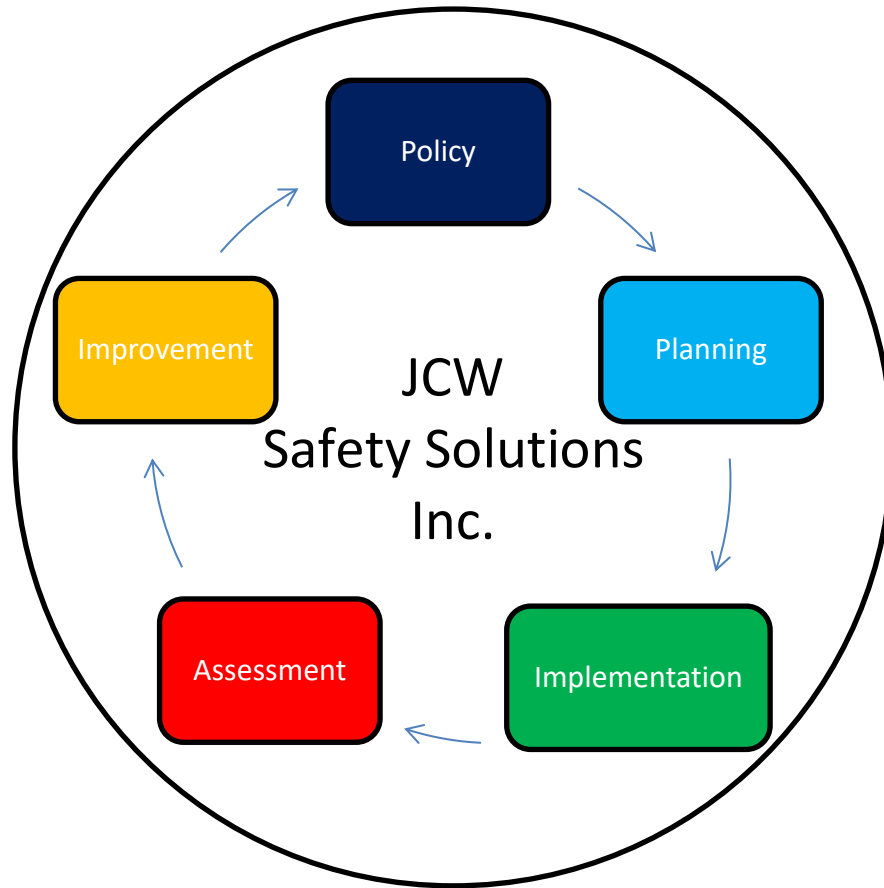


# HAZARD ASSESSMENT, ELIMINATION AND CONTROL



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### 1.0 PURPOSE

JCW Safety Solutions considers a hazard “any situation/energy with the potential to do injury or damage to people, property, or the environment”. As such, JCW Safety Solutions recognizes that hazard identification and control on the worksite is a critical step in the prevention of incidents. This Safe Work Practice (SWP) describes the process and tools used to identify hazards, eliminate hazards, and in the event the hazards cannot be eliminated, implement controls and assess the effectiveness of those controls. JCW Safety Solutions Management and Representatives must be prepared to:

1. Apply the hazard assessment processes established and require contractors to assess and communicate hazards in the workplace
2. Report potential operations hazards
3. Understand the potential consequence of those hazards
4. Ensure safeguards are in place to prevent, detect or mitigate potential hazards; and
5. Implement additional measures for addressing workplace hazards.

**REMEMBER:** All workers take responsibility for identifying, assessing, and controlling the hazards in their workspace. JCW Safety Solutions encourages a philosophy of.

**“If you see a hazard, do something about it. If you can’t, report it to someone who can”.**

### 2.0 SCOPE

This practice applies to all JCW Safety Solutions employees, contract workers, third party contractors and visiting personnel working on JCW Safety Solutions premises and for JCW Safety Solutions on any client work sites.



### 3.0 TERMS, DEFINITIONS AND ACRONYMS

Term	Description/Definition
<b>ALARP</b>	<p>An acronym for “As Low As Reasonably Practicable”. A term often used in the regulation and management of safety-critical and safety-involved systems. The ALARP principle is that the residual risk shall be reduced as far as reasonably practicable.</p> <p>For a risk to be ALARP, it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. The ALARP principle arises from the fact that infinite time, effort, and money could be spent in the attempt of reducing a risk to zero. It should not be understood as simply a quantitative measure of benefit against detriment. It is more a best common practice of judgement of the balance of risk and societal benefit.</p>
<b>At Risk Behaviours</b>	Any behaviour or practice which expose workers to a hazard that may adversely affect their health or safety.
<b>At Risk Condition</b>	Any situation which exposes workers to a physical, chemical, electrical, high energy, etc. hazard that may adversely affect their health or safety.
<b>Competency</b>	As defined by the Occupational Health and Safety Act, Regulation, and Code, means a person is “adequately qualified, suitably trained and with sufficient experience”.
<b>Critical Task</b>	Means a job/task which has a high potential for serious loss or injury
<b>FLHA (Field Level Hazard Assessment)</b>	Field Level Hazard Assessment is a method that individuals and crews use to eliminate or minimize potential losses before, during or scope change during the course of work on site. This form of hazard assessment is done at the beginning of a work task.
<b>Hazard</b>	A hazard means a situation, condition or energy that may be dangerous to the safety or health of workers, result in damage to property, damage to workplace environment, or a combination of these.



