



SAFETY LEADERSHIP FOR FRONTLINE LEADERS

# PLANNING AND THE HIERARCHY OF CONTROLS

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Turning hazard awareness into a plan that keeps  
a single mistake from becoming an injury.



# WHAT ARE HUMAN FACTORS?

Human factors are the conditions that influence how people think, communicate, make decisions, and perform work. They include physical, mental, organizational, and environmental influences.



## FATIGUE

Long hours and poor rest lower alertness.



## STRESS

Workload and pressure impair decisions.



## COMMUNICATION

Poor exchanges cause wrong actions.



## TRAINING & COMPETENCE

Gaps in skill lead to unsafe practice.



## SITUATIONAL AWARENESS

Missed hazards or changes cause incidents.



## WORK ENVIRONMENT

Missed hazards or changes cause incidents.



## ERGONOMICS

Poor equipment design causes strain, injury.



## ATTITUDE & BEHAVIOR

Complacency and risk-taking raise danger.

### THE GOAL:

Not to expect perfect performance but to design work so normal human limitations don't become injuries.

# Why Human Factors Can Be Unreliable



## Performance is never constant

Alertness, mood, and focus shift hour to hour and shift to shift, even for the most experienced worker.



## Human limits are fixed

Attention, memory, and reaction time all have hard physical ceilings that training cannot raise indefinitely.



## Conditions push errors upward

Fatigue, stress, noise, and time pressure compound and quietly erode judgment before anyone notices.



## Experience breeds complacency

The more familiar a task becomes, the easier it is to skip steps or stop expecting something to go wrong.

## THE KEY TAKEAWAY

**Even a well-trained, well-intentioned person will eventually make a mistake.**

That's not a training failure. It's the reason safety systems can't depend on human performance alone.

## HUMAN FACTORS OFTEN COMBINE

Incidents rarely have only one contributing factor.

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# Why Planning Comes First

Planning is the only step that happens before anyone is exposed to a hazard.



## Catches hazards before exposure

Hazards are found and fixed on paper, not discovered on the job.



## Turns human factors into system safeguards

Fatigue, stress, and rushed judgment stop being the only thing standing between a worker and a hazard.



## Reduces reliance on last-minute calls

The controls are already chosen. A leader isn't improvising risk decisions in the moment.

**KEY TAKEAWAY: Every other safeguard reacts to a hazard.**

Planning is what removes it, or controls it, before work ever starts.

*"You can't control a hazard you haven't planned for."*

# THE FRONTLINE PLANNING PROCESS

Five steps for every task before the first hand goes to work.

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1. Identify the Task
2. Identify the Hazards
3. Assess the Risk
4. Select Controls
5. Communicate & Monitor

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**NOTE: The step frontline leaders skip most often: Select Controls.**

Teams often jump straight from spotting a hazard to reaching for PPE, skipping the stronger options above it on the Hierarchy of Controls.

# THE HIERARCHY OF CONTROLS

Five ways to control a hazard, ranked from most to least effective.

MOST EFFECTIVE

**Elimination**

ELIMINATION

**Remove the hazard entirely.**

**Substitution**

SUBSTITUTION

**Replace it with something safer.**

**Engineering**

ENGINEERING

**Redesign to isolate people from it.**

**Administrative**

ADMINISTRATIVE

**Change how people work: rules, training, scheduling.**

LEAST  
EFFECTIVE

**PPE**

PPE

**Protective gear — the last line of defense.**

## Where Human Factors and Controls Meet

We recognize human factors because **people will sometimes make mistakes.**  
**We use the Hierarchy of Controls** so that a single mistake doesn't result in an injury.



**Higher-level controls are independent of human performance**

Works even on a bad day, when workers are tired, stressed, distracted, or new to the job.

**ELIMINATION:** The hazard is gone

**SUBSTITUTION:** A safer option replaces it

**ENGINEERING:** The design keeps people isolated from it



**Lower-level controls depend on human performance**

They remain important, but they depend heavily on people using them correctly, every single time.

**ADMINISTRATIVE:** Procedures, training, scheduling

**PPE:** Gear worn by the individual

**Both rely on the person to comply, correctly, every time**

# Ask the Hierarchy — In Order

For every hazard identified during planning, work down the list until a control fits.



## Can we **ELIMINATE** it?

Can this hazard be removed from the task altogether?



## Can we **SUBSTITUTE** it?

Is there a safer material, tool, or method available?



## Can we **ENGINEER** it out?

Can a guard, barrier, or design change isolate people from it?



## Can we control it **ADMINISTRATIVELY**?

Do we need a procedure, permit, training, or schedule change?



## What **PPE** closes the gap?

What protective equipment backs up everything above?

## LEADER'S RULE OF THUMB:

**Don't stop at the first control that occurs to you.**

A plan that only relies on PPE is a plan that assumes nobody will ever have a bad day.

## Case in Point

### EXAMPLE:

Working near an unprotected leading edge, 8 feet up.

#### PLANNED WITH PPE ONLY

**Control:** Safety harness and lanyard

**Reliance:** Correct anchoring by every worker, every time

**Failure Point:** A missed clip-in, worn lanyard, or moment of fatigue removes the only safeguard.

**One layer of protection. One point of failure.**

#### PLANNED WITH THE HIERARCHY

**Engineering:** Guardrail installed along the leading edge

**Administrative:** Permit and pre-task briefing required before access

**PPE:** Harness retained as a backup, not the primary control

**Three layers of protection. No single point of failure.**

# Frontline Leader's Planning Checklist

Six habits that put the hierarchy into daily practice.

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☒ **Plan before the task, not during it**

Walk the job and identify hazards before assigning work.

☒ **Start at the top of the hierarchy**

Ask elimination and substitution questions first, every time.

☒ **Treat PPE as the backup, not the plan**

If PPE is the only control, the plan isn't finished yet.

☒ **Name every hazard out loud**

An unnamed hazard never makes it onto a control.

☒ **Brief the plan, not just the task**

Tell the crew which controls are in place and why.

☒ **Watch the plan hold up in practice**

Adjust controls when conditions change mid-shift.

## Putting it all together

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**We recognize human factors because people will sometimes make mistakes.**

**We use the Hierarchy of Controls so that a single mistake doesn't become an injury.**

**Planning is where the two come together.**

Next task, before assigning the work: name the hazards,  
then start at the top of the hierarchy, not the bottom.

# THANK YOU

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## CONTINUE THE CONVERSATION

For questions about this training or other programs:

[Contact@HarborbridgeLeadership.com](mailto:Contact@HarborbridgeLeadership.com)

[HarborbridgeLeadership.com](http://HarborbridgeLeadership.com)

