targeting the individual (personal) level are less effective and more vulnerable to errors and mistakes.



System

Effect			
High	Elimination	With elimination, dangerous or challenging conditions are removed through changes in design, technology, equipment, and methods, to avoid them causing injuries or serious incidents.	**Example:** Remove a hazardous chemical process by changing where and how the process takes place, ensuring employees cannot be exposed.
	Substitution	With substitution, we replace materials, equipment, systems, or methods that make the work difficult with safer versions that reduce the likelihood of errors or mistakes and/or minimize potential consequences.	**Example:** Replace a hazardous chemical with a chemical that provides a similar result but is less harmful upon exposure; reduce the size or weight of materials or equipment handled.
	Technical measures	Technical measures involve controlling or limiting dangerous or challenging conditions so that employees cannot come into contact with the source or are protected in the event of exposure.	**Example:** Safety mechanisms on equipment and tools to prevent contact with moving parts; automatic fire suppression system; reversing alarm; ergonomic equipment.
	Organisational measures	Organisational measures involve making changes in the way we work, including competence, resources, and how the work is organised to ensure the best possible conditions for performing the work safely.	**Example:** Training; procedures and requirements; job rotation; rest periods.
Low	Individual/ Personal	Measures at the individual/personal level involve personal protective equipment to protect against or reduce exposure, strain, and injury. Measures at this level provide the lowest protection and are most susceptible to errors and mistakes.	**Example:** Respiratory protection, protective gloves, fall harness.

Example: Internal inspection of corrosion and deposits in a tank with hazardous chemical exposure.

Effect		
High	Elimination	New tank constructed with corrosion-resistant materials and process modifications that reduce deposits.
	Substitution	Inspection using drones.
	Technical measures	Ventilation, lighting conditions, effective tools to reduce exposure time, scientifically based exposure limits, on-site shower facilities.
	Organisational measures	Clear requirements. Effective operational management of exposure time. Fire, entry and safety guard (FES guard).
Low	Individual/ Personal	Respiratory protection, chemical-resistant clothing, first aid equipment.

PHOTO Stena Recycling

PHOTO Elkem

Personal protective equipment (PPE) as a measure:
Personal protective equipment (PPE) can often appear as a simple and cost-effective way to manage hazards. However, it also requires resources for training and maintenance. Emphasis on cost, simplicity, and quick implementation can lead to the implementation of measures at the least effective level in the hierarchy of controls, without a thorough assessment of better ways of protecting employees.

The protection provided by PPE can vary greatly across individuals and different situations. Effective protection often hinges on the competence in the user. Consequently, incidents and injuries may still persist if measures directly addressing hazardous and challenging conditions are not implemented. Although PPE can reduce the severity of consequences of hazards, it will not remove the hazard or reduce the likelihood of an impact. Moreover, it might also impair our ability to execute the job due to reduced vision, smell, hearing, or sensitivity.

For example: To reduce crush and cut injuries in electrical work, there is an initiative to implement the use of thicker and more durable gloves during execution. At the same time, electrical work involves a lot of fine motor skills, meaning tasks may not be performed effectively with the new gloves. As a result, many might choose to remove their gloves when performing their job.

Responsibility and task distribution
Developing measures require time, priorities, and making decisions. To ensure learning is taken into account and measures are developed and implemented, it is important to ensure clarification of roles and task distribution. It is important to elevate the measures as high as feasible in the hierarchy of controls and ensure that role and task distribution is executed. Consider:

- Who needs information?
- Who needs to act and how?
- How can you verify that measures have been implemented and whether they achieved the desired effect?

Always assess potential risks and consequences of new measures before and after implementation.

CHAPTER 6

Leadership and follow-up

Leadership follow-up is about having a systems perspective on work. Instead of merely observing what people do (individual focus), we try to understand the conditions that influence what they do (system focus). What can make the work difficult to execute, and how can we identify and manage these conditions? Answering this requires leaders to be present where the work is done, engage with those doing the job, and ask questions that can provide necessary insight and understanding. There is no single leadership style optimal for promoting safety. Sometimes there's a need to be explicit about expectations, at other times, being a good role model is vital, and in certain situations, there's a need to be more empathetic and show understanding.

