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Approaches for an Integrated Safety Culture: The Essentials

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TotalEnergies

FOR ME, FOR YOU, FOR ALL
SAFETY
TotalEnergies

GM-GR-HSE-351 / September 2021

Approaches for an Integrated Safety Culture: The Essentials

GM-GR-HSE-351 / September 2021

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Foreword

This guide is a summary of feedback on approaches for an Integrated Safety Culture conducted in the Company since 2006 and of the many exchanges with other companies and academic players as to the ways in which this type of Safety Culture can be achieved.

It is intended to all TotalEnergies employees who wish to discover:

- The notion of Safety Culture,
- The attributes of an Integrated Safety Culture and present the actions possible to achieve it,
- The Company models, tools and approaches to develop the Safety Culture of an entity.

This guide does not define what Safety is for the Company. It does not present all the programs, practices and rituals that comprise the Safety Culture of the Company and its different entities. It does explain however how the attributes of an organization's Safety Culture bring it closer to an Integrated Safety Culture.

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1

What is Safety Culture?

There are many definitions of Safety Culture in industry, research and literature.

The definition has evolved over the decades with the different contributions from human and social sciences to safety performance improvement programs in the industry.

1. Definition

Analyses from significant accidents (e.g. Chernobyl in 1986, Texas City in 2005) highlighted that the causes of incidents were not to be found just in the behavior of frontline players, but in how **all players think and work,** and such mechanisms are deep-rooted in the organization.
After a working group with other industrial players from 2014 to 2017, organized by the Institut pour une Culture de Securité Industrielle (ICSI), (French Institute for Industrial Safety Culture), the following definition was established:

REMEMBER

- **Safety Culture is a set of ways of doing and thinking widely shared by actors in an organization when it comes to controlling the most significant risks inherent in its activities.**

2. From a Behavioral Approach to a Cultural Approach

2.1 Behaviour

It is usual to hear that a group of individuals has (or doesn't have) the right level of Safety Culture because that particular group adopts (or doesn't adopt) the expected behavior.

E.G.: *An employee sees operators taking samples and adapting the procedure and forms his/her own opinion on the sector's Safety Culture.*

Behavior is the visible part of human activity: **ways of doing things** that can be observed.
However, more deep-rooted mechanisms have to be analyzed to understand what drives a given behavior - this is the invisible part of human activities that corresponds to **ways of thinking.** These include values, beliefs, conventions, representations, emotions and information processing mechanisms:

- **Values** **E.G.:** *Safety, Solidarity,*
- **Beliefs** **E.G.:** *All accidents can be avoided,*
- **Conventions** **E.G.:** *Meetings begin at the scheduled time,*
- **Representations** **E.G.:** *10 rules for driving shared by a community of drivers,*
- **Emotions** **E.G.:** *Fear,*
- **Information processing mechanisms** **E.G.:** *A sudden information overload that interferes with the processing of information received by an individual.*

2.2 Limitations of behavioral approaches

Behavioral approaches usually establish a set of expected behaviors.

E.G.: *Fundamental rules to be applied, a list of obligations to be respected.*

Then audits and observations are proposed to identify non-compliant behaviors and encourage behaviors in line with the established rules.
The advantage of behavioral approaches is that they clarify expected behaviors, but focus on the audited/observed individual, thereby overlooking other influential factors such as work groups *(see GM-GR-HSE-350 "The H.O.F. approach").*
They also often give rise to reminders as to expected behaviors without necessarily analyzing (and therefore ultimately resolving) the root causes of a non-compliant behavior.

EXAMPLE *of a more deep-rooted but unidentified cause: a situation in which applying the rule causes problems owing to the organization in place.*

2.3 The Safety Culture Approach

Programs that seek to reinforce Safety Culture focus both on ways of thinking and ways of acting because **both aspects influence each another.** Ways of thinking influence behaviors, and the observed practices (=behavior) are at the root of perceptions (=ways of thinking), which themselves give rise to behaviors.

E.G.: *An employee flags up a mistake he made (=way of acting), because he thinks that transparency is a priority (way of thinking). His manager does not appreciate the bad news (=ways of thinking). He reprimands and sanctions his employee (=way of acting). If this reaction happens again, a feeling of injustice will begin to take root in the employee (=development of his way of thinking), and he will decide not to mention his mistakes in the future (=impact on his way of acting).*

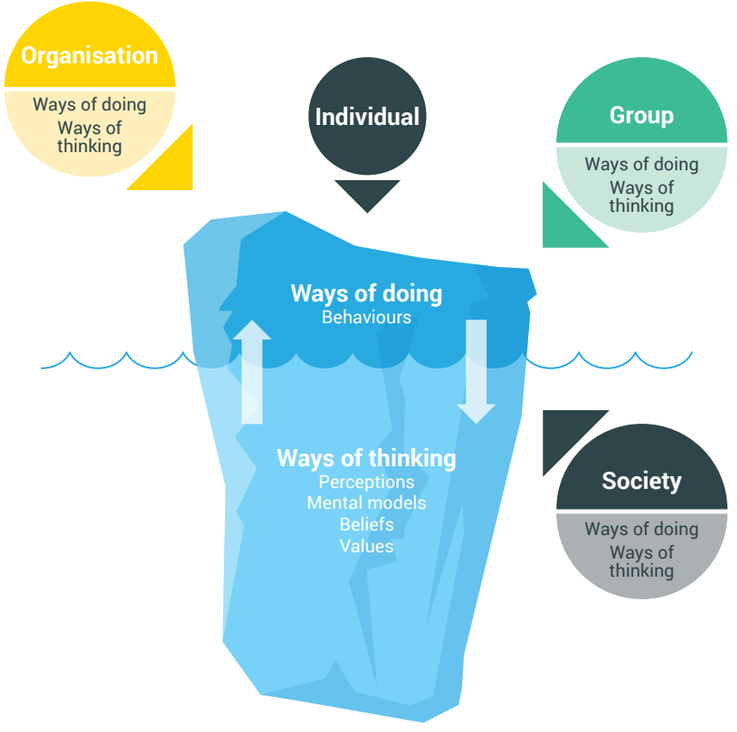
REMEMBER

- **People's Safety behaviors cannot be changed sustainably in the long term unless they change and develop their ways of thinking.**

3. Organizational Culture: Each Person is Influenced by Others

People's ways of thinking and ways of behaving are influenced by ways of acting and thinking that are:

- **shared in the society,** depending on the specificities of the place in which the entity is located,
- **shared in the organization,** depending on the specificities of the company, or site,
- **shared in groups** according to the specificities of the business line, or work group.



Safety Culture approaches focus on the influences of these different groups and incorporate the sociological aspects of an organization.
Safety Culture is a social construction - it is co-constructed and shared by a group. It is forged over time, and it can take several years for a change in culture to take hold.

REMEMBER

- **Developing safety culture** is not something that can be taught or imposed. Safety culture is built up over time with teams and with management personnel.

4. The Place of Safety in Decisions and Arbitrations

An organization is managed by incorporating different stakes such as Safety, the quality of products and services, legislation, markets, human resources, finance and investments.
Safety is one of the Company's core values and, as such, it underpins the decisions and actions taken by Company employees. It is not a question here of making safety the subject of a program separated from the other stakes.
Safety Culture approaches therefore deal with the place allocated to safety in decisions and arbitrations.

REMEMBER

- **Safety Culture reflects** the place the organization grants to safety, in all decisions and arbitrations, hierarchical levels and in all business lines.

5. The Safety Culture Approach / The H.O.F. Approach

Many different approaches help understand the influences on human behavior in organizations involving risks. Among them, the Company has developed two complementary ones:

- **A "micro" approach**
  that helps analyze Human and Organizational Factors for Safety in work situations. It is called the "H.O.F. approach" and is the subject of GM-GR-HSE-350.
- **A "macro" approach**
  that deals with the global aspects of an organization involving risks: this approach corresponds to the Safety Culture approaches discussed in this guide.

"MICRO" Approach

Analysis of human activity in a work situation
Analysis of Human and Organizational Factors
H.O.F. Approach
GM-GR-HSE-350 Guide

"MACRO" Approach

Analysis of components of an organization
Global analysis
Safety Culture Approach
GM-GR-HSE-351 Guide

Approaches for an Integrated Safety Culture: The Essentials

2

The Types of Safety Culture in an Organization

Safety Culture is a social construction and reflects the culture of an organization. Members of an organization forge it based on decisions, on their choice of actions and those that they witness, depending on situations where safety is concerned. Different types of Safety Culture exist in an organization.

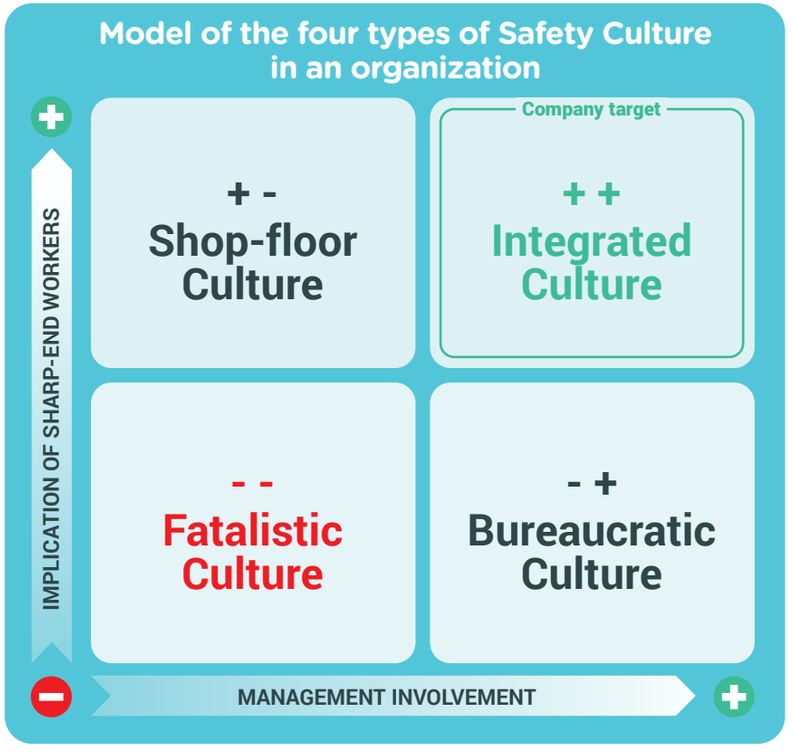
1. The Four Types of Safety Culture in an Organization

Four types of Safety Culture exist in an organization: Fatalistic culture, Shop-floor culture, Bureaucratic culture and Integrated culture. They are distinguished according to:

- The place that the staff in the organization allocate to safety,
- The respective involvement and influence of two categories of personnel:
  - management,
  - sharp-end workers.

The characteristics of the four types of Safety Culture, represented on the diagram, are described below, with a description of the main associated beliefs on which they are based.

This model of the four types of Safety Culture likely to be present in an organization is the reference model for the Safety Culture evaluations performed in the Company since 2006.



2. Fatalistic Safety Culture

In this type of culture, people are convinced that it is impossible to influence safety performance.

E.G.: *"It's impossible to avoid the accidents that happen here", "whatever we do, accidents will happen" or "it's impossible to manage safety risks".*

Accidents are perceived as a stroke of bad luck, it is not possible to avoid it. Accidents are caused by external factors that personnel cannot control or are considered as an act of something supernatural or an act of God.

This type of culture is based on the belief that people have little impact on accident prevention. Members of this type of organization are more like spectators of safety performance: neither managers nor employees are really involved in safety issues.

Fatalistic Safety Culture

- **Personnel believe that they have no influence on their safety performance and that safety is out of their hands.**

3. Shop-floor Safety Culture

Safety practices are developed by sharp-end workers who want to protect themselves from injuries and accidents.

They apply safety practices based on their experience and what they consider as pertinent solutions to protect themselves. Best practices implemented to manage risks are passed down from generation to generation. In this type of culture, beliefs are based on the knowledge of situations. Experience is the dominant factor in risk management: accidents can be avoided thanks to experience. There is little involvement from management, who believe that safety is in the hands of those actually performing the operational tasks. However, the sharp-end workers are very much involved.

Shop-floor Safety Culture

- **Sharp-end workers develop safety practices themselves: high involvement.**
- **Safety Practices passed down from generation to generation.**
- **On-the-job training.**

- **Low involvement from management.**
- **Fragmented vision of risks.**
- **Risk management measures based on experience (past accidents).**
- **Practices passed on informally/by word of mouth.**
- **No guarantees that safety practices are consistently applied.**

4. Bureaucratic Safety Culture

Bureaucratic Safety Culture is based on a formal safety system (Safety Management System) and relies on the management line to pass on instructions and ensure they are followed. This type of safety culture is based on the belief that strictly respecting the formal rules set down by the organization is enough to manage risks. Accidents can be avoided by introducing more rules.
In this type of safety culture, managers are responsible for safety performance and structure is organized with rules to be respected. Expertise is developed in safety and safety is considered in investments. Management is heavily involved.
However, safety measures that are enforced "top-down" may conflict with shop-floor practices. Sharp-end workers may have trouble in situations in which applying the rules of the formal system is problematic. Owing to the bureaucracy of the formal system, they may be reluctant to report back information or take initiatives. In the end, they have very little involvement.

Bureaucratic Safety Culture

+

- Practices formally defined.
- Competency checks.
- Managers involved.
- Responsibilities recognized.
- Drive for continuous improvement: audits and action plans.
- Investments.

−

- Incompatibilities with standard work practices.
- Safety is seen as a constraint.
- Illusion of risk management.
- Too many rules to follow them all.
- Little information reported back.

