

A Leader's Guide to Human Performance

+ HP Shorts for Team Members



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Introduction and overview



Helping Leaders Understand & Deploy HP

This leader's guide was created to assist safety leaders with deploying Human Performance (HP) concepts and taking the HP principles to practice. All leaders should understand, internalize and apply the concepts and tools within this document. The end result is work that is easier to get right and harder to get wrong – with focus to impact where it matters most:

Saving lives and preventing serious injuries.

“Many incidents result from honest mistakes, we all make them. But, when it comes to safety critical activities, we cannot afford to make mistakes. We must protect ourselves by implementing the Human Performance Principles and making them an important part of our daily activities.”
~Darren Woods, Safe Start 2021



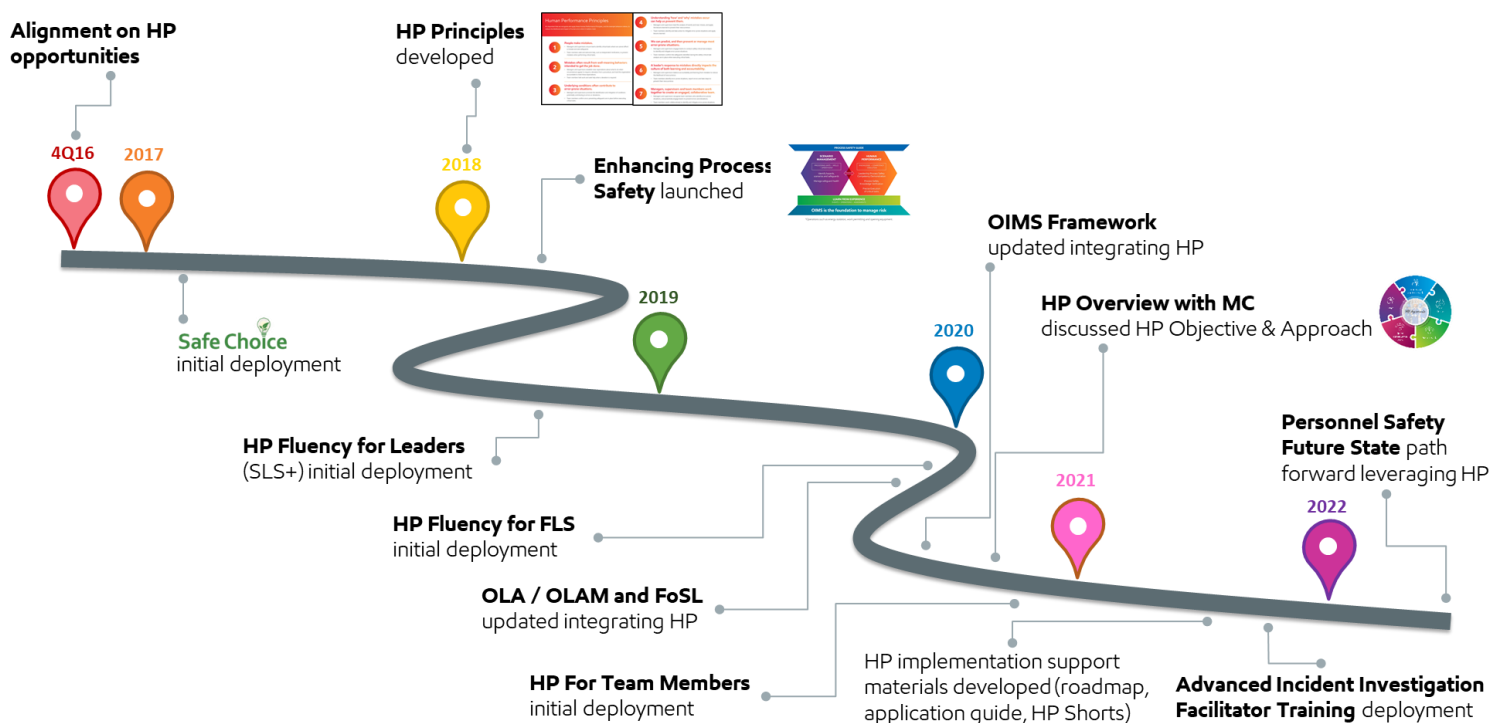
Background

Our Company has contributed to advancements in the field of Human Factors and Human Performance for decades. These contributions include implementing behavior based safety, progressing the science of human factors, designing facilities to eliminate hazards, promoting awareness of factors that influence risk tolerance and understanding and applying cognitive science in innovative ways. In 2016, a cross-functional initiative identified two significant opportunity spaces based on external insights: Scenario Management and Human Performance. Our journey since that time is captured below.

Although examples of integrating HP into the way we work can be found across the corporation, our approach has not been consistent. More deliberate application of HP principles is necessary to build our capacity to protect our people and operations from serious incidents, injuries and fatalities.

This “Leader’s Guide” provides best practices from across the Company and provides leaders with a consistent, proven methodology for implementation. Use the Leader’s Guide to Human Performance to

- verify and validate the maturity of your organization’s HP current state and progress to HP maturity,
- build and reinforce your own understanding of HP principles, concepts and application, and
- take the HP Principles to practice




What is Human Performance?

When errors occur, are we robust enough to recover effectively and gracefully?

Human Performance (HP) recognizes that people make mistakes. It's clear that human error is influenced by the systems that we work within.

HP is an applied science that helps us identify where we have opportunities to set people up for success and how we can build error tolerant systems that limit or catch human error. For example, improving human-equipment-process interactions that reduce human error and allow us to recover when they do.

HP is focused on eliminating fatalities, life altering hurts, and serious process safety events. We want to make tough or confusing work, less difficult. We are aiming to seek out and provide solutions for error prone situations. We will be successful if we apply the underlying principles and concepts you will find within this guide to inform how we design and deploy our Operations Integrity Management System (OIMS).

A photograph showing a worker in a white hard hat and dark safety vest operating a drone. The drone is in flight, hovering in the air. In the background, there is an industrial structure, possibly a drilling rig or wellhead, under a clear blue sky. The worker is standing in a field of low-lying vegetation.

Ultimately, Human Performance is about **making our work easier to get right, and harder to get wrong.**

HP principles

People are our most important resources in managing safety, we expect them to use our systems to perform their work safely, and we recognize:

1

People make mistakes

- **Managers and supervisors** ensure teams identify critical tasks where we cannot afford a mistake and add safeguards.
- **Team members** seek and welcome help, such as Independent Verification, to prevent mistakes when performing critical tasks.

2

Mistakes often result from well-meaning behaviors intended to get the job done

- **Managers and supervisors** establish clear expectations about what to do when circumstances appear to require a deviation from a procedure, and hold the organization accountable to meet these expectations.
- **Team members** halt work and seek help when a deviation is required.

3

Underlying conditions often contribute to error-prone situations

- **Managers and supervisors** promote the identification and mitigation of conditions potentially contributing to errors or deviations.
- **Team members** confirm error-preventing safeguards are in place before executing critical tasks.

4

Understanding the 'how' and the 'why' mistakes occur can help us prevent them

- **Managers and supervisors** lead the analysis of events and near-misses, and apply the lessons learned to prevent their reoccurrence.
- **Team members** identify and take action to mitigate error-prone situations and apply lessons learned.

5

We can predict, and then prevent or manage most error-prone situations

- **Managers and supervisors** engage teams to conduct safety critical task analysis to identify and mitigate error-prone situations.
- **Team members** confirm the safeguards identified during the safety critical task analysis are in place when executing critical tasks.

6

A Leader's response to mistakes directly impacts the culture of both learning and accountability

- **Managers and supervisors** balance accountability and learning from mistakes to reduce the likelihood of reoccurrence.
- **Team members seek** identify error-prone situations, report errors and take steps to prevent their reoccurrence..

7

Managers, supervisors and team members work together to create an engaged, collaborative team

- **Managers and supervisors** recognize team members who identify error-prone situations, and proactively engage teams to prevent errors and deviations
- **Team members** work collaboratively to identify and mitigate error-prone situations.

We learned from other industries where safety is mission critical - nuclear power generation and aviation - that developing a set of human performance principles which begin with acknowledging that 'people make mistakes' drove a transformational change in their approach to work. By that they meant that recognizing that a person, despite best intentions, could still make a mistake, it caused them to look more deeply at the robustness of safeguards for those situations where a person still served as the last line of defense in preventing a high consequence event. Our industry is fundamentally no different.

HP approach



Our goal is to leverage Human Performance principles and concepts to deliver world class business results by enhancing the resilience of our facilities, systems, and people and focusing on learning and improvement.

We believe we will achieve this through an approach that treats HP not as a program, but as a group of strategies that sharpen focus on setting our people up for success, building safety capacity, as well as reducing the likelihood and impact of error where it matters most.

ExxonMobil's HP Approach uses a five part model intended to move the organization to a mature state where Human Performance concepts and principles are integrated into OIMS and the normal way of doing business.



Leadership and teamwork

Our leaders and team members use Human Performance principles and demonstrate Leading to Win behaviors to deliver business results. *Our focus here is on operationalizing HP aligned with OIMS Element 1 (Management Leadership, Commitment and Accountability) expectations.



Design

We design and build assets considering the end user perspective. * Our focus here is on operationalizing HP aligned with OIMS Element 3 (Facilities Design and Construction) expectations.



Normal work

We apply HP concepts to our work systems, processes, and tools. * Our focus here is on operationalizing HP aligned with OIMS Element 5 (Personnel and Training) expectations.



Higher consequence work

We apply more rigor where we cannot afford mistakes. * Our focus here is on operationalizing HP aligned with OIMS Element 6 (Operations and Maintenance) expectations.



Learn

We effectively learn from both our successes and failures, and reinforce ownership for actions. * Our focus here is on operationalizing HP aligned with OIMS Element 9 (Incident Investigation and Analysis) expectations.

Committed to improving Operations Integrity

Since our early beginnings, we have been committed to SSH&E excellence and driving toward a common foundation of industry-leading standards in every area of our business. Known collectively as Operations Integrity Management System, OIMS is the cornerstone of our commitment in protecting our people, our environment, and our communities, and aligning us through a common approach and language across the Corporation. OIMS is our foundation for managing risk and operationalizing HP builds our capacity to do so, safely and reliably.

As we continue our commitment to Operations Integrity, it is key to remember we prefer to improve existing tools and processes before adding new.

The OIMS Framework, which was revised in 2020, has already integrated Human Performance considerations into the Expectations, especially in Elements 1, 3, 5, 6, and 9. Effective application of these Human Performance considerations can have a major influence on making our work easier to get right, and harder to get wrong.



New View vs Old View

A paradigm shift in our thinking

Applied Human Performance must come with a paradigm shift in our thinking. Boiled down, the paradigm shift is about moving from thinking that “our people are the problem” to “our people are the solution.” This people focused and solution oriented mindset allows our organization to move from thinking about safety as an outcome to safety as capacity, pushes us to do investigations differently, empowers learning, and helps leaders succeed proactively.

Compared to Old View, which can be summarized as an “embedded learning challenge for our organization”, a shift to New View is foundational to recognizing that people make mistakes - but we can understand and apply principles to mitigate this possibility.

For example, compare and contrast the following and ask yourself, which view better aligns with the best possible environment for setting people up for success and learning?