PHOTO Boliden

Experience from the industry

I was tasked as the HSE resource for 14 welders. Having never welded before, I approached one of the welders and asked, "Could you show me how you do this? Can I learn from you? I feel completely out of my depth until I truly understand what you're doing." The welder began explaining and even let me have a go. What became clear to me was that when you're welding with your welding mask and ear protection, you are completely isolated from the world around you; you see only a tiny molten pool and you hear nothing. I asked the welder if he thought others around him realised this, and he doubted they did. I then asked another worker moving a large steel beam with a crane if he was aware of the people working where he was moving the massive beam. He hadn't given it much thought – he needed to use the designated path to complete his task. Instead of telling him, "You can't do that, you need to inform the welder!", I asked, "How can we make this better for you?" Today's leaders often aren't present at the work site, interacting with employees, which means they might not find the best solutions or serve as effective resources.

KRISTINE PEDERSEN, HESQ & HR MANAGER AT TROSVIK INDUSTRI AS

Leaders have a special responsibility to support and follow up with employees, assess improvement opportunities and measures, and allow employees to perform their jobs in the best possible way. Those who do the job are the experts and have the insights needed to improve and ensure better conditions for safe job performance.

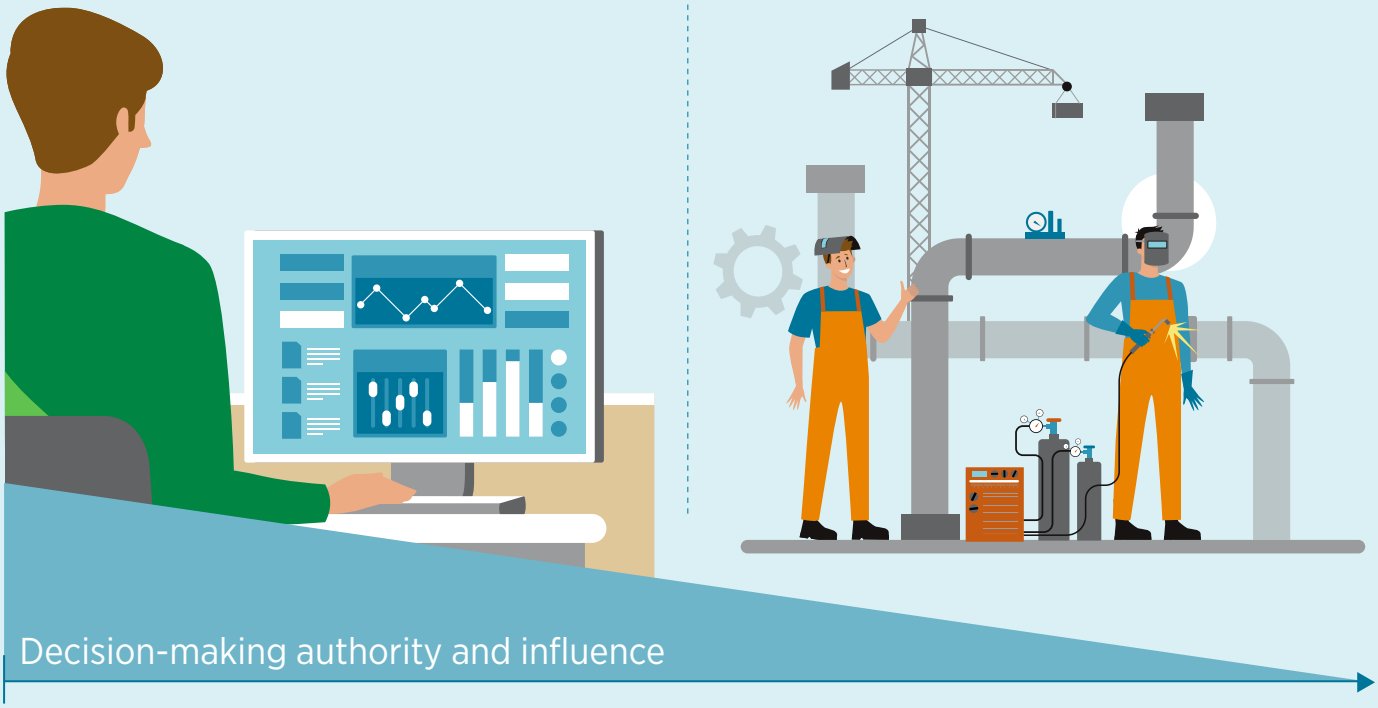
It is worth noting that "building capacity" is not just about things that cost money – e.g., equipment, people, or training. Leaders can also build capacity in an organisation by:

- Promoting coordination and communication within and between departments
- Facilitating networking and relationship-building among employees
- Cultivating openness and curiosity
- Stimulating critical thinking by challenging assumptions and looking for better alternatives
- Building resilience to manage adversity

How do you learn from those doing the job?

