



Innovative Safety Pre-Jobs

Enhancing Physical & Mental Risk Awareness



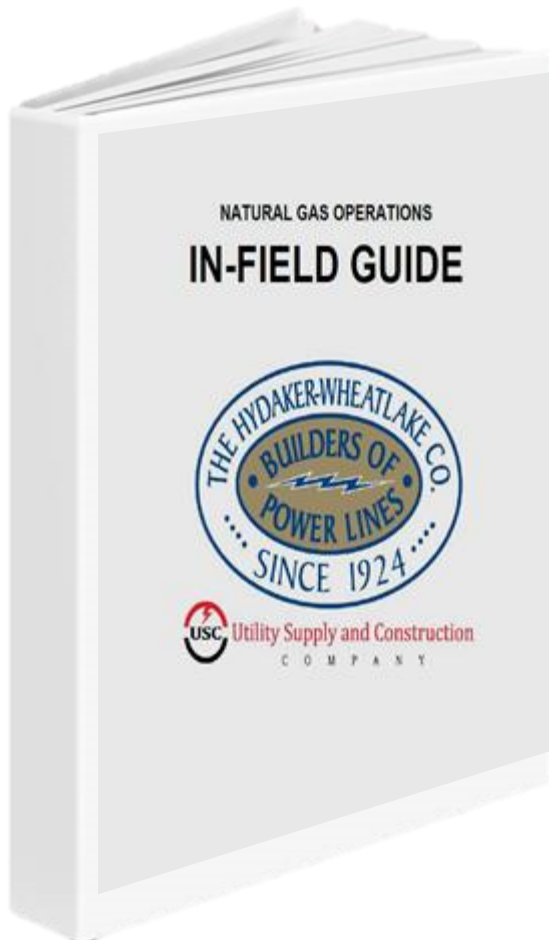


Overview

- ▶ In-Field Guide (IFG)
- ▶ Pre-Job Overview
- ▶ Crew Resource Management (CRM)
- ▶ Operational Risk Management (ORM)



In-Field Guide (IFG)



- Pre-Job Briefing Guide
- Safety Discussion Topics
- Crew Resource Management Topics
- Cognitive Bias Topics



PRE-JOB BRIEFING GUIDE

1. "I.M. S.A.F.E."
 - a. Illness
 - b. Medication
 - c. Stress
 - d. Alcohol
 - e. Fatigue
 - f. Eat/Drink
2. P.P.E. Check
 - a. Reflective Vest/Shirt
 - b. Hearing Protection
 - c. Foot Protection
 - d. Eye Protection
 - e. Hard Hat
 - f. Gloves
3. Date
4. Crew Positions
5. General Foreman
6. Job Number
7. Job Name
8. Job Customer & Emergency Contact Number
9. Job Location
10. Nearest Hospital Name & Address
11. Preflight Video Status
12. Safety Equipment Locations
 - a. AED
 - b. First Aid Kit
 - c. Fire Extinguishers
13. Equipment Requirements
 - a. Inspections
 - b. DVIR
14. Wheel Chocks
15. Weather Forecast Review
16. Work Description/Job Purpose
17. Work Procedures
 - a. Task List
 - b. Responsible Crew Member
18. 811 Dig Ticket Review
 - a. Ticket Number
 - b. Positive Response Verified
 - c. Scope of Ticket
 - d. Start Date & Time
 - e. Expiration Date & Time
 - f. Existing Utilities Review
19. HP Gas within Construction Limits
 - a. **No** – proceed to #20
 - b. **Yes – STOP** and ensure a GF is onsite if you will cross the HP line or if you will parallel the HP line within 10' or less
20. Underground Boring
 - a. **No** – proceed to #21
 - b. **Yes – STOP** and complete the Boring Jobsite Checklist and the Underground Utility Conflict Record
21. Tapping & Stopping
 - a. **No** – proceed to #22
 - b. **Yes – STOP** and complete the Tapping & Stopping Checklist
22. Excavations ≥ 5 Feet
 - a. **No** – proceed to #23
 - b. **Yes – STOP** and ensure you have an appropriate protective method and that a GF or Safety Specialist is onsite prior to the commencement of work
23. Daily Safety Topic
24. Daily CRM Topic
25. Daily Cognitive Bias Topic
26. Daily Customer Policy Topic
27. Daily ORM Sheet Review
28. Questions?



Natural Gas Construction Pre-Job

The Hydaker-Wheatlake Company						
Natural Gas Operations Pre-Job						
General Information						
MM:	DD:	YY:	Foreman:			General Foreman:
Job Number:			Job Name:		Job Location:	
Customer:			Customer Contact:			Nearest Hospital:
Preflight Video Status:	<input type="checkbox"/>	Complete	<input type="checkbox"/>	Incomplete	<input type="checkbox"/>	N/A
Maps/Records Review:	<input type="checkbox"/>	Complete	<input type="checkbox"/>	Incomplete	<input type="checkbox"/>	N/A
						Hospital Address:



Natural Gas Construction Pre-Job

Safety & Work Procedures											
<i>Safety Equipment Locations (Include Vehicle Numbers or Exterior Locations, as applicable)</i>											
AED:	First Aid Kit:			Fire Extinguisher:			PPE Checked?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
DVIR/Equip. Inspections:	<input type="checkbox"/>	Complete	<input type="checkbox"/>	Incomplete	<input type="checkbox"/>	N/A	Wheels Chocked?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No



Natural Gas Construction Pre-Job

<i>Work Procedures</i>	
Work Description/Job Purpose:	
Work Procedures (Breakdown the Work Description/Job Purpose into at least 5 <u>specific</u> tasks):	Responsible Crew Member
1)	Name: _____ Position: _____
2)	Name: _____ Position: _____
3)	Name: _____ Position: _____
4)	Name: _____ Position: _____
5)	Name: _____ Position: _____
Operator Qualification (OQ) - All personnel are trained and qualified for assigned covered tasks?	
	<input type="checkbox"/> Yes <input type="checkbox"/> No