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Term	Description/Definition
<b>Hazard Assessment</b>	A written process to recognize existing and potential hazards so evaluation of the hazard can be conducted to determine the level of risk that the hazard poses before they cause harm to people or property at work.
<b>Hazard Control</b>	The process of determining a suitable means of controlling identified hazards.
<b>JSA (Job Safety Analysis)</b>	Job Safety Analysis is a process which helps integrate accepted safety and health principles and practices into a particular task or job operation. In a JSA, each basic step of the job is to identify potential hazards and to recommend the safest way to do the job.
<b>Procedure</b>	A step-by-step sequence of actions that must be carried out to complete a specific task (i.e., Step 1 must be completed before going to Step 2).
<b>Risk</b>	The potential probability for a loss occurring as the result of contact with a hazard; a measure of the probability and potential severity of harm or loss.
<b>Safe Work Practice (SWP)</b>	A prevailing standard that is not site-specific yet gives direction to a specific task to ensure the safety of personnel and equipment. If the task requires a deviation from the SWP then a 'Written Hazard Assessment' must be completed for the specific task.
<b>Training</b>	Is the act or process that meets a specific requirement to verify competency.

### 4.0 ROLES AND RESPONSIBILITIES

The **Worker** is responsible for:

- Following/developing site-specific procedures (where applicable).
- Conducting site-specific hazard assessments.
- Conducting pre-job safety meetings to discuss potential hazards and controls prior to starting work or in the event of a work scope change.
- Correcting unsafe conditions immediately or tag the hazard to prevent others from being unknowingly exposed to the hazard and notify your supervisor to schedule repairs.
- Communicating known hazards to co-workers and your supervisor.
- Wearing appropriate PPE as per hazard assessment.
- Evaluating the effectiveness of controls, and
- Ensuring an activity does not proceed if they believe there are risks to the environment and/or their or others health or safety (Stop Work Authority).

The **Supervisor** is responsible for:

- Taking a visible and proactive leadership role in developing a strong HSE culture in their area of responsibility.
- Ensuring the communication, implementation, and maintenance of this SWP within their area of responsibility.
- Documenting corrective actions.



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- Correcting at risk conditions as soon as reasonably practicable.
- Ensuring pre-job safety meetings are held to discuss potential hazards and controls prior to starting work.
- Ensure only competent workers are conducting the specific task.
- Ensure that all work activities have been coordinated with all workers on site to avoid conflict which may lead to unmitigated risk (Simultaneous Operations (SIMOPS)).
- Ensuring an activity does not proceed if they believe there are risks to the environment and/or their or others health or safety (Stop Work Authority).

The **Manager** is responsible for:

- Implementing and monitoring the effectiveness of this SWP, and
- Provide the financial resources and commitment to ensure that an effective Hazard Assessment, Elimination and Control Process is implemented and maintained.

### 5.0 TRAINING AND COMPETENCY

Employee positions identified as requiring training in Hazard Assessment, Elimination and Control Practice can be found within the Training Matrix. Training on the Hazard Assessment, Elimination and Control Safe Work Practice will include:

- Hazard Assessment, Elimination and Control Awareness Training
- Energy Wheel Awareness Training

### 6.0 HAZARD IDENTIFICATION

A hazard means a situation, condition or energy that may be dangerous to the safety or health of workers, result in damage to property, damage to workplace environment, or a combination of these.

#### 6.1 Types of Hazards

There are two main types of hazards.

Type	Description	Examples
Health	Has the potential to cause an acute or chronic condition, illness, or disease.	<ul style="list-style-type: none"> <li>▪ Loud noises</li> <li>▪ Respirable dusts (silica)</li> <li>▪ Extreme temperatures</li> <li>▪ Airborne asbestos fibers</li> <li>▪ Bodily fluids</li> <li>▪ Carcinogens</li> </ul>
Safety	Has the potential to cause immediate injury or damage.	<ul style="list-style-type: none"> <li>▪ Equipment pinch points</li> </ul>





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	<ul style="list-style-type: none"> <li>▪ Vehicle blind spots</li> <li>▪ Working at heights</li> <li>▪ Confined spaces</li> <li>▪ Workplace violence</li> <li>▪ Chemical releases</li> </ul>
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### 6.2 Hazard Categories

There are four categories of hazards that help to make a hazard assessment process easier.

Category	Examples					
Physical Hazards						
	Poor ergonomics	Repetitive motions	Vibrations	Noise	Poor lighting	Violence*
	Poorly maintained floors	Radiological	Working at heights	Working around equipment	Working alone	Extreme temperature / weather
Chemical Hazards				CO H <sub>2</sub> S CH <sub>4</sub> etc.		
	Waste products	Fumes	Vapours	Gases	Inhalation of silica	Chemical releases
Biological Hazards						
	Viruses	Fungi/moulds	Bacteria	Body fluids	Pandemics/ influenza	Animal/ pet waste

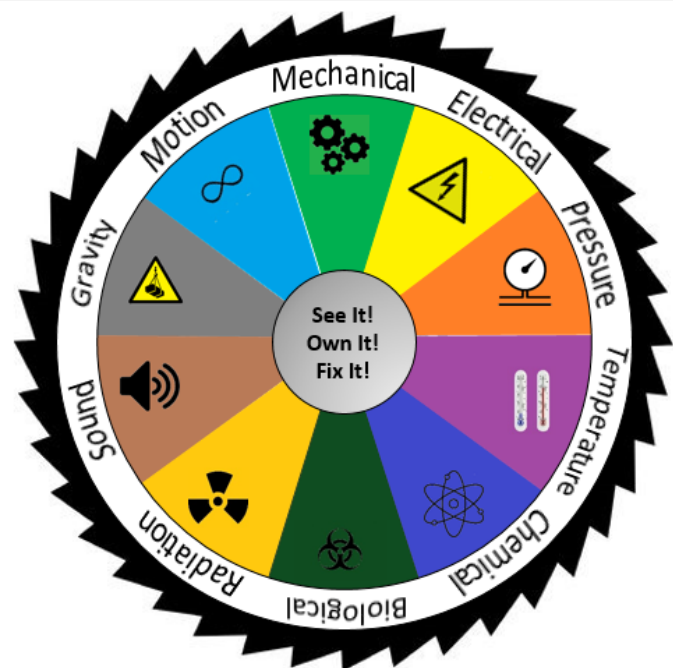


Category	Examples					
Psychological Hazards						
	Harassment and bullying	Stress	Fatigue	Shift work	Work-life conflict	Operational changes