To learn from those who do the job, we must be present where the work is done. When you personally observe the job and the circumstances surrounding it, you gain a deeper understanding of how the work is done in practice and the challenges it might entail. As we engage in discussions in the field, the topics and questions that arise often differ from those discussed during planning and preparation, or in evaluations after the work has been completed.

It is those closest to the work who know best where the problems are. For them, goal conflicts, unpredictability, and unsafe working conditions become concrete and detailed. The paradox is that they often have the least power to do something about these problems. For leaders higher up in the organisation, the work will be more abstract. At this level, one looks at numbers related to, for example, production, staffing, and incidents. They, however, have greater influence in doing something about the conditions that make the work unsafe. Therefore, it is important to elevate information from those who know where the problems are to those who have the ability to do something about these problems.



Being present where the work is done can be challenging for leaders in an otherwise busy day. This is partly about how leaders prioritise their time. But it is also about the conditions set by (senior) management making it easier for leaders to prioritise and execute it in practice. Context greatly shapes behaviour. Even though there may be limiting operational conditions on a day-to-day basis, the focus should be on enhancing the quality of interactions you have with those executing the job.

To succeed in learning from those who do the job and gain insight into their tasks, you must:

1. Build relationships
2. Understand the job
3. Respond constructively

Building relationships with those doing the job

To gain the necessary insight into the job to improve and strengthen safety, we need candid feedback from those who do the job. This requires a sense of trust and psychological safety, cultivated by ensuring employees:

1. **Feel included, accepted, and safe being themselves.**

- Recognise and meet each individual where they are, appreciating their contributions and the job they do.
- Ask questions about what support they require in their work. Remember: Ask twice as much as you tell.

2. **Feel safe, valued, and motivated to learn.**

- Display curiosity and willingness to learn by asking open-ended questions about learning and learning opportunities, and work on incorporating these into daily team practices.
- Demonstrate that mistakes are natural by sharing your own mistakes and errors, and what lessons you learned from this.

3. **Feel that it is safe to contribute and challenge the status quo by asking questions, utilising and developing their own skills, and trying and failing.**

- Welcome new ideas and thoughts, critical voices, and alternative perspectives with openness, curiosity, and constructiveness rather than criticism.
- Shift from telling to asking, seeking specific contributions, input, and thoughts from those around you.
- Contribute to identifying and challenging practices/processes that may be redundant, outdated, unclear, or not user-friendly.

REFERENCE Clark, T.R. (2020). The Four Stages of Psychological Safety: Behavioural Guide. LeaderFactor.

Understand what can make it difficult to work safely

Those who do the job know it best. For a deeper understanding of the work, it is crucial for leaders to acknowledge they do not have all the answers. This means asking questions you might not know the answer to, and truly listening to the responses given.

The manner in which you pose questions is pivotal to the answers you receive. With trust and psychological safety as a foundation, the impact of your questions is amplified. Open-ended questions generally work better than simple yes/no questions. Some questions you might consider are:

- Can you describe the steps in this task for me?
- What makes this job difficult to do?
- What can get in the way of doing this job safely and effectively?
- What do you need to complete this job successfully?
- How can I support you in making this job easier and safer?
- Where can errors easily occur?
- Do you sometimes need to find an alternative way of solving the task than what is described in requirements/procedures? Why is that? How do you manage those situations?
- How do you think we can improve this process?

After asking these questions, attentive listening is key. Failing to listen carefully might mean missing essential information. Active listening involves:

- Paraphrasing: Expressing in your own words your understanding of what's been said – "What I hear you saying is...", "Do you mean..."
- Clarifying: Seeking further details until you fully comprehend the actions or circumstances. Make use of open-ended questions.
- Providing feedback: This is when you share your perspectives or thoughts. How you respond matters. Are you focusing on learning or assigning blame?

Responding in a constructive and positive way

People make mistakes. To drive improvements that reduce the likelihood of future mistakes and minimise the impact of the mistakes that occur, we depend on understanding what has happened in order to implement effective and lasting measures. To succeed, we need leaders who respond to mistakes, errors, bad news, and unsafe behaviour in a constructive manner.

Both the situation and those involved affect what is the best and most appropriate way to respond. However, in most cases, it is important to be aware of:

1. Showing care for those involved by asking how they are doing and if there is anything you can do to help or ease the situation; "How are you doing?" "What can I do to help?"
2. Refrain from drawing hasty conclusions about what happened. Multiple factors probably influenced and contributed to the outcome, and we need to understand both the direct and underlying cause-and-effect mechanisms.
3. Understanding why and how something occurred, rather than who did it. Focus on learning rather than blame. Ask questions such as:
   a. Can you walk me through your experience of what happened?
   b. How did you perceive the situation before it happened?
   c. What factors influenced the way it was carried out?