- Asks **who** is responsible for the outcome
- Sees human error as the cause of trouble
- Suggests that human error is random, unreliable behavior
- Suggests that human error is an acceptable conclusion of an investigation
- Says what people failed to do and what they should have done to prevent the outcome



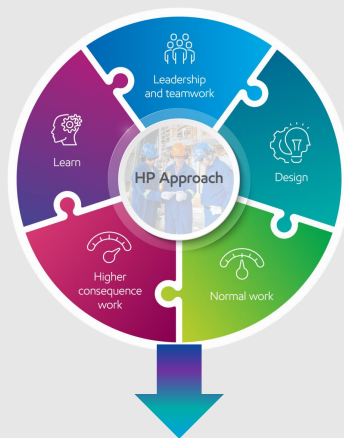
- Asks **what** is responsible for the outcome
- Sees human error as a symptom of deeper trouble inside a system
- Human error is systematically connected to features of people’s tools, tasks and operating environment
- Human error is only the starting point for further investigation
- Helps us find out **how** peoples’ actions made sense at the time given the circumstances that surrounded them.
- **Allows the organization to learn from both success and error.**

OIMS & HP Integrated. Our Future State.

Focus on the updated OIMS
Elements and Expectations



Improve tools and processes through
HP influence versus adding new



Deliver Operations Integrity and
make work easier to get right, and
harder to get wrong



Operationalizing HP

Operationalizing our Human Performance Approach helps us target the elimination of serious incidents, injuries and fatalities by:



Fostering both learning and accountability to create an open and trusting environment



Digging deeper when an incident occurs, to enhance learning



Engaging others in a collaborative effort to manage variability and learn from success



Eliminating error-prone situations through design



Determining if safeguards are in place, and effective, before starting work



Sharpening our focus on process and personnel safety



Increasing our capacity to fail safely



Leveraging behavior based safety processes and tools to operationalize HP concepts



Progressing fatigue risk management

Human Performance Playbook

Phases, Implementation and Maturity

Recommended HP Progression

Our approach to Human Performance implementation is designed so that application of HP principles and concepts becomes just part of the way we do work. This is the definition of HP maturity and where we want to be as an organization.

HP maturity looks like leaders responding in ways that enable and empower learning. It looks like leveraging existing standards, tools and processes to operationalize the HP concepts. It looks like organizations learning and improving iteratively and creating resilient systems that anticipate failure and have the capacity to fail safely.

To get to this point, leaders should follow an HP roadmap model that is progress-based. This allows your organization to treat Human Performance not as a program, but as a progression of observable conditions that move us towards a state where Human Performance concepts are fully embedded and functioning within our culture.



From sparking a shift to “new thinking” to sustainment through ongoing learning – this HP Roadmap covers key considerations and provides additional detail on each phase shown in the diagram above.

Roadmap to HP maturity

Phase 1 Conditions

1

Inspire and motivate leadership

This phase initiates a shift in thinking through dedicated Human Performance (HP) fluency leadership engagement sessions. These sessions make a compelling case for action, build understanding of key HP concepts, and provide insight for operationalizing those concepts at the frontline. The intent is to build understanding, and inspire and motivate the Leadership Team (LT) to take action on subsequent phases of Human Performance.

What to do to progress Phase 1

- ❑ Verify that a GO&S contact has been assigned to the Business Line
- ❑ Verify that the Business Line has assigned a contact to coordinate HP-related efforts on their behalf
- ❑ Verify that an alignment session has taken place between GO&S contact and the business line to discuss fit for purpose HP application
- ❑ Schedule and conduct 'HP for Leaders' training for Business Line's Senior Leadership Team
- ❑ Validate that leaders in the business line understand and are prepared to support HP application at the frontline (e.g. targeted feedback from team members)
- ❑ Verify that the Business Line has communicated expectations for HP implementation to affiliates / sites



Roadmap to HP maturity

Phase 2 Conditions

2

Build HP
Fluency

This phase is focused on building understanding of HP at all levels. This equips teams with fundamental knowledge to constructively challenge biases and long-held beliefs. The intent is to cascade HP awareness and fluency training throughout the organization in preparation for operationalizing key HP concepts at the frontline.

What to do to progress Phase 2

- Verify that an alignment session has taken place between the GO&S contact and the affiliate / site to align on the local deployment process
- Schedule and conduct 'HP Fluency for Leaders' training for affiliate / site's Leadership Team (SLS+)
- Schedule and conduct 'HP Fluency for FLS' training for affiliate / site's frontline leaders
- Schedule and use the HP Shorts with Team Members in toolbox talk-type discussions to convey key concepts and guide effective application at the frontline



Roadmap to HP maturity

Phase 3 Conditions

3

Operationalize
Human
Performance

This is the phase where we act on Human Performance by bringing the Principles to Practice. Within this phase, we apply operational learning methods, use enhanced pre-job planning techniques, practice HP aligned responses when errors occur, and apply lessons learned to catch human error and increase the likelihood of success.

What to do to progress Phase 3

- Verify and Validate that the affiliate / site is applying the HP concepts using verification-type questions to gauge understanding and effectiveness of application (see *pages 23-24*) in each of the 5 topical areas:
 - Improve Hazard ID and Management
 - Empower START & STOP Work
 - Enhance Operational Learning (e.g. AAR used consistently in the field)
 - Precisely Execute Critical Tasks
 - Improve Learning from Events
- Verify that Error Prone Situations, Hold Points and Triggers are identified where applicable during discussion of the JSA
 - Use HP Shorts during pre-task briefings to support this effort
- Verify that a process is in place to periodically reinforce HP concepts (e.g. communications, sharing learnings)



Roadmap to HP maturity

Phase 4 Conditions

4

Learn and Improve – Ongoing Strengthening of Safeguards

The objective of this phase is to leverage learnings to continuously improve our OIMS systems, processes and User tools using a Human Performance lens. We strive to build resiliency within the operation by making it easier to get it right and harder to get it wrong in those situations where it matters most. And, we monitor key sources of feedback and respond appropriately.

What to do to progress Phase 4




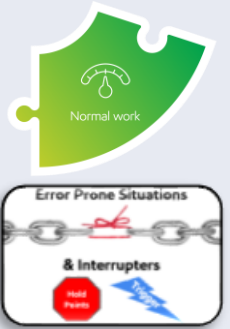
- ❑ Find examples showing that the Business Line is learning from successful work and events with focus on eliminating hazard versus relying on administrative controls
 - ❑ Verify that verification-type questions and suitable indicators* are being used and are identifying strengths and opportunities for improvement in both strategy and tactics
 - ❑ Verify that Assessment processes (OIMS, etc) are reviewing HP-related aspects and identifying strengths and opportunities for improvement
 - ❑ * Verify that OIMS System Description and local OIMS documents are updated and aligned with Human Performance Principles and Concepts
 - ❑ * Verify that tools have been updated with HP concepts, where appropriate. (e.g. consideration of Error Prone Situations and Interrupters embedded within standards, processes and tools)
- * **Note:** The Personnel Safety Future State's Personnel Safety Management System will provide additional guidance in these areas



HP Sustainment

What Great Looks Like

Sustainment of our Human Performance Approach is foundational and leaders should know What Great Looks Like. Use the below table to understand where your team's strengths and opportunities are within our HP Approach.

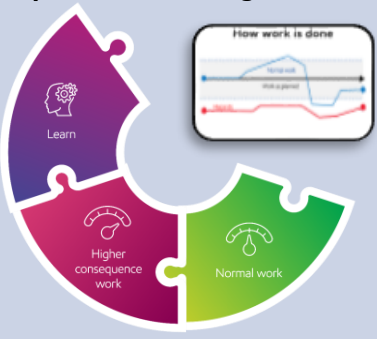
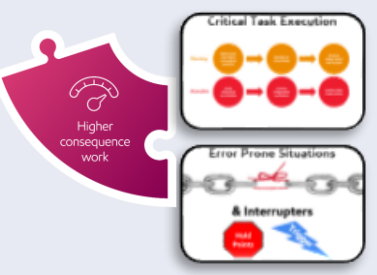
Human Performance Integration Elements	What Great Looks Like
<p>Leadership and Communication</p> 	<ul style="list-style-type: none"> • All Leaders demonstrate behaviors supportive of HP Principles (e.g.: build fluency, effectively apply concepts, respond appropriately when events / errors occur, etc.) • HP language and terminology are used in correct context in meetings, toolbox discussions, communications, sharings, etc., to reinforce linkages between HP concepts and existing tools • HP Champions are identified to assist in guiding training and sustainment efforts • Leaders respond in a positive and supportive manner when team member(s) "Speak Up" about and stop work when a trigger is encountered.
<p>HP Fluency Training</p> 	<ul style="list-style-type: none"> • All leaders have attended HP Fluency for Leaders training to understand what Human Performance is and their role as a leader in building fluency in Human Performance and guiding appropriate application of concepts • Field supervisors have attended HP Fluency for FLS and are equipped to lead application of HP concepts with their field teams (e.g.: HP Shorts, etc.) • A process is in place to provide HP training to new leaders or team members early in their role
<p>HP in Design</p> 	<ul style="list-style-type: none"> • Engineers have been provided training and understand and are applying Human Performance Centered Design concepts to account for human needs, capability and behavior including consideration of the end user perspective (e.g.: leverage Hierarchy of Controls, HP principles in Constructability and Model Reviews) • Design learnings are being developed and communicated back to the design team(s) to drive improvement • Leaders take into account HP concepts when reviewing and approving changes to project scope that involve addition or deletion of facilities and/or equipment
<p>Pre-Task Briefing</p> 	<ul style="list-style-type: none"> • HP concepts and tools are used during pre-task discussions with team members as applicable to the current work and in a manner consistent with guidance provided in the "HP Application at the Frontline" document. <ul style="list-style-type: none"> • Error Prone Situations: Identify the relevant Factors (Work Environment, Task, Individual) including associated mitigations to manage Error Prone Situations • Hold Points: Discuss Hold Point(s) to be used during execution immediately prior to an unrecoverable step(s) • Triggers: Pre-define and discuss Triggers to STOP work • Safeguard Verification: Verify safeguards are in place and effective before commencing work with potential for serious injury or fatality • Share Learnings: Connect applicable learnings from events (incidents, near misses, errors), observations, and After Action Reviews back to field activities to support continuous improvement • START and STOP Work: see discussion guide on pages 45-46.

HP Sustainment

What Great Looks Like

Continued

Sustainment of our Human Performance Approach is foundational and leaders should know What Great Looks Like. Use the below table to understand where your team's strengths and opportunities are within our HP Approach.

