

Hazard Aspect & Risk Assessment (HARA) Procedure

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PURPOSE

The purpose of this procedure is to provide a framework for Managers, Supervisors, and employees to identify hazards and evaluate risks within the scope of their responsibilities to prevent or reduce the frequency and severity for occupational illnesses through an appropriate hierarchy of hazard control and risk mitigation measures.

SCOPE

This Administrative Procedure applies to all divisions within Hundseth Power Line Construction herein to referred to as “Hundseth,” “HPL” or the “Company.”

DEFINITIONS

Competent person – means possessing knowledge, experience, and training to perform a specific duty. A worker who is being trained to perform that task of carry out that duty and who is under close and competent supervision during that training.

Hazard Identification – the process of finding, listing, and characterizing hazards.

Risk – the combination of the likelihood of the occurrence of harm and the severity of that harm, commonly expressed as Risk = Likelihood x Consequence.

Risk Analysis – the process for comprehending the nature of hazards and determining the level of risk.

Risk Assessment – the overall process of hazard identification, risk analysis, and risk evaluation. The process of assessing the risks to workers’ safety and health from workplace hazards. It is an examination of all aspects of work that considers what could cause injury or harm or whether the hazards could be eliminated and if not.

Risk Estimation – the process used to assign values to the likelihood and consequences of a risk.

Risk Evaluation – the process of comparing an estimated risk against given risk criteria to determine the significance of the risk.

Controls – the things you put in place to reduce the risk and prevent harm such as: Removal, Rules, Procedures, Equipment, Exclusions, Training, Supervision, Limitations, Preventions, Methods, Arrangements, etc.

ROLES & RESPONSIBILITIES

All Employees:

- Responsible for refusing dangerous work.

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- Responsible for ensuring they are informed and trained to recognize and control hazards prior to commencing work.
- Responsible for understanding the health, safety, environmental and training responsibilities, rules, and regulations that are required to complete their job safely.
- Responsible for speaking up when they feel the nature of the work is or about to be unsafe.
- Responsible for participating in the Hazard Aspect & Risk Assessment and confirming they were told and understood what was written and discussed during the Hazard Aspect and Risk Assessment meetings.
- Responsible for ensuring a HARA is completed and reviewed prior to commencing work.

Supervisor:

- Responsible for completing or delegating a daily Hazard Aspect & Risk Assessment prior to commencing work and reviewing it with the crew.
- Responsible for supporting the Manager with the Project Hazard Aspect & Risk Assessment and reviewing it with their crew prior to commencing work.

Manager:

- Responsible for completing or delegating a Project Hazard Aspect & Risk Assessment prior to having a crew assigned to the project and reviewing it with the crew when assigned.
- Responsible for completing or delegating a Job Task Hazard Aspect & Risk Assessment prior to employees competing a new or hazardous job task that requires more training or controls and reviewing it with the employees completing the job task.
- Responsible for ensuring Supervisors are pre-planning safe work and completing a daily Hazard Aspect & risk Assessment.

Vice President:

- Responsible for completing a High-Level Pre-Project Bid Hazard Aspect and Risk Assessment prior to bidding a complex or hazardous job, or new to the company type work or project and implanting controls prior to bidding the work.
- Responsible for pre-planning safe projects.
- Responsible for ensuing Managers are pre-planning safe projects.

President:

- Responsible for pre-planning and enforcing employees to include the necessary time and resources to execute and implement the Company Health and Safety Program, Occupational

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Health and Safety Acts and Regulations, Industry Best Practices, Customer Requirements, Federal, Provincial and Municipal Regulations and Equipment and Tool Manuals to preplan the job safely.

Health, Safety, Environment and Training Department:

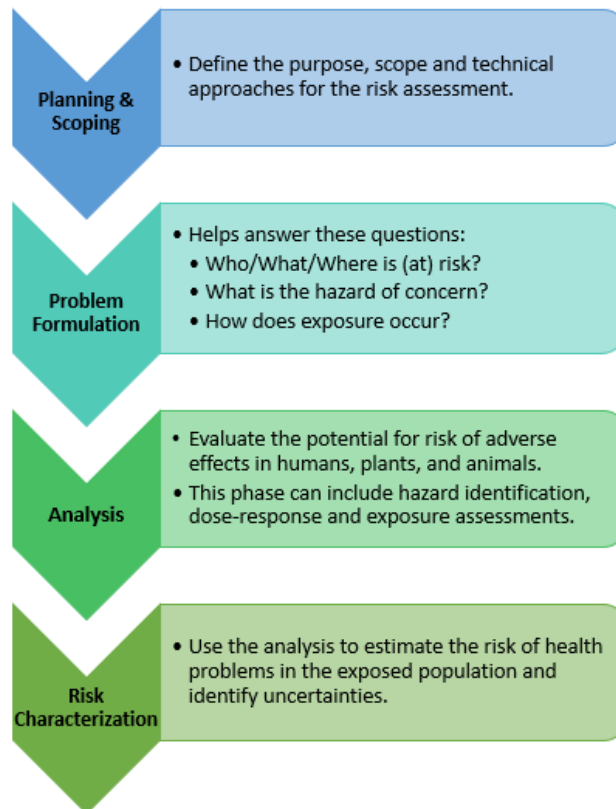
- Responsible for storing the records and providing easy access to them.
- Responsible for offering support on all levels of HARA's.
- Responsible for monitoring the process and forms and updating as required.
- Responsible for training employees on the process and forms to conduct a proper HARA.

PROCEDURE

Hazard Aspect & Risk Assessment

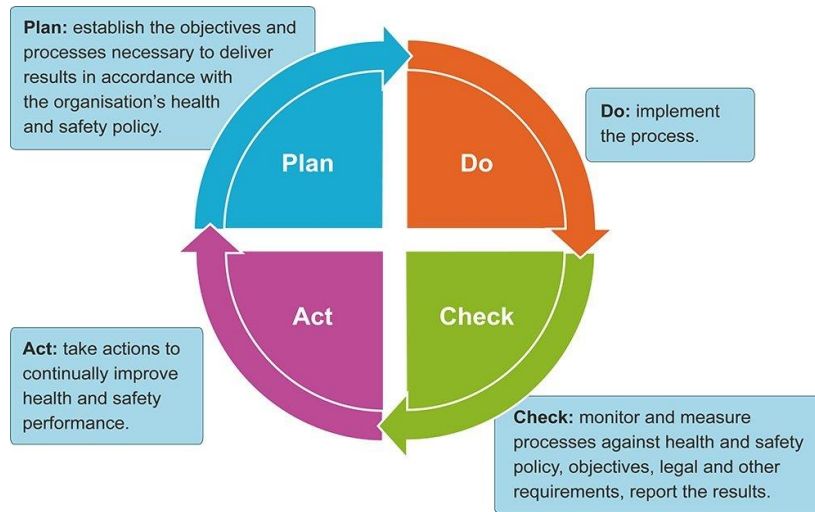
Step 1. Planning your Job or Task

Generalized Risk Assessment Framework

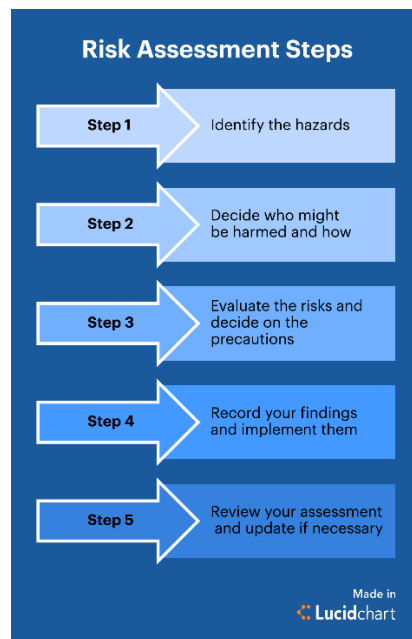


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The more thorough you plan on your HARA the less interruptions, incidents, and down time you will incur. Planning is the key to success when completing a project or job task. Follow the steps of Plan, Do, Check and Act.



Step 2: Identify the Hazards



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Include Hazards such as:

- *Environmental/Workplace:* wind conditions, weather temperature or lightning in the area, damage to the air, water or soil, sensitive areas, animals, etc.
- *Gravity:* personnel falls, falling objects, falling structures, climbing obstructions, etc.
- *Electricity:* working in the proximity of energized equipment or working directly on energized equipment, induction, back feeds, flash potential, etc.
- *Mechanical:* equipment or rigging failures, moving, or flying objects, sharp objects, ground conditions, etc.
- *Kinetic/vehicle:* road conditions, traffic conditions, vehicle stability etc.
- *Chemical:* confined space, toxic or poisonous materials, flammable or explosive materials, acids or caustic materials or possible presence of hydrogen sulfide, etc.
- *Ergonomic:* force or posture, repetition and long durations increase the risk of musculoskeletal disorders affecting muscles, tendons, ligaments, nerves, discs, blood vessels, etc.