Facilitation technique – getting the best out of the conversation

The safety of our work depends on a common understanding of the job, the circumstances, and the risks we face – whether we are conducting a risk assessment, developing procedures, or creating governing documentation.

REFERENCE Bitar, F. BP (2017).

To gather all important and necessary perspectives, it can be useful to:

- Involve people with different backgrounds, competence, and experience who will provide relevant input and perspectives to the discussion.
- Allocate enough time for everyone in the room to share their thoughts, input, and experiences.
- Ask open-ended questions and follow up with more questions to understand what lies behind what is being said.
- Go around the table, or directly invite those who have not shared their thoughts. It can be useful to set aside a couple of minutes for individual reflection before sharing with the group, giving everyone time to think for themselves.
- Be curious about others' viewpoints, experiences, thoughts, and opinions.
- Repeat your understanding of what has been said and ask questions to verify a common understanding.
- Encourage expressing contradictions, challenges, or disagreements.
- Keep the conversation or discussion focused on the goal, and invite participants to suggest solutions that consider multiple needs or perspectives.
- Establish safety in the room for being honest and expressing one's opinion. Apply the principles from pages 39, 40, and 41 of the guide.

These tips will create more open discussion processes and bring several perspectives to the table.

How do you utilise “moments of high influence”?

As a leader, you will encounter situations in your daily operations where you have considerable influence. Situations giving you the opportunity to show what kind of leader you are. These situations are often referred to as “moments of high influence”, moments where you have great influence or impact.

How you choose to respond in such situations will be crucial to the outcomes you achieve. A positive approach fosters trust and willingness to change amongst those you want to reach, whereas a negative approach will reduce trust and increase resistance.

Negative approach

”I expect you to follow the rules”

”This is a straightforward job”

”You should know this”

”You should...”

”Why can’t you just...”

”I don’t have time right now...”

Positive approach

”Can you help me?”

”What do you think about this?”

”What alternatives do you see?”

”What are your thoughts on how we can solve this?”

PHOTO Vard

Examples of situations where you have high influence:

- Someone has their first day at work
- A near-miss or an incident where someone gets injured
- Someone breaks a rule or procedure
- You receive a suggestion to improve safety
- You manage a crisis or serious situation
- You are launching a new strategy or reorganisation plan that is met with resistance

Reflect on your daily routine as a leader and think of a situation where your influence was significant. How did you choose to handle it?

Reflection from the industry

If you´re not out in the field observing how work is done and receiving suggestions, it's challenging to create procedures that are easy to follow. This is about your curiosity as a leader. Wondering why things are done in a certain way, why specific choices are made? What could we have done differently? Essentially, it's about asking these open-ended questions and genuinely being curious about why people do what they do, without penalising them for it.

JO MINKEN, HSE AND QUALITY MANAGER AT DYNEA AS

When interacting with your team, remember that:

- People make mistakes
- The actions people take usually made sense at the time
- Mistakes and errors are mostly a result of underlying conditions and systems
- Understanding why mistakes happen can help us prevent and rectify them
- The workplace, tools, and activities can be designed to reduce mistakes and manage risk better
- Leaders can shape the conditions that influence peoples actions
- How leaders respond when things go wrong matters. Seize the opportunity to learn

REFERENCE Minstry of Defence (2020). Safety leadership guide: How listening and learning are our best defence.

PHOTO IKM


PHOTO Widerøe

> Continuous safety improvements require detailed knowledge and data about existing safety challenges and trends. Data from the organisation in the form of reports from employees are crucial both for understanding the current status and for predicting future challenges or incidents. Honest and complete reporting from employees depends on them not being in fear of consequences, even in cases where they have made mistakes or violated procedures. Therefore, Just Culture is the foundation for a good reporting culture, which is essential in safety work.
> HELGE ANONSEN, CHIEF PILOT AT WIDERØE

Why is having a just culture important?
An approach based on HOP recognises that mistakes are inevitable and often arise as a result of situational factors. However, this does not absolve individuals from responsibility. We want to promote a just culture, not a blame culture.

A just culture forms the foundation for effective safety work in any organisation. In such a culture, employees are not punished for actions, omissions, or decisions that are in line with their experience and training. This means there is room for human error. The purpose is to create an environment where everyone feels safe to report mistakes in order to learn from them and improve safety. However, gross negligence, intentional violations, and destructive actions are not tolerated.