Human Performance Integration Elements	What Great Looks Like
<p>Operational Learning</p> 	<ul style="list-style-type: none"> • Operational Learning: Ongoing use of Operational Learning techniques (e.g.: After Action Reviews, structured task observations, etc.) for work consistent with guidance provided in the "HP Application at the Frontline" document <ul style="list-style-type: none"> • How Work Gets Done - Identifying variations from job standards where the team member is potentially exposed to higher risk than expected • Difficult Work – Asking team members if there is anything that makes it difficult to perform the work according to job plan/steps • After Action Reviews - Ongoing execution of After Action Reviews following work with potential for serious injury or fatality (representative sample) to learn from successful work and to understand what went well, what did not go according to plan, and what should be done differently next time
<p>HP Fluency Training</p> 	<ul style="list-style-type: none"> • Critical Task Execution: Ongoing use of the Critical Task Execution process for higher consequence work in a manner consistent with guidance provided in the "HP Application at the Frontline" document <ul style="list-style-type: none"> • Planning: Identify targeted work with potential for serious injury or fatality and incorporate LSRA safeguard verification into processes/procedures • Safety Critical Task Analysis: Utilize Safety Critical Task Analysis on all identified HC1/HC2 High Consequence Work to identify vulnerabilities and implement additional safeguards • Safeguard Verification: Ongoing verification that safeguards are in place and effective before starting work • Critical Task Execution: Teams consistently use Hold Points and validate correct execution through independent verification before execution of a critical step. Additionally, After Action Reviews are conducted at the end of these tasks to learn and improve as described in the Operational Learning section above

HP Sustainment

What Great Looks Like

Continued

Sustainment of our Human Performance Approach is foundational and leaders should know What Great Looks Like. Use the below table to understand where your team's strengths and opportunities are within our HP Approach.

Human Performance Integration Elements	What Great Looks Like
<p>Learning from Events</p> 	<ul style="list-style-type: none"> • Leader Response: When events occur, leaders consistently postpone judgement and respond in a manner that promotes trust and candor as well as manages bias (e.g.: Your Response Matters – Quick Reference Card) • Investigating Higher Potential Events: For high potential events, the investigation is facilitated by an individual that has received the “Advanced Incident Investigation Facilitator Training” (CareerConnect Course ID: 517035) and follows the Incident Investigation Framework Reference Guide. • Corrective Actions: Corrective actions are executed in a timely manner and consistently leverage the hierarchy of controls as appropriate to achieve sustainable solutions
<p>Field Verification & Validation</p> 	<ul style="list-style-type: none"> • Verification & Validation: The HP-related verification questions included within the HP Fluency training materials are used as a reference for conducting these verifications and validations • Leader Engagement: Field leaders at all levels (especially FLS and SLS) consistently engage in field verification and validation as appropriate for their role to gain insight into worker and leader understanding and application of key processes / concepts as well as to confirm that key safeguards are in place and effective • Actions: Based on learnings from the engagement the leader provides positive reinforcement and / or coaching in the moment where appropriate; and corrective actions are identified for safeguards (e.g. behaviors / conditions) that are not in place or not effective

HP Verification & Validation

As part of periodic field engagement conversations, leaders should ask some verification-type questions to gain insight into the following issues:

- Do individuals have the appropriate understanding of the key Human Performance concepts, and
- Can they effectively apply these Human Performance concepts in their day-to-day work.

Potential questions to provide insight into “how we know” Human Performance concepts are helping to deliver desired results

Leader Asks the Supervisor	Leader Asks a Worker	Supervisor Asks a Worker
<p>Improve Hazard Identification and Management</p> <ul style="list-style-type: none"> <input type="checkbox"/> Error Prone Situations: Describe how you identify and address situations where it is easy to make a mistake (e.g.: same valves, side by side, not labeled but serve different purpose)? <input type="checkbox"/> Interrupters: Tell me about the types of situations where you would halt production / operations / work until the situation is resolved. <input type="checkbox"/> Interrupters: Explain to me how you work with your team prior to a task to identify triggers and hold points where applicable? <input type="checkbox"/> Interrupters: Explain how you evaluate a worker’s understanding and acceptance of using triggers and hold points during the task? <input type="checkbox"/> What JSA ‘wet-ink’ or updates have you seen with triggers and hold points? <p>Empower START & STOP Work</p> <ul style="list-style-type: none"> <input type="checkbox"/> How do you work with your team prior to a task to verify that key safeguards are in place and effective? <input type="checkbox"/> How do you monitor the ongoing effectiveness of key safeguards in your area? <input type="checkbox"/> Speak Up: What do you do that gives you confidence workers are comfortable raising concerns associated with their safety? <input type="checkbox"/> Share with me a recent example of when a team member paused start of work because a safeguard was not effective, or when they paused or stopped work? <input type="checkbox"/> How do you share learnings from use of START and STOP Work with the team? 	<p>Improve Hazard Identification and Management</p> <ul style="list-style-type: none"> <input type="checkbox"/> Error Prone Situations: Tell me about how your supervisor engages with you to identify and address situations where it is easy to make a mistake (e.g.: same valves, side by side, not labeled but serve different purpose)? <input type="checkbox"/> Interrupters: How has your supervisor engaged with you to identify triggers and hold points? <input type="checkbox"/> What triggers or hold points did you identify prior to starting this task? <p>Empower START & STOP Work</p> <ul style="list-style-type: none"> <input type="checkbox"/> How does your supervisor reinforce expectations for use of START and STOP Work? When was the last time it was discussed? <input type="checkbox"/> How has your supervisor engaged with you to verify that key safeguards are in place and effective before you started work? <input type="checkbox"/> Speak Up: How does your supervisor make you feel comfortable to raise your safety-related concerns? <input type="checkbox"/> Share with me a recent example of when you or a team member paused start of work because a safeguard was not effective, or when they paused or stopped work? <input type="checkbox"/> How does your supervisor share learnings from use of START and STOP Work with the team? 	<p>Improve Hazard Identification and Management</p> <ul style="list-style-type: none"> <input type="checkbox"/> Error Prone Situations: Tell me about a situation in today’s work (or a recent task) that you’ve identified and mitigated where it is easy to make a mistake (e.g.: same valves, side by side, not labeled but serve different purpose)? <input type="checkbox"/> Interrupters: Tell me about the specific triggers or hold points that are applicable to this task. <p>Empower START & STOP Work</p> <ul style="list-style-type: none"> <input type="checkbox"/> Tell me about your understanding of the expectations for use of START or STOP Work. <input type="checkbox"/> What barriers exist that I need to address to enable you and our other team members to use START and STOP Work as expected? <input type="checkbox"/> What more can I do to help you and our other team members verify that key safeguards are in place and effective before we start work? <input type="checkbox"/> Speak Up: What more can I do to make it more comfortable for you or other team members to raise safety-related concerns? <input type="checkbox"/> Describe situations that come to mind where you are not certain whether you should START work or STOP Work? <input type="checkbox"/> What can I do to more effectively share learnings from the use of START and STOP Work with the team?

HP Verification & Validation

Potential questions to provide insight into “how we know” Human Performance concepts are helping to deliver desired results

Leader Asks the Supervisor	Leader Asks a Worker	Supervisor Asks a Worker
<p>Enhance Operational Learning</p> <ul style="list-style-type: none"> ❑ Structured task observation (e.g.: LPO): How do you gain insight into how well your team follows the procedures and work instructions during execution of the work, particularly those tasks with higher potential consequence (e.g.: LSAs)? ❑ What are your focus areas for conducting structured task observations (e.g.: LPO)? How frequently do you conduct them? ❑ Tell me about a structured task observation (e.g.: LPO) where you learned that team members may be exposed to more risk than was expected, or where work efficiencies have been developed that can be formally incorporated into the job standard, or where it is difficult to perform the task according to the job standard? ❑ Under what circumstances do you perform an After Action Review following a higher risk task to learn from successful work? ❑ Share with me a recent learning from an After Action Review. <p>Precisely Execute Critical Tasks</p> <ul style="list-style-type: none"> ❑ What tasks require use of the Critical Task Execution process in your area (safeguard verification, independent verification, After Action Review)? ❑ What do you do to manage the vulnerabilities inherent to the independent verification process? ❑ Share with me an example of a situation where the independent verifier discovered an issue with the readiness to proceed. 	<p>Enhance Operational Learning</p> <ul style="list-style-type: none"> ❑ Structured task observation (e.g.: LPO): Describe the engagement you have with your supervisor as part of a Structured Task Observation? ❑ What are your team’s focus areas for conducting structured task observations (e.g.: LPO)? How frequently do you conduct them? ❑ Tell me about a structured task observation (e.g.: LPO) where you learned that you or your team members may be exposed to more risk than was expected, or where work efficiencies have been developed that can be formally incorporated into the job standard, or where it is difficult to perform the task according to the job standard? ❑ Under what circumstances do you and your team perform an After Action Review to learn from successful work? ❑ Share with me a recent learning from an After Action Review. <p>Precisely Execute Critical Tasks</p> <ul style="list-style-type: none"> ❑ Tell me about how you and your team verify that key safeguards are in place and effective before proceeding with a higher risk task? ❑ What tasks require use of independent verification in your area? ❑ What is the purpose of the independent verification? ❑ When conducting an independent verification, what are the potential vulnerabilities inherent to the ‘verifier’ role that must be managed? ❑ Share with me an example of a situation where an independent verifier discovered an issue with the readiness to proceed. ❑ Share with me a recent learning from an After Action Review. 	<p>Enhance Operational Learning</p> <ul style="list-style-type: none"> ❑ What more can I do during our structured task observations (e.g.: LPO) to help our team learn where team members may be exposed to more risk than was expected, or where work efficiencies have been developed that can be formally incorporated into the job standard, or where it is difficult to perform the task according to the job standard? ❑ What can I do to more effectively share learnings from our structured task observations (e.g.: LPO) with the team? ❑ What more can I do to engage the whole team when conducting and After Action Review? ❑ How well are we addressing the follow-up items from our After Action Reviews. <p>Precisely Execute Critical Tasks</p> <ul style="list-style-type: none"> ❑ Tell me about the key safeguards that we must verify are in place and effective before proceeding with this higher risk task (specify task)? ❑ What tasks do we execute that require use of independent verification? ❑ What is the purpose of the independent verification? ❑ When conducting an independent verification, what are the potential vulnerabilities inherent to the ‘verifier’ role that must be managed? ❑ When conducting an independent verification, what do you do if you find that not all pre-requisite steps have been executed correctly? ❑ What can I do to more effectively share learnings from our After Action Reviews?