### 6.3 Energy Hazard Wheel

To help safeguard against serious injury and fatality in the workplace, **JCW Safety Solutions** uses the human performance-monitoring tool commonly known as the Energy Hazard Wheel. This tool is designed to help personnel to identify and control the significant potential hazards unique to each activity and job. Preventing serious injuries and fatalities requires operational discipline. This means performing every task the right way every time, from initial hazard assessment through each step of the job, including post-activity review.

Use of the energy hazard wheel will assist workers in systematically identifying typical worksite health, safety & environmental hazards such as:



<b>Mechanical</b> – rotating equipment, compressed springs, drive belts and motors	<b>Electrical</b> – power lines, transformers, static charges, lightning, energized equipment, wiring and batteries
<b>Pressure</b> – piping, compressed cylinders, control lines, vessels, tanks, hoses, pneumatic, and hydraulic	<b>Biological</b> – animals, bacteria, viruses, insects, blood-borne pathogens, and contaminated water
<b>Chemical</b> – flammable vapours, reactive hazards, carcinogens, corrosives, pyrophoric, combustibles, oxygen-deficient, welding fumes and dust	<b>Temperature</b> – open flame, ignition sources, hot or cold surfaces, liquids, gases, steam, friction and general environmental (weather) conditions
<b>Radiation</b> – lighting issues, welding arcs, solar rays, lasers, X-rays, and NORM	<b>Sound</b> – equipment noise, impact noise, vibration, high pressure release and communication impacts
<b>Gravity</b> – falling object, collapsing roof and trip, slip fall	<b>Motion</b> – vehicle, equipment, flowing water, wind and body positioning when lifting

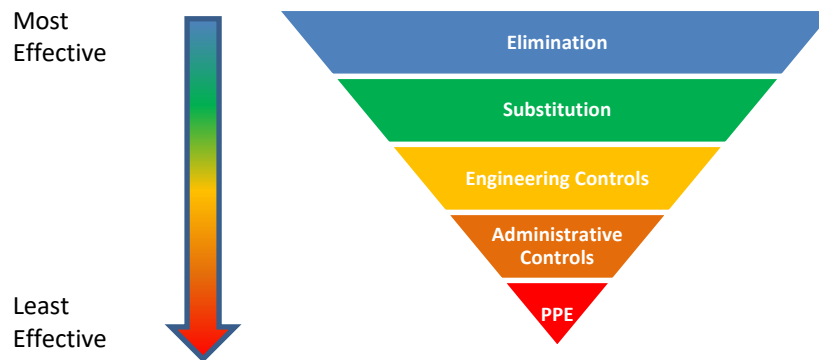


### 6.4 Selecting Controls

A control is a suitable means of controlling identified risks. Applying this hierarchy is a systematic approach to identify the most effective method of risk reduction. The preferred method is to first ask “is there another way we can do this task (elimination or substitution)”? If not, implement engineering controls as they are less dependent on human behaviour and then follow with administrative controls. Lastly, the use of PPE can minimize the severity of the hazard but must not be used as the sole hazard control.

Supervisors and workers should work together on selection of appropriate controls as it ensures worker participation. Often a hazard cannot be eliminated or controlled by a single source method, in these situations a combination of controls may be the best solution.

**Note:** Controlling one hazard can create another hazard. Be sure to repeat the process to identify if any additional hazards have been created from adding a control.





### 6.4.1 Elimination/Substitution of the Hazard

The first consideration for controlling hazards is to **eliminate** the hazard or **substitute** a less hazardous material or process.

Elimination is the process of removing the hazard from the workplace. It is the most effective way to control a risk because the hazard is no longer present. The job is redesigned or the substance is eliminated so as to remove the hazard.

Examples of elimination are changing the work in a way that will get rid of a hazard, agreement on purchasing of equipment and chemicals before installation or use and having workers perform tasks at ground level rather than working at heights.

When it is not possible to eliminate or substitute the hazard, then the following control methods shall be used in the following order:

- Engineering Controls
- Administrative Controls
- Personal Protective Equipment (PPE)
- Stop Work Authority if hazards cannot be controlled to an acceptable level

### 6.4.2 Engineered Controls

Engineering Controls are physical changes to the work area or process that effectively minimize a worker's exposure to hazards. Engineering controls are placed between the worker and the hazard.

The basic types of engineering controls are:

1. **Process Control** involves changing the way a job activity or process is done to reduce the risk. Some processes can be automated or mechanized. Monitoring should be done before as well as after the change is implemented to make sure the changes did result in lower exposures.
2. **Isolation** completely separates the worker from the area of risk. Hazards can sometimes be isolated through containment or enclosure. For example, negative-pressure fume hoods in laboratory settings or sound reducing enclosures for noisy equipment.
  - **Enclosure** indicates that the area of risk is in the same area as the worker, but enclosed in another room or structure to physically limit the exposure.
  - **Containment** applies to the storage and handling of a hazardous material. For example, in a chemical process, the product could be contained in its original vessel, instead of being transferred to a storage vat. This would eliminate one of the steps, or exposures, where workers could be impacted by the hazard.

If engineering controls are not feasible then implementation of Administrative Controls must be considered.

### 6.4.3 Administrative Controls

Administrative controls can be used to control the hazard to a level that is as low as reasonably practicable (ALARP). Administrative controls are less effective than engineering controls. These control measures have many limitations because the hazard itself is not actually removed or reduced.