Natural Gas Construction Pre-Job

811 Dig Ticket Review													
Ticket Number:			Positive Response Received?		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A			
Start Date & Time:			Expiration Date & Time:			Dig By Date & Time:							
Ticket Scope/Polygon:													
Located Utilities:		<input type="checkbox"/>	Electric	<input type="checkbox"/>	Gas/Oil	<input type="checkbox"/>	Communications	<input type="checkbox"/>	Water	<input type="checkbox"/>	Sewer	<input type="checkbox"/>	Other
Ticket Number:			Positive Response Received?		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A			
Start Date & Time:			Expiration Date & Time:			Dig By Date & Time:							
Ticket Scope/Polygon:													
Located Utilities:		<input type="checkbox"/>	Electric	<input type="checkbox"/>	Gas/Oil	<input type="checkbox"/>	Communications	<input type="checkbox"/>	Water	<input type="checkbox"/>	Sewer	<input type="checkbox"/>	Other
Ticket Number:			Positive Response Received?		<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A			
Start Date & Time:			Expiration Date & Time:			Dig By Date & Time:							
Ticket Scope/Polygon:													
Located Utilities:		<input type="checkbox"/>	Electric	<input type="checkbox"/>	Gas/Oil	<input type="checkbox"/>	Communications	<input type="checkbox"/>	Water	<input type="checkbox"/>	Sewer	<input type="checkbox"/>	Other



Natural Gas Construction Pre-Job

<i>High Risk Activity Review</i>									
HP Gas Within Construction Limits?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	Underground Boring Activity?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
Steel Tapping & Stopping Operations?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No	Excavation \geq 5 Feet?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No



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Gas Construction

HP Gas Within Constr
Steel Tapping & Stop

Yes	<input type="checkbox"/>	No
Yes	<input type="checkbox"/>	No



Natural Gas Construction Pre-Job

<i>Daily Discussion Topics</i>	
Daily Safety Topic:	Daily Cognitive Bias Topic:
Daily CRM Topic:	Daily Customer Policy Topic:



Daily Safety Topics

SAFETY DISCUSSION TOPICS

Trenching & Shoring

Trench fatalities are a serious problem in construction. Cave-ins cause approximately 75% of trench fatalities. Trenches collapse when they are not properly protected through sloping, benching, shoring, or shielding. Competent person requirements are a major part of OSHA's trenching and excavation standards. To be competent you must be able to identify and eliminate all hazards that may occur. Take note of the few tips listed below while working in the field.

1. Any excavation over 5' deep will require sloping and shoring. When a shoring box is installed, the tabulated data sheets must be on site.
2. Excavations over 4' deep will require the use of a ladder which must extend 3' beyond the surface.
3. Anytime we break ground, all spoil piles that will occur must always maintain a 2' distance from the edge of any excavation.
4. All excavations and holes should never be left unattended. Using barricades, cones, caution tape or fencing is best to warn others of the hazards associated with an open excavation.

Speeding

Speeding is against the law, but nearly everybody speeds. Everybody at some point feels rushed and pushes up over the limit. It's even socially accepted to speed; everyone does it and the police always give a bit of latitude before ticketing. But what's the big hurry?

For more than two decades, speeding has been involved in approximately one-third of all motor vehicle fatalities. In 2019, speeding was a contributing factor in 26% of all traffic fatalities.

Speed also affects your safety even when you are driving at the speed limit but too fast for road conditions, such as during bad weather, when a road is under repair, or in an area at night that isn't well lit. Speeding endangers not only the life of the speeder, but all of the people on the road around them, including law enforcement officers.

Speeding is more than just breaking the law. The consequences are far-ranging:

1. Greater potential for loss of vehicle control.
2. Reduced effectiveness of occupant protection equipment.
3. Increased stopping distance after the driver perceives a danger.
4. Increased degree of crash severity leading to more severe injuries.
5. Economic implications of a speed-related crash.
6. Increased fuel consumption/cost.

Ladders

Every year 500,000 people are injured in ladder related incidents and 300 of those incidents result in a fatality. Ladders are used in almost every day in our industry and there are things we should all keep in mind to use them safely.

1. Ladders should have a "duty rating" which can be found on its specifications label.
2. Any ladders that are bent, broken, or defective should be destroyed or red tagged out of service.
3. Use all ladders appropriately. Never stand on the top rung of any ladder. Don't overreach when working from a ladder and always remember to use 3 points of contact.
4. When using a ladder in an excavation, they must be placed 25' apart and extend 3' above any hole. Excavations 4' deep will ALWAYS require a ladder to be used.
5. Ladder set up is a major factor in staying safe. You can use the 4-to-1 rule meaning that every 4' high you go you set the ladder back 1'. Or always position the ladder at a 75-degree angle on firm stable ground.

Taking Shortcuts

A shortcut is a quicker or easier way of getting somewhere or doing something versus utilizing the usual path or procedure. Shortcuts are a choice, and we are responsible for the choices that we make.

Why are most shortcuts bad? They unnecessarily increase the risk of injury to yourself or people around you. You may have multiple successes in taking various shortcuts. Success breeds complacency. The more you are successful at something, the less you think about performing that task. It has been said that taking shortcuts is the most common cause of injury. It could be as high as six times more than working in unsafe conditions.

How to Avoid Taking Shortcuts:

1. Hold yourself to a higher standard. Do not take the easy way out.
2. Set the expectation that shortcuts are unacceptable when it comes to safety.
3. Preplan work tasks well ahead of time so the necessary tools, training, personnel, safety equipment, time, etc. are available.
4. Realize that shortcuts affect more than just you. They can result in negative impacts on production, property damage, as well as injuries.

"There are no shortcuts. I approached practice the same way I approached games. You can't turn it on and off like a faucet. I couldn't dog it during practice and then, when I needed that extra push later in the game, expect it to be there. Very few people get anywhere by taking shortcuts."

- Michael Jordan 



Daily Safety Topics

Distracted Driving

An overwhelming majority of drivers are aware that cell phone use while driving is a very dangerous activity, but still more than half (53%) of those drivers admit to making a call while driving and 45% admit to texting while driving.

- The majority of drivers (70%) are distracted at least once a day.
- The most distracted time of day is between 4:00 p.m. to 7:00 p.m.
- The most distracted day of the week is Friday.
- The least distracted day of the week is Tuesday.
- The average speed when a distraction occurs is 45 mph.
- The average screen tapping event lasts 6 seconds.
- Handheld phone calls average 160 seconds.