Human Performance
application at the
front line

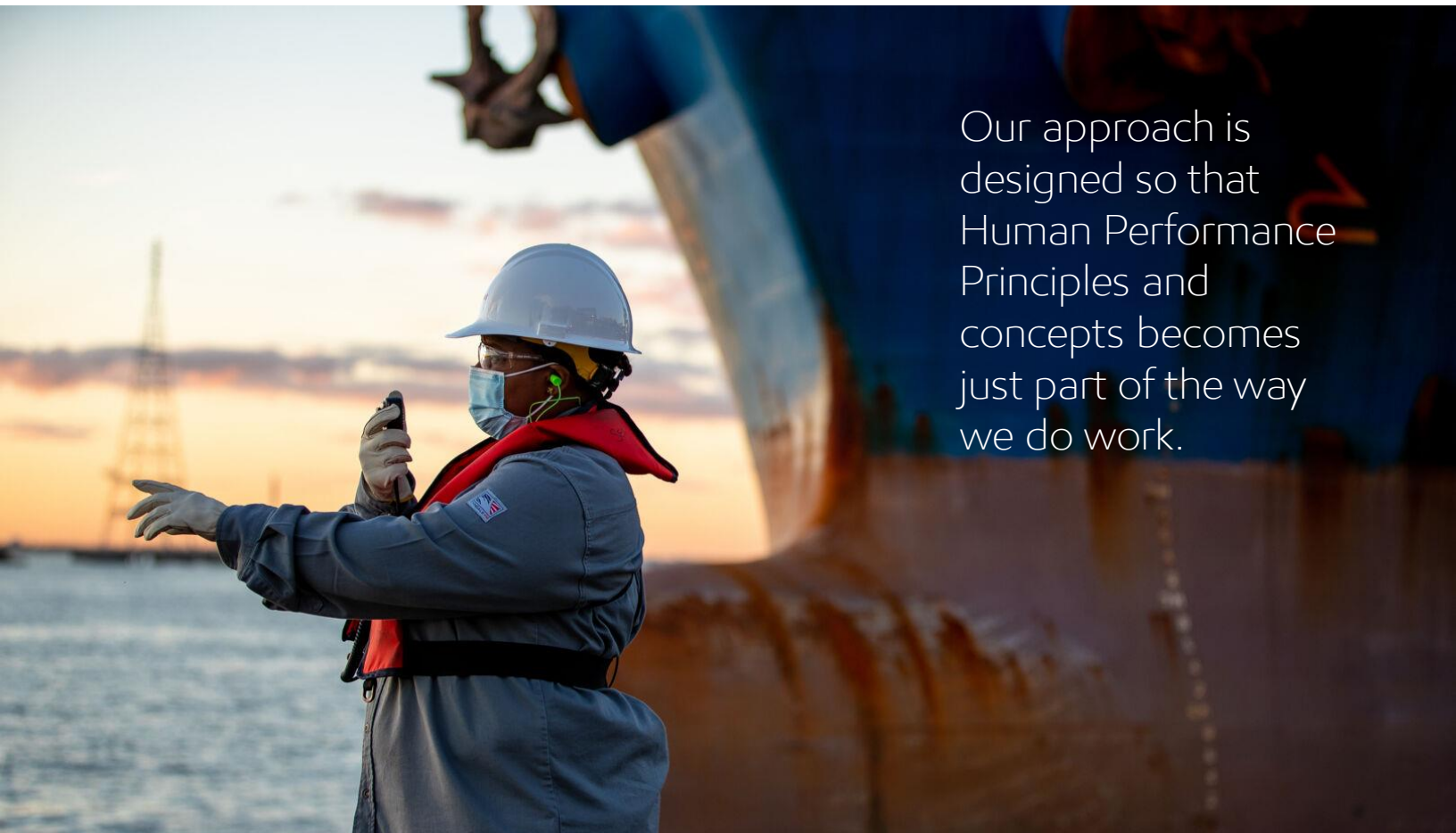
Taking HP principles to practice

From toolbox talks, to hazard assessments, to critical procedures, to operational learning techniques, to behavior based safety V&V processes – we believe that fine-tuning or *lubricating* our OIMS processes to incorporate Human Performance concepts is a game changing way to get workers to both learn and apply HP concepts through real-time interaction.

Phases 2-4 of Human Performance implementation is aimed at taking the principles into practice. Leaders and team members who have received HP Fluency training are primed to apply the concepts outside the training room.

Our taking the principles to practice phase is about:

- Empowering FLS+ with a set of “What Great Looks Like” user tools that they can use to educate, verify and validate the Human Performance concepts are applied and healthy in their areas of responsibility.
- Providing the concepts to leaders so that they have a firm knowledge base and then creating an environment where we leverage existing tools and processes to operationalize Human Performance.



Our approach is designed so that Human Performance Principles and concepts becomes just part of the way we do work.

Intent

Key HP concepts leader's guide & HP shorts

The intent of the key HP concepts leader's guide is to:

1. create clarity for our Human Performance Approach,
2. act as a reference to sustain HP fluency, and
3. provide a clear and concise one-stop shopping resource for ExxonMobil's Human Performance principles and key concepts (i.e. a reference guide to sustain HP fluency for our leaders)

The intent of the HP shorts materials is to:

1. build HP fluency for workers by creating a practice regime that becomes part of the daily work culture
2. take the principles and concepts to practice, and equip FLS+ with bite sized materials that can be assimilated and delivered into existing processes (e.g. toolbox talks)
3. empower FLS with a set of "What Great Looks Like" tools that they can use to verify and validate that Human Performance concepts are applied effectively

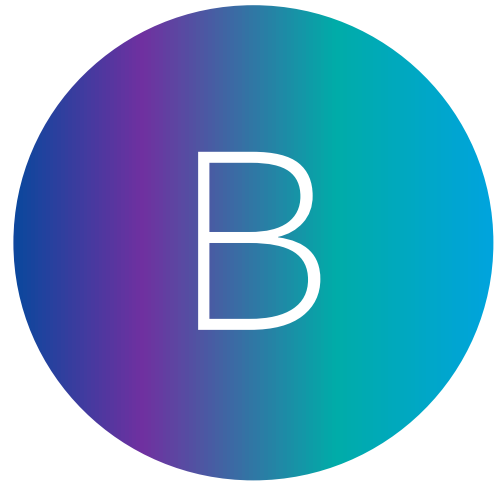
The materials illustrate *What Great Looks Like* and providing leaders a "how to" guide for sustaining HP fluency and real world application.



How to use



Reinforce your own HP fluency by committing to review the individual **key HP concepts leader's guide materials** for each of the concepts.



Use the bite sized **HP Shorts** materials to cover and apply key concepts during a toolbox talk, reviewed prior to completing a JSA/JLA, during a procedure review, or as part of a Last Minute Risk Assessment.



Human Performance


Setting our people up for success





Overview for Leaders

HP Application at the Frontline

Improve Hazard Identification and Management

HP Concept	Application	How To
<ul style="list-style-type: none"> • Error Prone Situations • Interrupters (Hold Points, Triggers) 	<p>Improving pre-job planning processes to help team members identify and mitigate Error Prone Situations</p> <p>Enhancing pre-job planning processes by integrating identification and discussion of Interrupters (Hold Points, Triggers) that serve to clarify those key situations or conditions where team members should stop work. For example, hold points and triggers are captured and discussed within procedures, JSAs/JLAs, LMRAs/LPSAs in order to prime team members to more effectively recognize and respond when these situations occur</p>	<ul style="list-style-type: none"> • Team members discuss the factors (Work Environment, Task, Individual) leading to Error Prone Situations, identify what Error Prone Situations may apply to their work, and take action to make it “easier to get right” by documenting and following mitigations on their JSA/JLA. Specifically: <ul style="list-style-type: none"> – Identify and highlight specific situations / conditions that could lead to significant injury or make error more likely – For each, identify appropriate mitigations – Plan hold points where appropriate and identify triggers to stop work – Align on response: If that happens, then stop work and regroup to address • Note: In the absence of a JSA/JLA, apply these same steps using the LMRA/LPSA process • Leverage verification / validation processes and questions to confirm understanding and use of Interrupters

Empower START & STOP Work

HP Concept	Application	How To
<ul style="list-style-type: none"> • START Work • Start Work Checks 	<p>Conducting formal verification of safeguards immediately prior to the START of high risk work activities</p> <p>Empowering team members to Speak Up and intervene if safeguards are found to be inadequate and may prompt the need to Pause or STOP work</p>	<ul style="list-style-type: none"> • START work safely <ul style="list-style-type: none"> – Before starting work, team members discuss and verify that necessary safeguards are in place and effective <ol style="list-style-type: none"> a. When in place and effective – provides verification that the team can safely start b. When absent or inadequate – enables START Work and a clear decision to not START work until safeguard deficiencies have been resolved
<ul style="list-style-type: none"> • STOP Work • Interrupters (Triggers) 	<p>Empowering team members to Speak Up and intervene if triggers are observed during job execution</p> <p>Setting expectations for team members to Pause or STOP work, Notify as appropriate, and Correct then resume once hazards have been eliminated or mitigated</p>	<ul style="list-style-type: none"> • Pause or STOP work <ul style="list-style-type: none"> – Pause or STOP work when you are uncertain or when a Trigger is encountered that could endanger you, your coworkers, equipment or the environment (e.g.: situation / conditions change, safeguard deficient) • Note: See “Improve Hazard Identification and Management” for HP tactics to improve and empower team member’s knowledge, skill and desire to pause or stop work



Human Performance

Setting our people up for success



Overview for Leaders

HP Application at the Frontline

Enhance Operational Learning

HP Concept	Application	How To
<ul style="list-style-type: none"> • How Work Gets Done • Difficult Work • After Action Review (AAR) 	<p>Using Operational Learning techniques during higher risk tasks to understand the differences in how work gets done as well as where work is difficult to perform in the way it is described in the work instruction. Some key Operational Learning techniques include structured task observations (e.g., LPOs) and After Action Reviews</p>	<ul style="list-style-type: none"> • Conduct structured task observations to gain insight into where and how work is being done differently than the job standard (e.g.: JLA/JSA, procedure) <ul style="list-style-type: none"> – where team members may be exposed to more risk than expected – where work efficiencies have been developed and can be formally incorporated into the job standard – where it is difficult for team members to perform the task according to the job standard • Conduct After Action Reviews following higher risk tasks to learn from successful work and to understand what went well, what did not go according to plan, and what should be done differently next time

Precisely Execute Critical Tasks

HP Concept	Application	How To
<ul style="list-style-type: none"> • Safety Critical Task Analysis (SCTA) • Independent Verification • After Action Review (AAR) 	<p>Employing the Critical Task Execution process (SCTA, Independent Verification, After Action Review) for Safeguard Critical Tasks in HC1/HC2 scenarios where it is necessary to perform the task correctly every time</p>	<ul style="list-style-type: none"> • During planning, conduct SCTA for the Safeguard Critical Tasks in HC1/HC2 scenarios <ul style="list-style-type: none"> – identify the Safeguard Critical Step(s) – use SCTA to identify opportunities to reduce the likelihood and impact of error, and – address the improvement opportunities • When executing the task, supervisors and teams: <ul style="list-style-type: none"> – verify safeguards are in place and effective – conduct independent verification for the Safeguard Critical Step(s), and – conduct an After Action Review as described above on a defined frequency after executing the Safeguard Critical Task

Improve Learning from Events

HP Concept	Application	How To
<ul style="list-style-type: none"> • Cognitive Interviewing • HP and Leadership-related Questions 	<p>Improving Investigations (Leader response, Cognitive interviewing, digging deeper with HP lens)</p> <p>Cognitive Interviewing allows individuals to “tell their story” as it relates to information in lead up to the event, during the event, and post-event. This technique avoids introducing bias into the fact-gathering process that can result simply by the questions asked by the interviewer</p>	<ul style="list-style-type: none"> • For high potential events (AHL1+/PHL3+, IRAT 400+) use an investigation Facilitator that has received the “Advanced Incident Investigation Facilitator Training” (CareerConnect Course ID: 517035) • Use the Investigation Framework Reference Guide • For lower potential incident investigations where human error was a factor, strive to understand why the individual’s / work team’s actions or decisions made sense at that time (can use HP-related questions within the Investigation Framework Reference Guide or root cause analysis)

Improve Hazard Identification and Management

Key HP Concepts Leader's Guide + HP
Shorts for Team Members

HP Application at the Frontline – Improving Hazard Identification and Management



This section contains information related to improving pre-job planning processes to help both leaders and team members:

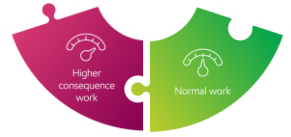
- enhance pre-task planning processes by integrating identification and discussion of **Interrupters** (Hold Points, Triggers) that serve to clarify those key situations or conditions where team members should stop work.
- identify and mitigate **Error Prone Situations**

Application at the front line looks like Error Prone Situations and Interrupters captured and discussed within procedures, JSAs/JLAs, LMRAs/LPSAs in order to prime team members to more effectively recognize and respond when these situations occur.