5. Integrated Safety Culture

This type of safety culture is grounded in the widely shared belief that no single person has all the knowledge required to attain high safety performance. In this type of culture, the shared belief is that risk management is achieved by a combination of following the established rules (for anticipated situations) and adopting proactive behaviors (in unforeseen situations).
Commitment from managers, employees and all the different departments in the organization is required to avoid accidents and achieve a high level of safety performance. Management is involved by exercising strong leadership but encouraging participation. Reporting information and difficulties experienced on the shop floor is encouraged.
Employees endeavor to apply the rules and take initiatives which management then pass on. They participate in developing the rules.
The organization encourages the circulation of information, discussion and exchange of ideas and opinions. The support departments, entity staff representatives and contractor companies participate in the debates.

Integrated Safety Culture

+

- Each person contributes to safety measures, their implementation and improvement.
- Commitment from both managerial staff and shop-floor workers.
- Practices are valued.
- Information is reported from the shop floor and processed at the right level in the organization.
- Safety is perceived as an added value for the overall performance of the company.

REMEMBER

Four types of Safety Culture in an organization

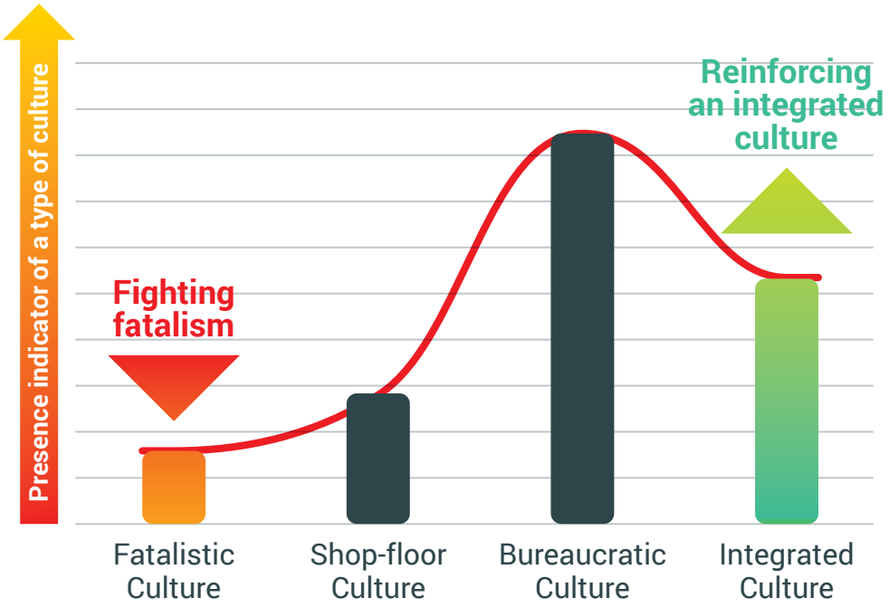
- **Fatalistic**
  Employees are barely involved in safety.
  Personnel think that accidents cannot be avoided and that it is impossible to manage risks.
- **Shop-Floor**
  Safety is in the hands of sharp-end workers.
  They are convinced that experience helps avoid accidents and that risk management is based on the application of the good practices passed on.
- **Bureaucratic**
  Safety is in the hands of the managers who are responsible for it.
  They think that accidents can be avoided by enforcing more rules and that risks are managed by strictly applying prescribed rules.
- **Integrated**
  Safety is in the hands of all personnel.
  They think that accidents can be avoided by applying formal rules and adopting proactive behaviors.
  Risks are managed when everyone is mobilized.

GOOD PRACTICES
for shifting from a given type of culture to the Integrated Safety Culture

- Problem with the **Fatalistic** culture: employees are (passive) spectators in the process, and they think they have no influence on safety.
  - Make them proactive in the process by asking them questions such as "What could you do to protect yourself in this situation?", "How do you perform this task to manage the danger?" for their safety first and foremost, then for that of others.
- Problem with the **"Shop-floor"** culture: experienced sharp-end workers are considered as those who decide on safety provisions. They are isolated and operate in "silo mode".
  - Make discussions/meetings happen with colleagues in other sectors and activities within the entity, to provide other perceptions/impressions of situations.
- Problem with the **"Bureaucratic"** culture: sharp-end workers are reluctant to flag up/report on situations in which applying rules causes difficulties.
  - Show specific interest in situations where the prescribed rules cannot be applied, e.g. "in which situations does this rule generate problems? What does the problem consist of?", "How do you manage this type of problem?".
- To achieve and maintain the **"Integrated"** culture:
  - Implement the best practices associated with the seven attributes described in the following chapter.

6. The Company Safety Culture Profile and Target

Safety Culture is built up within an organization: it develops and is dynamic. From one situation to the next, the dominant culture may vary among the four different types presented previously. The Safety Culture of an entity is therefore a mixture of several types, one of which is predominant.
Since 2006, Safety Culture diagnoses have been performed in entities in the different branches of the Company. Over 30,000 employees were involved, including contractor companies. The standard Safety Culture profile that transpires from these diagnoses, shows that several types co-exist in the Company's sites and affiliates: bureaucratic culture predominates but the shop-floor and integrated cultures are also present, with some traces of a fatalistic culture.



The Company has set the target of fighting the **Fatalistic Culture** and **developing and consolidating the Integrated Safety Culture,** *see General history of Company Safety Culture programs, 2009, in the HSE guide GM-GR-HSE-351.*

REMEMBER

Several types of Safety Culture coexist in an organization

- Bureaucratic Safety Culture is predominant in the Company.
- The Company is aiming for an Integrated Safety Culture.

3

Attributes of an Integrated Safety Culture

There is a whole plethora of Safety Culture models with many attributes that are sometimes shared by several different models. The Company actively participated in an ICSI working group, attended by industrial players and scientists from different human and social sciences, between 2014 and 2017, to analyze current models and their characteristics and share their experience.

This collective summary, discussion and sharing work led to the identification of seven attributes of an *Integrated Organizational Safety Culture* described in this chapter.

The Wheel Including the Seven Attributes of an Integrated Safety Culture

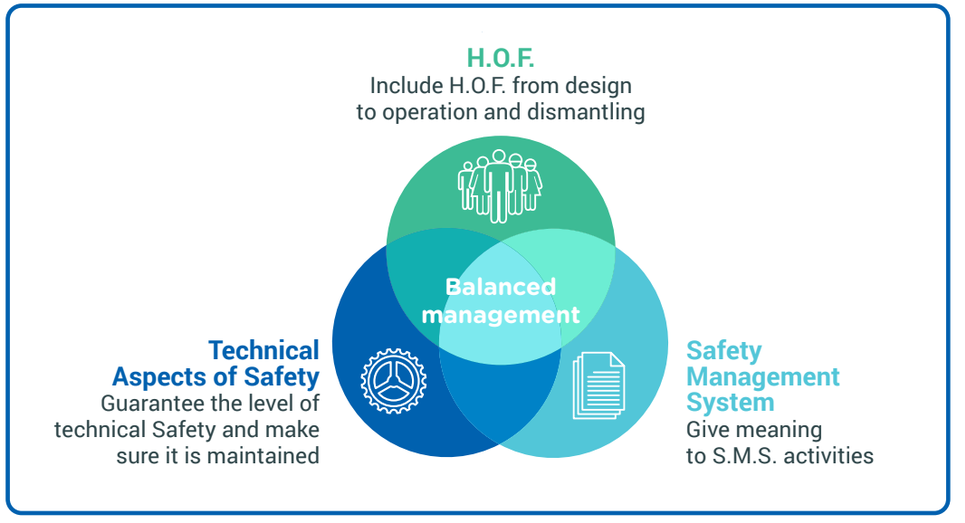
The wheel above shows that each attribute needs to be considered with equal value, to form a whole.

1. Constant Attention to the Three Pillars: Technical Aspects, S.M.S. and H.O.F.

This attribute of an Integrated Safety Culture focuses on the **homogeneous management of three pillars of safety:**

- Technical aspects of Safety;
- Safety organized by the Safety Management System "S.M.S";
- and the integration of Human and Organizational Factors "H.O.F".

These three pillars are not independent: they complement each other. Daily management practices always include these three areas, as shown in the diagram below.



1.1 Technical Aspects of Safety

The technical aspects of safety include installations, machines and equipment that contribute to safe operations. They are also called "technical barriers for safety".

They are part of the first elements that everyone can see in terms of safety. As such, they influence the individual and collective perception of how safety is considered.

They are defined when facilities are designed, during risk assessments, or installed in the unit operation phase.

These technical measures for prevention, protection and mitigation are to undergo regular maintenance and updates, according to the best practices of facility integrity management.

This refers to Company programs dedicated to the technical integrity, availability of installations and/or the management of safety critical equipment.

Technical Aspects of Safety

- Units, vessels,
- Pressurized equipment,
- Infrastructures,
- Rotating machinery,
- Instrumentations,
- Utility networks,
- Alarms,
- Screens and software,
- Handling tools,
- Access to work areas,
- Storage areas,
- Protection and rescue equipment,
- Emergency equipment,
- Maintenance and housekeeping of work areas,
- Labeling, signs/posters, marking,
- Work conditions.

1.2 Safety Organized by the Safety Management System

The entity's Safety Management System (S.M.S.) includes the key processes for managing high-risk activities and the safety rules to be respected.
Processes and rules refer to risk management activities that need to be implemented: the effective application of what is defined, in the management system, is expected.
Moreover, achieving the ultimate objective of each activity is a priority consideration.

E.G.: *Leading a REX on accidents so that it has an impact, and not just to note that the meeting has been held, as required by the system.*

Key-processes in a S.M.S.

- Production of energy and services,
- Surveillance and measuring,
- Industrial Safety,
- Human Resources,
- Procurement,
- Maintenance,
- Inspection,
- Change / modification management,
- Emergency preparedness,
- Communication,
- Incident analysis / Lessons leard (REX),
- Steering according to continuous improvement.

1.3 Human and Organizational Factors for Safety

Human and Organizational Factors (or H.O.F.) influence behaviors (See *GM-GR-HSE-350 "The H.O.F. Approach"*). They are to be included in the entity's risk management activities.
The H.O.F. are included both in the design phase of a facility and organization, and in the production or dismantling phases. **They are the ingredients that can be used to develop the safety culture.**
To do so, individual and collective thought and action mechanisms are taken into account in the management of the organization (key processes and associated rules) as well as the management of technical aspects.

GOOD PRACTICES
for integrating H.O.F.

- Include H.O.F. in incident/accident analyses.
- Involve employees in drafting rules and updating processes.
- Include H.O.F. in the management of organizational or technical changes.
- Consider H.O.F. when designing installations, organizations or projects.
- Run simulations before setting up a new organization or activity, encourage participation from users of the future system.
- Analyze work situations to foster their adaptation to human factors and the tasks to be performed.
- Inform on the H.O.F. that influence behaviors.
- Analyze errors and inappropriate behaviors, see *GM-GR-HSE-350 "The H.O.F. Approach"*.

REMEMBER

Constant attention to the three pillars: Technical aspects, S.M.S. and H.O.F.

- The three pillars are not independant, management practices consistently include:
  - Technical Aspects of Safety.
  - The Safety Management System
  - And the integration of H.O.F.
- H.O.F influence behaviors, they are the ingredients we can use to develop a Safety Culture.

2. Shared Awareness of the Most Significant Risks

An organization upholds a robust Safety Culture when all the players share and discuss their perceptions of the most significant risks. This defines the collective awareness of the most significant risks.

Safety includes two areas:

- Management of risks in the workplace,

E.G.: *Analysis of the risks of personnel exposure to chemical risks.*

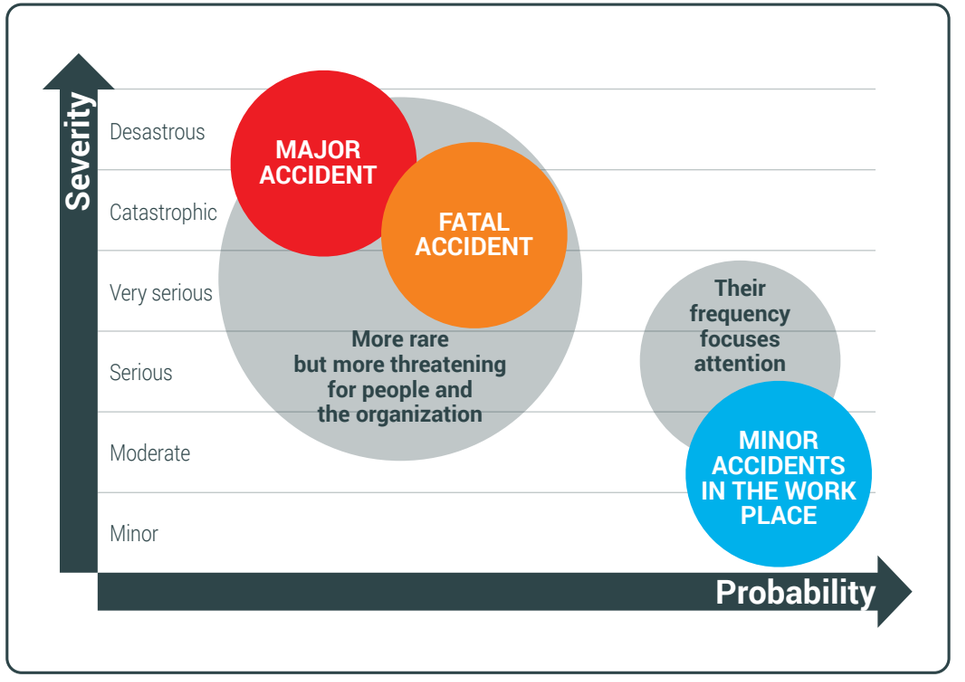
- Management of technological risks,

E.G.: *Analysis of the risks of overpressure in a vessel.*

When both areas are considered, an entity is exposed to several types of accident, from minor accidents in the workplace to fatalities, or even major industrial accidents that can potentially affect people, facilities, the population and the environment.
Depending on their type, accidents are positioned differently in terms of probability and severity, as shown on the graph opposite. Minor injuries occur more frequently than major technological accidents or fatal accidents. The consequences of a major accident are potentially catastrophic or disastrous, whereas all minor injuries are not necessarily weak signals of potentially fatal accidents, even in slightly different circumstances.
The occurrence of accidents influences individual and collective risk assessments: the perceptions stemming from over or underestimating the risks jeopardize prevention.