Tips for avoiding distracted driving:

1. Drive phone free. Never text while driving. Use smartphone features like, Do Not Disturb While Driving features.
2. Stop multitasking. Focus on driving. Set your GPS and music before you start your trip.
3. Make the phone calls before and after your trip. If the person that you are talking to is driving, tell them to call you when they are not driving.
4. Do not eat while driving. Eating can take your hands off the wheel, eyes off the road, and your mind off driving.
5. The Smith 5 Keys. 1.) Aim high in steering. 2.) Get the big picture. 3.) Keep your eyes moving. 4.) Leave yourself an out. 5.) Make sure they see you. The use of the Smith 5 Keys allows space for the vehicle, visibility for the driver, and time to make decisions.

If you cause an accident because of distracted driving, expect to pay more for car insurance at renewal time. The nationwide average for a rate increases after an accident is 42.5%! And this could follow you for up to five years!

The Smith5Keys

Key 1. Aim High In Steering.

Key 2. Get The Big Picture.

Key 3. Keep Your Eyes Moving.

Key 4. Leave Yourself An Out.

Key 5. Make Sure They See You.

Mental & Emotional Well-Being

Your Thoughts Dictate Your Actions:

A lot of safety topics focus on physical hazards or actions but today we are going to focus on your mental and emotional well-being. The safest workers are those that are both physically and psychologically healthy.

It's important to maintain your physical and mental well-being, especially at work. Anxiety, stress, and other external influencers may seem minor, but they all can lead to serious risks and accidents, as well as influence your physical and emotional health.

There is a well-known saying that states: "Be careful of your thoughts, for your thoughts become your words. Be careful of your words, for your words become your actions. Be careful of your actions, for your actions become your habits. Be careful of your habits, for your habits become your character. Be careful of your character, for your character becomes your destiny."

For our purposes, let's stick with the "thoughts become words become actions" section of this saying. We all know how to perform our work safely. However, at times we are mentally distracted by our thoughts or external influencers. These thoughts or mental distractions can have a huge impact on completing our work task safely. An employee who knows all the right things to do but is in a poor mental state will not be thinking clearly. Unclear or negative thoughts lead to unsafe and unwise actions.

It is easy for us in the safety department to say "Keep your mind on your task" or "Be your brothers' keeper" when in reality these statements have little to no impact on your personal thoughts or actions. Ultimately, we all have external life distractions. You or one of your peers may be dealing with external influences that you are unaware of. Your co-worker may be dealing with a sick family member, substance abuse issues, financial difficulty or marital problems. Almost always these personal issues are an internal struggle for you or a coworker. These struggles have a huge effect on the individual and ultimately can have a negative effect on the entire crew.

If you are aware of a coworker struggling, it is important to understand that their mind may not be in the game. Physically they are at work, but mentally they are somewhere else. If you or a peer are going through any issue that could have an adverse effect on the personal safety of any employee, please stay home or let your leadership know so accommodations may be made. Don't let your personal distractions have a potentially life-threatening influence on you or your crew members.

"Honestly, you may not see mental health, but believe me, it's real. People may act happy, smiling, but inside their hurting so bad. It takes a second to send a text to a loved one or friend to ask how they are. You are worth it, you are loved."

- Tyson Furry



Daily Safety Topics

Circle of Safety

A 360 degree walk around, or "Circle of Safety", must occur each time an employee enters and exits a company vehicle to check for any potential safety hazards that may be present around their vehicle.

When entering a vehicle, employees must conduct a "Circle of Safety" around the vehicle and place their "Circle of Safety" magnet on the front driver-side door of the vehicle they are entering. When exiting a vehicle, employees must conduct a "Circle of Safety" around the vehicle and place their "Circle of Safety" magnet on the rear passenger-side of the vehicle.

Slips, Trips, & Falls – Uneven Surfaces

A majority of falls occur on walking and working surfaces that do not have any significant height and a number of these injuries involve stepping off the edge of a curb, or sidewalks. A number of these injuries involve stepping off the edge of a curb, or sidewalks.

Other injuries can occur while stepping into holes in the pavement in our yards. These holes also create a hazard while using material handling equipment in that if you hit a hole like this, it could cause the equipment to become unsteady and possible tip over.

Injuries that occur from walking on these uneven surfaces tend to involve the knees as they have a tendency to Hyperextend and cause ligament damage. Also, injuries to ankles are common with uneven surfaces. Ankle sprains, strains, and even fractures can occur due to an unnatural twisting motion. This happens when the foot is planted awkwardly on uneven ground, an unusual amount of force is planted, and the foot/ankle cannot support the undistributed weight.

Secondary injuries can occur when a person has begun to fall, extends out their arms and try to break their fall, and end up fracturing their wrist and or arms. Facial injuries also can be a part of these injuries if their wrist give way and they continue to fall to the ground.

Pay attention to your surroundings, look where you are going and pay attention to slip and trip hazards.

If you find yourself falling:

1. Roll with the fall, don't reach out.
2. Bend your elbows & knees and use your legs & arms to absorb the fall.
3. Protect the vulnerable parts of your body, like the head, neck & spine.
4. Don't move if you think you've hurt yourself. Wait for help.



Natural Gas Construction Pre-Job

<i>Daily Discussion Topics</i>	
Daily Safety Topic:	Daily Cognitive Bias Topic:
Daily CRM Topic:	Daily Customer Policy Topic:



CRM Topics

Crew Resource Management (CRM) consists of operational principles developed to enhance communication, decision-making, and teamwork among members of teams, particularly in high-stress environments where human error can have serious consequences. Originally crafted for aviation, the core elements of CRM include promoting effective communication, maintaining situational awareness, fostering structured decision-making, encouraging strong leadership and cohesive teamwork, resolving problems efficiently, and managing workload to prevent overload. Over time, the principles of CRM have been adapted to various other fields such as healthcare, firefighting, and maritime operations, emphasizing its importance in diverse settings where teamwork and quick, clear decision-making are vital.



I.M. S.A.F.E. Checklist

The “I’M SAFE” personal checklist ensures that the following state is valid: “I’m physically and mentally safe to my job today, not being imparted by”:

Illness: Even a minor illness suffered in day-to-day living can seriously degrade performance of many tasks vital to safe operations. The safest rule is not to work while suffering from any significant illness.