Occupational hygiene is an effective way to reduce the amount of a hazardous material absorbed, ingested, or inhaled by a worker. They are particularly effective if the contaminant(s) can accumulate on the skin, clothing, or hair. Examples of personal hygiene include:



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- Washing hands after handling material and before eating, drinking, or smoking.
- Avoiding touching your lips, nose, and eyes with contaminated hands, and
- No smoking, drinking, chewing gum or eating in the work areas - these activities should be permitted only in a "clean" area.

Worker education and training on how to conduct their work safely helps to minimize the risk of exposure and is a critical element of any complete workplace health and safety program. Training must cover not only how to do the job safely, but it must also ensure that workers understand the hazards of their job. It must also provide them with information on how to protect themselves and co-workers.

When necessary, methods include, but not limited to:

- Access Control.
- Alarms and Signs.
- Area Classifications.
- Buddy system.
- Education and Training.
- Emergency Response Equipment.
- Evacuation Plans.
- Guidelines.
- JSA / FLHA.
- Limit time to exposure to hazards.
- Limiting hours of work.
- Management of Change.
- Operational Readiness Review.
- Policies and Rules.
- Safe Work Procedures.
- Warning Signs.
- Wash Facilities, and
- Work/rest schedules.

When hazards cannot be completely eliminated through engineering or administrative controls PPE controls must be considered necessary for employee protection.

### 6.4.4 Personal Protective Equipment

Personal protective equipment (PPE) is a physical barrier between the worker and the hazardous exposure. As a last line of defense, workers may need to use PPE to reduce the potentially harmful effects of exposure to a known hazard. Personal protective equipment should never be the only method used to reduce exposure except under very specific circumstances because PPE may "fail" (stop protecting the worker) with little or no warning. For example: "breakthrough" can occur with gloves, clothing, and respirator cartridges.

### 6.4.5 Stop Work Authority (SWA)

Stop Work Authority should be initiated for conditions or behaviors that threaten danger or imminent danger to person(s), equipment or the environment. Situations that warrant a SWA may include, but are not limited to the following:

- Alarms.
- Change in conditions.
- Changes to scope of work or work plan.
- Emergency situation.
- Equipment used improperly.
- Lack of knowledge, understanding or information, and
- Incident including Near Miss.



### 7.0 RISK ASSESSMENT TOOL

Risk assessment is a means to quantify the hazard. The most common definition of risk is: Risk = Severity x Probability. It can also be defined as a feasible detrimental outcome of an activity or action. In Risk Assessment (RA), risk is therefore characterized by two parameters:

- The severity of the possible adverse consequence(s), and
- The probability of occurrence of each consequence.

Severity is typically expressed quantitatively (e.g., the number of people potentially hurt or killed). Their likelihoods of occurrence are expressed as probabilities or frequencies (i.e., the number of occurrences or the probability of occurrence per unit of time). The total risk is the sum of the products of the consequences multiplied by their probabilities.

Risk assessment usually answers three basic questions:

1. What can go wrong during an activity that would lead to adverse consequences?
2. What and how severe are the adverse consequences that result of the occurrence?
3. How likely to occur are these undesirable consequences?

The Risk Assessment Tool helps to determine the potential severity of an incident and the probability of occurrence related to hazards associated with each job step / task and to assist in making an informed decision about risk mitigation. The Risk Tool identifies potential severity and probability of occurrence with clarifiers in each category to help determine actual potential risk associated with the hazards for a specific task.

A potential hazard/operational and/or asset risk will be assessed with the following definitions, methodology and criteria. Risks are classified as follows:

1. Low
2. Medium
3. High
4. Extreme

**Low risks:** do not require any further analysis.

**Medium risks:** should be investigated to determine effective risk mitigation benefits. Where reasonably practicable risks should be mitigated to a lower risk classification. If unable to lower risk to low risk classification, sign off by the appropriate level of supervision is required.

**High risks:** are highly undesirable and shall be mitigated by looking for opportunities to find another way (elimination or substitution) followed with engineering or administrative controls to a medium or low risk classification. Consider immediate interim controls and precautions where reasonably practical. If unable to lower risk to medium or low risk classification, sign off by **JCW Safety Solutions Director** is required.

**Extreme risks:** Task must not proceed. These risks must be mitigated on a priority basis (reduce the severity). Immediate interim controls and precautions are required. If unable to lower risk to medium or low risk classification, sign off by **JCW Safety Solutions Director** is required.



**7.1 Risk Matrix & Hazard Prioritization Index**

SEVERITY	PROBABILITY					
		(1) Remote	(2) Unlikely	(3) Possible	(4) Likely	(5) Expected
	(5) Severe	(5) Medium	(10) Medium	(15) High	(20) Extreme	(25) Extreme
	(4) Major	(4) Low	(8) Medium	(12) High	(16) Extreme	(20) Extreme
	(3) Serious	(3) Low	(6) Medium	(9) Medium	(12) High	(15) Extreme
	(2) Moderate	(2) Low	(4) Low	(6) Medium	(8) Medium	(10) Medium
	(1) Minor	(1) Low	(2) Low	(3) Low	(4) Low	(5) Medium

**7.2 Probability Criteria**

Rating	Probability of Occurrence
(1) Remote	Reasonably expected to <u>not</u> occur in the lifetime of this asset/work area. Similar event has not occurred in our Industry.
(2) Unlikely	Reasonably expected to <u>not</u> occur more than once in the lifetime of this asset/work area. Similar event may have occurred once or twice in our Industry.
(3) Possible	Similar event has occurred within our Industry or has occurred within <b>JCW Safety Solutions</b> . (e.g., once every 5 years)
(4) Likely	Expected to occur several times (e.g., once per year) over lifetime of an asset/work area.
(5) Expected	Almost certain (e.g., more than once per year) occurrence over lifetime of an asset/work area.