A just culture promotes openness and learning, and contributes to more effective safety work. It helps us understand what lies behind rule violations, but also where we should implement measures.

Questions to ask when requirements are violated:

1. Start by identifying which requirements are being assessed. Were clear expectations given for the requirements?
2. Understand the circumstances. Did they have the prerequisites to meet the requirements? Were the expectations and requirements understood?
3. Was there an attempt to work according to the requirements, but mistakes were still made?
4. Was the task performed as instructed or under the influence of a leader or another colleague? Has this way of doing the work previously been observed by leaders without them speaking up?
5. Are there signs indicating that this has been customary or normal practice among others as well?
6. Was it a situation with clear goal conflicts or dilemmas? What would it have entailed to do the task differently?
7. Was it a deliberate mistake or sabotage? Were grossly negligent actions (e.g., intoxication) involved? Have there been repeated incidents?

REFERENCE Luftfartstilsynet. Just culture – rapportering (Only available in Norwegian)

PHOTO Yara

What can make a just culture challenging?

Sometimes it can be challenging to practice just culture. It can be especially difficult to distinguish between acceptable mistakes, negligence, and reckless behaviour. Flowcharts and other forms of "just culture algorithms" should therefore be used with caution. A good starting point is to begin with Eurocontrol's principles:

1. **Reporting without fear:** Everyone should feel safe to speak up and report situations, conditions, incidents, near-misses, or accidents without fear of unfair, unjustified, or unreasonable blame or punishment.
2. **Support the people involved:** The organisation must support persons involved in or affected by accidents. This is the first priority following an unwanted incident.
3. **Do not accept unacceptable behaviour:** Gross negligence and intentional misconduct are very rare but cannot be tolerated.
4. **Take a systems perspective:** Safety must be assessed based on the entire system, such as goals, requirements, resources, work environment, and constraints, and not merely by looking at individuals, parts, incidents, or outcomes in isolation. Context shapes behaviour.
5. **Make it easy to do the right things:** Improving safety means designing work methods that make it easy to do the right thing and difficult to make mistakes.

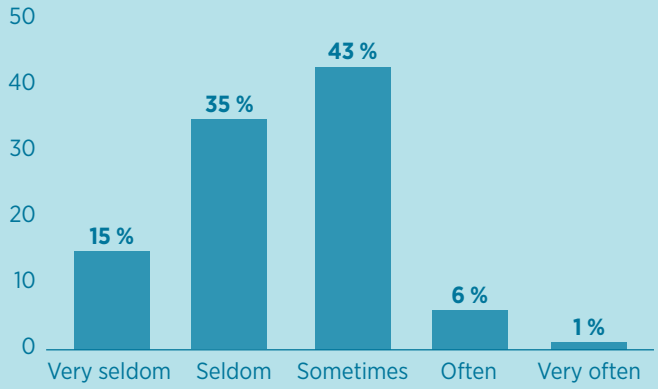
REFERENCE Just culture manifesto. Skybrary Aviation Safety.

CHAPTER 7

Procedures and governing documents

When incidents or errors occur, it can be tempting to introduce new procedures, change existing ones, or increase the focus on compliance. However, organisations should not only focus on compliance but also on understanding the gap between procedures and practice. Where do these gaps appear? What conditions create these gaps? And what can we do to address these conditions to reduce the gaps?

The figure shows the percentage distribution based on 1,684 responses



REFERENCE Always Safe Q2 2021 Unngå personskader: Oppsummering av innsikt (Only available in Norwegian)

50 percent of operative personnel sometimes or more often experience a discrepancy between requirements (and instructions) and how the work is actually performed

Examples of quotes illustrating the gap between procedures and practice:

"There is not enough time to follow all procedures"

"Procedures are written by people who do not have sufficient knowledge of the practical execution of the job"

"Some procedures are difficult to understand due to their wording"

"The requirements are so extensive that it is not feasible in practice (...)"