Triggers can occur *In A Split Second.*

Fast & Slow Thinking



HP short

Humans rely on both “Fast” thinking and “Slow” Thinking depending on the situation. Below is a summary of the two systems and the potential for error associated with each.

Fast Thinking:



High Capacity



Instinctive



Automatic



Everyday Decisions



Experience-based

Potential for Error

- Miss / dismiss cues
- Misinterpret situation based on past experience
- Bias

Slow Thinking:



Capacity Limited



Thoughtful



Effortful & Controlled



Complex Decisions



Reason-based

Potential for Error

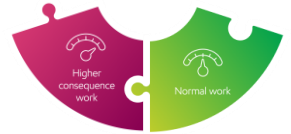
- Fatigue
- Perception Blindness

HP SHORTS ACTION:

- As a team, **discuss** Fast and Slow Thinking, **identify** potential for error in your task(s) today, and **take action** with “wet ink” mitigations on your pre-job planning and execution tools that make the work easier to get right.

Interrupters

HP key concept leader's guide



Interrupters are designed to break the continuity of work and slow down thinking.

Interrupters combat traps associated with Fast Thinking, decision making bias and error-prone situations. In other words, interrupters address our Individual Factors and vulnerabilities associated with being human.

Interrupters may be

1. **planned** as part of our pre-job planning activities (i.e. hold points), or
2. **prompted** during job execution (i.e. triggers).



Hold Points are like stop signs – literally **planned interrupters** at pre-defined step(s) in a task or phase(s) in a job.

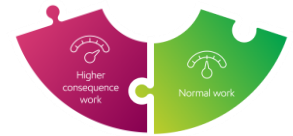


Triggers are like lightning bolts – **prompted interrupters** used to guide us to pause or stop work; they could occur at any time and require pre-planning.



Hold points

HP Short – Page 1



A Hold Point is considered a “planned interrupter” used to move us from Fast to Slow Thinking and drive us to pause work.

Hold Points are used for key times where the worker is the last line of defense and the worker is executing a step that is unrecoverable. An unrecoverable step is a point of no return once the action is initiated (e.g. breaking containment by unbolting a flange on a toxic system).

A Hold Point is used to determine if all necessary steps have been executed and necessary safeguards are in place before the unrecoverable step is executed (e.g. zero energy demonstration confirming no toxic vapors exist prior to breaking containment). Like stop signs, they occur at pre-defined locations / times.



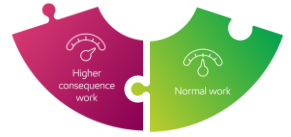
Plan Hold Points for pre-defined locations / times including:

- at an unrecoverable step within a procedure
- at key transition points on your JSA/JLA (e.g. phase transition from work execution to work reinstatement)



Hold points

HP Short – Page 2



What does great look like? As a work team, you should discuss, identify and take action on Hold Points. Do this by completing the following “What Great Looks Like” actions:

1

Identify **key times** where the worker is the last line of defense and the worker is executing an action that is ***unrecoverable**.




2

Take action by discussing where **Hold Points** apply and updating pre-job planning documentation to prompt the team to pause when it matters most.

Examples of where Hold Points could apply are captured below. Take action and apply Hold Points for your work today.



Example 1: By design, captured within procedures that require precise execution and during independent verification processes.

JOB PHASES (Description)	POTENTIAL HAZARDS (What could go wrong?)	HAZARD CONTROLS (How can harm be prevented?)
Job Execution Loosen studs and nuts, R&R trap door, flush piping	Equipment and Tools Hazard Pinched fingers behind the cover plate	Apply hand safety principles Use pry bar Keep hand/fingers away from behind the cover plate
	Equipment and Tools Hazard Use of impact wrench could crush fingers/ socket could come loose and hit workers face/ body excessive noise generated	Apply hand safety principles keep hands/ fingers away from impact wear faceshield and keep body out of the line of fire pre-use inspection of impact wrench use appropriate hearing protection
	Hazardous Substance Hazard Exposure to produced water >66 degrees	Crack flange slowly away from you or at the bottom until fully drained  Follow MSDS controls Full rain gear, rubber gloves, rubber boots and face shield
	Manual Handling Hazard Back or muscle strain from heavy trap	Assess manual handling task For Mahihkan, Maskwa, Leming - Keep trap in power zone. Use legs for lifting not your back. For Nabiye and Mahkeses - Use mechanical devices. Get assistance if required

Example 2: Captured directly on JSA/JLA hazard and control columns with either “HOLD POINT” language or visual prompt such as a sticker.

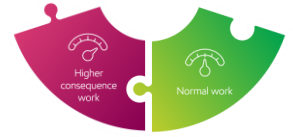


HP SHORTS ACTION:

- Discuss potential Hold Points associated with your work tasks as a team and capture them on your JSA/JLA.

Triggers

HP Short – Page 1



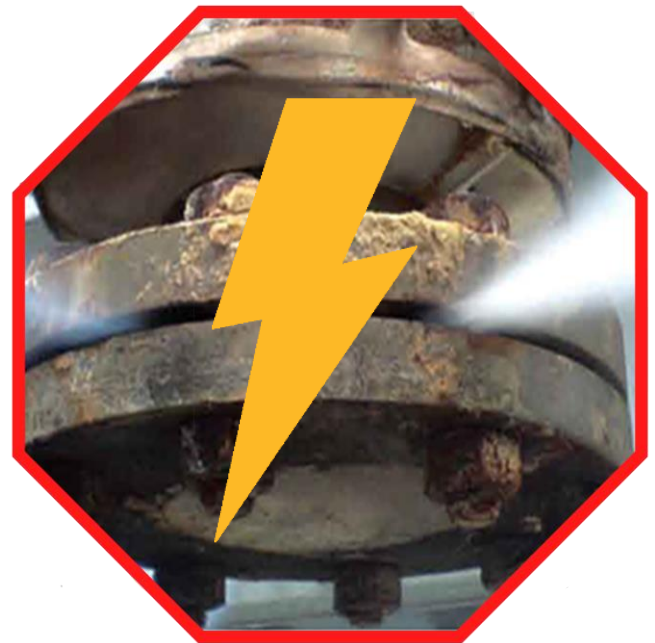
A trigger is considered a “prompted interrupter” used to move us from Fast to Slow Thinking and drive us to pause or stop work.



Triggers are specific and observable conditions or behaviors that provide a clue that an unmitigated hazard may be present, or an Error Prone Situation is just around the corner. Once observed, a trigger prompts us to STOP and use a Last Minute Risk Assessment (LMRA) or other suitable tool to evaluate and mitigate the hazard.

Examples of triggers include focusing on helping team members recognize when specific conditions change during a task, such as:

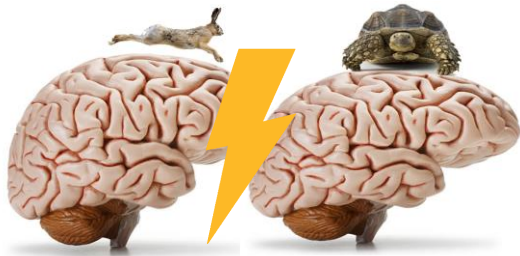
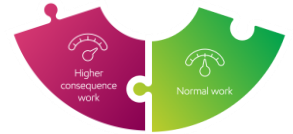
- Break / cut / opening location is not clearly identified
- Person is in line of fire of overhead hazard
- Person ties-off to unsuitable anchor point
- Person walks behind a moving piece of equipment
- Person notices an isolation tag without an appropriate lock
- Person finds an unidentified line during excavation work



Like lightning bolts, triggers could occur at any time, and require pre-planning to aid in real-time team member recognition.

Triggers

HP Short – Page 2



The observation of a trigger prompts us to pause or STOP work. We are then able to Slow our thinking, assess the risk, and mitigate the hazard(s) through our Last Minute Risk Assessment (LMRA) process (e.g. LPSA or Stop & Think).

Sounds easy enough, right? Human Performance science tells us that triggers can easily be missed during work execution without appropriate pre-job planning.

We can make it easier to get right by pre-defining triggers before starting work. Pre-defined triggers prompt us to prime our brains and improve our ability to recognize triggers when they occur during work. Ultimately, leading to better Human Performance. See the examples to see how we apply this concept at the frontline using existing tools.

JSA/JLA

- Listen** for a hissing sound coming from the flange.
- Look for** ice behind the inlet door blocking access to the pig catcher.
- Feel for** heat coming from...
- Look for** team member in the line of fire.

Example 1: illustrating how Triggers can be applied to JSAs/JLAs. Captured in specific and observable terms that reference human senses.

IF...	THEN...	
	a. Stop work.	Worker
	b. Remain in current location (if not exposed to any immediate hazard).	Worker
	c. Report the presence of a non-functional A-Stop device via radio to the Area Supervisor.	Worker
	d. Follow the appropriate instructions from the area supervisor to obtain a replacement A-Stop device before recommencing work in the AOZ.	Worker

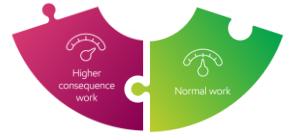
Example 2: illustrating how Triggers can be applied to procedures using if/then technique.

HP SHORTS ACTION:

- Discuss potential triggers associated with your work tasks as a team and capture the triggers you have discussed on your JSA/JLA. Pause or Stop work and use your Last Minute Risk Assessment (LMRA) process if a trigger has been identified.

Error prone situations

HP Short – Page 1



An **Error Prone Situation** is a work condition in which there is greater chance for error when performing a specific action. Think of these situations as “human performance traps” that make the work more difficult to do (see the alligator laying in wait ready to bite when triggered). Generally error prone conditions can be categorized into the following Factors. Within these factors there are plenty of conditions that make it more – or less – likely for people to make errors while carrying out their work!

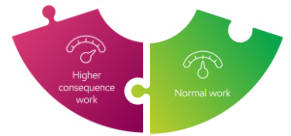


- **Task Factors:** Existing job-site conditions that influence behavior such as job design or information transfer (e.g. unclear standards, time pressure, SIMOPS, etc.).
- **Work Environment Factors:** Organizational and Environmental aspects including workplace design, facilities/equipment design, and work environment (e.g. confusing displays, inoperable equipment, work arounds, change from routine)
- **Individual Factors:** Unique mental, physical and emotional abilities such as fatigue, bias, or distraction.

Unhealthy conditions result in Error Prone Situations and poor Human Performance (hard to get it right, easy to get “bitten” and worker’s may have difficult choices).



Error prone situations



HP Short – Page 2

What does great look like? As a team, you should discuss, identify and take action on error prone situations. Do this by completing the following “What Great Looks Like” actions:

1

Discuss the Factors behind Error Prone Situations

2

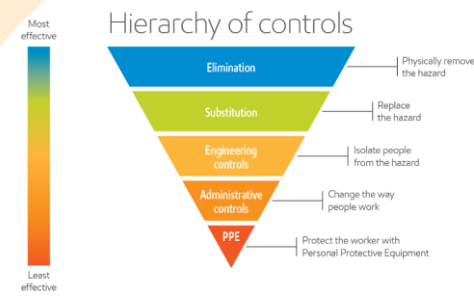
Identify what Error Prone Situations may influence Human Performance for your task.