Medication: Personal performance can be seriously degraded by both prescribed and over-the-counter medications, as well as by the medical conditions for which they are taken. Crew members are prohibited from performing crewmember duties while using any medication that affects the faculties in any way contrary to safety.

Stress: Stress from everyday living can impair personal performance, often in very subtle ways. Stress and fatigue (lack of adequate rest) can be an extremely hazardous combination, as well as the emotional toll stress placing on the human body.

Alcohol: Extensive research has provided a number of facts about hazards of alcohol consumption and human error. As little as one ounce of liquor, one bottle of beer, or four ounces of wine can impair motor skills.

Fatigue: Fatigue and lack of adequate sleep can be some of the most treacherous hazards to construction safety, as it may not be apparent to a crew member until serious errors are made.

Eat: Did you have time to eat before starting your day? Do you have access to enough water and food to get you through a long day? Dietary needs are an important tool for any construction crew.



Daily Planning

Thorough planning is vital to successful daily operations. The more “what if’s” you can answer before commencing work activities, the smoother the work will proceed. Make sure everyone knows the goals, purpose, and what must be done to complete the daily tasks. The best way to accomplish this is with a comprehensive crew safety briefing. The briefing is a tool to discuss the overall plan and ensure everyone is on the “same sheet of music.” Every good briefing has time for questions. Don’t work if you haven’t planned and briefed thoroughly.



Situational Awareness (SA)

Simply stated, SA is knowing what is going on around you. You will notice certain indications of lost SA: degraded communications, confusion, fixation, and lack of focus, among others. If any crew member recognizes one of these indicators, speak up and say you are losing it. How do you get SA Back once you recognize it is lost? The following tools can help: define roles, manage distractions, reduce workload, ask questions, and most important, intervene, no matter what your crew position or experience. If SA is totally lost, the most important tool is to reestablish equilibrium. This is accomplished by stepping away from potential hazards, speaking to crew members, and determining the next steps.



Crew Coordination

Crew coordination is a complex concept that includes elements of leadership and followership, assertiveness, accepting assertive behavior from other crew members, conflict resolution, and avoiding hazardous attitudes. The key tool in the leader/follower area is to remember that ANY crew member can be the leader or follower depending on circumstances. Non-foreman must not be afraid to be the leader at appropriate times.

Assertiveness can be expressed in many ways; the key to effective assertiveness is expressing yourself in such a way that it is received by other crew members in a positive manner. Conflict can be good in a crew as it shows there is inquiry and assertiveness present. Again, conflict must be resolved in a positive and professional manner and not allowed to fester. Always be on the alert for hazardous attitudes in yourself and your crew.



Communication

Volumes have been written on the art of communication and virtually every formal or professional course includes a block on this important topic. In the natural gas construction business, insist on the use of standard terminology, especially during daily safety briefings and any radio communications. If you don't understand something, you should act right away to get it clarified. You must be a good listener as well as a good communicator.



Task Management

This is a critical CRM concept, especially in the construction environment. Experienced crew members are just as likely to reach overload than new crew members. Do not try to do too much at once. The key to overcoming overload is to prioritize. Get the most important action done first. Delegate duties to other crew members.



Risk Management/Decision Making

All decision making has elements of information gathering, identifying and evaluating solutions, making a plan, and evaluating the plan. Risk is an inherent part of any activity. Just how much risk should you accept for a given project? Some key tools apply. Make risk identification and assessment a part of your daily planning. Accept no unnecessary risk. Make risk decision at the proper level – if you're not sure ask your boss. Finally, accept risk only if the benefits outweigh the cost.



Most Conservative Response Rule

Occasionally there is a disagreement on a jobsite that cannot be resolved due to a lack of information. It is best to agree in advance to take the most conservative action in these situations until additional information is available.



Excessive Professional Deference

In general, we are hesitant to call attention to deficient performance in others, particularly if they are senior to us. Thus, even when one crew member does point out performance that is outside established standards, it is typically done with little emphasis. For example, a laborer may tell an operator foreman they are digging “a little close” to a utility regardless of the how dangerously close the operator foreman may be digging. If you see something wrong or dangerous, stop the action before it is too late.



Halo Effect

One cause of excessive professional deference is the halo effect. An example of the halo effect occurs when a very experienced person starts with a new organization. This individual may be rushed through the OQ process because they have so much “experience”. The rest of the crew may be impressed by the vast experience of the individual and will tend to not speak up about problems they see. Do not let this happen to you! Even the most experienced person is not immune to accidents and injuries.



Hazardous Attitudes

There are five hazardous attitudes that can impede your good judgement and decision-making abilities and can lead to sudden loss of judgement. Know them well, so they will automatically come to mind when you need them.

<i>Hazardous Attitude</i>	<i>Antidote</i>
Anti-Authority	“Follow the rules; they’re usually right.”
Impulsivity	“Think first. Act later.”
Invulnerability	“It could happen to me”
Macho	“Taking chances is foolish”
Resignation	“I’m not helpless, I can make a difference.”



Strength of an Idea/Channelized Attention

Strength of an idea can be defined as an unconscious attempt to make available evidence fit a preconceived situation. It has been observed that once a person or group of people gets a certain idea in their mind, it can be difficult or impossible for them to alter that idea no matter how much conflicting information is received. In a highly stressful situation, it becomes more important that we not allow our attention to focus or become channelized in only one area.



The Assertive Statement

The assertive statement is a non-threatening method by which a member of the crew can directly communicate their concerns about an uncomfortable situation. This five- step process is:

1. Get the attention of the individual.
2. State the concern.
3. State the problem.
4. Offer a solution.
5. Obtain agreement.

If the assertive statement is not successful, a statement such as “Time Out” can help job the crew into awareness of the risk(s) involved and prevent a potentially bad decision from escalating into a severe incident.



Hidden Agenda

Sometimes crew members may make suggestions or decisions the rest of the crew is unaware of, such as, a strong desire to cut a corner to finish sooner due to undisclosed important plans for that evening. We need to communicate honestly so that decisions can be made rationally and based on facts rather than wishful thinking. Hidden agendas may be motivated by individuals that purposely keep intentions to themselves to prevent objections and confrontation from other crew members.