Step 3: Evaluate your Hazards

Now that you have gathered your list of potential hazards, you need to consider how likely it is that the hazard will occur and how severe the consequences will be if the hazard occurs. This evaluation will help determine where you should reduce the level of risk, and which hazards you should prioritize first.

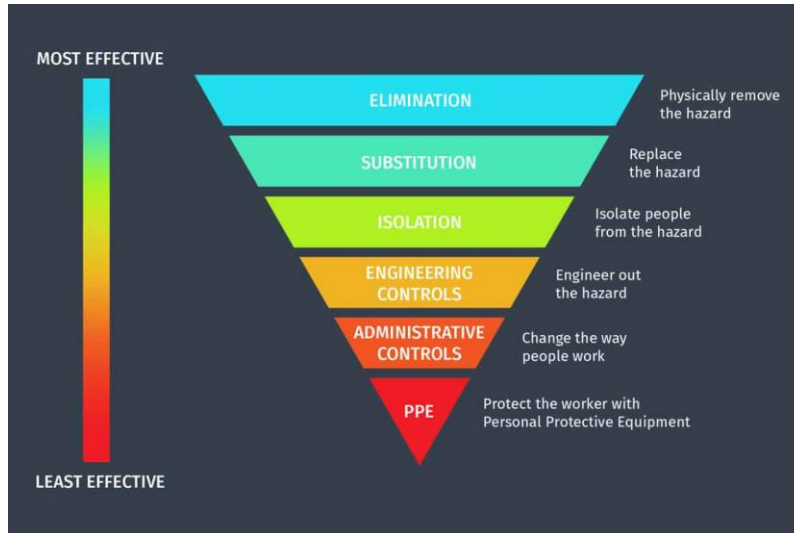
When determining your hazards evaluate your Likelihood of Occurrence vs the Severity of the Consequences using the chart to determine if your hazard is a Minimal, Low, Medium, High or Extreme.

Likelihood of Occurrence	Severity of Consequences				
	1. Minor Injuries [No lost time]	2. Significant Injury [up to 7 Days]	3. Serious Injury [7 Day Injury]	4. Major Injury	5. Fatality
1. Very unlikely [hasn't occurred before]	1	2	3	4	5
2 - Slight [rarely occurs]	2	4	6	8	10
3 - Feasible [possible, but not common]	3	6	9	12	15
4 - Likely [has before, will again]	4	8	12	16	20
5 - Very Likely [occurs frequently]	5	10	15	20	25
Risk Rating: Likelihood * Severity	Minimal 1-2	Low 3-9	Medium 10-15	High 16-20	Extreme 25

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Step 4: Control the Hazards



Measures:

Elimination

Elimination should always be the first control measure you consider. Ask yourself, can this risk be removed entirely from this activity.

Examples:

- Use extendable tools to eliminate work at heights
- Cordless tools to get rid of trailing cables.
- Materials ordered to size to reduce the hazard of blades.

Substitution

Substitution is the second-best control measure you could use. Maybe the risk cannot be removed entirely (as is often the case), but could it be reduced by replacing the material, substance or process with something less hazardous?

Examples:

- Replacing ladders with tower scaffolds.
- Substituting a hazardous chemical with a safer alternative.
- Changing high-level vibrating equipment with newer equipment with less vibration exposure.

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Engineering Controls

The third option is engineering controls – usually fixed temporary, or permanent controls. Engineering controls could be collective (protecting all workers (ex. edge protection for work at heights) or individual (protecting a single user ex. anchor points for connecting via lanyard). Give priority to measures which protect collectively over individual measures.

Examples:

- Extraction machines to remove hazardous dust or fumes from the air.
- Enclosing dangerous items of machinery or moving parts.
- Installing guard rails to fall hazards.

Administrative Controls

The fourth option is administrative controls. While this type of controls is lower down in priority, it will often be an essential part of your control measures. These are the rules and systems you put in place to carry out the work safely. What are the procedures you need to do with work without anyone getting injured or an illness?

Examples:

- Limiting the use of vibrating equipment below exposure action values.
- Banning at height and lifting operations in bad weather.
- Enforcing a one-way traffic system on site.