3

Take action and make it “easier to get right”

Know what to look for and how to make it right. Use the following Error Prone Situations guide to prime your team’s hazard identification capacities and enhance your ability to predict, and then prevent or manage error-prone situations!

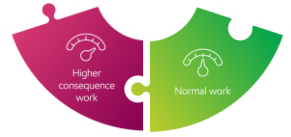
	Work environment factors	Task factors	Individual factors
ASK	<ul style="list-style-type: none"> How is the workplace, equipment or environment set-up in a manner that could make the task hard to get right? 	<ul style="list-style-type: none"> How is the job set up and is critical information communicated clearly? 	<ul style="list-style-type: none"> Are the demands of today’s work exceeding the workers capability and are workers mentally ready to perform the work?
LOOK FOR	<ul style="list-style-type: none"> Physical conditions that make the task difficult to get right Difficult system or equipment interface, labelling, controls, alarms or other design features Organizational conditions make the task difficult to get right (e.g. external distractions) Change management Procurement processes Change from routine 	<ul style="list-style-type: none"> Time Pressure Simultaneous / multiple tasks Irreversible actions Lack of or Unclear Standards Complex or badly presented procedures Steps where there might be insufficient time Unclear signs, signals, instructions or other information Boring, trivial or repetitive actions 	<ul style="list-style-type: none"> Unclear Communication Mental Distraction Something is not right (gut feeling) Fatigue, stress, workload Bias Competency, knowledge of rules, etc.



HP SHORTS ACTION:

- Take action by discussing the Factors that apply to your team’s task today, identifying any error prone situations that apply, and leveraging the hierarchy of controls to make it “easier to get right”. Document your short term mitigations on your JSA/JLA.

Error prone situations



HP Short – Page 3



Ask yourself - how easy is it to get right? Here we have examples of work environment and task factors that are either confusing or difficult to achieve and lead to a greater chance for error. We want to take action on these situations and set up our team for success.

An example of successfully identifying and taking action on an Error Prone Situation.

1 *“... much of the final positioning was done manually and left lots of room for improvement.”*

2 *...with some feedback from our field millwrights we were able to design lifting jigs for us that provide solutions to the manual handling issues we had in the field.*

3 *...it's definitely an improvement! It's easier to install and remove and the jobs can be performed faster.*



Find out more on this safety innovation and others within Imperial's Safe Start 2022 video.

Empower START & STOP Work

Key HP Concepts Leader's Guide + HP
Shorts for Team Members



HP Application at the Frontline – Empowering START & STOP Work

This section contains information related to empowering START & STOP Work to help both leaders and team members to:

- conduct formal verification of safeguards immediately prior to the **START** of high risk work activities
- Speak Up and intervene if safeguards are found to be inadequate and may prompt the need to Pause or STOP work
- Speak Up and intervene if triggers are observed during job execution

This section also contains information related to empowering START & STOP Work to help leaders to set expectations for team members to **Pause** or **STOP** work, **Notify** as appropriate, and **Correct then resume** once hazards have been eliminated or mitigated



Application at the front line looks like teams practicing START of Work safeguard checks and practicing STOP work expectations.

START and STOP work

HP key concept leader's guide

We only start work that is verified safe and we only continue work that is verified safe. **START & STOP** work helps leaders and team members confirm appropriate higher risk safeguards are in place and effective immediately prior to starting work with potential for significant injury or fatality and throughout work execution. All leaders are expected step up to embrace and champion the following efforts that consistently set our teams up for success:

START work safely

- Use JSA and/or LMRA to identify specific situations / conditions that could lead to significant injury, including appropriate mitigations
- Before starting work, team members discuss and verify that necessary safeguards are in place and effective
 - Note: If **START** Work Checks are used, these documents can be used to guide this safeguard verification discussion
- **Do not START** work until safeguard deficiencies have been resolved

Correct then resume

- Always involve the right people to correct the identified hazards, unsafe conditions, or unsafe actions
- **Do not resume** work until it is safe to do so and any affected safeguards have been restored



Speak Up and intervene

- Look out for your own safety and that of your coworkers
- **Speak up** and **intervene** to correct hazards, unsafe conditions and unsafe actions

Notify

- Notify affected personnel of paused or stopped work and communicate missing safeguards
- Notify your supervisor that work was paused or stopped, and ask for their help if needed

Pause or STOP work

- **Pause** or **STOP** work when there is uncertainty, when a **Trigger** is encountered, or situations/conditions exist that could endanger you, your coworkers, equipment or the environment
- When someone pauses or stops your work, remember that they are trying to protect you from harm





Operationalizing START & STOP Work Authority Discussion Guide



Leader Actions

Embrace and champion efforts that consistently set your team(s) up for success:

- Develop sound plans, provide required resources, and effectively communicate potential hazards and safeguards,
- Provide **START** & **STOP** Work Authority and discuss it regularly (site orientation, morning meetings, tool box talks),
- Be visible, be vocal, and engage often to understand how work really gets done, and
- Pinpoint those issues that the team did stop work for and the issues where the team continued to work through for resolution - reinforce the positive, correct / reset expectations where appropriate
- Address difficult work situations and be supportive when **START** or **STOP** Work Authority is used.

As a leaders, how we respond to incidents and other concerns matters as we strive to develop the culture we want.

START work safely 1

- Verify that you have the right competent resources, the correct equipment / tools, and sufficient time to execute the work
- Use the JSA and/or LMRA process to identify specific situations / conditions that could lead to life-altering injury or a higher consequence process safety / environmental incident, including appropriate safeguards
 - Identify Error Prone Situations (work environment, task, or individual factors) and align with the work team on how to address
 - Identify and align within the work team on **Hold Points** where appropriate and **Triggers** to **Pause** or **STOP** work
- Before starting work, lead team members in a discussion to verify that necessary safeguards are in place and effective
 - **Note:** When Life Saving Rule & Actions Start Work Check documents are issued to business lines for use, these documents should be used to guide this safeguard verification discussion
- **Do not START** work until safeguard deficiencies have been resolved

Speak Up & Intervene 2

- Reinforce that team members should look out for their own safety as well as the safety their coworkers
- Encourage team members to **Speak up** when uncertain and to **Intervene** to correct hazards, unsafe conditions and unsafe actions

Pause or STOP Work 3

- Inform team members to **Pause** or **STOP** work when a **Trigger** is encountered, they have uncertainty, or a situation / condition exists that could endanger them, their coworkers, equipment or the environment
- Remind team members that when someone pauses or stops their work, they are only trying to protect them from harm

Notify 4

- Notify affected personnel of paused or stopped work and communicate missing safeguards
- Notify your supervisor that work was paused or stopped, and ask for their help if needed

Correct then resume 5

- Always involve the right people to correct the identified hazards, unsafe conditions, or unsafe actions
- **Do not resume** work until it is safe to do so and any affected safeguards have been restored



Operationalizing START & STOP Work Authority

Identifying Triggers and Factors



Energy Isolation	<p>Examples of Potential Triggers</p> <ul style="list-style-type: none"> • Unexpected source of energy encountered during work • Safe energy state is not achieved (e.g.: pressure, electrical, stored energy) • Person notices an isolation tag without an appropriate lock where required
Breaking Containment	<p>Examples of Potential Triggers</p> <ul style="list-style-type: none"> • Safe energy state is not maintained (e.g.: pressure, stored energy) • Person is in line of fire when breaking containment • Product release occurs when breaking containment (liquid, vapor)
Operator Rounds	<p>Examples of Potential Triggers</p> <ul style="list-style-type: none"> • Conditions changed, operator troubleshoots and at a point the task procedure no longer applies • During an operator round, a multi-gas detector alarm sounds (e.g.: LEL, H2S) • A uncontrolled leaking line results in a liquid pool or vapor release at ground level
Lifting & Rigging	<p>Examples of Potential Triggers</p> <ul style="list-style-type: none"> • Person who is not authorized, enters the lift exclusion zone • Person authorized to be in lift exclusion zone, moves into a 'drop / crush zone' • Person guides load by hand as it goes up or down (unless authorized to do so) • Loss of communication between crane operator and signal person • Load binds with another object causing high force on hoist cable / other lift device
Working Around Mobile Equipment	<p>Examples of Potential Triggers</p> <ul style="list-style-type: none"> • Person walks behind a moving piece of equipment within the exclusion zone (HALO) • Equipment's back-up alarm that was functioning, is now no longer functional • Loss of communication between equipment operator and signal person • Barriers separating pedestrians from mobile equipment have been partially removed • Equipment that had been stationary is now being changed to become mobile
Working at Height	<p>Examples of Potential Triggers</p> <ul style="list-style-type: none"> • Person working from a platform that does not require fall protection: <ul style="list-style-type: none"> - is now over-reaching the platform railings to perform work - is now stepping up onto the platform mid-rail to perform work - is now using a step-ladder on the platform to gain height to perform work • Exclusion zone barriers below work at height have partially been removed • During equipment assembly/disassembly, person climbs on equipment above 6' / 2m
Other Error Prone Situations	<p>Examples of Potential Work Environment, Task, or Individual Factors</p> <ul style="list-style-type: none"> • Physical conditions that make the task difficult to get right • Difficult system or equipment interface, labelling, controls, alarms or design features • Organizational conditions make the task difficult to get right • Unclear signs, signals, instructions or other information • Mental Distraction, Something is not right (gut feeling), Fatigue, stress, or workload

Verification and Validation (V&V) Use the example V&V questions to gain insight into "how we know" START & STOP Work Expectations are helping to deliver desired results

Enhance Operational Learning

Key HP Concepts Leader's Guide + HP
Shorts for Team Members

HP Application at the Frontline

Enhance Operational Learning

This section contains information related to enhancing Operational Learning to help both leaders and team members to use Operational Learning techniques during higher risk tasks to understand the differences in how work gets done as well as where work is difficult to perform in the way it is described in the work instruction.



Application at the front line looks like teams practicing key Operational Learning techniques including After Action Reviews (AAR) and enhanced structured task observations (e.g., LPOs).

How work is done

*Also called Black Line/Blue Line

HP key concept leader's guide



Even when we create the best plans and procedures, work rarely follows documentation exactly.

In reality, things are not quite as straightforward. It is cold and wet. The procedures are unclear or contradicting. The valves get stuck, the tools are missing, an unexpected problem occurs, the expert isn't available, there is a last minute change, or the supervisor is frustrated.

