



Hazard Identification and Assessment

HAZARD IDENTIFICATION AND ASSESSMENT			
	General Policy and Procedures	Policy No.	HSE 2-007
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Issued by	Health and Safety	Page	1 of 12
		Review	Annual

Cantiro is committed to protecting human life on all our work sites. All necessary precautions must be taken to prevent injury, illness, or loss. There are different methods of hazard assessment in the Hazard Assessment Process that are discussed within this section, these include:

Formal Hazard Assessment (FHA) involves a detailed look at an organization's overall operations. It's meant to identify hazards, measure risk (to help prioritize hazards), and develop, implement, and monitor related controls. Worker jobs or types of work are broken down into separate tasks. Formal hazard assessments are detailed, may involve many people, and will require time to complete.

Job Hazard Analysis (JHA) is completed for specific steps broken down from a specific scope of work, and is completed when the work is performed irregularly, is new to workers, or involves the possibility of injury to a worker.

Field Level Hazard Assessments (FLHA) will be performed before the project or task begins, at the beginning of the workday, and as the scope of work changes. The FLHA includes all existing and potential hazards that apply to the work site or the work activities being performed. If a Safe Work Practice, JHA/Safe Job Procedure, or safety topic relates to the tasks/work being done, the worker documents that they have reviewed the necessary documents. If controlled products are being used on the site, the SDS will be reviewed in the FLHA process and documented. The superintendent shall ensure that the identified Personal Protective Equipment (PPE), as documented on the FLHA, is correct and adequately protects the workers. The supervisor understands that if for any reason the proper selection of PPE cannot be established, advice from an expert in the field will be acquired. A worker's exposure to a hazard must never be compromised.

Site Safety Inspections shall be performed to ensure that the Hazard Assessment Process is effectively protecting the workers. Any hazardous condition encountered during a site inspection will be identified and the appropriate corrective action will be performed in a timely manner. Any condition that includes imminent danger shall be dealt with immediately.

The Hazard Assessment Process will be under continual **review** to ensure accuracy and consistency. Management will be responsible to monitor the hazard assessment program. Hazard assessments are a very important part of the Cantiro Health and Safety Program.

Cantiro believes that with an effective Hazard Assessment Process, all losses and injuries are preventable.

1.0 Purpose

The purpose of this procedure is to establish and maintain a formal process for the identification, assessment, and control of hazards. The most frequent cause of incidents at a workplace is failing to take the time to think through the work process, identify the hazards and deal with them. The Alberta OHS Legislation Code Part 2 requires employers to perform hazard assessments to identify, document, and communicate existing or potential hazards on the work site. Formal Hazard Assessments (FHA) or Job Hazard Analysis (JHA) must be developed for the work that is performed. The workers involved must be engaged in the development of the Formal Hazard Assessments by either development, review, and/or revision of the assessments.

Formal Hazard Assessments (FHA) or **Job Hazard Analysis (JHA)**, break down specific tasks that a worker does constantly where the steps and surroundings do not change for the job.

The **Field Level Hazard Assessment (FLHA)** is a tool that was also created to help employers fulfill these requirements. A Supervisor must ensure that every worker under their care is involved in creating a proper Field Level Hazard Assessment. The quality of the FLHA documentation is equally important. Job Hazard Analysis (JHA) must be reviewed regularly and available to the workers.

General Information

The most frequent cause of incidents at a workplace is failing to take the time to think through the work process, identify the hazards and deal with them. A Supervisor must ensure that every worker under their care is involved in creating a proper Field Level Hazard Assessment. The quality of the FLHA documentation is equally important.

Hazard control is an essential element of Due Diligence. One way of thinking about Due Diligence is taking “reasonable care” to ensure that no harm comes to a worker at Cantiro. The starting point of Due Diligence is following the OHS Act, Regulation, and Code. Field Level Hazard Assessments can be complicated and can be completed in various ways. All FLHA’s must include two basic steps: a **site walk-through (observation)** and proper **documentation**. The method used to determine hazards will depend on several factors.