E.G.: *Minor injuries such as sprains sustained when moving around the site or cuts to hands are a regular occurrence on an industrial site. Management staff therefore focus their attention on these events to avoid them and therefore reduce the TRIR indicator. Discussion and communication programs are kicked off. Personnel focus on these injuries and the perception of the most significant risk is influenced.*
What about the perception of fire or explosion risks on an industrial site where no major accidents have occurred for several years?

An organization whose attention and safety programs are focused on reducing the TRIR (fighting against minor events that occur frequently), does not necessarily make enough provisions for fatal or major accidents. This means that an overall decrease in the TRIR and persistent occurrence of fatal accidents or major technological accidents can be observed in an entity.
Moreover, the TRIR is a "hindsight" indicator that reflects past events, most of which are minor. It does not reflect the probability of occurrence of a serious or major accident.
The challenge for an organization is to maintain vigilance and management of the most significant risks related to site activities. This means those related to fatal accidents and major technological accidents, that occur least often (so are less visible) but which threaten the personnel and survival of the organization.



The pitfalls of the Bird pyramid

Following a study carried out in 1969, for the Insurance Company of North America on accidents declared by companies from different industrial groups, Frank E.Bird Jr developed a pyramid that has since become famous, and which expresses a principle of proportionality, between the number of injury-free incidents (the most frequent), the number of accident with damages (less frequent), and the number of serious accidents (even less frequent).

But the pyramid can be interpreted as saying that if we manage to reduce the number of incidents at the base of the pyramid, then the number of fatal accidents will be reduced by just as much.

▶ **Which is not necessarily the case!**
It's one of the pitfalls of interpreting the pyramid!

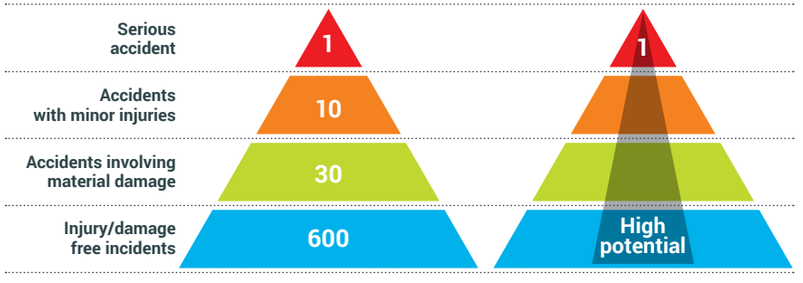
Fatal accidents often have a different causal sequence from minor accidents. Many of the accidents at the base of the pyramid would not have led to serious accidents, even in slightly different circumstances.

E.G.: *An operator bangs his ankle on an item of equipment in the wrong place on the ground.*

However, some of the minor incidents could have had much more serious consequences in slightly different circumstances. These are called High Potential severity accidents or HIPO.

E.G.: *A very heavy tool falls on the ground right next to an operator.*

Handling all the incidents at the base of the pyramid in the same way takes a lot of energy and is over-demanding on the organization.
Detection and analysis resources therefore have to be adapted according to the severity potential of events.
As many resources as possible should focus on **high potential severity incidents.**



Bird's pyramid

Detection and analysis of high potential incidents at the base of the pyramid.

REMEMBER

Shared awareness of the most significant risks

- Reducing the most minor accidents (TRIR), does not always have an impact on the probability of occurrence of serious accident or a major technological accident.
- Rather than processing all incidents at the base of Bird's pyramid in the same way, the challenge is to adapt the organization and its resources according to the severity potential.
- All actors in an organization agree on the most significant risks.

GOOD PRACTICES
for the shared awareness of the most significant risks

- Have operational teams and contractor companies for risk analyses.
- Share the results of risk analyses in the workplace and studies of process hazards with operational teams and contractor companies, implement and monitor the chosen measures.
- Simulate dangerous phenomena and their consequences (share a standard scenario and simulation exercises), to develop an awareness of the most important risks among the actors in an organization.
- Have regular exchanges and discussions on risks, reaching a consensus on the most significant ones and keeping this inventory up to date.
- Put the visions of risks from two different métiers on a same operation up for debate, and collectively decide on the most significant risks.
- Let the most experienced people talk so that they can explain the most serious accidents or HiPos they have witnessed.
- Steer the performance of an entity using indicators other than the TRIR, in particular high potential incidents and losses of containment.
- Take advantage of high potential incidents to run a root cause analysis of H.O.F. causes.
- Balance discussions on minor and frequent accidents with a vigilance on potentially serious incidents and major technological accidents.

3. The Right Balance Between Rule-based and Managed Safety

In risk management, there are two different safety models: the Rule-based Safety and the Managed Safety.

3.1 Rule-based Safety

The organization anticipates as many situations as possible that are likely to occur. The rules and associated resources are set up to manage these anticipated situations in a safe manner. Risks are managed by applying the established rules.
The expected behavior in this model is **compliance with rules.**

E.G.: *Identification of exposure to risks in the workplace and definition of the appropriate Personal Protective Equipment (PPE). Wearing this PPE is therefore expected in situations where workers are exposed to the identified risks.*

This model is based on process and task expertise to:
- Anticipate as many high-risk situations as possible;
- Set up barriers adapted to anticipated situations.
- Establish, test, make available and uphold the formal rules and procedures.

3.2 Managed Safety

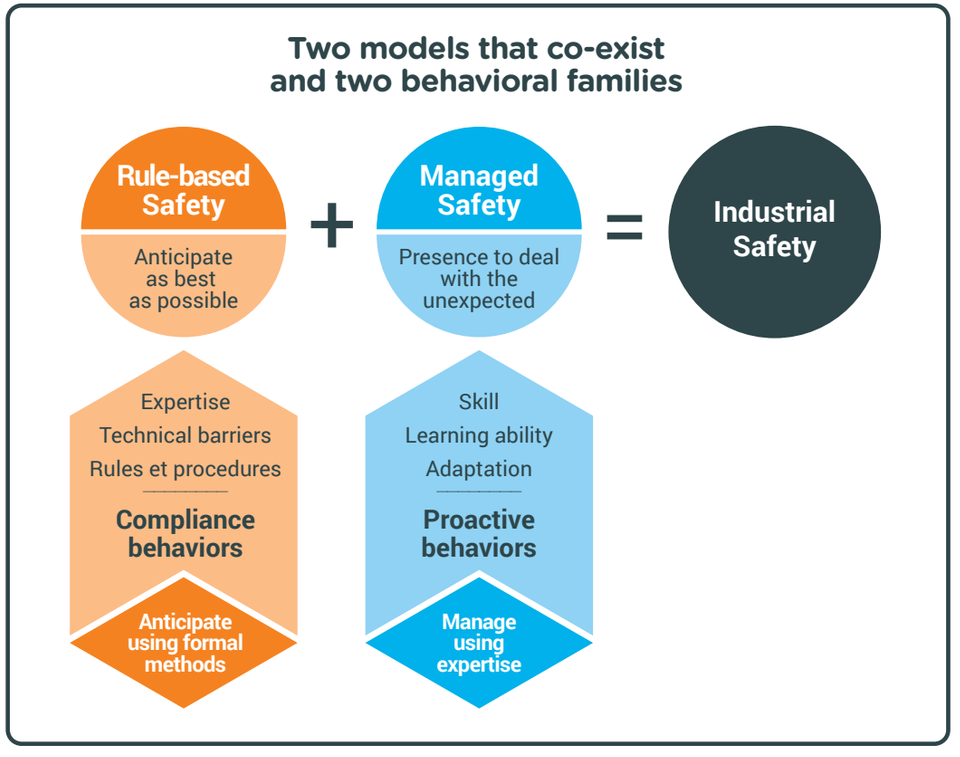
Despite the best possible anticipation, reality is sometimes different from what was first thought. Work is never just executing a procedure.
In view of the many possible configurations and changing context, the dangerous situations encountered require practices to be adapted. Using their competencies, the actors define the way in which they are going to tackle a situation (new or not anticipated) in a safe manner.
In this model, **proactive** individual and collective behaviors are expected: detection and declaration of dangerous situations and changes in context, putting forward solutions.

E.G.: *On work sites to install solar panels on buildings, the sharp-end workers constantly adapt to manage safely the work depending on the height of the building, the configuration and the structure of the roof, and the weight of the solar panels. Any new or dangerous condition not identified in the prior risk assessment, is detected and flagged up by the members of the team. Work is stopped so that everyone can decide on how best to manage the risk situation.*

The safety model is based on the identification and maintenance of required competencies (experience), as well as the collective abilities to learn and adapt to specific situations.

In the Company's activities, **both models co-exist.** Depending on the situation, one may be more dominant than the other, or both can be combined depending on the tasks. The right balance needs to be found on a daily basis.

E.G.: *Welding work is programmed on a pump. The people in charge of the contracted work and those performing the work must comply with the Work Permit process and associated rules (= Rule-based Safety). On the day the welding work starts, an unplanned co-activity is detected and flagged up: a high-pressure cleaning operation is being performed in the same area. The welding work is stopped, and a further risk analysis is performed with all the actors involved. They define the best way of managing safely the unplanned situation (= Managed Safety).*



Pitfalls to be avoided

Differences

Thinking that...

Rule-based safety = Bureaucratic Safety Culture

Bureaucratic Safety Culture hinges on the belief that accidents can be avoided by enforcing more rules and that risks are managed by strictly applying the rules in place. Sharp-end workers may have trouble in situations in which applying the rules of the formal system is problematic.
One of the conditions for the robustness of the Rule-based Safety model is based on defining fallback solutions when the rules cannot be applied.

Managed Safety = Shop-floor Safety Culture

In the Shop-floor Safety Culture, safety is in the hands of sharp-end workers. They are convinced that experience helps avoid accidents, and that risk management relies on the application of best practices passed on.
The Managed Safety model is robust in particular owing to the proactive behavior of actors who flag up new situations or issues, to collectively define the ways in which unplanned situations can be managed.

REMEMBER

The right balance between Rule-based Safety and Managed Safety

- Safety is based on two types of behavior: compliance behaviors and proactive behaviors.
- In the Company, Rule-based Safety and Managed Safety co-exist. Depending on the situations, one of the two may predominate, but a combination of both is necessary.
- The conditions required for robust Rule-based Safety and Managed Safety must be present and maintained.

GOOD PRACTICES
for the right balance between Rule-based Safety and Managed Safety

RULE-BASED SAFETY

- Anticipate known situations, including crises or downgraded situations.
- Perform analyses of tasks identified as critical from a safety perspective.
- Test the rules to ensure they are realistic.
- Make the rules available and ensure they are kept up to date.
- Describe the context for applying the rules (=the anticipated situations) and make sure it is known.
- Train personnel so that they are familiar with the rules and how to apply them (simulate situations).
- Determine fallback solutions when the rules cannot be applied.
- Promote the sharing of lessons learned (REX) and experience to reinforce the meaning given to the rules.

MANAGED SAFETY

- Make sure that there are competent and experienced personnel in the teams to analyze specific situations.
- Identify technical experts in case an independent analysis of a situation is required and make sure that they are available to provide support if necessary.
- Expect people to detect and flag up unplanned and specific situations (= individual and collective state of vigilance).
- Ensure the right climate for people working as a team.
- Organize collective analyses of complex situations to determine the best way to manage them.
- Practice real case exercises (simulation), train regularly.
- Trigger lessons learned (REX) on specific / unforeseen situations to strengthen the teams' collective experience.
- Ensure that competencies and experiences are passed on.

4. Questioning Culture

Integrated Safety Culture also relies on the individual and collective capacity to ask questions about a situation, based on the principle "To doubt is to learn".

4.1 Culture of Doubt: a Humble Organization

In an Integrated Safety Culture, actors share the belief that risk management is never to be taken for granted. A real situation can hold surprises, and all the actors share a sense of humility when faced with an actual situation. The organization always makes sure to maintain shared vigilance, even after a long period without a serious accident. Doubt, alerts, flagging things up and a questioning attitude are encouraged.

E.G.: *Before running a critical operation, the operator checks the actual situation to detect any anomalies that could have an impact on the critical points of the operation to be performed. This is the principle behind the "Safety green light" implemented in the Company.*

In this type of organization, there is a shared belief that "accidents don't just happen to other people". So feedback on experience after an accident in another entity is seen as an opportunity to think about the possibility of a similar accident occurring in your own entity.

4.2 The Culture of Attention to the Detail of Operations

Actors are aware that, however thoroughly they have prepared the technical barriers and procedures, there may be differences between what has been planned (or anticipated) and what actually happens: there is always a difference between the work explained on paper (theory) and the actual task carried out. Most differences are managed safely through sharp-end workers taking initiatives and adapting (which potentially increases the effort required to perform the operation). Other differences may represent higher sources of risks.