"Equipment described in the instructions is not always available"

"Outdated designs are not aligned with current requirements"

REFERENCE Always Safe Q2 2022 Unngå personskader: Oppsummering av innsikt (Only available in Norwegian)

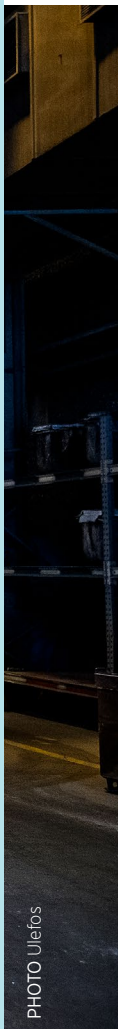


PHOTO Ulefos

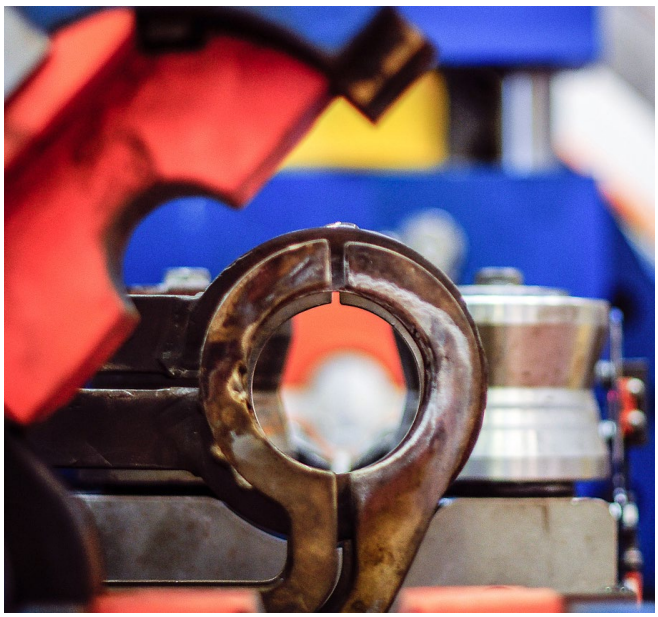


PHOTO NIRAS

PHOTO Magnor Glassverk

How does your organisation view procedures and compliance?

Below is a table showing two different approaches to assessing compliance with procedures. The approach is largely based on comparing what is written on paper to what happens in reality when a job is being executed.

Traditional approach	Approach based on HOP
Procedures show the best and safest way to perform activities.	Procedures cannot possibly specify all possible conditions and account for all eventualities.
Compliance with procedures guarantees safety. For example, a manager might think: If everyone consistently follows the procedures, we will not have any incidents. If there has been an incident, it means that at least one procedure was violated at least once by at least one individual.	Compliance with procedures cannot guarantee safety. Several other conditions must be present for an incident to occur.
To improve safety, people must know and follow the procedures. In case of failure, more procedures are introduced to make the activity safer.	To improve safety, various components must be in place. Procedures are just one of the tools.
Procedures should always be followed to the letter.	Operative personnel experience several examples of goal conflicts, situations where compliance can affect the ability to deliver on time, result in production stoppages, damage equipment, or potentially lead to catastrophic outcomes.
It is mainly front-line operators who cause incidents through non-compliance.	Personnel at the sharp end are just one of several groups that over time contribute to hazardous situations. Other groups include engineers, planners, managers, etc.

REFERENCE IOGP (2022). Learning from normal work (Report 642). IOGP.

Best practice for developing procedures

Use the checklist below to assess how your organisation is currently developing procedures.

	Yes, we do this today	We do it occasionally	No, we do not do this today
When we write rules and procedures, employees who will use these documents are involved throughout the entire process.			
Procedures are based on how the task is actually performed. Task analysis techniques are used.			
Better ways to execute the task, developed by the operators, are integrated into the procedures.			
Shortcuts for performing the task are viewed as behaviour reinforced by work arrangements. These are identified and addressed.			
There is a system in place to keep the procedures relevant and up to date.			
Operators say that the procedures are easy to use, navigate, and understand.			
Operators say that procedures are quick and easy to access.			
Procedures are linked to training and competence management. Updates in procedures are reflected in updated training.			
The management system ensures there are no conflicting instructions/requirements or multiple procedures covering the same topic.			

REFERENCE SPE International (2021) Are You Applying Human Factors / Human Performance as per Industry Guidance?

PHOTO Unsplash

“

There will always be a trade-off between including as little text as possible, while still including what is necessary to complete the job. Previously, procedures were often long and cumbersome. Now, the emphasis is on creating simpler procedures that are easier to understand. With the transition to a new system, it has become easy to add pictures, sketches, drawings, and videos. Operators are very satisfied with these types of procedures. Team leaders use SJO (safe job observations) to review procedures in the field and discuss the need for changes (both in terms of executing the actual job and documentation in the procedure).