2.0 Scope

This procedure applies to the Cantiro Group of companies

3.0 Responsibilities

- 3.1 It's the responsibility of senior management to ensure that there is a formal hazard identification assessment and control program in place and that resources are available to complete hazard assessments and implement adequate controls.
- 3.2 It's the responsibility of employees to:
- Participate in job hazard analysis and field-level hazard assessments where required; and
 - Generate Job Hazard Analysis and Field Level Hazard assessment forms
- 3.3 It's the responsibility of superintendents to:
- Review completed field-level hazard assessment forms for adequacy; and
 - Review and sign off field-level hazard assessments to ensure that preventative measures/ controls have been implemented and are effective.
- 3.4 It is the responsibility of the Safety Department to maintain the hazard assessment system by:
- Ensure that an effective hazard assessment program is established and maintained;
 - Maintaining completed Job Hazard Analysis records
 - Review completed field-level hazard assessments for adequacy; and
 - Providing support as required

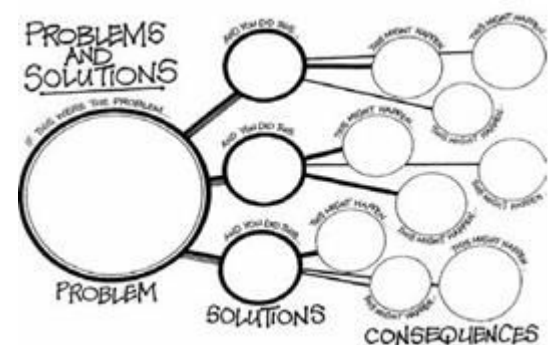
4.0 Definitions

4.1 **"Hazard"**- means a situation, condition, or thing that may be dangerous to the health or safety of workers.

4.2 **"Hazard Assessment"**- an employer's responsibility to assess a workplace for any existing or potential hazards. The process involves identifying hazards, determining the potential severity and frequency of exposure to those hazards, assessing the hazard to determine an appropriate corrective measure, and implementing and monitoring the corrective measures to control the hazards. The results of a hazard assessment must be in writing and must be communicated to every worker that is affected by the hazards. The hazard assessment is completed as a JHA or a Field Level Hazard Assessment (FLHA).

Hazard Assessments must include these four components:

- Identification of all existing or potential hazards, including the dangers in the work process
- Determining the potential severity and frequency of the hazard
- Plans to eliminate or control the hazards
- Communication with all affected workers



If the Hazard Assessment does not have all four of these components it would be considered incomplete.

And always remember, **“Think Safe... Think Ahead.”**

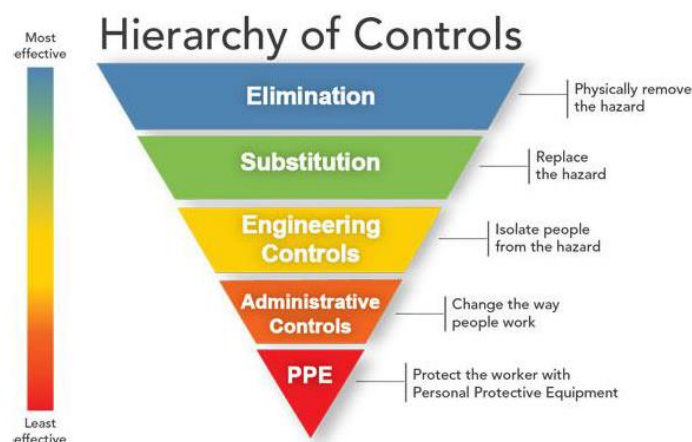
“WHAT ARE THE HAZARDS AND HOW CAN THEY HURT ME?”

4.3 **“Hierarchy of Controls”** This is the preferred order of control measures listed from the most to the least effective. Workplace Hazards should be controlled at the highest possible level and should not be addressed at a lower level unless it is found that it is not reasonably practicable to address them at a higher level.