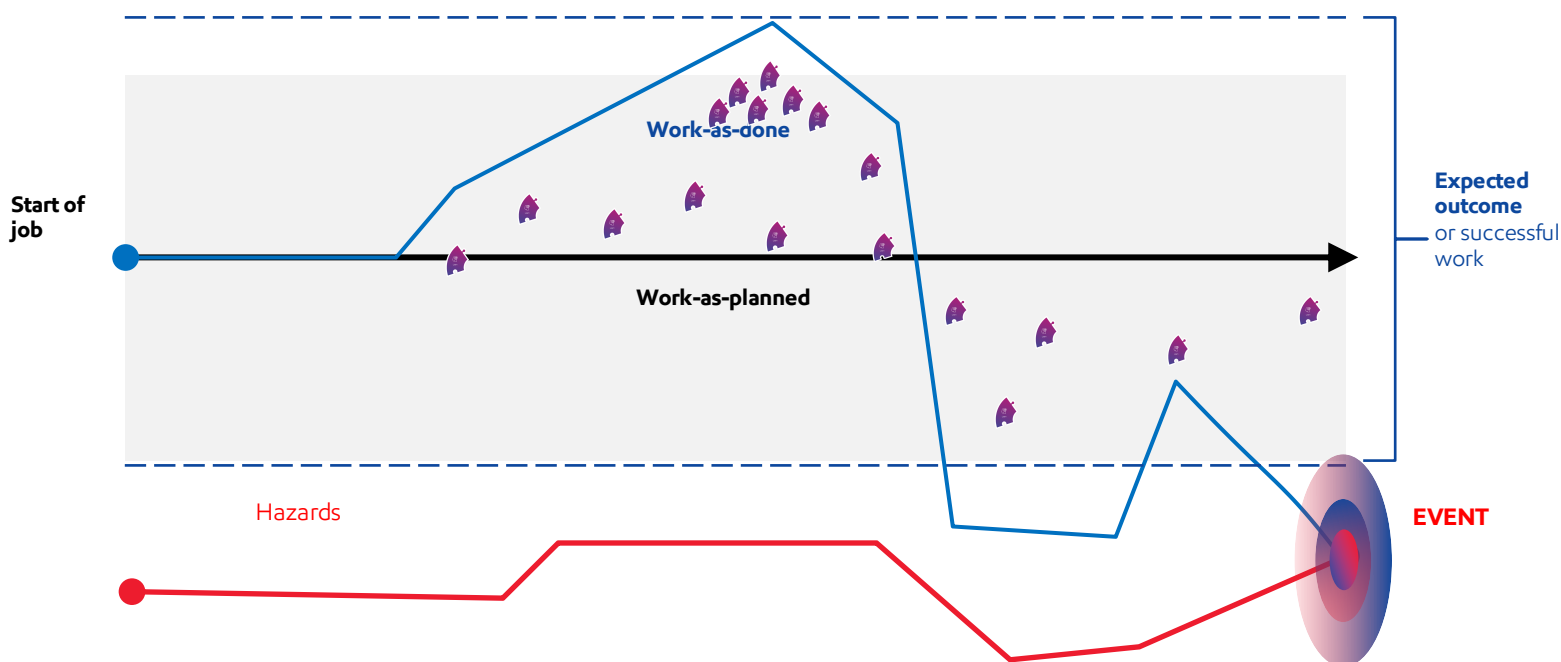
Work-as-planned (the "black line" →) is what engineers, planners, advisers, managers or anyone else believe how the work should be done under ideal circumstances.

Work-as-done (the "blue line" →) is what people actually do to get the job done, considering the realities of the situation such as equipment configuration, the procedure's ease of use, and the time and resources they have.

Our SSHE learning has typically been focused on lagging indicator or event learning. Something negative has happened and we need to understand why so that it doesn't happen again (the "red line" →). This is still necessary.

However, variation as depicted by the blue line represents insight into the limitations and insufficiencies of existing systems and processes.

Therefore, in addition to event learning, the variation between work-as-done and work-as-imagined should be explored, managed and learned from as this offers a rich source of insight into gaps and improvement ideas. In other words we have plenty to learn from successful work!





After Action Review

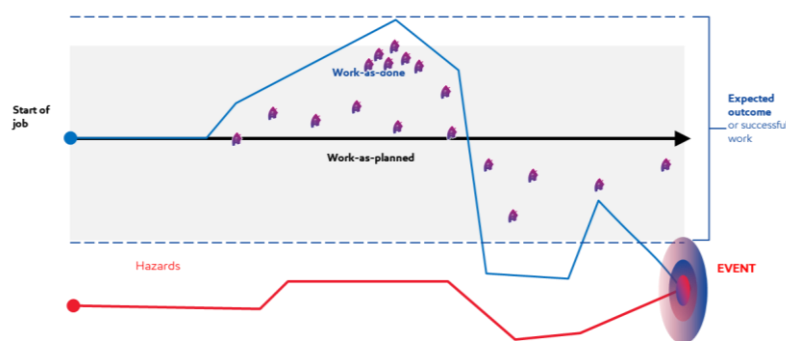
HP key concept leader's guide

An **After Action Review (AAR)** is a structured review or de-brief process for analyzing what happened, why it happened, and how it can be done better by the crew in the future. It is designed to understand and learn from how work actually gets done.

The key to a successful AAR is **open and honest discussion**. Everyone involved in the execution of the work participates and is on equal footing during the learning process – no spectators and no hierarchies period. AARs are learning events, not critiques or evaluation events. This requires clear ground rules by the leader of the team at the beginning of the discussion. Set the tone in your own words!

It is important that the facilitator guides the conversation to the real and sometimes unspoken issues. Assign a facilitator who was a close observer of the work as it unfolded. Ask the four questions to help guide the conversation. **Remember, a great AAR can be carried out in 10 minutes!**

Use the AAR to understand and learn from how work actually gets done.

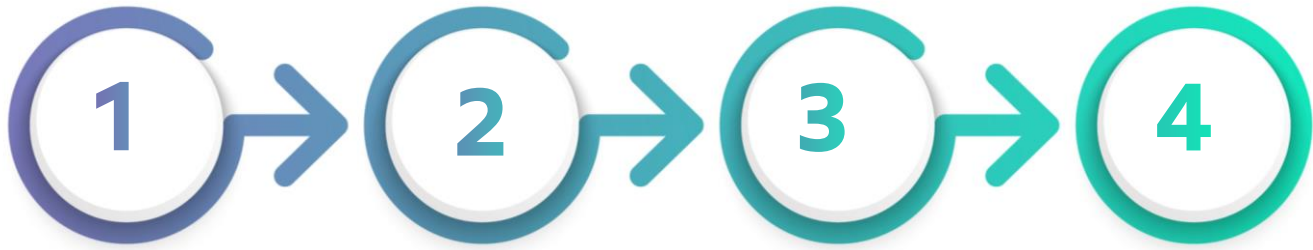


After Action Review



HP Short

After Action Reviews (AARs) are a quick and simple learning process that allows two-way engagement between the leader and the team. It is facilitated by the supervisor/team lead with the people doing the work to better understand how work gets done and what we can learn from successful work. The AAR is based around four questions and takes ~10 minutes to complete. An AAR should be completed after identified tasks with higher potential consequences (i.e., life altering injury or significant process safety event) based on targeting. **Use these questions today and focus on learning from what actually happened:**



Tell us what was supposed to happen?

- ❑ Everyone shares their own understanding of what should have happened.
- ❑ It is likely that different members of the team had different understandings of what was actually supposed to happen.
Listen for this!

Explain what actually happened?

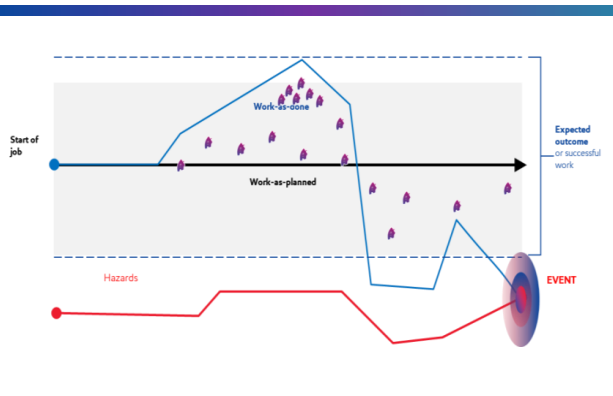
- ❑ Establish the facts about what actually happened.
- ❑ Identify what the team believes went well.
- ❑ Ask the team if they felt safe and the work was as anticipated.
- ❑ Listen for details related to what made the work difficult to execute as planned.

Describe what were the differences?

- ❑ Compare and **target the differences** between the work as planned to what actually happened.

Describe what we can learn?

- ❑ Identify improvement opportunities (from both what went well as well as differences).
- ❑ The Supervisor/Team Lead has the responsibility to evaluate these opportunities and ensure they are addressed where needed.
- ❑ Opportunities should be addressed by the team where possible and focus on eliminating the hazard versus relying on administrative controls. Supervisor to engage additional support in addressing those opportunities not actionable by the team.



HP SHORTS ACTION:

- Complete an AAR after the completion of your team's highest risk task today. Use the questions and checklist above to make it effective.

Precisely Execute Tasks

Key HP Concepts Leader's Guide + HP
Shorts for Team Members

HP Application at the Frontline

Precisely Execute Tasks

This section contains information related to employing the Critical Task Execution processes for Safeguard Critical Tasks in HC1/HC2 scenarios where it is necessary to perform tasks correctly every time.

This help both leaders and team members to employ the Critical Task Execution process (SCTA, Independent Verification, After Action Review) for Safeguard Critical Tasks in HC1/HC2 scenarios where it is necessary to perform the task precisely when it matters most.



Application at the front line looks like teams conducting SCTA, verifying safeguards are in place and effective, and conducting independent verification for Safeguard Critical Step(s).

SCTA

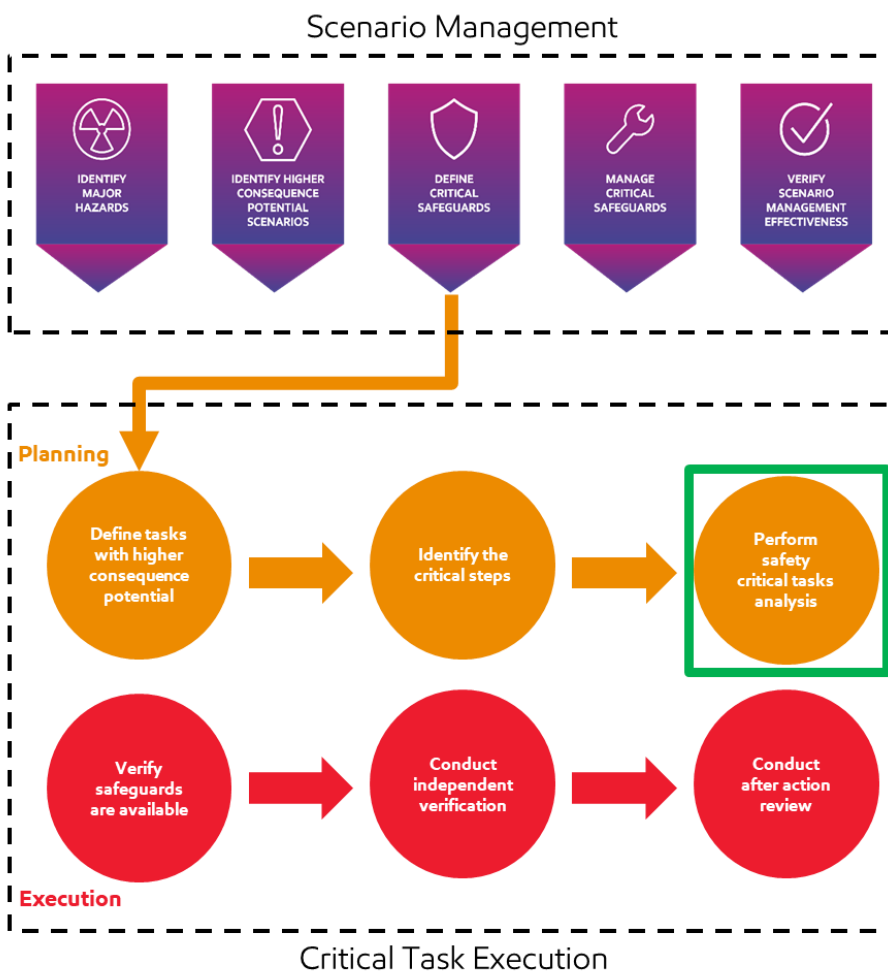


HP key concept leader's guide

Safety Critical Task Analysis (SCTA) focuses on how tasks that are critical to major accident risk are performed. SCTA is a proactive way to predict and then prevent or manage error-prone situations. It helps ensure better risk control by identifying improvements in procedures, equipment labelling, task frequency and scheduling, task design, the operational environment, and occasionally equipment design.