Passenger Syndrome

The passenger syndrome is based on a comforting premise that one or more crew members has the situation under control and is looking out for your best interest. The syndrome can be experienced by any crew member, resulting in that person feeling like they are along for the ride. The halo effect can lead to passenger syndrome.



CRM Topics

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CRM Topics

Studies on Crew Resource Management (CRM) show it consistently improves teamwork, communication, and safety by reducing errors and enhancing performance. It is effective across various industries, with continuous training and adaptation to specific environments recommended for sustained success.



Natural Gas Construction Pre-Job

<i>Daily Discussion Topics</i>	
Daily Safety Topic:	Daily Cognitive Bias Topic:
Daily CRM Topic:	Daily Customer Policy Topic:



Cognitive Bias Topics

Cognitive biases in occupational safety are systematic errors in thinking that influence how workers perceive and respond to hazards, often leading to misjudgments of risk and unsafe behaviors. These biases can cause employees to underestimate the dangers in their environment or make poor safety decisions. For example, a worker might assume that because an accident hasn't occurred recently, their workplace is inherently safe, or they may disregard safety protocols due to a belief that they are experienced enough to avoid accidents, despite potential risks. These biases compromise effective safety practices and increase the likelihood of workplace accidents or injuries.



Availability Heuristic

This bias involves people relying on readily available information, often from recent or vivid events, to make judgments or decisions. This can lead to overemphasizing information that is easily recalled, even if it is not representative of the overall situation.

Avoidance Strategy: Combat this bias by consciously seeking out a diverse range of information sources, considering the context of information, and taking the time to think critically before making judgments or decisions.



Anchoring & Adjustment

When making decisions, people tend to anchor their judgments to an initial piece of information and then make insufficient adjustments from that anchor. This initial anchor can significantly influence the final decision.

Avoidance Strategy: To counter this bias, challenge the initial anchor by questioning its validity and considering alternative starting points. Encourage yourself to make more substantial adjustments from the anchor.



Confirmation Bias

People tend to seek out and interpret information in a way that confirms their existing beliefs or hypotheses while ignoring or discounting contradictory evidence. This can reinforce preconceived notions.

Avoidance Strategy: Combat confirmation bias by actively seeking out information that challenges your existing beliefs, engaging with diverse perspectives, and practicing open-mindedness when evaluating evidence.



Hindsight Bias

After an event has occurred, people tend to believe that they knew it was going to happen all along. This bias can lead to an overestimation of the predictability of past events.

Avoidance Strategy: Recognize that hindsight bias can distort your view of the past. When assessing past events, try to put yourself back in the mindset of the time and consider the information available then.



Dunning-Kruger Effect

This bias occurs when individuals with low ability at a task overestimate their competence, while those with high ability tend to underestimate their competence. It's a cognitive bias related to self-assessment.

Avoidance Strategy: Cultivate self-awareness and humility by seeking feedback from others, continuously learning, and acknowledging areas where you may lack expertise. Encourage self-reflection.



Groupthink

In group decision-making, the desire for harmony and consensus within the group can lead to a suppression of dissenting opinions and a rush to conform to the group's decisions, potentially resulting in poor choices.

Avoidance Strategy: Encourage diverse opinions within groups, foster an environment where dissent is welcomed, and assign a devil's advocate role to encourage critical thinking and alternative viewpoints.



Self-Serving Bias

People often attribute their successes to internal factors (e.g., skill and effort) while attributing their failures to external factors (e.g., bad luck or circumstances).

Avoidance Strategy: Combat self-serving bias by being introspective and objective when assessing your successes and failures. Consider external factors that may have influenced outcomes.



Curse of Knowledge

The curse of knowledge is the difficulty experienced by experts in conveying information to others who lack their expertise. Experts often assume others have the same level of understanding, leading to ineffective communication.

Avoidance Strategy: Combat the curse of knowledge by using plain language and analogies when communicating complex ideas. Encourage feedback and ask for clarification to ensure understanding.



Natural Gas Construction Pre-Job

<i>Daily Discussion Topics</i>	
Daily Safety Topic:	Daily Cognitive Bias Topic:
Daily CRM Topic:	Daily Customer Policy Topic:



Natural Gas Construction Pre-Job

Notes:	
Safety Tools & Reporting	
Employee Safety Manual	Good Catch Submission

Pre-Job Version 10



The Hydaker-Wheatlake Company Operational Risk Management Worksheet

#	Risk Factor	0 (Low)	1 (Medium)	2 (High)	3 (Severe)	Total
Section 1: HUMAN RISK FACTORS						
1	Sleep	6-8 Hours	4-6 Hours	2-4 Hours	< 2 Hours	
2	Hydration	Hydrated	Mild Dehydration	Dehydrated		
3	Personal Factors (Stress, Depression, Anxiety, etc.)	None	Minor	Moderate	Significant	
4	Medical Restrictions	None	Minor	Light Duty	Fully Restricted	
5	Foreman OQ's (For Planned Tasks)	100% OQ'd			0% OQ'd	
6	Crew OQ's (For Planned Tasks)	No SOC	< 50% SOC	50-90% SOC	91-100% SOC	
Section 2: OPERATIONAL RISK FACTORS						
7	Main Tapping/Tie-In (Material)	None	Plastic/Cast Iron	Steel 0-60 PSIG	Steel > 60 PSIG	
8	Main Tapping/Tie-In (Quantity)	None	1	2	≥ 3	
9	Main Stopping/Retirement (Material)	None	Plastic/Cast Iron	Steel 0-60 PSIG	Steel > 60 PSIG	
10	Main Stopping/Retirement (Quantity)	None	1	2	≥ 3	
11	Main Stopping/Retirement (Pipe Diameter)	None	< 4"	4"-8"	> 8"	
12	Excavation Depth	< 4'	4'-4'11"	5'-10'	> 10'	
13	Parallel Proximity to High Pressure Gas	None	> 10'	5'-10'	≤ 5'	
14	Cross High Pressure Gas	None		Yes	Yes - >1	
15	Welding Procedures	No Gas	< 60 PSIG	> 60 PSIG		
16	Fire Watch (Extinguisher must be removed from truck & accessible)	Not Required	Required			
17	Rigging/Lifting Operations	No	Yes			
Section 3: ENVIRONMENTAL RISK FACTORS						
18	Wind Chill	> 32°	32° - 15°	15° - 0°	< 0°	
19	Heat Index	< 90°	90° - 99°	100° - 105°	> 105°	
20	Local Fire Danger	Low	Medium	High		
21	Rain	None	Light Rain	Heavy Rain	Thunderstorm	
22	Snow/Ice	None	Light Snow	Heavy Snow	Blizzard	
23	Fog	None	Light	Moderate	Heavy	
24	Sunrise	Before 7:00 AM	After 7:00 AM			
25	Sunset	After 6:00 PM	Before 6:00 PM			
26	Night Operations	Not Required	Adequate Site Illumination	Moderate Site Illumination	No Site Illumination	
27	Traffic Control	Not Required	Road Closure	Lane Closure		
28	Overhead Electric Proximity	> 50'	10' - 50'	≤ 10'		
29	Population Density	Rural	Suburb	Downtown		
					TOTAL SCORE	0
OVERALL RISK SCORE	TOTAL SCORE	APPROVAL AUTHORITY		APPROVAL CONFIRMED (Approver Initials)		
LOW RISK	0 Points	N/A				
MEDIUM RISK	1-10 Points	Foreman				
HIGH RISK	≥ 1 High Event, or 11-20 Points	General Foreman				
SEVERE RISK	≥ 1 Severe Event, or >20 Points	Superintendent				
ORM Steps: 1. Identify Hazards 2. Assess Hazards 3. Develop Controls 4. Implement Controls 5. Supervise & Evaluate				ORM Worksheet Directions: 1. Complete ORM Worksheet & add up total score. 2. If overall score is LOW, proceed with planned work activities. 3. If overall score is MEDIUM, the crew and Foreman will develop, implement, and evaluate controls for identified risks prior to work commencing. 4. If overall score is HIGH, or one risk item is identified as HIGH, the crew, Foreman, and General Foreman will develop, implement, and evaluate controls for identified risks prior to work commencing. 5. If overall score is SEVERE, or one risk item is identified as SEVERE, the crew, Foreman, General Foreman, & Superintendent will develop, implement, and evaluate controls for identified risks prior to work commencing.		

Risk Management



The Hydaker-Wheatlake Company Operational Risk Management Worksheet						
#	Risk Factor	0 (Low)	1 (Medium)	2 (High)	3 (Severe)	Total
Section 1: HUMAN RISK FACTORS						
1	Sleep	6-8 Hours	4-6 Hours	2-4 Hours	< 2 Hours	
2	Hydration	Hydrated	Mild Dehydration	Dehydrated		
3	Personal Factors (Stress, Depression, Anxiety, etc.)	None	Minor	Moderate	Significant	
4	Medical Restrictions	None	Minor	Light Duty	Fully Restricted	
5	Foreman OQ's (For Planned Tasks)	100% OQ'd			0% OQ'd	
6	Crew OQ's (For Planned Tasks)	No SOC	< 50% SOC	50-90% SOC	91-100% SOC	
Section 2: OPERATIONAL RISK FACTORS						
7	Main Tapping/Tie-In (Material)	None	Plastic/Cast Iron	Steel 0-60 PSIG	Steel > 60 PSIG	
8	Main Tapping/Tie-In (Quantity)	None	1	2	≥ 3	
9	Main Tapping/Tie-In (Placement)	None	Block/Free Zone	Steel 0-60 PSIG	Steel > 60 PSIG	

Risk Management

Operational Risk Management (ORM) is the process of identifying, assessing, and controlling risks stemming from an organization's day-to-day activities that could disrupt its operations. This comprehensive approach is designed to minimize the impact of unexpected failures and ensure the continuity of operations.

This methodology helps organizations not only respond to immediate issues but also proactively prepare for potential threats, thereby securing operational stability and enhancing overall performance.

29	Population Density	Rural	Suburb	Downtown		
					TOTAL SCORE	0
OVERALL RISK SCORE		TOTAL SCORE		APPROVAL AUTHORITY		APPROVAL CONFIRMED (Approver Initials)
LOW RISK		0 Points		N/A		
MEDIUM RISK		1-10 Points		Foreman		
HIGH RISK		≥ 1 High Event, or 11-20 Points		General Foreman		
SEVERE RISK		≥ 1 Severe Event, or >20 Points		Superintendent		
ORM Steps: 1. Identify Hazards 2. Assess Hazards 3. Develop Controls 4. Implement Controls 5. Supervise & Evaluate				ORM Worksheet Directions: 1. Complete ORM Worksheet & add up total score. 2. If overall score is LOW, proceed with planned work activities. 3. If overall score is MEDIUM, the crew and Foreman will develop, implement, and evaluate controls for identified risks prior to work commencing. 4. If overall score is HIGH, or one risk item is identified as HIGH, the crew, Foreman, and General Foreman will develop, implement, and evaluate controls for identified risks prior to work commencing. 5. If overall score is SEVERE, or one risk item is identified as SEVERE, the crew, Foreman, General Foreman, & Superintendent will develop, implement, and evaluate controls for identified risks prior to work commencing.		



Operational Risk Management

ORM Steps:

1. Identify Hazards
2. Assess Hazards
3. Develop Controls
4. Implement Controls
5. Supervise & Evaluate



ORM Worksheet Directions:

1. Complete ORM Worksheet & add up total score.
2. If overall score is LOW, proceed with planned work activities.
3. If overall score is MEDIUM, the crew and Foreman will develop, implement, and evaluate controls for identified risks prior to work commencing.
4. If overall score is HIGH, or one risk item is identified as HIGH, the crew, Foreman, and General Foreman will develop, implement, and evaluate controls for identified risks prior to work commencing.
5. If overall score is SEVERE, or one risk item is identified as SEVERE, the crew, Foreman, General Foreman, & Superintendent will develop, implement, and evaluate controls for identified risks prior to work commencing.