Risk-assessed hazards are compiled, addressed, and mitigated through dedicated assignments, appropriate documentation of completion, and implemented control methods including engineering or administrative controls and PPE required as written on the work site hazard assessment of the site-specific HSE plan. No work will begin before the work site hazard assessment is completed.

Additionally, no risk assessed as high (intolerable) shall be performed.

If the hazard cannot be eliminated then it shall be controlled by Engineering, Administrative, and/or PPE controls. Engineering controls are incorporated into the process itself, sometimes as part of the equipment. Substitution could be one engineered method to follow. Administrative controls are used to minimize exposure to a hazard through worker training and worker rotation. If the engineering or administrative controls do not achieve this, then the employer must ensure the appropriate PPE is used by workers affected by the hazard. Cantiro may use a combination of engineering, administrative and PPE controls to achieve a greater level of worker safety.



Elimination

Elimination is the most effective and preferred method of dealing with a risk or hazard. If we can eliminate risk or hazard, then there is nothing to control. Wherever possible, we should try to

eliminate the risk/hazard. Where elimination is not possible, rely on the remaining four methods of mitigation/control

Substitution

Substitution is the second most effective and preferred method of controlling risk or hazard. It must be the first consideration in controlling exposure to a risk or hazard. This method simply substitutes a safer option. For example:

- Substituting a safer chemical for a dangerous one
- Substituting a more environmentally friendly product
- Substituting a tool to allow the work to be done more safely
- Substituting equipment that is better suited to the job
- Doing the job/task a different way

Engineering Controls

Engineering control of hazards deals with the elimination or isolation of the hazard from the employee and the physical limits of the employee's exposure to the hazard. (I.e. exposure to a chemical based on schedule 1 of the OHS Code) Engineering Controls involve designing out the risk. Engineering controls physically prevent access to a risk or hazard and require no direct action from personnel. They are designed in, or automatic. Examples include:

- Installing a security fence to restrict the entrance of unauthorized personnel
- Installing screens in welding areas to protect personnel from sparks and arc radiation
- Installing ventilation systems to remove toxic vapours/fumes
- Installing noise control barriers on noise suppressors
- Installing monitoring and warning equipment
- Isolating the hazard with an enclosure or physical barriers
- Ergonomic design
- Guarding
- Mechanical Ventilation
- Security Systems

Administrative Controls

Administrative controls deal with the directing of personnel and include policy, procedure, and training. Administrative controls reduce or limit the amount of exposure an employee has to a specific hazard. Management needs to ensure that there is a strong commitment from both management and the employee to ensure these controls work effectively.

Administrative controls are procedures used to avoid exposure to a hazard, or risk, which cannot be substituted or engineered out. Examples of administrative controls are:

Examples of Administrative controls include:

- Establishing practices and procedures for the ongoing operation and maintenance of equipment
- Establishing good housekeeping standards and practices

- Hiring and placement of personnel
- Rotating workers to reduce the risk of exposure
- Training and educating employees, both workers and Supervisors
- Establishing safety audits and inspections
- Compliance with Cantiro Health and Safety program
- Standard operating procedures
- Safe job procedures
- Workplace-specific training

Personal Protective Equipment

Personal Protective Equipment (PPE) should only be considered as a last line of defense or as backup protection if the other methods of hazard control fail to provide adequate protection. PPE should be used as a supplement to the other controls but never as a substitute.

The following should be considered when using PPE:

- Determine where the PPE is needed
- Determine which type of PPE is suitable
- Train the worker on the proper use of PPE
- Enforce the use of PPE where it is required
- Inspect PPE regularly for damage and defect, document the findings
- Maintain and replace PPE when necessary.
- If more information is required on PPE, please reference the manual section on PPE.