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### 7.3 Severity Criteria

Severity Indices	(1) Minor	(2) Moderate	(3) Serious	(4) Major	(5) Severe
<b>Health &amp; Safety</b>	<ul style="list-style-type: none"> <li>▪ No illness or adverse effect.</li> <li>▪ Medical treatment is not necessary.</li> <li>▪ Injury requiring First Aid treatment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Minor illness or adverse effect with limited or no impacts on ability to function</li> <li>▪ Multiple First Aid Injuries</li> <li>▪ Medical Aid Injury</li> </ul>	<ul style="list-style-type: none"> <li>▪ Serious illness or adverse effects with mild to moderate functional impairment</li> <li>▪ Injury requiring modified work</li> <li>▪ Multiple Modified Work Injuries</li> <li>▪ Multiple Medical Aid Injuries</li> </ul>	<ul style="list-style-type: none"> <li>▪ Major illness or chronic exposure resulting in long term effects.</li> <li>▪ Medical treatment for exposure to toxic substance (i.e., H2S)</li> <li>▪ Lost Time Injury</li> <li>▪ Injury resulting in long term disability or disfigurement</li> </ul>	<ul style="list-style-type: none"> <li>▪ Critical illness or chronic exposure resulting in fatality or significant life shortening effects.</li> <li>▪ Fatality or fatalities</li> <li>▪ Multiple Lost Time Injuries</li> <li>▪ Life Threatening physical assault or threat</li> </ul>
<b>Assets</b> (Facility Damage, Business Interruption)	<ul style="list-style-type: none"> <li>▪ Minor asset loss or damage to facility resulting in costs &lt;\$50K</li> </ul>	<ul style="list-style-type: none"> <li>▪ Moderate asset loss or damage to facility resulting in costs &gt;\$50K but &lt;\$250K</li> </ul>	<ul style="list-style-type: none"> <li>▪ Serious asset loss, damage to facility resulting in costs &gt;\$250K but &lt;\$500K</li> </ul>	<ul style="list-style-type: none"> <li>▪ Major asset loss or damage to facility resulting in costs &gt;\$500K but &lt;\$2M</li> </ul>	<ul style="list-style-type: none"> <li>▪ Severe asset loss or damage to facility resulting in costs &gt;\$2M</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>▪ Non-reportable Liquid release contained on lease</li> <li>▪ Negligible environmental impact</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reportable Liquid release contained on lease</li> <li>▪ Response requiring on-site resources</li> <li>▪ Liquid release of &gt; 2m<sup>3</sup> but &lt; 10m<sup>3</sup> all contained on-site</li> </ul>	<ul style="list-style-type: none"> <li>▪ Liquid release of &gt;10m<sup>3</sup> but &lt; 100m<sup>3</sup> all contained on-site</li> <li>▪ Response requiring local resources</li> <li>▪ Single wildlife impact</li> </ul>	<ul style="list-style-type: none"> <li>▪ Liquid release extends beyond lease</li> <li>▪ Multiple wildlife impacted</li> <li>▪ Liquid release of &gt; 100m<sup>3</sup></li> </ul>	<ul style="list-style-type: none"> <li>▪ Liquid release into Waterbody or sensitive habitat</li> <li>▪ Release impacting a sensitive species</li> <li>▪ Release requiring long term response and remediation effort</li> </ul>
<b>Reputation</b>	<ul style="list-style-type: none"> <li>▪ Regulatory enforcement action not likely</li> <li>▪ NCR to internal procedures or requirements</li> <li>▪ Individual concern</li> <li>▪ No Media attention anticipated</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regulatory enforcement action (fines &lt; \$100K)</li> <li>▪ Potential for Media or social media coverage</li> <li>▪ Short term community concern</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regulatory enforcement action (fines &gt; \$100k but &lt; \$1M) and or criminal charges laid</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regulatory enforcement action (fines &gt; \$1M but &lt; \$5M) and or criminal charges laid</li> <li>▪ Regulatory enforcement action</li> <li>▪ Local Media coverage</li> <li>▪ Short term regional concern</li> </ul>	<ul style="list-style-type: none"> <li>▪ Regulatory enforcement action (fines &gt; \$5M) and or criminal charges laid</li> <li>▪ Negative impact on market share or investor valuation</li> </ul>





## 8.0 LEVELS OF ASSESSMENT

### 8.1 Field Level Hazard Assessments (FLHA)

For **Low Risk** tasks conducted by **JCW Safety Solutions** employees in which no formal procedure exists, then the worker(s) are required to complete an FLHA ([Appendix # 2](#)).