BENTE SUNDBY HÅLAND, EHS DIRECTOR AT ELKEM CARBON AS

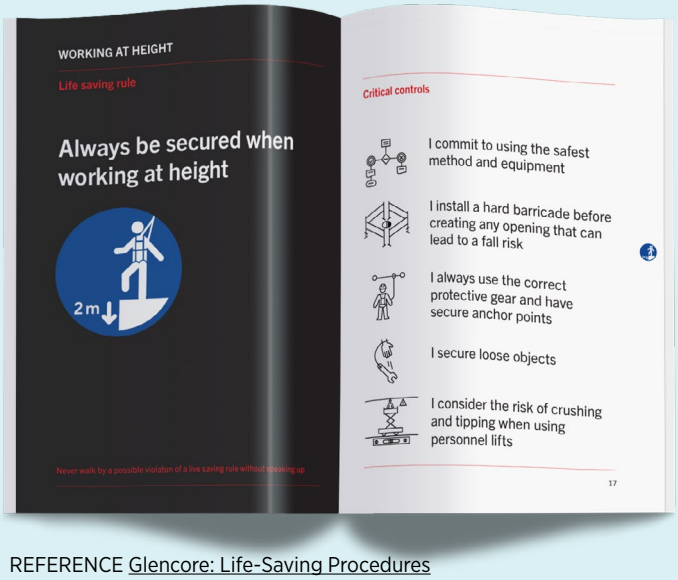
PHOTO Elkem

Example of simplifying procedures

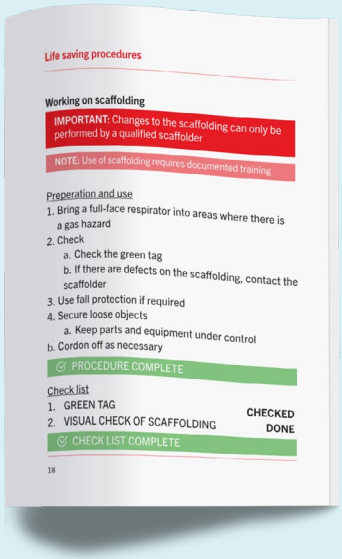
Glencore Nikkelverk AS has developed a booklet where they have compiled the most important procedures, which they have chosen to call life-saving procedures. These are simplified and contain only the most critical points. They have also established a dedicated training centre where leaders and employees can practice the life-saving procedures in a realistic environment. This also includes people from functions that can help set important premises for those who perform the job but do not work operationally on a daily basis.

In addition, it includes a simplified description of key topics related to working at heights, both in terms of preparation and use, as well as a checklist:

Excerpt from the booklet:



Excerpt from topic:



REFERENCE Glencore: Life-Saving Procedures

PHOTO Hydro

CHAPTER 8

The HSE role going forward

The HOP principles enable us to view our choices, actions, and the way we learn from a new perspective. We should fix the work, not the workers. By removing barriers and making the job easier to do, we provide those doing the job with better conditions to accomplish their tasks effectively and safely.

Our focus must shift from who to what. Rather than focusing on individuals and their actions or inactions, our attention should be directed towards the circumstances influencing the execution of the work.

What does this mean for the HSE role going forward?
Throughout this guide, we have tried to emphasise the importance of adopting a proactive approach to safety. Overall, this means we must focus on strengthening our ability to identify areas for improvement and conditions that require our attention, addressing these before an incident occurs.

Which tasks within our organisation carry the greatest risks to life and health, and what error traps currently make these tasks challenging?

There is no straight line from plans, requirements, and procedures to the work being done in practice. It is not the leaders or those of us in HSE roles who know the job best, but those who actually do it. Hence, we must be present where the work is done, and we must be curious. It is vital to observe the job firsthand and to understand the surrounding circumstances. In this way, we can gain a deeper understanding of how the work is actually performed and what can make the work difficult. We need to practice asking the right questions and listening to those doing the job. This enables us to identify and manage work-related challenges, focusing our safety efforts where they will have the most impact.

> If you want to be a proficient HSE leader, you must spend a lot of time out in the production or project environment. Sitting in an office won't suffice. That's my strong recommendation. Be out there to genuinely feel what's going on (...)
> STIAN KNOX, GROUP DIRECTOR HSE AT KONGSBERG GRUPPEN ASA

PHOTO Kongsberg Gruppen

PHOTO Ulefos

Moving forward in the HSE role, we need to build the skills to:

- **Anticipate:** Gain insight into future operational conditions in the organisation, allowing us to revise risk models and implement countermeasures.
- **Involve:** Engage workplace stakeholders, such as safety representatives and employee representatives, in the process.
- **Respond:** Ensure necessary capacity to manage changes that affect the organisation and individual.
- **Synchronise:** Coordinate the flow of information and actions. Ensure information flows from those with experience and knowledge to those who make decisions and provide support.
- **Proactively learn:** Seek out weaknesses, different understandings, goal conflicts, and the need for reprioritisation.