Examples of Personal Protective Equipment are:

- Fire retardant coveralls
- Safety boots
- Hardhats
- Work gloves
- Safety Glasses

4.4 **"Reasonably Practicable"** The term "so far as is reasonably practicable" means that the degree of risk in a situation can be balanced against the time, trouble, cost, and physical difficulty of taking measures to avoid the risk. If these resources are so disproportionate to the risk that it would be unreasonable to expect any employer to have to incur them to prevent it, the employer is not obligated to do so unless there is a specific requirement that they do.

4.5 **"Residual Risk"** The remaining risk after control measures have been implemented.

4.6 **"Risk"** Risk is defined as the chance that someone or something will be adversely affected in a way by unintended exposure to the hazard.

5.0 Procedure

Hazard Assessment Program

Hazard Assessments are a proven technique used in modern health, safety, and environmental management systems to identify and correct hazards on a work site. The process involves identifying hazards, determining the potential severity and frequency of exposure to those hazards, assessing the hazard to determine an appropriate control, and implementing and monitoring the controls to mitigate or eliminate the hazards. Cantiro shall establish and maintain a process to identify and assess hazards on an ongoing basis. The results of this process shall be used to set objectives and targets and to develop preventive and protective measures.

The Hazard Assessment Program is a proactive process designed to identify, assess, and control/eliminate hazards before they cause an injury, or incident of loss which in turn can cost companies, such as Cantiro manpower, time, and money.

The Hazard Assessment Process should be used for all routine and non-routine activities as well as new processes, and changes in operation, products, or services (as applicable).

Hazard Assessment and Control

Method of Assessment – Hazard Assessment Process

The assessment of hazards in the work area is done using different methods depending on the situation. The methods used are conducted throughout the job process to ensure workers and the public are kept safe and healthy.

The different types of hazard assessments (methods) used are:

- Formal Hazard Assessment (FHA) or Job Hazard Analysis (JHA)
- Field Level Hazard Assessments (FLHA)

Provincial legislation requires that a hazard assessment be conducted as follows:

- An employer must assess a work site and identify existing and potential hazards before work begins at the work site or before the construction of a new work site,
- An employer must ensure the (JHA) and/or (FLHA) is repeated
 - At reasonably practicable intervals to prevent the development of unsafe and unhealthy working conditions
 - When a new work process or activity is introduced
 - When a work process or operation changes, or
 - Before the construction of significant additions or alterations to a work site.
 - Work is conducted at temporary /mobile work sites
 - Workers are conducting activities at a work site not owned by Cantiro
 - Before the job begins

Formal Hazard Assessment (FHA) and/or Job Hazard Analysis (JHA)

Involves a detailed look at an organization's overall operations. It's meant to identify hazards, measure risk (to help prioritize hazards), and develop, implement, and monitor related controls. Worker jobs or types of work are broken down into separate tasks. Formal hazard assessments are detailed, may involve many people, and will require time to complete.

Cantiro will create, review and revise the Formal Hazard Assessments (FHA) and Task Hazard Analysis (JHA)

1. When a new operation, work processes, equipment, materials, or products are introduced onto our sites.
2. When operations work-related processes or equipment are modified FHA will be reviewed and revised.
3. When site-specific hazard assessments, inspections, or investigations identify a previously unrecognized hazard
4. A review will be done every 3 years if it has not been updated previously.

If the scope of work has a high degree of probability or has the potential to cause serious injury, will be performed regularly, is new to the workers, or has been altered because of procedures, materials, or equipment a Job Hazard Analysis (JHA) must be done.

For all work that poses a threat to the health and safety of a worker, a JHA - Safe Job Procedure must be completed.

Once the major steps have been identified on the JHA form, look at each step individually and identify specific hazards associated with that step. Once all steps have been assessed and hazards identified for each step, identify corrective measures to protect the worker from the hazards. This columnar approach allows for correlation between steps, hazards, and the corrective measures that will protect the workers.

Once a JHA has been completed, a written step-by-step description of how to do the work, watch for the identified hazards and utilize the corrective measures is created. This is called a Safe Job Procedure.