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Operational Risk Management

The Hydaker-Wheatlake Company Operational Risk Management Worksheet						
#	Risk Factor	0 (Low)	1 (Medium)	2 (High)	3 (Severe)	Total
Section 1: HUMAN RISK FACTORS						
1	Sleep	6-8 Hours	4-6 Hours	2-4 Hours	< 2 Hours	
2	Hydration	Hydrated	Mild Dehydration	Dehydrated		
3	Personal Factors (Stress, Depression, Anxiety, etc.)	None	Minor	Moderate	Significant	
4	Medical Restrictions	None	Minor	Light Duty	Fully Restricted	
5	Foreman OQ's (For Planned Tasks)	100% OQ'd			0% OQ'd	
6	Crew OQ's (For Planned Tasks)	No SOC	< 50% SOC	50-90% SOC	91-100% SOC	



Operational Risk Management

Section 2: OPERATIONAL RISK FACTORS						
7	Main Tapping/Tie-In (Material)	None	Plastic/Cast Iron	Steel 0-60 PSIG	Steel > 60 PSIG	
8	Main Tapping/Tie-In (Quantity)	None	1	2	≥ 3	
9	Main Stopping/Retirement (Material)	None	Plastic/Cast Iron	Steel 0-60 PSIG	Steel > 60 PSIG	
10	Main Stopping/Retirement (Quantity)	None	1	2	≥ 3	
11	Main Stopping/Retirement (Pipe Diameter)	None	< 4"	4"-8"	> 8"	
12	Excavation Depth	< 4'	4'-4'11"	5'-10'	> 10'	
13	Parallel Proximity to High Pressure Gas	None	> 10'	5'-10'	≤ 5'	
14	Cross High Pressure Gas	None		Yes	Yes - >1	
15	Welding Procedures	No Gas	< 60 PSIG	> 60 PSIG		
16	Fire Watch (Extinguisher must be removed from truck & accessible)	Not Required	Required			
17	Rigging/Lifting Operations	No	Yes			



Operational Risk Management

Section 3: ENVIRONMENTAL RISK FACTORS						
18	Wind Chill	> 32°	32° - 15°	15° - 0°	< 0°	
19	Heat Index	< 90°	90° - 99°	100° - 105°	> 105°	
20	Local Fire Danger	Low	Medium	High		
21	Rain	None	Light Rain	Heavy Rain	Thunderstorm	
22	Snow/Ice	None	Light Snow	Heavy Snow	Blizzard	
23	Fog	None	Light	Moderate	Heavy	
24	Sunrise	Before 7:00 AM	After 7:00 AM			
25	Sunset	After 6:00 PM	Before 6:00 PM			
26	Night Operations	Not Required	Adequate Site Illumination	Moderate Site Illumination	No Site Illumination	
27	Traffic Control	Not Required	Road Closure	Lane Closure		
28	Overhead Electric Proximity	> 50'	10' - 50'	≤ 10'		
29	Population Density	Rural	Suburb	Downtown		



Operational Risk Management

			TOTAL SCORE	0
OVERALL RISK SCORE	TOTAL SCORE	APPROVAL AUTHORITY	APPROVAL CONFIRMED (Approver Initials)	
LOW RISK	0 Points	N/A		
MEDIUM RISK	1-10 Points	Foreman		
HIGH RISK	≥ 1 High Event, or 11-20 Points	General Foreman		
SEVERE RISK	≥ 1 Severe Event, or >20 Points	Superintendent		



Operational Risk Management

- Effective in Financial and Public Sectors:** ORM systems have shown positive impacts on financial performance and risk reduction in both the public and private sectors, though gaps and areas for improvement remain (Newman et al., 2018; Masenene, 2015).
- Challenges in Implementation:** The conceptual development and implementation of ORM face challenges, particularly in achieving consistent effectiveness across different regulatory and operational environments (Power, 2005).
- Positive Correlation with Firm Performance:** Studies indicate a positive correlation between effective ORM practices and improved firm performance, especially in European contexts (Ghazieh & Chebana, 2021).
- Need for Better Practices:** There is a consensus that while ORM is beneficial, there is a need for better and more comprehensive risk management practices to fully mitigate operational risks (Al-Amri & Davydov, 2016).
- Sector-Specific Success:** The effectiveness of ORM varies significantly by sector, with some sectors like banking in Ghana and strategic project management showing robust frameworks and positive outcomes (Nana-Cobbinah, 2014; St-Hilaire, 2014).
- Technological Enhancements:** The integration of technologies like blockchain can enhance ORM by providing greater transparency, security, and efficiency, especially in the insurance sector (Grima et al., 2021).
- Empirical and Practical Insights:** Operationalizing ERM effectiveness provides valuable empirical and practical insights for improving risk management practices (Togok et al., 2014).
- Board and Governance Influence:** Effective ORM also depends on good governance and board effectiveness, which are crucial for risk assessment and management (Ingley & Van Der Walt, 2008).



Operational Risk Management

Operational Risk Management (ORM) offers several key benefits, including improved decision-making by helping organizations identify and assess potential risks, allowing for more informed choices that reduce the likelihood of costly errors. It also contributes to risk reduction by proactively managing and mitigating operational disruptions, financial losses, and compliance issues. Additionally, ORM enhances organizational resilience by equipping businesses with the ability to respond effectively to unexpected events, ensuring continuity and reducing the impact of crises. Through these advantages, ORM supports overall operational efficiency and long-term stability.