This type of organization, and in particular the ways in which management is regularly present in the field (**E.G.:** Site visits, task analysis and/or observation), focuses on:

- the reality and detail of operations,
- the collective analysis of work situations and operations (*see guide GM-GR-HSE-350 "The H.O.F. Approach"*).

The aim is to understand the constraints and human adaptation brought by situations, operations and tasks, to optimize efforts by adapting the technical, organizational and human resources.

Knowledge of other people's work and the use of field knowledge are encouraged and fostered. The organization works for the sharp-end workers.

4.3 Searching for the Root Causes of Events

In the questioning culture, obvious facts are taken with a pinch of salt and people fight against oversimplifications. Accidents are seen as an opportunity to understand the weaknesses in the system, rather than looking for a guilty party. Human error is considered as a consequence and not a cause: identifying an error is the first step in an analysis to look for the actual causes.

Events (including human error) are seen as learning opportunities. All types of root causes - human, organizational and/or technical - are looked for in order to learn how to better manage operations similar to those during which the undesirable events occurred.

The managerial reaction to any inappropriate behaviors is discussed separately from the identification of root causes. For an appropriate reaction to inappropriate behavior, see *"Just Culture"* covered in the section *"Culture of transparency" § 5.3.*

4.4 Learning Culture

Line management ensures collective learning based on simulations, tutorship, on-the-job training and coaching.

Every day, operational teams make time for learning by:

- **Sharing the reality of work situations:** meaning given to the work done, objectives, description of the situation, discussions on know-how and practices that may be different from one person to the next.
  The analysis of normal work practices also contributes to collective changes to the way working safely is perceived and considered.
- **Sharing feedback after real or simulated operations**, whether critical or not, for both successful operations (to share the conditions conducive to success so that they can be repeated) and for operations in which errors or accidents occurred (identify the reasons for failure and the actions to be implemented).

E.G.: *A review is held at the end of an operation, and the team examines what happened, goes back over what was required to make the operation run smoothly, and how it could be improved or done differently.*

This kind of feedback is then shared with all operational teams. The REX are used to improve systems such as procedures and the content of training courses.

- **Sharing things that foster or hinder feedback:** the actors in this kind of organization learn about their learning capacity by identifying the factors that foster or prevent information from being passed on and processed. It's about learning to learn collectively. The aim is to develop individual and collective contributions to REX.

4.5 Shared Vigilance

- **Constant vigilance**
  Vigilance is shared at all times by all actors involved in an operation, to detect and analyze weak signals.

E.G.: *Everyone is vigilant when it comes to the actions taken in the different steps of a critical operation, and their results. The latter are compared with the expected results and any differences are flagged up so that the right way of doing things can be identified.*

- **Collective vigilance**
  A comment made by one employee to another about a practice or a situation, which seems to present an imminent danger and could be improved, is considered as normal and accepted, irrespective of the hierarchical status of the person making the comment and the person receiving the comment.

E.G.: *Principle behind using the Stop Card implemented in the Company.*

The fact that someone else checks the smooth running of an operation is not perceived as a lack of trust, but a professional practice of shared vigilance.

- **Stopping an operation**
  Refusing to perform an operation (without generating greater risks), when the defined safety conditions are not met, is accepted and encouraged at all levels.

REMEMBER

Questioning culture

- Accidents don't just happen to others.
- Presence in the field helps determine the reality of work situations, and the constraints, efforts and adaptations.
- A human error or event is an opportunity for learning through root cause analysis.
- Sharing work situations and feedback in the wake of operations is useful for collective learning.

GOOD PRACTICES
for developing a questioning culture

- Develop a climate of listening, dialog, mutual respect and sharing – all necessary factors in collective learning.
- Maintain free circulation of information.
- Encourage people to pass on "bad news" and thank those who do so.
- Perform site visits with the aim of discussing the reality of work situations.
- Perform an analysis of human and organizational factors after a human error and/or an accident.
- Trigger a feedback session after a successful operation so that the conditions that made it successful can be reiterated.
- When a REX on an accident is received, the team ask itself if a similar event could occur in their work area.
- Before starting an operation, the team checks the actual conditions of the situation to compare them with those expected.

5. Culture of Transparency

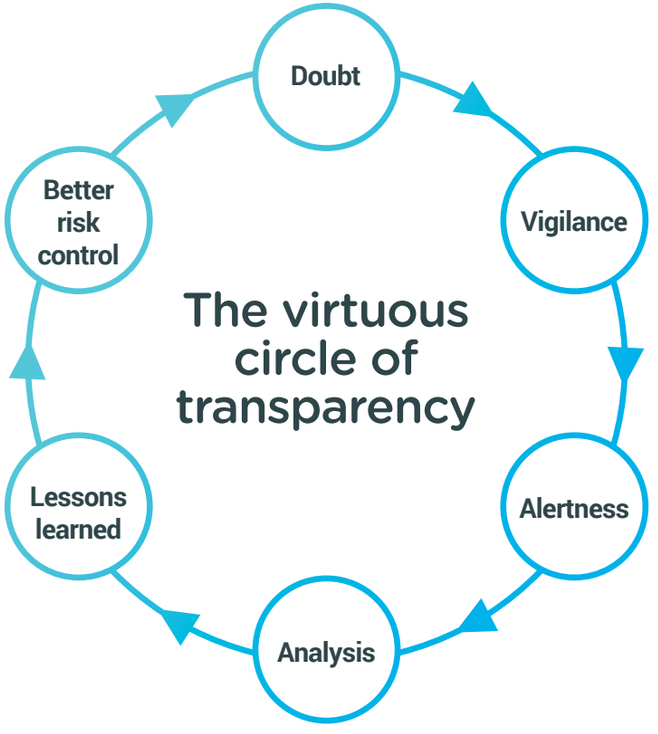
The practices of the members of an organization who share a culture of transparency, aim to foster trust and freedom of speak up.

5.1 Transparency Exposed to Insidious Poisons

To **manage** the most significant risks, we need to **learn** from situations and events (accidents and near-misses) that threatened the organization. Dangerous situations and events, in order to be **analyzed,** are to be **flagged up** to turn them into opportunities for progress. This requires the actors in the organization:

- to be **vigilant** on a daily basis and **doubting about** situations in order to identify weak signals,
- identify the events associated with the most threatening risks to raise the alert and make them into opportunities for improvement.

This thought process generates the **virtuous circle of transparency:**



Virtuous Circle of Transparency is exposed to malfunctions generated by the perceptions described p.44, which are real poisons.
Each of these perceptions can cause an **organizational silence** in which dangerous situations and accidents are hushed up but the problems remain and are a source of risks and errors.

- **Organizational silence**
  Situation an organization finds itself in when important information, such as those concerning safety and dangerous situations, is **available on the shop floor** but is **not passed on.** It cannot therefore be processed or considered in decision-making processes. **Organizational silence works against safety.**

- **And it can last a while...**
  An organizational silence situation may last because:
  - on the one hand, shop floor personnel are confident in the idea that there is no point in flagging up problems because they are not dealt with appropriately,
  - on the other hand, management is under the illusion that real situations are in line with recommendations, because nothing is reported back to them.

5.2 A Climate of Trust

Freedom to speak up is fostered when a climate of trust is built up in the organization. **A climate of trust cannot be dictated - it is built up little by little and has to be maintained**, particularly by ensuring: consistency between managers' words and actions, thereby making their commitment credible and apparent, see section on "Management leadership for employee involvement" § 6.

- **Confidence within a team relies on pillars* such as:**
  - Reliability: "I say what I do and I do what I say",
  - Authenticity: "I say what I think and think what I say",
  - Open-mindedness: "I share the information I have and I look for the information I need",
  - Acceptance: "I listen to arguments and different views without prejudice, I recognize and accept other people's perspectives when it seems fair".

In "The 10 laws of trust", Joel Peterson, a Stanford Professor, describes the essential foundations of trust, such as people's integrity, respect, delegation, measuring performance achieved, the meaning of a project or a program, the fair management of conflict, selflessness, "win-win" relations and kindliness.

** These pillars of trust are quoted in "Safety Culture in construction projects" published by the ICSI - Institute for an Industrial Safety Culture.*

Dangerous poisons for transparency

Not addressing situations that have been flagged up

Not processing (or worse, ignoring) situations or events that have been flagged up as dangerous will lead people to think that there is no point in reporting problems.
A lack of feedback to people who have raised an alarm is highly likely to generate the same feeling of pointlessness (even if actions with no immediately visible impact are taken in parallel).

Human error is unacceptable and is the only cause of accidents

Focusing on human error or using behavior or human error as the only explanations for accidents, lead to the perception that the purpose is to point fingers at individuals and look for a scapegoat, rather than make an effort to identify the root causes that caused people to make a given decision or take a given action. Root cause analyses are therefore considered as low quality.
This leads to people becoming demotivated and reluctant to flag up events and errors, thereby depriving the entity of precious learning opportunities.

Feeling of permissiveness

Deviations from rules or taking risks to improve productivity, that are tolerated (or that people turn a blind eye to) repeatedly and without any formal justification or implemented measures, will lead to an individual and collective perception that dangerous deviations are tolerated and that reporting such situations is not expected. Little by little, confusion between degraded situations and normal situations sets in. Discrepancies become the norm: this is **"normalization of deviance"** where bending the rules becomes a standard way of operating.

Impression of an arbitrary reaction

Different reactions to events that have been flagged up (E.G.: *inconsistent sanctions depending on the line-manager's mood on that day, managers' different reactions to the same situation, unpredictable nature of reactions*) will instill mistrust among those who raise the alert. Inconsistent sanctions generate defiance and personnel are therefore less likely to flag up problems.

Systematic sanctions: punitive strategy

If a sanction is inflicted every time an error or an accident occurs, the members of the organization will share the general feeling that they are always seen as guilty if a problem occurs. They will feel as if the organization is looking to punish them. They'll withdraw into themselves and in the future, will either not flag up events, or will minimize their severity.

Antidotes to transparency poisons

Systems are set up to report and handle undesired events and dangerous situations and include a feedback session to the team concerned to explain the actions taken.

- Short circuits are to be prioritized by the local manager who collects any information reported back, submits it for discussion within his team, handles the problems he is able to resolve, and passes those he cannot deal with to higher levels of management,
- The higher levels of management acknowledge the fact that local managers have passed on the problems and handle the difficulties they are able to at their level of management. The progress of the handling progress is tracked, recorded and communicated.

Search for root causes following an undesirable event. The right to make a mistake is recognized and beyond the mistake itself, the priority is to identify the technical, organizational and human causes, see GM-GR-HSE-350 "The H.O.F. Approach". The identified causes are communicated through shared feedback in total transparency. The REX are published, accessible and usable.

Interest in reported situations and handling deviations (particularly to rules) flagged up or observed by managers. Attention is given to the details of the situation and of the operation performed. An analysis is performed to factor in and distinguish between contributions from individuals, groups and the organization. Appropriate risk management measures will then be defined.

Predictability of managers' reactions to reported information. It is reassuring for employees to be able to anticipate their manager's reaction in the event of an accident or mistake. Rules are therefore established to ensure an appropriate and standardized reaction to different reports, errors or deviations, and handle all of them fairly, irrespective of the person concerned.

A recognition policy (showcasing positive contributions to safety) **and appropriate reactions to inappropriate behavior** that differentiate between mistakes, the violation induced by the situation and unacceptable infringement.

5.3 The "Just Culture"

The just culture is a result of implementing a policy for **acknowledging positive contributions for Safety and for tackling inappropriate behavior.** The predictability provided by this kind of policy is a condition for how much trust the members of an organization have in their managers. It includes practices for:

- **Recognizing positive contributions for safety:** different kinds of recognition (e.g. Compliments, celebration, rewards, training that leads to certification) to acknowledge best safety practices.

> **E.G.:** *Scrupulously applying a rule, an initiative that takes safety forward, a proposal for improvement, flagging up an event or an operating error, supporting colleagues in difficulty.*

- **Adopting an appropriate reaction to inappropriate behavior:** through the implementation of a process that is formally defined and communicated, including systematic questioning, when an undesired event happens that helps:
  - acknowledge the right to make a mistake,
  - distinguish: a mistake (action with undesired negative consequences), from violation induced by the organization, voluntary violation, sabotage,
  - distinguish between contributions from individuals, people as a group and the organization.

- **The appropriate recognition and reaction process must be:**
  - clear and include established processes for allocating positive/negative and reasonable recognition,
  - communicated and understood in the organization: managed by the entire management line (involving staff representatives if there are any in the entity),
  - fair: applicable to all members of the organization including managers,
  - such that no sanctions are given outside the established process.

If implemented in this way, it will tend to install the climate of trust required from Integrated Safety Culture as all members of the organization can anticipate management's reaction to a behavior.

REMEMBER

Culture of transparency

- To manage the most significant risks, we need to learn from situations and events that threatened the organization.
- Organizational silence works against safety.
- A climate of trust cannot be dictated - it is built up.
- Just culture is one of the conditions to building up a climate of trust and allowing freedom to speak up.