An existing Job Hazard Analysis (JHA) or Safe Job Procedure is formally reviewed annually or repeated at reasonably practicable intervals to prevent the development of unsafe and unhealthy working conditions

Hazard Identification

All employees and subcontractors affected by hazards identified in the Hazard Assessment Process are informed of the hazards and the methods used to control or eliminate the hazard.

Worker names and participation in the process shall be documented on the written Hazard Assessment Reports. Workers will be trained in the hazard identification process including the use and care of proper PPE, and how to complete FLHA's, JHA's, and other documentation as required.

The respective superintendent or manager advises the safety advisor when additional hazards are introduced into the workplace to revise planning and assessment needs.

Unsafe hazards must be reported immediately and addressed by the superintendent. The superintendent discusses the Hazard Assessment Process with employees at the respective work location during the employee's documented orientation.

Hazard Identification is a learned skill and employees need practice to improve on this skill.

In the early stages of doing hazard assessments, employees may not see the hazards or the potential for hazards. Training the eye to see hazards involves trying to answer questions about the situation.

Most of the questions will start as follows: "What if this happens, will I or someone else be hurt?" With each subsequent assessment, the ability to see or visualize the hazards/potential for hazards in a situation improves.

Some questions to help identify hazards or potential hazards are:

- Can anybody get caught in or between objects?
- Is there a chance of electrocution?
- Do tools, machines, or equipment present any hazards?
- Can the worker make harmful contact with moving objects?
- Can the worker slip, trip, or fall?
- Can the worker suffer strain from lifting, pushing, or pulling?
- Is the worker exposed to extreme heat or cold?
- Is excessive noise or vibration a problem?
- Is there a danger from falling objects?
- Is lighting a problem?
- Can weather conditions affect safety?
- Is harmful radiation a possibility?

The Hazard Assessment Process should be used for all routine and non-routine activities as well as new processes, and changes in operation, products, or services (as applicable).

Hazard Classifications (Severity and Probability) and Risk Rating Scale

Each identified hazard is assessed for risk based on the potential severity of affecting injury to people, damage to assets, the environment, or the reputation of Cantiro. The probability of risk exposure is then considered.

Following risk assessment steps, each risk assessed becomes classified as Low, Medium, or High per the Cantiro Risk Assessment Matrix shown below. The risk assessment level of the hazard is recorded with the associated work task within all the hazard assessment/analysis processes.

"Red"	High (6-9)	These risks are not acceptable to our organization. While risk measures can be put into place (Elimination, Engineering, Administration, and PPE) the job should be stopped until proper people (i.e., the safety department, and management) can be brought in to maintain and control the risk, which will allow us to bring it to a tolerable and acceptable level of risk for all involved. This would be considered an event that happens often and will probably continue in different circumstances. Work that has been evaluated previously will be reviewed to ensure the situation is the same
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		and will implement the same procedures to ensure the proper measures are put into place to reduce the risk to a tolerable level. I.e., Working at Heights is considered a High Risk. Fall protection equipment, training, and administration are the controls put into place to make this a tolerable risk. A detailed JHA must be completed as soon as reasonably practicable to address the hazards associated with this task. The Task may continue with temporary control measures put in place while the JHA is being completed. The JHA must be reviewed by the Safety Advisor and the Health and Safety committee. Temporary control measures must be implemented before the task is continued. Temporary control measures may include training workers on the risk associated with the task and the temporary control measures, installing temporary guards, improving ventilation, etc.
"Yellow"	Medium (3-4)	Working with Medium risk, while we need to consider that the risks can be lowered to a tolerable level, an effort to do this must be made before starting the task. These risks are said to happen 10%-60% of the time when doing the task, though still considered an infrequent event. Control Methods must be put in place. Follow SWP/SJP and other information that could be found in the Health and Safety Manual /Occupational Health and Safety Act, regulations, and Code. A detailed JHA must be completed as soon as reasonably practicable to address the hazards associated with this task with priority given to tasks that have been identified with high or extreme levels of risk. The JHA should be completed as soon as possible, but the task may continue until the JHA has been completed.
"Green"	Low (1-2)	These risks would be considered acceptable, with no actions required. While no actions are required, a reassessment of the task is mandatory whenever something changes within the scope. These risks would be a first aid injury that does not require medical attention, though it is considered an unlikely event. Tasks that have been assigned a low risk should not have an immediate or direct impact on worker safety. Priority will be given to tasks with medium or higher levels of risk before the low-level risks are assessed.