Natural Gas Construction Pre-Job

The Hydaker-Wheatlake Company Natural Gas Operations Pre-Job General Information				
SNM:	ID:	FR:	Foreman:	General Foreman:
Job Number:	Job Name:	Job Location:	Customer Contact:	Nearest Hospital:
Emergency Video Station:	Complete	Incomplete	N/A	Workshop Address:
Maps/Records Review:	Complete	Incomplete	N/A	
Safety & Work Procedures				
Safety Equipment (Inventory Include Vehicle Numbers or Exterior Conditions, as applicable)				
AED:	First Aid Kit:	Fire Extinguisher:	PPV Checked?	Yes No N/A
OVM (Equip. Inspections):	Complete	Incomplete	N/A	Shocks Checked?
Work Procedures				
Work Description/Job Purpose:				
Work Procedures (Breakdown the Work Description/Job Purpose into at least 5 specific tasks):				
1)	Task:	Priority:	Estimated Duration:	Responsible Crew Member:
2)	Task:	Priority:	Estimated Duration:	
3)	Task:	Priority:	Estimated Duration:	
4)	Task:	Priority:	Estimated Duration:	
5)	Task:	Priority:	Estimated Duration:	
Operator Qualification (OQ) - All personnel are trained and qualified for assigned covered task?				
<input type="checkbox"/> Yes <input type="checkbox"/> No				
R21 Dig Ticket Review				
Ticket Number:				
Positive Response Received?		Yes	No	N/A
Start Date & Time:	Expiration Date & Time:	Dig By Date & Time:		
Location/Utility:	Responsible Foreman:	License/Qualification:	Owner:	Inspector:
Start Date & Time:	Expiration Date & Time:	Dig By Date & Time:		
Location/Utility:	Responsible Foreman:	License/Qualification:	Owner:	Inspector:
Start Date & Time:	Expiration Date & Time:	Dig By Date & Time:		
Location/Utility:	Responsible Foreman:	License/Qualification:	Owner:	Inspector:
High Risk Activity Review				
High Gas Within Construction Limits?	Yes	No	Underground Boring Activity?	Yes No
Street Tapping & Shoring Operations?	Yes	No	Excavation > 5 Feet?	Yes No
Daily Observation Report				
Daily Safety Topic:	Daily Customer Policy Topic:			
Daily CRM Topic:	Daily Customer Policy Topic:			
Notes:				
Safety Tools & Reporting				
Employee Safety Manual:	Good Catch Submission:			

Pre-Job Version 10

The Hydaker-Wheatlake Company Operational Risk Management Worksheet							
Risk Factor	1 (Low)	2 (Medium)	3 (High)	4 (Severe)	Total		
Section 1- NORMAL RISK FACTORS							
1. Slump	0-8 Hours	4-8 Hours	2-4 Hours	- 2 Hours			
2. Stabilization	Material	Mfg. Defect/Process	Delivered				
3. Personnel Factors (Dress, Depression, Anxiety, etc.)	Name	Major	Minor	Significant			
4. Material Specifications	Name	Minor	Light Duty	Full Duty			
5. Foreman OQ (for Planned Tasks)	100% OQ		100% OQ	95-99% OQ			
6. Crew OQ (for Planned Tasks)	No OQ	> 50% OQ	50-75% OQ	75-100% OQ			
Section 2- OPERATIONAL RISK FACTORS							
7. Main Tapping/ Tie-In Material	Name	Partic./Cut-free	Size 0-10 PPS	Size - 10 PPS			
8. Main Tapping/ Tie-In Quantity	Name	0	2	3			
9. Main Stopping/Retirement (Material)	Name	Partic./Cut-free	Size 0-10 PPS	Size - 10 PPS			
10. Main Stopping/Retirement (Quantity)	Name	0	2	3			
11. Main Stopping/Retirement (Pipe Diameter)	Name	< 4"	4" - 8"	8" - 12"			
12. Excavation Depth	Name	< 4'	4' - 11'	9' - 10'	> 10'		
13. Parallel Proximity to High Pressure Gas	Name	< 2'	3' - 5'	5' - 7'	> 7'		
14. Critical High Pressure Gas	Name	None	10' - 15'	15' - 20'	> 20'		
15. Working Proximities	Name	No Dig	10' - 15'	15' - 20'	> 20'		
16. Fire Watch Inspection (none needed from task & location)	Name	Required	Not Required	Not Required	Not Required		
17. Rigging/Lifting Operations	Name	No	No	No	No		
Section 3- ENVIRONMENTAL RISK FACTORS							
18. Wind Chill	> 30'	30' - 32'	32' - 34'	34' - 36'	> 36'		
19. Heat Index	< 80'	80' - 85'	85' - 90'	> 90'			
20. Local Fire Danger	Low	Medium	High	Extreme			
21. Rain	Name	Light Rain	Heavy Rain	Thunderstorm			
22. Snow/Ice	Name	Light Snow	Heavy Snow	Blizzard			
23. Fog	Name	Light	Medium	Heavy			
24. Sun/Glare	Before 7:00 AM	After 7:00 AM					
25. Noise	After 6:00 PM	Before 6:00 PM					
26. Night Operations	Not Required	Required	Required	Not Required			
27. Traffic Control	Not Required	Not Required	Not Required	Not Required			
28. Overhead Electric Proximity	> 30'	20' - 30'	10' - 20'	< 10'			
29. Preparation Density	Rural	Suburb	Suburban	Dense			
OVERALL RISK SCORE					TOTAL SCORE	APPROVAL AUTHORITY	APPROVAL CONFIRMED
LOW RISK					0-20 Points	Yes	Supervisor Initials
MEDIUM RISK					21-30 Points	For Review	
HIGH RISK					> 31 High Events, or 12-30 Points	Not at Risk	
SEVERE RISK					> 31 Severe Events, or 30-40 Points	Not at Risk	
OQ: Worksheet Checklist							
<ol style="list-style-type: none"> Identify Hazards Assess Hazards Develop Controls Implement Controls Supervise & Evaluate 							

Pre-Job Version 10

The Hydaker-Wheatlake Company Natural Gas Operations Pre-Job Signatures			
By signing this Pre-Job document, I agree I have reviewed this Pre-Job or have had someone review it with me. I agree I have: - Received training in the procedure(s) in which I am to participate as outlined in this Pre-Job, etc. - Had the procedure(s) explained to me so that I understand them and can safely participate in their execution, etc. - Been debriefed from the particular procedure(s) that I have not been trained in and will not perform these procedures. I understand I have the right and responsibility to STOP work procedures or activities I feel pose imminent danger or undue risk to myself, co-workers, customers, property, or the environment. If a stop work activity occurs, the General Foreman must be contacted immediately. I understand any failure to stop these unsafe procedures may result in disciplinary action. The Hydaker-Wheatlake Company considers stop work authority to take precedence over all other procedures. No procedure is considered so urgent or important that safety, health, environment, and/or property protection be compromised. I will report all incidents, accidents, injuries, and/or property damage to the Incident Reporting Hotline as outlined within the OQ Safety Handbook.			
Incident Reporting Hotline: (231) 832-2297 ext. SAFE (7233)			
Signatures			
RWC ID Number	Name	Title	Pre-Job Signature

Pre-Job Version 10