It's important to understand that the SCTA process helps "make it easier to get right" by focusing on Safeguard Critical Tasks and ensuring that the chances of an error or non-conformance are minimized by revealing error prone situations and identifying and recommending mitigations.

Start with Critical Safeguards, then identify which tasks are critical to get right and perform the SCTA as follows:



- A** . analyze the step through the lens of error – how could a person get it wrong? Then add safety measures to get it right!
- B** . before executing a scheduled task, ensure safeguards are available
- C** . Insert interrupters for critical steps; validate with **independent verification**
- D** . understand normal variations in how work gets done through **after action reviews**

Independent Verification

HP key concept leader's guide

Independent verification is used when the worker is the last line of defense and is doing a Safeguard Critical Step that could compromise a Critical Safeguard if performed incorrectly. The technique uses an independent verifier to (1) determine if preceding steps have established the intended outcome or (2) if it is safe for the worker to proceed.

Theoretically the independent verifier reduces the human error rate from 1 in 100 to 1 in 10,000. Application of SCTA will aid in identification of critical steps which are irreversible. Examples of independent verification practices are shown below.

Example 1: Prior to start or stop of major components of equipment

Example 2: During installation of similar components that could be interchanged or installed incorrectly

Example 3: When verifying isolation points as part of your isolation plan.

Example 4: When verifying that level has indeed stopped rising after taking steps to isolate a tank that is in high level alarm.



Improve Learning From Events

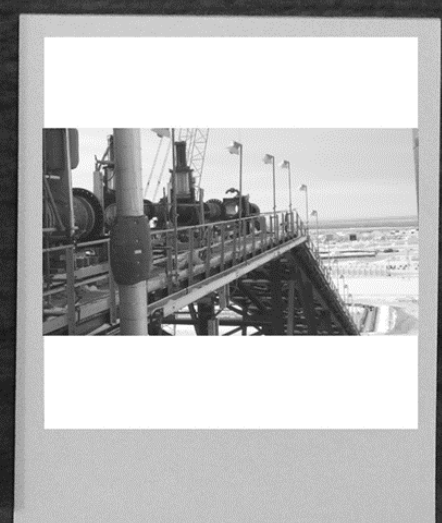
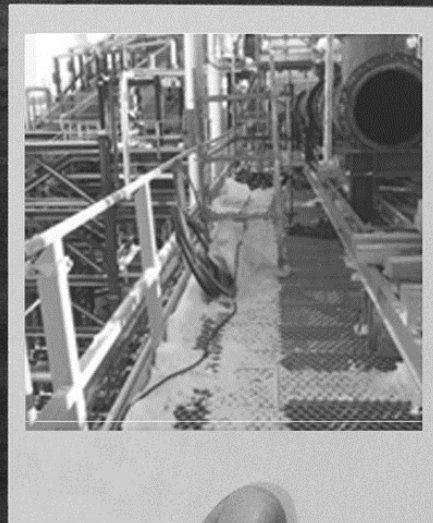
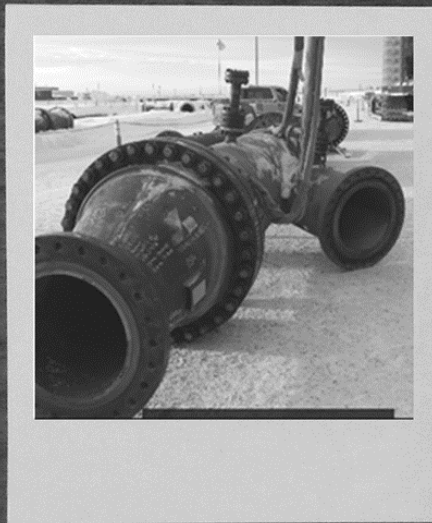
Cognitive Interviewing
& HP and Leadership Toolkit

HP Application at the Frontline – Improve Learning From Events



This section contains information related to Improving Investigations, including:

- leader response,
- cognitive interviewing,
- digging deeper with HP lens





As a leader your response matters

A leader's response to mistakes directly impacts the culture of both learning and accountability. As leaders, a helpful reference tool to assist with your response when an event occurs is shown below. The tool can be printed or accessed electronically [here](#). We encourage all leaders to use this card to slow down their thinking and provide an HP aligned response when notified of an event, during an investigation and after an investigation has been completed.



As a leader, your response matters.

Impact the culture of learning and accountability with a Human Performance aligned response when notified of an event, during an investigation, and after the investigation has been completed.

When notified	During investigation	After investigation
<p>Ask is everyone okay?</p> <p>Ask is the facility safe and stable?</p> <p>Ask what happened?</p> <ul style="list-style-type: none"> Postpone judgement and allow team to describe the facts that they know now. Respond in a way that promotes trust and candor. <p>Ask what help do you need from me?</p>	<p>Ask what Factors (Organizational/Task/Individual) and underlying conditions have been identified?</p> <p>Ask what barriers to learning can I help improve?</p> <p>Ask how can I help the team focus on the "what" and "how"?</p>	<p>Ask what did we learn?</p> <p>Ask did we dig deep enough into the Factors that influenced Human Error and/or non-conformance?</p> <p>Ask how will we improve from the corrective actions identified and are those actions sustainable?</p> <p>Ask where else could this happen and what do we need to tell others?</p>

Avoid assumptions | Act with empathy | Take ownership | Learn and improve **ExxonMobil**



As a leader, your response matters

Practicing the response behaviors on the front of the card allow the organization to learn from both success and error and applies **New View** thinking.



- Ask **what** is responsible for the outcome
- See human error as a symptom of deeper trouble inside a system
- Understand that human error is systematically connected to features of people's tools, tasks and operating environment
- View human error as the starting point for further investigation
- Find out **how** peoples' actions made sense at the time given the circumstances that surrounded them
- Allow the organization to learn from both success and error

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Improving event learning

Digging deeper through an HP lens

Our focus is on applying Human Performance concepts to enhance investigation of HiPo events (PHL 3+). The [Incident Investigation Framework Reference Guide](#) helps teams move beyond human error and dig deep into what was responsible for the outcome and how peoples' actions made sense at the time given the circumstances that surrounded them. Use the guide to support your investigation processes and apply an HP lens to preparation, interview, data collection, and development of corrective actions.

Date	Description of Revision	Rev.
September 2019	Original release	0
March 2021	Incorporated final enhancements from EPIF sub-team 3 Modified the process activities to be consistent with the International Oil and Gas Producer (IOGP) G21 - Embedding Human Factors: Building Confidence in Human Factors Investigations	1
March 2022	Addressed recommendations from Personal Safety Future State Combined Major Incident Standard and HiPo Quick Reference Guide in one Incident Framework, consisting of three sections: Section 1 - Major Incident Investigation Framework and Reporting Standard Section 2 - Incident Investigation Reference Guide Section 3 - Communication and Sharing of Learnings	2

Document Owner: Personal Safety Manager, Global Operations & Sustainability (GO&S)

Authorized Approvers:

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Sections 2 & 3: Personal Safety Manager, GO&S: (signed copy on file) _____ Date: 2/16/2022
Darin Seibert



Resources

HP Learning List



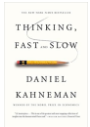
A list of our favorite books, a podcast worth listening to, and excellent web resources – to cater to self-directed learning and building further Human Performance knowledge, understanding and application.



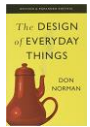
The Field Guide to Understanding 'Human Error' ~ Sidney Dekker: Read this book if you want to really understand the science behind the “New View” thinking paradigm shift that is at the heart of HP Principle #6 (*A Leader’s response to mistakes directly impacts the culture of both learning and accountability*).



Set Phasers On Stun - And Other True Tales of Design, Technology and Human Error ~ Steven Casey: Read this book if you want to gain insight into Human Performance Centered Design – you’ll get 20 short stories on incompatibilities between the way things are designed and the way people actually perceive, think, and act that underpin the importance of Human Factors/Ergonomics in our Company.



Thinking Fast and Slow ~ Daniel Kahneman: Read this book if you want to understand a lifetime of wisdom, from a Nobel prize winner, on social psychology, cognitive reason, the study of reason, happiness, and behavioral economics.



The Design of Everyday Things ~ Donald Norman: Read this book if you want to forever change how you experience and interact with your physical surroundings, open your eyes to the perversity of bad design and the desirability of good design, and raise your expectations about how things should be designed.



The 5 Principles of Human Performance ~ Todd Conklin: Read this book if you want to understand the theory behind the building blocks/foundations/Principles of Human Performance.



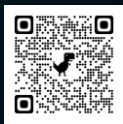
The Checklist Manifesto ~ Atul Gawande: Read this book if you want a book loaded with fascinating stories, but also want something to challenge the way we think about our procedures, safe work practices, and pre-job planning tools. The book is best summarized on page 13: “we need a different strategy for overcoming failure, one that builds on experience and takes advantage of the inevitable human inadequacies. And there is such a strategy though it will seem almost ridiculous in its simplicity, maybe even crazy to those of us who have spent years carefully developing ever more advanced skills and technologies. It is a checklist.”



Do Safety Differently ~ Sidney Dekker and Todd Conklin: Read this book if you want the latest thoughts on doing safety differently. From changing our definition of safety to practical guidance to bring the Principles to Practice.



Safety I and Safety II – The Past and Future of Safety Management ~ Erik Hollnagel: Read this book if you want the message on Old View versus New View straight from the original thought leader.



hpog.org



safetydifferently.com



Todd Conklin’s Pre-Accident Investigation Podcast

<https://preaccidentpodcast.podbean.com/>



HP SharePoint



[goto/humanperformance](#) is a secure place to store, organize, share, and access Human Performance information from any device. To find out more, follow the link.

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Safety & Risk

Human Performance ▾

OE-SSH&E Portal ▾

Contact SSH&E ▾

SSH&E Links ▾

Human Performance

Human Performance Objective

We leverage human performance principles to deliver world class business results by enhancing the resilience of our facilities, systems, and people and focusing on learning and improvement.



Leadership & Teamwork - Our leaders and team members use Human Performance principles and demonstrate Leading to Win behaviors to deliver business results

Design - We design and build assets considering the end user perspective

Normal Work - We apply Human Performance concepts to our work systems, processes, and tools

High Consequence Work - We apply more rigor where we cannot afford mistakes

Learn - We effectively learn from both our successes and failures, and reinforce ownership for actions

Resources

Job Family Skills →	HP Considerations for Learning from Incidents →	Human Performance & SSHE Leadership Training →
HP Objective and Approach →	Human Performance Principles →	HP Tactics - Operationalizing HP Concepts →
Recommended Reading →	External Insights - Presentations →	External Insights - Thought Leaders →
Contact List →	Global Projects Human Performance →	EMRE Human Performance →