Severity (Impact)	Probability (Likelihood)	Risk Probability Chart																
3. Serious/ Imminent Danger – fatality, loss of facility, widespread occupational illness. Over 100K to repair. A long-extended period of interruption in business operations.	3. Probable – The event happens repeatedly on a house build. 61%-100% chance of the incident happening while doing this task.	SEVERITY → LIKELIHOOD ↓ <table><tr><td></td><td>1</td><td>2</td><td>3</td></tr><tr><td>1</td><td>LOW - 1 -</td><td>LOW - 2 -</td><td>MEDIUM - 3 -</td></tr><tr><td>2</td><td>LOW - 2 -</td><td>MEDIUM - 4 -</td><td>HIGH - 6 -</td></tr><tr><td>3</td><td>MEDIUM - 3 -</td><td>HIGH - 6 -</td><td>HIGH - 9 -</td></tr></table>		1	2	3	1	LOW - 1 -	LOW - 2 -	MEDIUM - 3 -	2	LOW - 2 -	MEDIUM - 4 -	HIGH - 6 -	3	MEDIUM - 3 -	HIGH - 6 -	HIGH - 9 -
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3	MEDIUM - 3 -	HIGH - 6 -	HIGH - 9 -															
2. Moderate – injury/illness, property/equipment damage, Repair cost from 30K-99K. Few days of interruption in operations.	2. Reasonable Probable – likely to occur eventually, considered to be an Infrequent event with a percentage of 10%-60% chance of occurring.																	

1. Minor – First Aid Injury, an event that would take less than 30K to fix. A brief interruption in our operations of less than a few hours.	1. Remote – Unlikely to happen or has not happened to date. Less than a 10% chance of occurring.	
Severity (Impact) (X) Probability (Likelihood) = Risk Rating		
Engineering Controls (Eng.): Are considered the first line of defense. Are usually “devices” installed and/or used to protect workers; i.e. exhaust ventilation equipment shields, non-slip flooring, ergonomic keyboards, wireless headsets, etc.		
Administrative Controls (Admin): Measures that alter the way work is done, including timing, policies, Safe Work Practices (SWP) and protocols, Job Risk Assessments (completed before starting a task to assess the current situation), training, etc.		
Personal Protective Equipment (PPE): Considered the “last line of defense” to protect the worker; Needs to be properly worn and maintained.		

Inspections and Review

Regular inspections of the work site are required to ensure that the Hazard Assessment Process is being followed.

Please refer to Section 7: Inspections and Maintenance for Information Regarding the Site Safety Inspections.

The Safety Advisor will be responsible for the review of the documents included in the Hazard Assessment Process. The review is completed to ensure that the documentation is fully completed when required and is in compliance with legislation and the Cantiro Health and Safety Program.

Refer to and follow Part 2 Hazard Assessment, Elimination and Control of the OHS Code

6.0 Associated Documents

N/A

7.0 Document Revision History

Revision	Rev. Date	Sec/Para Changed	Change Made	Next Review Date
01	May 9, 2023	Whole Document	Procedure Developed. Reason: Required a procedure guiding evaluating the level of risk associated with recognized hazards	As Required

8.0 Document Approval

Prepared by: Nicole Linman Title: HSE Advisor	Reviewed by: Title:	Approved by: Title:
_____/_____ Sign/Date	_____/_____ Sign/ Date	_____/_____ Sign /Date