The premise for this guide is that we do not need more HSE work; rather, we need better HSE work. HOP gives us an excellent starting point for achieving this. Good luck!

REFERENCE Provan, D. (2022). A Field Guide to Safety Professional Practice. Safety Futures.

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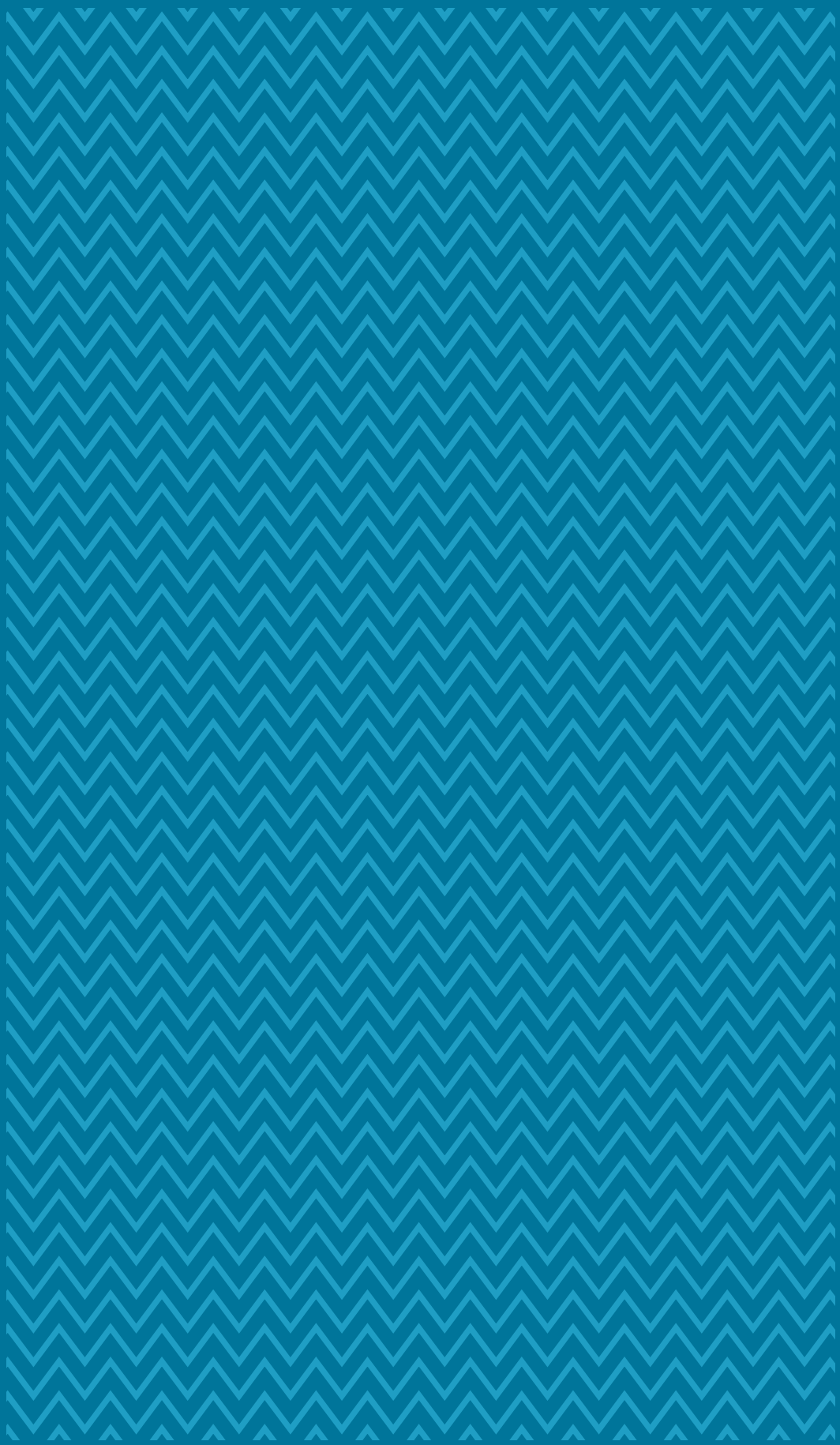

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