GOOD PRACTICES
for developing a culture of transparency

- Walk the talk.
- Be interested in the details of how an operation is performed: find out about individual, collective and organizational contributions.
- Set up a process and tools for relaying information from the shop floor, to encourage reporting of dangerous situations and events.
- Clearly encourage the reporting of information from the shop floor, make sure it is valued and give teams regular feedback on the action taken.
- Organize a system whereby employees are involved in detecting and handling situations in which certain rules cannot be applied.
- React to reports of discrepancies, dangerous situations and incidents: thank those who flagged them up, and analyze the situations in order to define the measures to be taken.
- Never say: "Don't give me problems, just give me solutions" or "If you come to me with a problem, come with the solution too".
- Consider the reporting of a mistake or a dangerous situation or event as a learning opportunity: look for the technical, organizational and human root causes and share them.
- Make all lessons learned documents (REX) available so that they are easily accessible to all, and make sure they are circulated.
- Share lessons learned (REX) in the wake of dangerous situations or events by explaining the root causes and discussing possible actions.
- Set up a policy for acknowledging positive contributions for Safety and appropriate reactions for tackling inappropriate behavior.
- Celebrate the success of an unplanned and difficult operation that was successfully managed from a Safety standpoint thanks to one or more pertinent initiatives from the team.
- Have consistent reactions to inappropriate behaviors and dangerous situations throughout the entity.

6. Management Leadership for Employee Involvement

Integrated Safety Culture is constructed based on the involvement of both the managers and employees in an organization.
Managers' behavior and the importance they give to Safety in their final decisions are the main factors that influence the behavior of other members of the organization. Employee involvement is therefore a result of that.
Managers at all levels of an organization are key actors in Safety Culture.

Safety Leadership

Leadership corresponds to the capacity to influence others to change their ways of thinking and acting.
As regards managers, the quality of leadership is used to distinguish between:

- **The Manager - Overseer,** who organizes a team, plans the work to be done, defines and follows a schedule, monitors the achievement of objectives and projects, defines scheduling for the different steps and manages priorities,
- **The Manager - Leader,** who influences the way in which the members of his team - and possibly other teams - think and act.

Leadership may be shown in different ways:

- **The leader's personal qualities**

E.G.: *Capacity to get involved, set the example.*

- **How he relates to others**

E.G.: *Ability to listen, establish dialogue.*

- **The behavior** displayed in a given situation, from the most trivial daily situation to the most critical or degraded ones

E.G.: *Capacity to make a decision and share the reasons for doing so.*

Anyone can be a leader. You're not born a Safety leader, you become one!

6.1 The Seven Principles of Safety Leadership

A working group comprising industrial actors and academics in the Institute for an Industrial Safety Culture (ICSI), issued a set of recommendations to consolidate Safety leadership. Several Company employees also took part. The working group produced the following seven principles to develop **Safety Leadership,** that apply whatever the jobs or métiers:

1. Have a vision on safety issues

Know how to give meaning to the Safety Policy, to Safety improvement programs and to the associated actions.

2. Share your vision on safety issues

Know how to share the meaning given to the Safety Policy, programs and associated actions. This involves developing dialogue, listening, and striking a balance between directive and participative management (combination of being demanding, listening and considering the reality of a situation) to encourage others to join in and participate.

3. Give Safety its rightful place in the decision-making process

Factor in the safety aspects of a program or project when making decisions, to ensure a technical, organizational and human environment that promotes Safety. Employee behavior is heavily influenced by the importance the leader gives to Safety.

4. Be credible

By aligning words and actions, setting an example, being interested in the details of operations to eventually become well-versed in the operations.

5. Promote team spirit and cross-functionality

To fight against working in silos and develop shared vigilance in and among teams. Differences of opinion are valued as a pre-requisite for decision-making.

E.G.: *A dangerous situation is analyzed by a group of people with different competencies and points of view in the different services involved.*

6. Be present in the field

To be accessible, to look for and listen to other peoples' perceptions, communicate efficiently and find out about the details of operations so as to align management requirements with reality at the sharp end, and to take on board any alerts raised or suggestions made.

7. Acknowledge good safety practices and apply appropriate reactions for inappropriate behaviors

Also called "Just Culture", to create a climate of trust, see paragraph 5.3.

REMEMBER

Management leadership for employee involvement

- Employee behavior is heavily influenced by the behavior of management and the priorities set by the leader.
- Anyone can be a leader. You're not born a Safety leader, you become one!
- Safety leadership is based on having a vision of Safety and sharing it, the importance given to Safety when making decisions, credibility, team spirit, presence in the field and a just culture.

GOOD PRACTICES
to develop Safety Leadership for employees' involvement

- Walk the talk.
- Reinforce Safety messages: dialogue, be prepared to listen, get involved at the sharp end and highlight key messages.
- Use your time and presence in the field to share your vision on Safety issues.
- Give meaning to Safety messages and rules: share their context, the reason for them being implemented, listen to what the people you meet have to say about them and obtain a consensus on key points.
- Do regular field tours to show that you are interested in what actually goes on at the sharp and in the detail of operations.
- Set an example during field visits.
- Lead a Safety Moment at the beginning of a meeting to share a Safety issue, a brief but impactful moment.
- Adopt a participative approach to Safety issues: explain the context of a Safety issue, encourage sharp-end workers to participate and make them actors in meetings, risk analyses, drafting procedures, the analysis of undesirable events, and change.
- Factor in Safety concerns when a decision needs to be made on a given subject, and explain the reasons for the decision.
- Give recognition to those who make positive contributions to Safety.
- Do not remain indifferent when confronted with inappropriate behavior: react by underlining what is wrong and analyze the situation to find out what kind of perceptions and influences caused such behavior.

7. Everyone is Mobilized

Integrated Safety Culture is based on the belief that "everyone knows that they don't know everything". **No single person has the keys to Safety:** the mobilization of all actors is required in the organization.

7.1 Involvement of all Departments of an Entity

Safety is not the exclusive concern of HSE and Operations departments. Each department in an organization has essential knowledge and information for Safety: Management, Procurement, HSE, Maintenance, Human Resources, Communication, Finances, Engineering-Construction, Production and others.
All the departments in an entity are to be involved as their contributions, perceptions and decisions may directly or indirectly influence Safety at the sharp end.

E.G.: *The Procurement department may influence Safety in the field by ensuring that HSE requirements are respected for any equipment purchased, the HR department may be in a better position to identify the needs and constraints of the actual work to be performed.*

The aim is for Safety to be considered in all decision-making processes across the organization.
The organization identifies the difficulties at interfaces between departments and promotes the cross-functionality required for an Integrated Safety Culture. Breaking down the silos in an organization fosters the alignment of perceptions on Safety issues, which is one of the essential prerequisites for a strong collective construction.

7.2 Involvement of all Actors

Entity employees (both managers and sharp-end workers), contractor employees (suppliers and service providers), and personnel representative bodies (if they exist in the entity) are involved in Safety issues solving. The aim is to share perceptions so that they can be aligned and so that everyone can work together.
The Safety indicators in the organization include events concerning contractors, who are involved in the process of flagging up and analyzing undesirable events and dangerous situations. Contracts include Safety as part of the service and Safety criteria are used when selecting contractors.

7.3 Training and Competency Management

- **Safety in Human Resources Processes**

  In an Integrated Safety Culture, the human resources management processes include safety in their activities to encourage everyone's involvement in risk management:
  - Safety induction course for new arrivals,
  - Minimum qualities/ Safety qualifications required to take on a given job,
  - Defined time in the same job to avoid excessive turnover,
  - Forward planning when it comes to age, job and competency pyramids, to anticipate the effect of large-scale departures on an entire generation.

  The organization ensures the acquisition and development of individual and collective competencies that contribute to managing current and future risks.

▶ Safety: a dimension of professionalism

Safety is one of the dimensions of professionalism: it is perceived as an integral attribute in work practices, and not just "extra layer" added to the skill set of each occupation.

Practices to avoid errors and to make human performance more reliable are valued and an integral part of the professionalism, see Guide GM-GR-HSE-350 "The H.O.F. approach".

E.G.: *Stop when unsure, "Safety Green Light", self-checking, pre-job briefing, cross-checking.*

Safety practices are an integral part of all vocational and on-the-job training.

REMEMBER

Everyone is mobilized

- No single person holds the keys to Safety. Each actor and each department in the entity has a role to play in Safety.
- Safety is an integral part of professionalism.

GOOD PRACTICES
for mobilization of everyone

- Establish an induction course including Safety for all new arrivals.
- Analyze undesirable events and dangerous situations by combining a wide range of competencies and points of view from the different departments involved.
- Involve staff representatives (if they exist in the entity) in the analysis of High Potential Event analyses.
- Involve contractor companies (suppliers and service providers) in the identification of risk situations and their analysis, in particular during Joint Safety Tours.
- Make sure all departments that could be affected by an incident are involved in crisis management exercises.
- Make sure that know-how training courses include Safety practices and practices to make human performance more reliable, without making it a standalone component separate from the core subject of the training course.
- Encourage more experienced employees to talk about high-risk situations they had to deal with.

Wheel including the 7 attributes of an Integrated Safety Culture

✖ Pitfall to be avoided

Thinking that the 7 attributes of an Integrated Safety Culture are independent.

Representing the attributes in the form of a wheel, with a separate segment for each attribute, may mislead people to think that each attribute is independent of the others.

✔ The different attributes influence one another

The seven attributes are based on shared activities and actors across the organization. The seven attributes are to be considered as a whole, working together and mutually influencing one another.

EXAMPLES:

- *Adopting just culture practices fosters the culture of transparency in an organization and also reinforces management leadership.*
- *Learning by simulation and preparedness for specific crisis situations, that helps consolidate a Managed Safety approach, also fosters a learning culture, which in turn induces a questioning culture.*

4

Programs for an Integrated Safety Culture

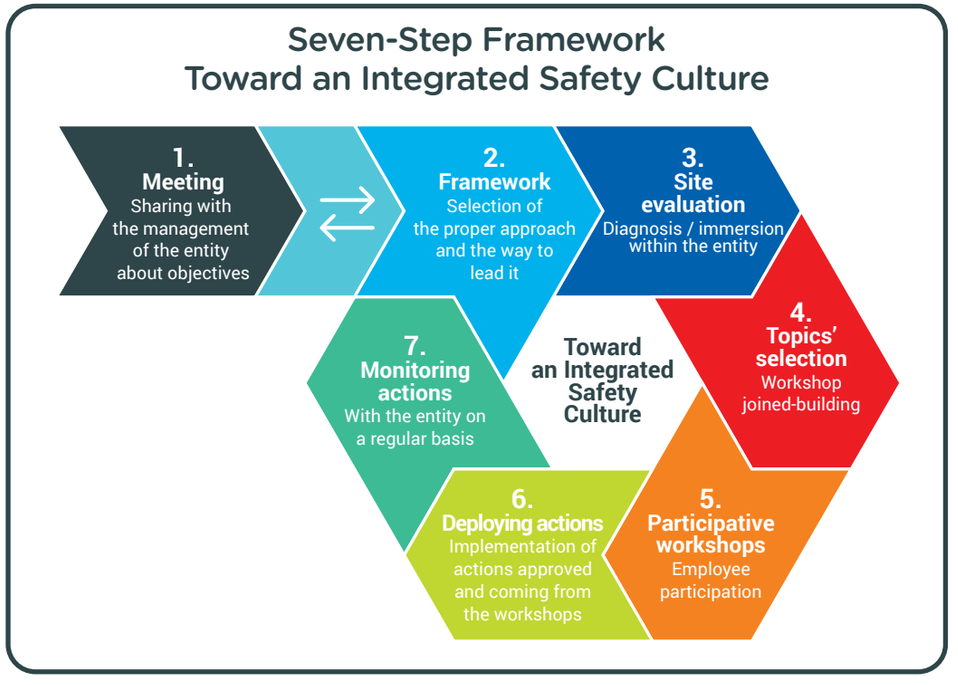
The programs used to achieve and maintain an Integrated Safety Culture are based on the seven attributes presented before.

There are two specific programs depending on the type of entity:

- For entities that have current, long-term activities and are looking to reinforce their Safety Culture after one or more Safety performance improvement programs: **the Safety Culture development program according to a seven-step framework.**
- For projects in which the activities are to take place within a defined period (several months to several years), e.g. Construction projects or unit turnarounds: **a program that introduces Safety Culture in each phase of the project as soon as the project kick-off.**

1. The Seven-Step Framework to Work Toward an Integrated Safety Culture

The successes and failures of programs for an Integrated Safety Culture carried out in the Company since 2006, and discussions with other companies, led to the following seven-step framework to help steer an organization toward an Integrated Safety Culture:



Here is the general description of each of the seven steps.

1.1 Entity Management Meetings

Meetings between entity management personnel and Company Safety Culture experts help clarify the objectives and setting for the future Safety Culture development program. The entity's needs are expressed, and possible programs envisaged. The entity's capacity to change is also evaluated.
A preliminary presentation/training course on Integrated Safety Culture and the H.O.F. may be required to share key ideas, in particular the participative approach as one of the factors in making the drive toward an Integrated Safety Culture successful.

1.2 Defining the Framework for the Development Program

This step consists in clearly establishing the objectives of the approach envisaged and how it is going to be implemented. A list of the sites and entities involved is drawn up, internal leaders or key actors are identified, and coaching is set up if necessary.
The framework to the approach, according to the seven steps presented here, is described with an indication of the deadlines envisaged, as well as the possible limitations of the project.

Successive iterations

Experience of Safety Culture programs in the Company has shown that successive iterations are required between the "Meeting" and "Framework" steps.
Many iterations may be required over a period of several months. This is not a sign that things are not working, but on the contrary, these iterations ensure that solid foundations are laid to reunite all the factors of success.
Leaving time for ideas and discussion to percolate between two meetings is always necessary in this kind of program.

1.3 Site Evaluation

A Safety Culture evaluation is performed in the entity to identify the types of Safety Culture present and to evaluate the attributes of an Integrated Safety Culture within the organization.
Several methods can be used: a survey of the actors involved using an anonymous questionnaire supplemented by group interviews, or exploratory immersion over several days, or a combination of these two methods. The aim here is to gather representative perceptions, make observations in different areas and collect facts on Safety management.