Personal Protective Equipment

The fifth option is personal protective clothing and equipment (PPE). PPE is the last line of defense against a hazard, so while it shouldn't be your first choice when controlling risks, it can give the wearer added protection for any remaining level of risk or if other controls fail. PPE is often needed and is the most visual control measure however it is your last line of defense and should not be your primary control measures. Remember to train your workers in the function and limitation of each item and make sure the PPE being used works well together.

Keep in mind:

You don't have to pick just one control for each hazard and risk. Your risk assessment will probably identify several different risks and it is unlikely they can all get removed completely. There is often some level of residual risk remaining. If you cannot eliminate risk, then often the best way to control the risk will be through a combination of control measures listed below. These controls help to bring the remaining risk down as low as reasonably practical (ALARP).

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For example, you might replace a toxic chemical with one that is no longer toxic, but the new chemical might still pose other dangers. You could then implement:

Engineering controls: such as safe storage and fume extraction.

Administrative Control: such as training and job rotation to limit exposure

PPE: such as gloves and goggles for its use.

Remember to make sure all controls work well together, are detailed in your risk assessment, communicated to your team, and are regularly reviewed and maintained to remain effective.

Step5: Ranking your Hazards with Controls

After you have determined your controls now you need to re-rank your hazards again with the controls in place following the same process in Step 5. If your hazards remain in a “High” or “Extreme” level, you must implement more controls to bring the hazard down prior to commencing work. You can not move forward until your hazards are lower than a “High” status.

Step 6: Documentation

All steps listed from 1-5 are required by law to be documented. All Hazard Aspect and Risk Assessments must be completed on the proper form and intervals listed below:

Name	Form Number	Responsibility	Frequency	Notes
HPL Operations Hazard Aspect & Risk Assessment (HARA)	HPL-FOR-HSET-523	Supervisor or Delegate	Daily for all Operation Crews	** You can complete a weekly HARA if you reference the first HARA daily in the HARA reference section on the form. You must review and communicate the HARA
HPL Fleet Hazard Aspect & Risk Assessment	HPL-FOR-HSET-515	Supervisor or Delegate	Daily for all Fleet Crews	
HPL Project Hazard Aspect & Risk Assessment	HPL-FOR-HSET-524	Manager or Delegate	Prior to a project beginning.	**A customer provided form may be used if it follows the HPL Hazard Aspect and Risk Assessment Process (Plan, Hazards, Rank, Controls, Rank)
HPL Job Task Hazard Aspect & Risk Assessment	HPL-FOR-HSET-525	Manager, Supervisor or Delegate	Prior to implementing a new or hazardous job task that requires more training or controls.	
HPL High Level Pre-Project Bid Hazard Aspect & Risk Assessment	HPL-FOR-HSET-526	Vice President or Delegate	Prior to a bidding a complex or hazardous job, or new to the company type of work or project. To be determined by the President and Vice Presidents.	

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After you have completed the documentation with your crew, conduct a Hazard Aspect & Risk Assessment Meeting. Create an open discussion on the written HARA and encourage all employees to speak up and ask questions if they feel job steps, hazards or controls were missed or don't understand a job step, hazard or control that was discussed. If employees cannot understand the discussion draw or show visuals to provide more clarity. If employees still do not understand bring in other employees or the health, safety, environment, and training department to help discuss the topics prior to allowing the employee(s) to commence work.

RECORDS

The Health, Safety, Environment & Training will store all completed forms in eCompliance, paper files, dropbox or on the company website for future reference.

All levels of Hazard Aspect and Risk Assessments shall be reviewed by all personnel working on the project or completing the job task.

All daily levels of Hazard Aspect and Risk Assessments shall be reviewed and signed off by all personnel working on the project or completing the job task.

REFERENCES

- HPL-FOR-HSET-515 Fleet Hazard Aspect & Risk Assessment
- HPL-FOR-HSET-523 Operations Hazard Aspect & Risk Assessment
- HPL-FOR-HSET-537 Load & Unload Equipment/ Material Hazard Aspect & Risk Assessment
- HPL-FOR-HSET-538 HydroVac Operation Hazard Aspect & Risk Assessment
- HPL-FOR-HSET-539 Bore Operation Hazard Aspect & Risk Assessment
- HPL-FOR-HSET-524 Project Hazard Aspect & Risk Assessment
- HPL-FOR-HSET-525 Job Task Hazard Aspect & Risk Assessment
- HPL-FOR-HSET-526 High Level Pre-Bid Hazard Aspect & Risk Assessment