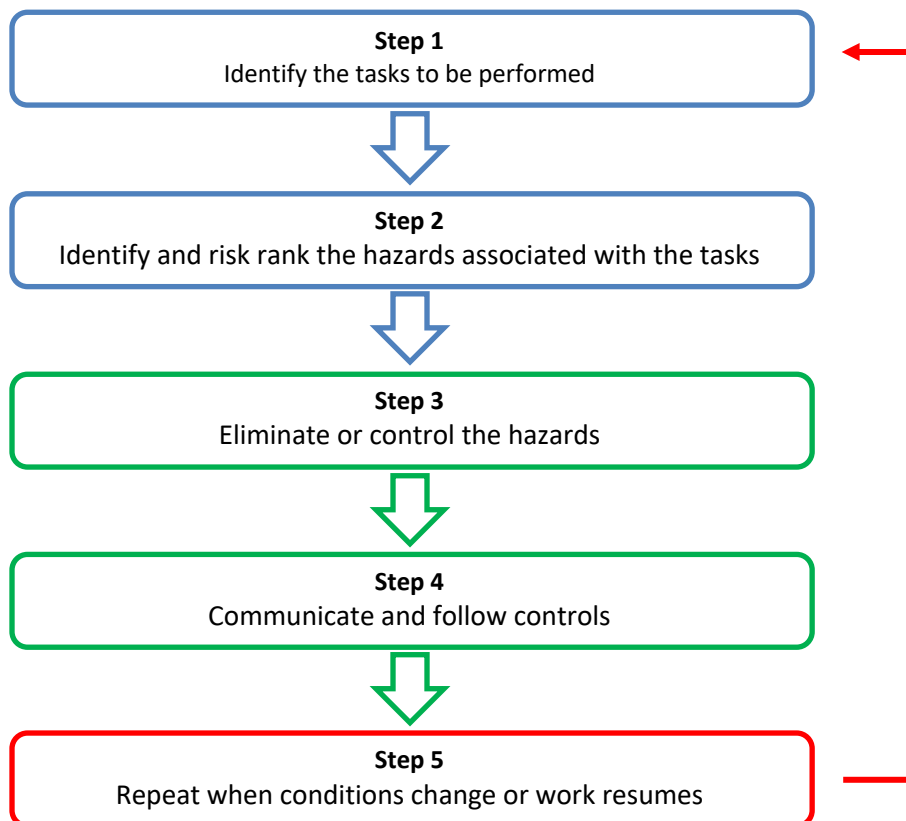
### 8.2 Formal Hazard Assessment

Also referred to as a Job Hazard Analysis (JHA), this is an analysis process used to identify role specific workplace hazards and evaluate the risks associated with the task. A JHA should be conducted with the workers performing the job and details the steps required to conduct the task safely. The JHA ([Appendix # 1](#)) is available to be for completing a hazard analysis for a specific job procedure.

**Note:** If using the JHA as the Hazard Assessment tool, then any additional worksite hazards that were not identified within the JHA, such as weather conditions need to be addressed by the worker prior to conducting the task.

## 9.0 FIVE-STEP SITE-SPECIFIC HAZARD ASSESSMENT MODEL

There are several ways to conduct site-specific hazard assessments, also called Field Level Hazard Assessments (FLHA's). **JCW Safety Solutions** has adopted the following five-step model.





### 9.1 Step 1 – Tasks to be performed

- What tasks are scheduled for today/this shift?
- Are we the only crew on-site? If not,
- What tasks will other crews be performing around us?
- How will our tasks impact those working around us?

### 9.2 Step 2 – Risk rank the hazards

- What can hurt me on this site today?
- Identify the hazards associated with the specific task(s) as it relates to the Energy Hazard Wheel?
- Can the hazard come in contact with the workers?
- What are the weather conditions?
- Has appropriate training been provided to the workers for the scheduled tasks?

**Remember:** Hazards and outcomes are different. A hazard is what needs to be controlled, an outcome is what could happen if the hazard is not controlled.

### 9.3 Step 3 – Eliminate or Control Hazards

For each of the hazards or potential hazards identified for each basic job step/task a elimination or control must be identified. The order of the controls must follow the [Hierarchy of Controls](#) Model. Once all controls have been identified, then repeat the risk ranking process to determine the residual risk ranking of the step after controls have been put in place.

**Note:** Any step that has a residual risk of High to Extreme requires **JCW Safety Solutions Director** approval

### 9.4 Step 4 – Communicate and Follow Controls

Companies must inform affected workers of the hazards identified in a hazard assessment. Therefore completed hazard assessments must be readily available to workers. This allows workers to verify they are performing the tasks correctly.

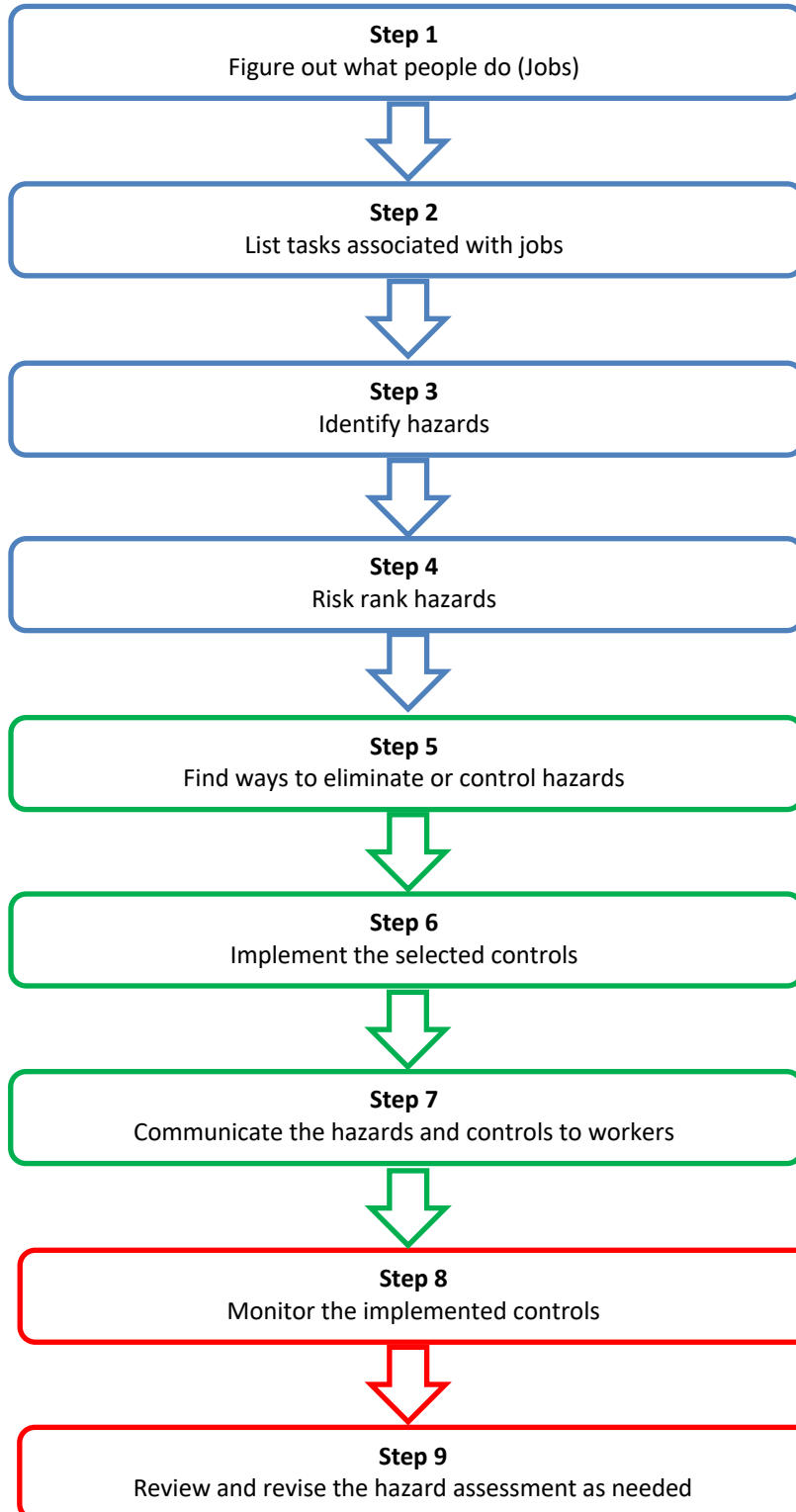
### 9.5 Step 5 – Repeat when Conditions Change or Work Resumes