1.4 Feedback and the Selection of Topics for Future Participative Workshops

Feedback on the observations made during the site evaluation is given to the Entity Senior Manager, Management and then personnel, to make sure that all the information is shared.

Based on the results of the site evaluation, one or more workshops are organized with the entity Management Committee, with a view to selecting the topics that the participative workshops will have to deal with.

At this point, the organization of participative workshops is also defined: communication on the program and the organization of workshops, identification of future workshop leaders and sponsors, programming their preparation, deadlines and objectives for participative workshops.

Management Committee workshop(s): Selection of topics

At least two Management Committee workshops are usually required to select the topics. The first workshop consists in feedback from the site evaluation and the others are dedicated to discussion to select the topics to be submitted to participative work groups.

These Management Committee workshops can be organized to issue fundamental notions on Safety Culture (in the case where there has been no initial training between the Meeting and the Framework steps) and presentation of the observations made during the site evaluation.

They are ALWAYS to be preceded by an initial feedback session to the Entity Senior Manager (+ HSE manager). This specific feedback session paves the way for the results to be shared collectively at the Management Committee meeting. It will enable Senior Management to appropriate the messages and express them in their own way when giving feedback to the entity Management Committee.

1.5 Participative Workshops: Work Group(s) for Each of the Selected Topics

The leaders and sponsors of participative workshops are prepared for their respective roles. They may also receive training in the fundamental notions of H.O.F. and the Integrated Safety Culture.

One or more work groups are deployed for each of the topics selected by the entity Management Committee. Employees from the entity (and contractor companies) are invited to take part in the regular work groups. The number of work groups is decided based on the size of the entity and the number of employees willing to participate. The participative workshops are led by a two-person team, dedicated to each topic. Workshop leaders can be entity employees, or there can be one internal leader and an external expert.

Workshop progress is monitored by the sponsors who facilitate and promote their organization. At the end of the workshops, representatives from the different work groups present the improvement actions proposed by the work groups for each of the topics selected in the previous step. Among the actions proposed, some are collectively selected and validated, based on discussions between work group representatives and the Management Committee.

1.6 Deploying Actions

The selected and validated improvement actions are deployed across the entity's organization, using the resources defined for this step and with the help of sponsors from the Management Committee.

Regular communication to the entire entity is given on improvement actions and their deployment.

Types of actions that may emerge from Management Committee workshops

- **Quick Win** — **Show**
  Actions on subjects everyone agrees on, that require few resources, that can be implemented rapidly, with an almost **immediate visible effect.** E.G.: *A signage/identification campaign.*
- **Emblematic actions** — **Develop**
  A few baseline actions. These are the subject of a **participative approach,** based on successive workshops (usually short and regular) with multidisciplinary participants. E.G.: *development of the process to handle reports from the shop floor.*
- **Integration of H.O.F. in existing practices** — **Sens making**
  A few activities selected from among those already in place (E.G.: *accident analysis*), where H.O.F. will be integrated.
  It's about **"Doing differently what is already done".**
- **Strengths** — **Strengthen**
  Identify and maintain the strengths.
  Use them to ensure the achievement of other actions.
  E.G.: *feeling of autonomy in shop-floor teams.*

1.7 Monitoring Actions

The deployment of the actions selected is monitored on a regular basis. Any indicators defined are completed.
Progress is measured, and the developments observed are collected and communicated to the entire entity. Dialogue is maintained between the workshop sponsors and entity actors to ensure that perceptions are aligned and to make any necessary adjustments.
Feedback is given to work group participants and leaders.

1.8 Transition to a New Cycle

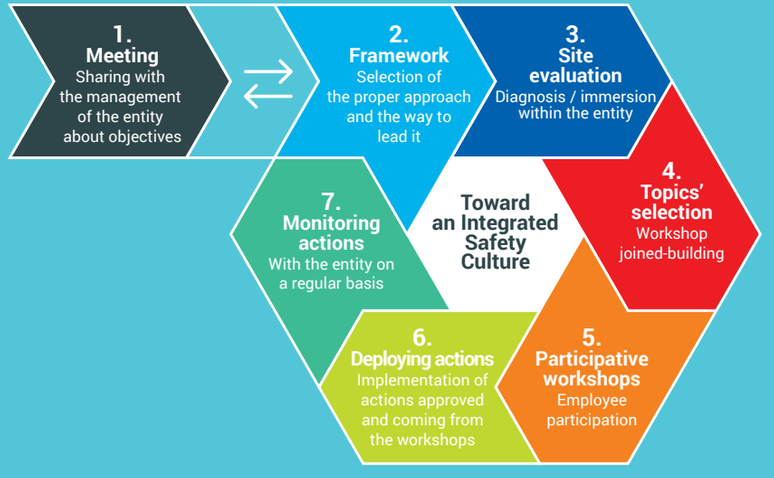
Once the actions have been deployed and the progress made has been evaluated (i.e. several years), the entity moves on to a new cycle. A new Framework phase with the Company Safety Culture experts is held to define the next program, that will use the same framework, but perhaps in a more targeted way, in view of the steps already covered in the previous cycle.
A new site evaluation serves to check the progress made and/or identify other issues that have arisen in the interim, or which still needed to be dealt with.
The new program is also led as a participative approach (with the entity Management Committee and then sharp-end workers). Participative workshops focus on the other topics selected for the new cycle.

2. Real Case Application of the Safety Culture Development Steps in a Company Affiliate

SEPT. 2010

Meeting and Framework of Safety Culture program

- Meeting between the Senior Management of a Company E&P affiliate and two Safety Culture experts (one from the Company, the other from the ICSI).
- Kick off of a Safety Culture program with a diagnosis using questionnaires and group interviews.
- Training course given to the affiliate Management Committee on H.O.F., Safety Culture and the levers for its development.



NOV. 2010 TO NOV. 2011

Site evaluation by survey and interviews

- Deployment of the survey by anonymous questionnaire and collection of as many answers as possible on affiliate's different sites.
- Data processed by a survey institute.
- Statistical analysis of answers to the questionnaire.
- Group interviews on the affiliate's different sites.
- Global analysis of the survey and interviews.
- Debriefing with the affiliate Management Committee.

2012 AND 2013

Program evolution after two fatalities

After two fatal accidents in 2012 and 2013, the affiliate Senior management wanted to take things further than simply behavioral approaches for Safety. The decision was made to deploy participative workshops on several affiliate sites to encourage personnel to adhere to the system.

FROM 2014 TO 2017

Participative workshops / proposals and monitoring actions

- A two-person team to lead the workshop: an occupational psychologist and an experienced operations manager.
- From 6 to 10 work groups: participants from the Company and contractor companies, at the same hierarchical level.
- Successive workshops for each work group, over a fortnight on each site.
- Approximately eight participants per group and a one-hour workshop every day.
- Workshop content: Recording the expectations of the work group, discussions about the theories on H.O.F. and Safety Culture, case studies and experience from participants.
- Experience of progress in the participative workshops:
  - First workshops: expression of grievances / claims,
  - Successive workshops: questions and work on individual and collective commitment,
  - Final workshops: commitment, proposals and cooperation.
- Continual debriefing with the affiliate Senior manager and actions validated jointly.
- Monitoring of actions by affiliate line management.

Feedback from the affiliate

- The program takes place over several years: it is advisable to leave time for the transition to change.
- Strong commitment is required from management: from Senior managers to those supervising in the field.
- A robust organization is required for the large number of workshops.
- The two workshop leaders – the occupational psychologist associated with a former operations manager – created an atmosphere conducive to real discussion and an exchange of views.
- To begin with, there was a certain apprehension in the groups and then finally, participants settled into the exercise and became proactively involved.
- Total number of workshop participants: 909 people in 13 campaigns over three years.

3. Site Evaluation by Questionnaire and/or Immersion

The Safety Culture evaluation is performed by Company Safety Culture experts who have developed the appropriate expertise, and/or by external experts (expertise in human and social sciences and in Safety Culture / H.O.F.). The external expertise is selected depending on the initial problems expressed by the entity, in the "Meeting" and "Framework" steps (see framework for a Safety Culture development program § 4.1).

E.G.: *If there is thought to be a problem with how a group works together, a sociologist in organization is chosen to add a sociological analysis of the organization to the field evaluation.*

Before performing the site evaluation, information concerning the organization of the entity is considered by the evaluators: description of entity activities, organization chart and organization of departments, the different sites, Safety programs, the document(s) describing the entity management system, any internal/external audit/inspection reports.
Next, the Safety culture evaluation is performed in the field using one of two methods:
- An anonymous questionnaire supplemented by group interviews.
- Or exploratory immersion.

Both methods can be combined depending on the entity's needs and possibilities.

3.1 The Anonymous Questionnaire Supplemented by Interviews

► The anonymous questionnaire

A survey questionnaire is prepared with the entity based on an existing template (available from the Company Safety Culture experts). The questionnaire is used to survey the entity population to collect perceptions on:
- The risks perceived as the most significant,
- Beliefs,
- Management of Safety and Safety practices as regards the seven attributes of an Integrated Safety Culture.

There are around one hundred questions to be completed anonymously by as many people as possible working in the entity, including contractor companies.
Caution: this process is to gather opinions and there are no right or wrong answers.

Preparatory work needs to be planned to:
- adapt the questions to the entity,

E.G.: *Adapt to the vocabulary used locally.*

- decide which populations are to be surveyed: entity employees + employees from contractor companies,
- determine the different levels in the entity organization, and the métiers/activities, that are to be surveyed and used for the statistical analysis of answers.

EXAMPLES OF LEVELS: *Senior Management, Management Committee, Middle Management, team leaders, technicians and operators.*
EXAMPLES OF METIERS: *Operations, HSE, Maintenance, HR, Procurement.*

This has the advantage of being able to distinguish the answers collected from the different levels in the organization, as well as within the different métiers (see example of how statistical results can be presented in the following paragraph).
- Set a target percentage of respondents: ideally, all the personnel in an entity would be surveyed, but according to what is actually possible, a reasonable and representative target percentage is decided upon.

The entity is left enough time for the target percentage of respondents to be achieved. This may be several weeks or several months depending on the size of the entity. Regular reminders are sent to the target population.

Answers to the questionnaire

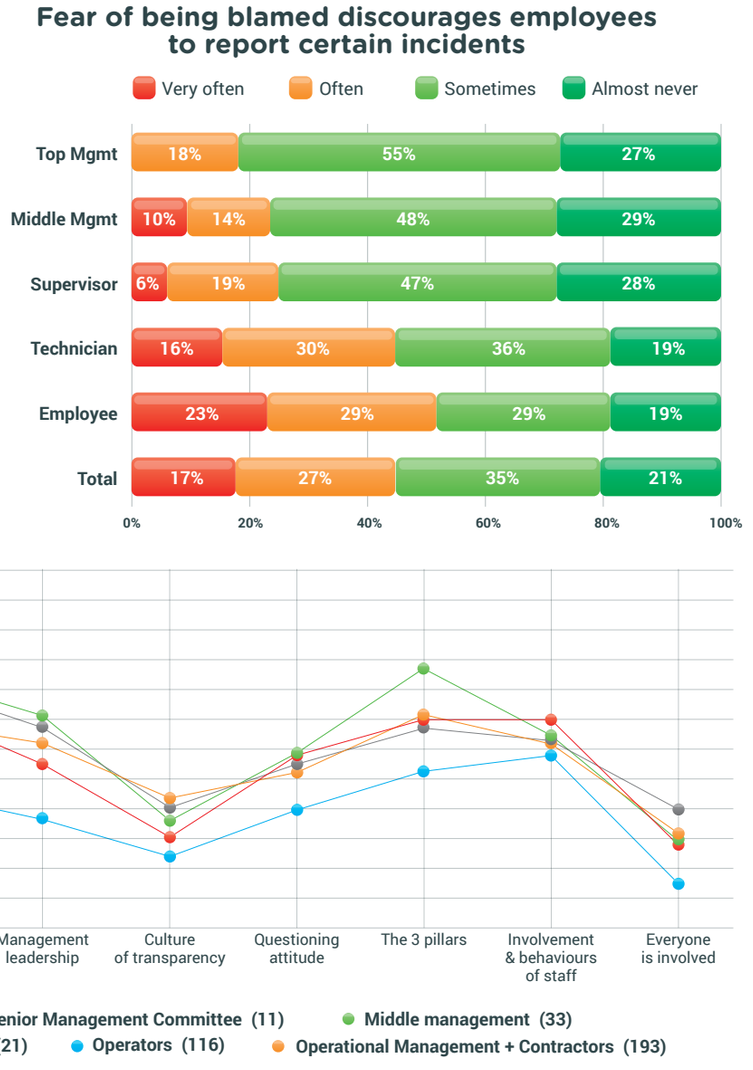
It is advisable to plan sessions to which the target population is invited to fill out the questionnaires. The sessions should be chaired by a local leader to:
- ► explain the entity's program to the people involved in the survey,
- ► reassure them by explaining that the questionnaire is anonymous,
- ► remind them that there are no right or wrong answers to the questions: it's their opinion that counts!
- ► encourage participants to complete the entire questionnaire as it cannot be used if incomplete.
- ► explain how the answers are going to be used.
- ► present the following steps,
- ► clarify the questions if necessary.

Such sessions require that entity's internal leaders have been prepared for this role.
The questionnaires can be completed on paper or electronically.

► Statistical analysis of answers

The completed questionnaires are sent to a research institute to transform them into a matrix-file compatible with an advanced data processing software application, owned and used by the ICSI (based on a pilot software application created by the Company in 2009).

For each question asked, the perceptions gathered are presented as graphs, to identify divergences or convergences of perceptions at the different levels of the organization and/or the different entity métiers/activities.
See example of such a graph below.
All the questions processed in this way give rise to a statistical analysis of the answers given by the surveyed populations.
The tool developed by the ICSI is used to draw a Safety Culture profile (based on the "Four types of Safety Culture in an organization" presented in this guide) and a maturity level for each of the seven attributes of an Integrated Safety Culture, see example below:



▶ Interviews in "focus groups"

Collective interviews are conducted within the entity to expand on the statistical analysis with qualitative explanations that help dig deeper into the answers given and identify the associated issues more accurately.

E.G.: *To the question "do you think that certain Safety provisions are bypassed: Almost never? Sometimes? Often? Very often?" 65% of sharp end operators answered either 'Often' or 'Very often'. It is therefore necessary to ask them which type of provisions they were referring to and in which circumstances, in order to pinpoint the problems.*

To help with this process, groups of people - who have the same job but who do not work in the same department – are defined.

E.G.: *A group of field operators, a group of team leaders, a group of heads of department, a group of employees in support functions, a group of operators from a contractor company.*

These are called "focus groups" of about ten people.
The aim is to create groups representative of the organization. Depending on the size of the entity, several groups of each function and métiers/activities can be organized.
The people interviewing these focus groups (external expert(s) and/or Company Safety Culture expert(s)) are those who performed the statistical analysis of the answers to the Safety Culture questionnaire. Ideally there should be two interviewers: one who leads the interview and the other who formally records what is said. They can swap roles from one focus group to the next.
These collective interviews are anonymous. Only the organizers of the entity know the names of the people involved for organizational and planning needs. It is not possible to link the explanations collected to the people interviewed.

▶ The synthetic analysis of the questionnaire and interviews in focus groups

The data from the statistical analysis of the questionnaires and interviews in focus groups are combined to produce a presentation of the typical Safety Culture profile (using "the four types of Safety Culture present in organizations" as a reference), and the entity's strengths and weaknesses when it comes to the seven attributes of an Integrated Safety Culture.

Safety Culture Evaluation by Anonymous Questionnaire

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- **Presentation as statistics and graphs – an appealing analysis to people who are receptive to figures.**
- **Analysis representative of the entity – this is inherent in the method based on a survey of most of the actors in an organization.**
- **Rapid involvement of a great many entity actors in the program - both the people surveyed as well as leaders and organizers. This creates many expectations.**

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- **This method uses a lot of energy: creating the questionnaire, conducting the survey, preparation and organization of local leaders, sending reminders for and collecting in the completed questionnaires, consulting a survey institute, organization of focus groups for collective interviews.**
- **This method is time-consuming: at least six months are required to prepare and implement this type of diagnosis.**
- **This method generates high expectations among many of the actors surveyed and interviewed, which turn into frustration if nothing is done following the presentation of results.**
- **This method requires initial training to understand the templates used for the diagnostic.**
- **Presentation of a "freeze-frame" image as a series of graphs - managers often have difficulties using the study.**

3.2 Safety Culture Evaluation by Immersion (Without a Survey Questionnaire)

The evaluation of Safety Culture by immersion consists in sharing the daily life of entity personnel to find out how the actors think and act, as close to the sharp end as possible. Immersion combines the observation of situations, tasks and operations, and a series of interviews. The aim is to gather:

- The beliefs of the people interviewed,
- Their perceptions of the most significant risks,
- Observations and interviews that serve to find out about practices and ways of thinking that belong to the seven attributes of an Integrated Safety Culture.

The duration of an exploratory immersion period depends on the size of the entity and its activities. At least two days are required, and the general average is four days.

▶ Interviews

Immersion usually begins with a meeting between the evaluators and the entity Management Committee members. On this occasion, the organization of the entity, as well as its activities, history, Safety improvement programs, accident indicators and information are presented. The Management Committee members are also interviewed.

The evaluators then talk to other members of the organization. Their aim is to meet a sample of people from each of the different levels in an organization, representative of the activities involved. Staff representatives whose remit involves Safety are also interviewed. Interviews are either one-to-one or group interviews.
Interviews are anonymous. The names of interviewees are disclosed only to the local organizers for planning reasons. It is not possible to link the explanations collected to the people interviewed.

▶ Observations

Exploratory immersion includes field observations of the most significant activities in the entity. They may focus on current operations or on operational tasks, work sites or meetings. The aim is to vary the different types of observations to find out about what real life is like within the entity processes and activities.
The observers remain neutral - they stay in the background when observing operations. Once the observations have been completed, the actors of the operation are interviewed, either on a one-to-one or group basis depending on the type of operation.
Observations are anonymous, and people's names are not kept in the information analyzed.

▶ Analysis of the information gathered

The data from the interviews and field observations are analyzed to produce a qualitative synthesis that presents the types of Safety Culture encountered (using "the four types of Safety Culture present in organizations" as a reference) and the strengths and subjects for discussion concerning the seven attributes of an Integrated Safety Culture.

Safety Culture Evaluation by Immersion

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- **Organizational flexibility: the method is flexible and easy to implement, which means it can be tailored to the entity.**
- **Uses very little energy – limited number of actors.**
- **A lot of positive feedback: the observation phases and individual interviews are particularly appreciated by the personnel encountered.**
- **Presentation in the form of "storytelling" – this method presents a dynamic vision of the organization and the construction of a Safety Culture.**
- **It is easier for management staff to appropriate the results - training in Safety Culture models is not always required in order to understand.**

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- **Representativity can be questioned – observations and interviews do not cover all the entity activities and métiers.**
- **Fewer people involved right from the beginning of the program – their involvement therefore has to be encouraged in the subsequent phases.**
- **People who are receptive to figures and statistics may possibly question the results of immersion, as they will not be representative of the entire population.**

Real cases

A real case of Safety Culture evaluation using an anonymous questionnaire and interviews

In October 2016, the Senior Management of an R&C platform wanted to run a Safety Culture evaluation of the site to steer it toward an Integrated Safety Culture. After having been trained in the key ideas of Safety Culture and H.O.F., the members of the Management Committee asked external experts to run an evaluation using an anonymous questionnaire, supplemented by interviews in focus groups.

Within a few months, the questionnaire was adapted and the organization to complete it was defined. After following the same training course as the members of the Management Committee, the site staff representatives got involved in the program, to make sure that as many people as possible filled out the questionnaire. In the end, 94% of site personnel answered the questionnaire within a month and a half!

The following month, interviews in focus groups were organized on site and a few months later, the results of the field evaluation were presented to the Management Committee, then to all the personnel working on the platform. Two Management Committee workshops were held after the feedback sessions to identify four priority work topics that were then suggested as a basis for participative workshops.

A real case of Safety Culture evaluation by immersion

In October 2018, the Senior Management of an R&C research center wanted to develop the site's Safety Culture after a series of accidents and near misses that pinpointed behavioral causes. They started by asking external experts to run a site evaluation via a few days of immersion.

A few months later, three external experts immersed themselves in the organization. They observed operations, tasks and meetings, and conducted interviews over three days: 30 interviews and nine observations in four different locations were carried out.

A few weeks later, the observations were presented to the site Management Committee and then to all entity personnel. After sharing the results, a Management Committee workshop identified three priority topics to work on, which were then suggested as basis for participative workshops. Many site employees were keen to take part in these.

4. Principles for the Development of an Integrated Safety Culture in a Project

Projects are a specific case when it comes to developing an Integrated Safety Culture. Owing to the limited duration of a project, sharing a Safety Culture is expected from the very first phases of the project, right through to completion. The challenge is therefore to share ways of thinking and ways of working among all actors throughout the project (see the definition of Safety Culture in Chapter 1), whether it's a design, construction, unit turnaround, dismantling or field operations project for a given period.
A working group, organized by the Institute for an Industrial Safety Culture (ICSI) between 2017 and 2019, and comprising industrial actors (including the Company) and construction companies, resulted in the issue of principles that foster the development of an Integrated Safety Culture during a project.
The six principles presented below are conducive to the sharing and development of an Integrated Safety Culture in projects. Practical files for the application of these principles in the different phases of a project are presented in the HSE guide GM-GR-HSE-351.

4.1 Sharing the Project Objectives and Vision

Each actor has a representation of what needs to be developed and the objectives of a project. This representation influences the meaning given and the perception of the most significant risks. Building a project Safety Culture boils down to federating all stakeholders around a shared representation of a project, objectives and risks.
All the actors need to discuss and share their representation of a project and their vision of the most significant risks.

4.2 Constructing the Organization and Conditions for Successfully Rolling out a Project

This involves defining the organization of a project and giving Safety its rightful place. To begin with, specifying and selecting the technical and non-technical competencies of the actors involved; then, at a later stage, establishing a budget designed to guarantee reliable technical choices and appropriate and efficient Safety conditions for work sites.

4.3 Co-constructing a Joint Safety Referential to Guide Operations

The different stakeholders have their own level of Safety culture. Project Safety Culture hinges on collecting the best practices identified so that the most suitable ones can be selected together. This consists in comparing the rules, procedures, operating methods, practices and rituals to share and define those applicable to the project.

This then constitutes a shared Safety referential for the project, in which the different processes and associated requirements are described. In this "joint Safety document", expressing procedures as simply as possible will make it easier for all stakeholders at the sharp end to appropriate them.

4.4 Organizing Decision-making and Managing Compromises and Unforeseen Events

Project management hinges on seeking compromises between different sectors: technical, financial, quality, Safety, work conditions, organization, competency development. Project actors often have to manage unforeseen events and make decisions on a daily basis.

Decisions may be:

- Strategic - influence on the rest of the project,
- Operational - influence on the achievements and lead times,
- Individual - influence on ways of working.

The people responsible for the different decisions, their role, and degree of autonomy need to be identified.

It is all about giving Safety its rightful place in the decision-making process. When affected by choices made, measures to adapt, offset or attenuate the situation need to be implemented. These provisions are shared right from project kick off.

4.5 Co-constructing a Cooperative Relationship for a Close-knit Group

This phase consists in creating and maintaining a climate of trust by communicating in total transparency and through mutual caring. Moreover, it is also necessary to develop mutual support among project actors to generate solidarity and shared vigilance, fostered by the introduction of Just Culture practices. To achieve this, strong leadership in Safety is required from management, see "Management leadership for employee involvement" in chapter 3.

In addition, collective pride stems from working together on the attributes of the project culture: rituals, symbols, taboo subjects, values, stories (experiences), induction courses and signs of recognition, fundamental rules (obligations/bans).

4.6 Measuring, Capitalizing on and Continuously Learning

Regular evaluations of the situation are required to steer the project and take necessary measures. This is done by setting up Safety indicators that reflect the situation. At the beginning of the project, specific indicators are prepared by the different actors and partners in the project, to avoid imposing certain indicators that would hamper discussions, without providing pertinent added value to the risk management process.

Feedback on past situations (REX) is developed to be at the core of cooperative relationships among project actors. This includes:

- REX from similar projects,
- REX with lessons learned throughout the project phases, from mobilization through realization, up to the end,
- and REX at the end of a project to capitalize on past experiences and anchor them in the culture of the different partners involved, then include them in future projects.

REMEMBER

Principles for the Development of an Integrated Safety Culture in a Project

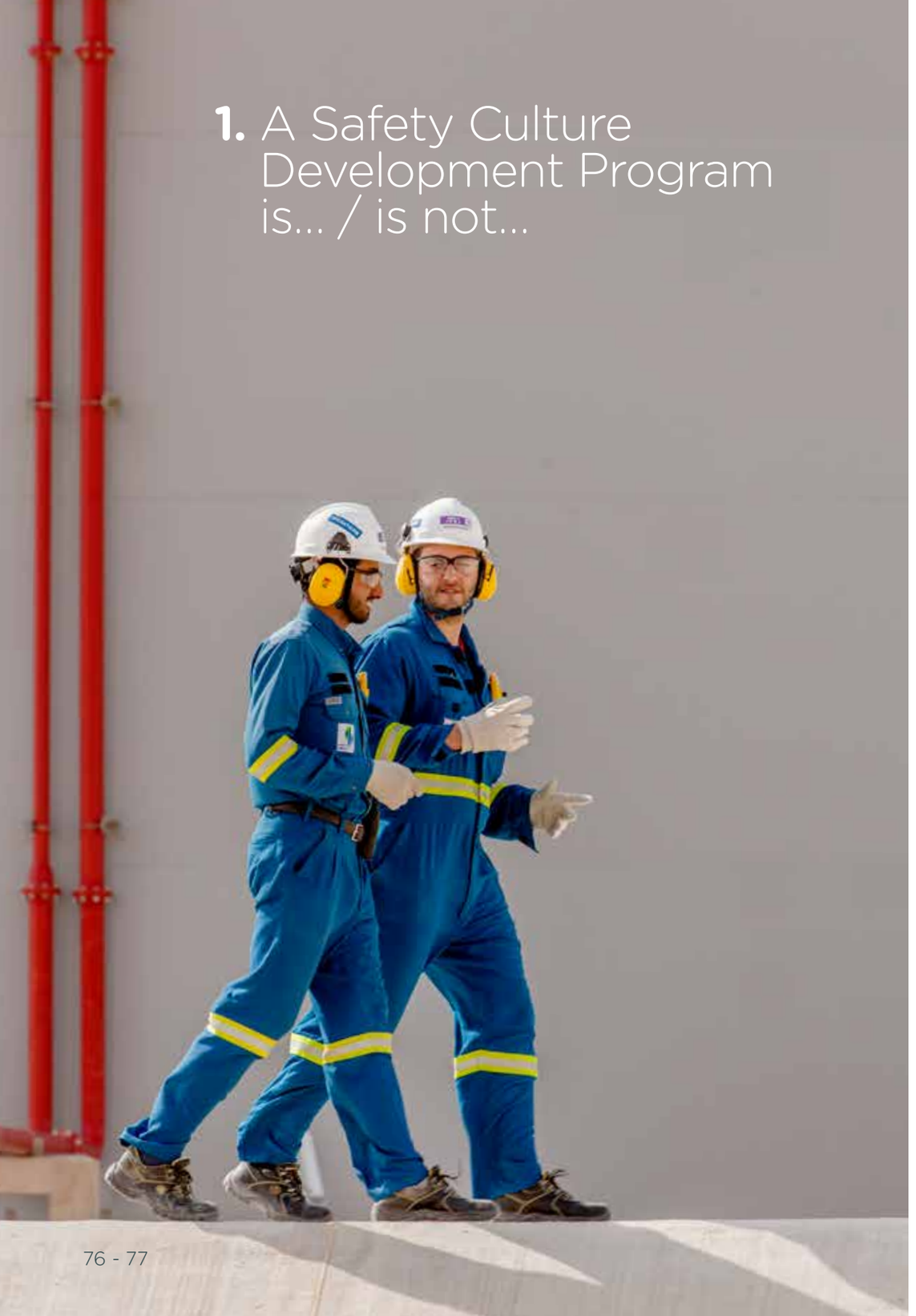
- **Sharing the Project objectives and vision.**
- **Constructing the organization and conditions for successfully rolling out the project.**
- **Co-constructing a joint Safety referential to guide operations.**
- **Organizing decision-making and managing compromises and unforeseen events.**
- **Co-constructing a cooperative relationship for a close-knit group.**
- **Measuring, capitalizing on and continuously learning.**

5

Feedback on safety culture development programs

A list of good practices, pitfalls to be avoided and advice can be drawn up as feedback on Safety Culture development programs carried out in some entities and branches of the Company since 2006.