Repeat or update the hazard assessment at reasonable intervals or if any conditions change. Indicate reassessments with a time stamp or note.



## 10.0 NINE-STEP FORMAL HAZARD ASSESSMENT MODEL

There are several ways to conduct formal hazard assessments ([Appendix # 1](#)), also called Job Hazard Analysis (JHA's). **JCW Safety Solutions** has adopted the following nine-step model.





### 10.1 Step 1 – What People Do

Start by identifying all jobs (Job/Department) within **JCW Safety Solutions**. An organizational chart or inventory of jobs is a useful way to track this step. The benefit of using an organizational chart is that it outlines reporting structure. This will be helpful when assigning responsibilities for controls.

### 10.2 Step 2 – List Tasks Associated with Jobs

For each job in Step 1, compile a list of all the tasks (Task Description) performed as a part of the job. Then for each of the task descriptions, identify the sequence of basic steps.

### 10.3 Step 3 – Identify Hazards

Identify hazards involves looking at contributing factors on a work site. Utilization of the Energy Hazard Wheel will ensure a systematic approach to hazard identification is conducted for each basic job step / task.

### 10.4 Step 4 – Risk Rank Hazards

Risk is determined by utilizing the **JCW Safety Solutions** Risk Matrix and Hazard Prioritization Index. Initially determine the potential severity of the hazard, and then determine the probability of that severity occurring. This will provide the potential risk ranking of that hazard. This first evaluation of risk, is the risk for the hazard without controls.

### 10.5 Step 5 – Eliminate or Control Hazards

For each of the hazards or potential hazards identified for each basic job step/task a elimination or control must be identified. The order of the controls must follow the [Hierarchy of Controls](#) Model. Once all controls have been identified, then repeat the risk ranking process to determine the residual risk ranking of the step after controls have been put in place.

**Note:** Any step that has a residual risk of High to Extreme requires **JCW Safety Solutions Director** approval

### 10.6 Step 6 – Implement the Selected Controls

When implementing controls, address the hazard with the highest risk ranking first. Ensure that you clearly define the person responsible to implement the control, the target date to which each control will be completed and finally, confirmation of completion for each control.

### 10.7 Step 7 – Communicate the Hazards and Controls to Workers

Completed hazard assessments must be readily available to workers. This allows workers to verify they are performing the tasks correctly.

### 10.8 Step 8 – Monitor the Implemented Controls

All **JCW Safety Solutions** workers, representatives and third party contractors should be continually looking for at risk conditions or behaviours that create circumstances which may lead to injury, harm to the environment, property damage or risk to the public as well as other opportunities for improving how **JCW Safety Solutions** does business



### 10.9 Step 9 – Review and Revise

Ensure the formal hazard assessments are reviewed as per the document control procedure or more frequently if the basic job step / task results in an incident.

### 11.0 EXEMPTION

If there is reason that work cannot be conducted to an **JCW Safety Solutions** Standard, Practice or Procedure, authorization to deviate must be granted before the work can commence. Authorization is required by the **JCW Safety Solutions Director**. Exemptions are intended for extenuating circumstances only and not for the purpose of alleviating established Standards. Alternate options to prevent the need to deviate must be assessed prior to issuing an Exemption.