1. A Safety Culture Development Program is... / is not...



It is:

- **A program that takes time.**
  It's all about changing the way a group of people think and act, and that takes time.
- **A collective change with a view to improvement.**
  The transition to a different type of culture is possible by involving all the members in an entity.
- **A way of identifying perceptions.**
  The desired development involves understanding the perceptions, how they are aligned and their differences, to help them evolve by themselves.
- **A participative approach.**
  It's about involving the members of an organization in the change.
- **About creating / restoring spaces for exchanging ideas, views and discussion.**
  Aligning perceptions hinges on the exchange of ideas and open discussions among the actors in different departments.
- **Focused on the most significant risks.**
  This kind of approach aims to make everyone aware of the risks considered as the most significant by all the actors in an organization.
- **A change in beliefs, perceptions and practices.** Sustainable changes in behavior hinge on changing the way people think.
- **An increase in the performance of the organization.** This involves developing the culture of an organization based on the seven key attributes of an Integrated Safety Culture.

It is not:

- **A sudden change.**
  Changing the way an entire population thinks does not happen by snapping your fingers.
- **An opportunity to point a finger at other people's behavior.**
  E.G.: *operators and technicians in the field.*
  The behavior of a given group of people is influenced by many different factors (such as other people's behavior): no one part of an organization can be designated as the lonely target of the program.
- **An audit.**
  It is not a way of measuring a discrepancy compared to a defined referential.
- **A prescriptive approach.**
  It is not an approach based on instructions. A "top-down" action plan, decided on unilaterally by the entity Management team, is not suited to this kind of approach.
- **A way of conducting a reorganization.**
  It is not an approach that serves to make an impending or recent reorganization acceptable.
- **Focused on the management of major risks or Safety in the work place.**
  This approach cannot be limited to just one of the sectors since ways of thinking apply across the board.
- **An increase in the level of Safety knowledge / culture.** Running training courses is not, in itself, enough to bring about a change in culture.
- **An increase in individual capability.**
  It is not about working on the individual characteristics of members of an organization to "improve" them.

2. Pitfalls to be Avoided...

Kick off the program in a sudden bad mood for example, after being annoyed by behavior considered as unacceptable. An approach to developing Safety Culture requires a lot of energy that needs to be maintained over time.

Expect results that are rapidly visible, in the first weeks or months after kick off, whereas the results of this kind of approach become visible in the long term.

Kick off a program while there are still "off limits" issues: when certain issues are off limits, or subjects cannot be discussed (e.g. an organizational change). The participative approach may potentially broach these subjects.

Kick off the approach without having understood the levers: without having the fundamental notions concerning an Integrated Safety Culture and its seven attributes, as well as those concerning Human and Organizational Factors.

Focus all available energy on the evaluation phase and not take any subsequent action: The site evaluation involves many different actors who express themselves and therefore become involved, in particular as regards subjects that are important to them and that they want to see improve. This creates expectations which, if they are not handled in the following steps, give rise to such severe frustration that the consequences are worse than if nothing had been done at all.

Wanting to develop Safety Culture by kicking off a training program: Deploying a training program on Safety Culture for sharp-end workers with the aim of developing it. Safety Culture is a collective construction and cannot be taught.

Adopt a prescriptive approach: Introduce an action plan decided on by management without involving personnel.This will not collectively change people's way of thinking.

Do a blind "copy - paste": Copy programs / actions / practices introduced on other sites, onto another branch of the Company or other companies, without questioning their pertinence in the new context.

Wait for a serious accident before kicking off this kind of program: The pressure to achieve results fast will be even greater.

Create a working group on each of the seven attributes of an Integrated Safety Culture, in the belief that each of the attributes is independent of the others.

...and Advice

Identify deep-rooted reasons for the program: the context, the observations made in the field, perceptions collected by interview and what strengths are required to operate the change.

Decide to mobilize the personnel: be ready to listen, and look for other people's perceptions and accept them even if they are different from your own.

Identify the risks: As for any culture, Safety Culture is a social construct.
It is all about evaluating the potential consequences of any change and any new factors in the construction process.

Be committed and take a training course: The members of the entity Management Committee must be committed and know about the fundamental ideas behind an Integrated Safety Culture. Moreover, they need to be prepared for the possible results of the site evaluation, which are sometimes difficult to accept.

Factor in the seven steps for a Safety Culture development: if a site evaluation is kicked off then the other steps are required.
If a survey questionnaire is used together with supplementary group interviews, then an immersion in the entity is required to make sure that the evaluation is enhanced by field observations and interviews.

Train management in the key notions related to Safety Culture by highlighting the levers related to the seven attributes of an Integrated Safety Culture available to them, then kick off a participative approach by encouraging the participation of entity personnel.

Involve leaders that belong to the entity, as well as personnel, through participative workshops. Train and involve staff representatives. Actions are easier to conduct if they are instigated by the actors themselves.

Factor in the specificities and local challenges of the entity to construct the program. Consider the change and transformation capacity of the organization.

Adopt a preventive approach before any serious accident, to take the time required for a culture to evolve.

Choose risk management activities as topics to work on, and which bring several of the seven attributes into play. Thinking around these topics will influence several aspects of the organization simultaneously.
E.G.: *work on accident analysis may potentially impact several aspects of an organization, such as its culture of transparency, its questioning culture and also management leadership in the entity.*

3. Exposure to the Safety Culture Market

In the Safety Culture sector, many consultancy firms propose coaching and training services. They each have their own models for doing so: Safety Culture is also a market!
It may be appealing to contact a consultancy firm and choose an "off the shelf" product, made of ready to use, turnkey tools.

CAUTION: *Safety Culture cannot be bought off the shelf. It must be created and customized for each organization, depending on the company specificities: its organization, history, rituals, capacity to change, interpersonal relations and many other characteristics described in the previous chapters in this guide.*

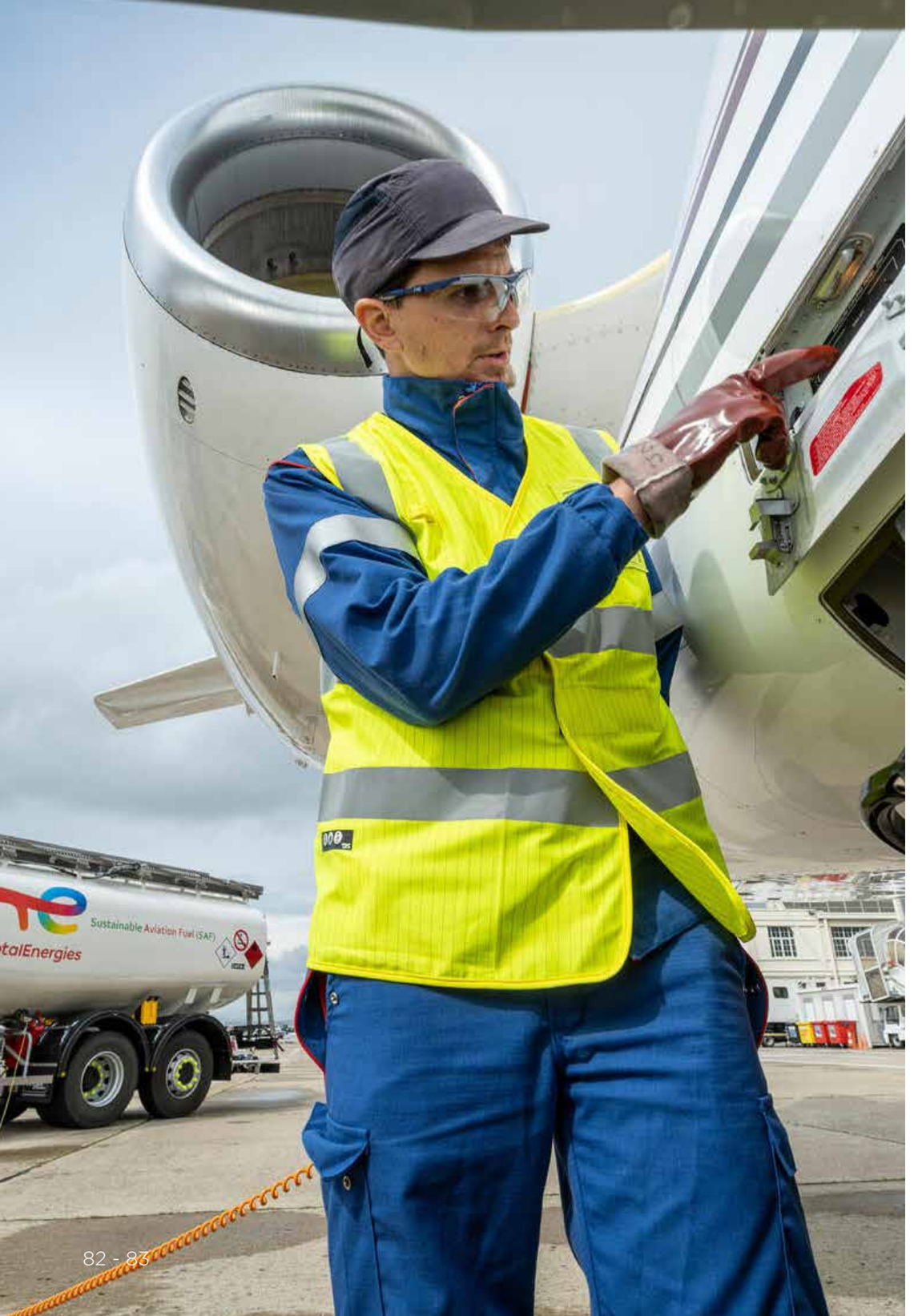
REMEMBER

Safety Culture development programs

A Safety Culture development program takes time and requires a participative approach.
Safety Culture cannot be bought off the shelf.
It is created and customized by each organization.

GOOD PRACTICES
for instigating a Safety Culture development program

- Identify existing perceptions in the sharp-end teams and accept them, even if they are far removed from your own reality.
- Be ready to broach any human, organizational and technical issues, without any subjects being off limits.
- Analyze divergences and convergences in perceptions within the teams,
- Allow the approach time to take hold in the organization to perceive the effects in the medium and long term.
- Organize participative workshops to help develop the Safety Culture,
- Be a support / sponsor for participative workshops.
- Ensure that everyone is committed to the actions decided on by the participative workshops.
- Communicate on the actions decided on at the end of the participative workshops, monitor the deployment of actions and evaluate their impact.



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Glossary and in-depth references

1. To find out More About Safety Culture

The Essentials of Safety Culture, ICSI
A publication that summarizes the key messages and lessons from the more in-depth brochure “Safety Culture: From Understanding to Action” by the ICSI.

Safety Culture: From Understanding to Action, ICSI
A publication of the results of an ICSI working group comprising industrial and academic actors, in which Company representatives also participated.

Safety Culture in Construction Projects, ICSI
A publication of the results of an ICSI working group comprising industrial actors and construction companies, in which Company representatives also participated.

Safety Academy
Website: http://safetyacademy.icsi-eu.org/dashboard/guest.aspx
The Company is one of the 10 founding members of the Safety Academy, an online resources center dedicated to Industrial Safety Culture.
Login codes can be requested from the Company HSE Division.
e-mail : hd.one-hse@totalenergies.com.

Human Performance for Safety (HP4S)
Digital platform: http://www.hp4s.total.com
Inhouse website dedicated to Human Performance for Safety, which contains the full text of both GM-GR-HSE-350 “The H.O.F. approach” and of this guide GM-GR-HSE-351.

2. Abbreviations

H.O.F.
Human and Organizational Factors.

HiPo
Events with a potential high severity.

ICSI
Institute for an Industrial Safety Culture. The Company is one of the founding members and belongs to the association.

S.M.S.
Safety Management System.