In order to deviate from an **JCW Safety Solutions** documented requirement, the following must occur:

- Alternate options to prevent the need to deviate must be assessed;
- Exemption must be authorized by the **JCW Safety Solutions Director**, and
- The Exemption Authorization Form (Appendix # 3) must be completed identifying the hazards and controls needed to provide an equivalent level of safety as reasonably as practical;

### 12.0 DOCUMENT HISTORY / REVISION LOG

Date	Description / Revision Details	Reviser
12-Apr-23	Initial document developed to support Health and Safety Management System Element #2 Hazard Assessment and Risk Management	

### 13.0 APPENDICES



**HAZARD ASSESSMENT, ELIMINATION AND CONTROL**

**Appendix # 1 – Job Hazard Analysis (Example) – See Form XXXX-XXX-XXX**

<b>Issue Date:</b>	<b>TASK DESCRIPTION:</b>	<b>JCW Safety Solutions Canada Risk Matrix &amp; Hazard Prioritization Index</b>						
<b>REVIEWED BY: (PRINT)</b>	<b>POSITION:</b>	<b>Severity</b>	<b>Probability</b>					
<b>APPROVED BY: (SIGN)</b> Shane Neifer	<b>POSITION:</b>			(1) Remote	(2) Unlikely	(3) possible	(4) Likely	(5) Expected
<b>JOB/DEPARTMENT:</b>			(5) Severe	(5) Medium	(10) Medium	(15) High	(20) Extreme	(25) Extreme
			(4) Major	(4) Low	(8) Medium	(12) High	(16) Extreme	(20) Extreme
			(3) Serious	(3) Low	(6) Medium	(9) Medium	(12) High	(15) High
			(2) Moderate	(2) Low	(4) Low	(6) Medium	(8) Medium	(10) Medium
		(1) Minor	(1) Low	(2) Low	(3) Low	(4) Low	(5) Medium	
<b>GENERAL CONSIDERATIONS AND REQUIREMENTS</b>								
<p><b>JHA PREREQUISITES:</b> Supervisor to review JHA with workers involved with task.</p> <p>Worker participation encouraged in JHA review. Use Job Hazard Analysis Development Worksheet (attached) for task specific comments not covered by this JHA. Review all other task specific SWP's required to complete work scope.</p> <p><b>JHA REVIEW CONDITIONS:</b></p> <ul style="list-style-type: none"> <li>• First time performing task.</li> <li>• Whenever new workers are added to the crew.</li> </ul>	<p><b>GENERAL CONSIDERATIONS AND EXPECTATIONS:</b></p> <p><b>Minimum PPE for all tasks in this JHA</b></p> <ul style="list-style-type: none"> <li>○ CSA Approved Safety footwear</li> <li>○ CSA Safety Glasses</li> <li>○ Full Shirt and Pants</li> <li>○ FR/High Visibility Coveralls</li> <li>○ Task Appropriate Gloves</li> <li>○ CSA Type 2 (Side Impact) Hard Hat</li> <li>○ Additional PPE as outlined in SWP or JHA</li> </ul> <p><b>Trainings and Certifications</b></p> <p><b>WORK PERMIT REQUIRED FOR TASK:</b> Confirm safe work permit requirements and signatures.</p> <ul style="list-style-type: none"> <li>• <b>Safe Work Permit if required</b></li> </ul>	<p><b>FIELD LEVEL HAZARD ASSESSMENT (FLHA) CARD REVIEW NOTES:</b></p> <ul style="list-style-type: none"> <li>• All crew members will participate in preparing FLHA card. Be sure to include any new workers.</li> <li>• Review and modify the FLHA card, as required. Examples of changing work conditions / jobsite hazards:             <ol style="list-style-type: none"> <li>i. Barricaded or flagged off task location.</li> <li>ii. Weather conditions – rain, snow or frost, heat.</li> </ol> </li> </ul> <p><b>FIELD LEVEL HAZARD ASSESSMENT (FLHA) CARD REVIEW CONDITIONS:</b></p> <p>Changing work conditions or jobsite hazards.</p> <p><b>REVIEW APPLICABLE SAFE WORK PRACTICES (S.W.P.)</b></p>						



**HAZARD ASSESSMENT, ELIMINATION AND CONTROL**

	<b>SEQUENCE OF BASIC JOB STEPS/TASKS:</b>	<b>HAZARD/POTENTIAL HAZARDS</b>	<b>RISK RANKING</b>	<b>RECOMMENDED HAZARD CONTROLS/OR SAFE JOB PROCEDURES</b>	<b>RESIDUAL RISK RANKING</b>
1					
2					
3					
4					
5					



## HAZARD ASSESSMENT, ELIMINATION AND CONTROL

JOB HAZARD ANALYSIS ACCEPTANCE REVIEW				
JOB TASK:				
	NAME	COMPANY	DEPARTMENT	DATE
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				







## HAZARD ASSESSMENT, ELIMINATION AND CONTROL

Approvals		
	Signature	Date
	Signature	Date
	Signature	Date
	Signature	Date
	Signature	Date



## HAZARD ASSESSMENT, ELIMINATION AND CONTROL

Appendix # 2 – Field Level Hazard Assessments (FLHA) (Example) – See Form **XXXX-XXX-XXX**



HAZARD ASSESSMENT, ELIMINATION AND CONTROL

Appendix # 3 – Exemption Authorization Form (Example) – See Form **XXXX-XXX-XXX**

Exemption Authorization Form					
Exemption to Standard#:		Area/Location:			
Person/Company Requesting Exemption:					
Exemption Start:	<i>Date (MM/DD/YY)</i>	Exemption End:	<i>Date (MM/DD/YY)</i>		
Purpose of Exemption		Alternative Options have been assessed: <input type="checkbox"/> Yes			
Hazard #	Work Process / Hazards – Description			Inherent Risk	
1					
2					
3					
4					
Hazard #	Mitigation / Control Activities		Date Completed	Mitigated Risk	
1			<i>Date (MM/DD/YY)</i>		
2			<i>Date (MM/DD/YY)</i>		
3			<i>Date (MM/DD/YY)</i>		
4			<i>Date (MM/DD/YY)</i>		
Authorization					
<b>Dept. Manager:</b>	<i>Print Name</i>	Signature:		Date:	<i>Date (MM/DD/YY)</i>
<b>HSE Director:</b>	<i>Print Name</i>	Signature:		Date:	<i>Date (MM/DD/YY)</i>
Vendor Rep:	<i>Print Name</i>	Signature:		Date:	<i>Date (MM/DD/YY)</i>