

	<b>WESTERN MILLCRAFT INC.</b> 12506 – 128 STREET EDMONTON, AB, T5L 1C8	Effective Date: 1 OCTOBER, 2011	Revised by: JFK
	<b>OCCUPATIONAL HEALTH &amp; SAFETY MANUAL</b> <b>COMPANY RULES AND REGULATIONS</b> <b>HAZARD ASSESSMENT &amp; ANALYSIS</b>	Page 1 of 5	HSE: 2.0: 5.18: 8.18 Revision: 00

### HAZARD ASSESSMENT AND ANALYSIS:

The Health, Safety and Environmental policies and procedures determines what hazards are potentially present in the workplace. This is a critical step because the balance of the safety program deals primarily with controlling these hazards. It is through the control of hazards that the frequency and severity of incidents is reduced, which results in a parallel reduction of human suffering and financial costs.

Senior Management, Project Manager, Construction Manager Shop Supervisors, Field Supervisors, and workers are all responsible to ensure that a Job Hazard Analysis (JHA) is conducted to each new project. The Job Hazard Analysis (JHA) will consider the physical, chemical, biological, and ergonomic impacts and potential impacts at the new worksite location. The Job Hazard Analysis (JHA) will be documented by using the Job Hazard Analysis (JHA) and Field Level Hazard Assessment forms. These forms will be completed daily, dated, and repeated at reasonable intervals through the day to prevent the development of unsafe and unhealthy working conditions, or when a new work process is introduced.

Hazards can exist in many forms. They can be visible, hidden, a condition or an act. Recognition and control of hazards are necessary to ensure that Corrective and/or Preventive Actions are completed on a timely basis. This is critical because Health, Safety, and Environmental Programs deal primarily with controlling these hazards.

Control of these hazards is discussed in the following sections:

- Safe Work Practices (SWP)
- Job Hazard Analysis ( JHA)
- Field Level Hazard Assessments (FLHA)
- Company Rules and Regulations
- Preventive Maintenance
- Training and Communication
- Inspections
- Investigating and Reporting

A Hazard assessment is an examination of a work job task and worksites to identify actual and potential hazards that exist and then implement suitable controls to minimize or eliminate these hazards. Hazardous worksites pose a multitude of health and safety concerns, any one of which could result in serious injury or death. These hazards are a consequence of the work being performed, and they may include:

- Chemical exposure
- Fire and explosion
- Oxygen deficiency
- Ionizing radiation
- Biologic hazards
- Safety hazards
- Electrical hazards
- Heat stress/Cold exposure
- Noise

Several factors distinguish the hazardous worksite environment from other occupational situations involving hazardous substances. One important factor is the uncontrolled condition of the worksite. Even extremely hazardous substances do not endanger human health or safety if they are properly handled. However, improper control of these substances can result in a severe threat to worksite workers and to the general public. Worksite employees will be subject not only to the hazards of direct exposure, but also to dangers posed by the disorderly physical environment of hazardous worksites and the stress of working in protective clothing.

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The combination of all these conditions results in a working environment that is characterized by numerous and varied hazards which:

- May pose an immediate danger to/life or health
- May not be immediately obvious or identifiable
- May vary according to the location onsite and the task being performed
- May change as worksite activities progress

Throughout all aspects of work at Western Millcraft Inc., there is potential for all employees to be in direct contact with certain types of hazardous substances or chemicals.

**Some of these are:**

- Heavy metals (Chromium, Lead, etc)
- Paint fumes
- Chemical Burns, etc

**Potential Hazards include:**

- Inhalation of dusts and vapors
- Skin exposure
- Ingestion of material
- Heat exposure
- Noise exposure
- Fire and explosion
- Excavation hazards
- Machine operation

**These hazards are usually associated with:**

- The people involved in the worksite areas
- The equipment, machinery and tools they use
- The work methods they use
- The materials they work with
- The physical environment they work in

This section of the Health, Safety, and Environmental Manual is designed to provide the structure and tools for conducting hazard assessments, and will be the foundation for monitoring worksite activities.

Western Millcraft Inc. Hazard Assessments are completed by management, Production Managers, employees, and the HSE Manager. It is essential that all workers participate in this process as they are directly involved with the worksite and job hazards.

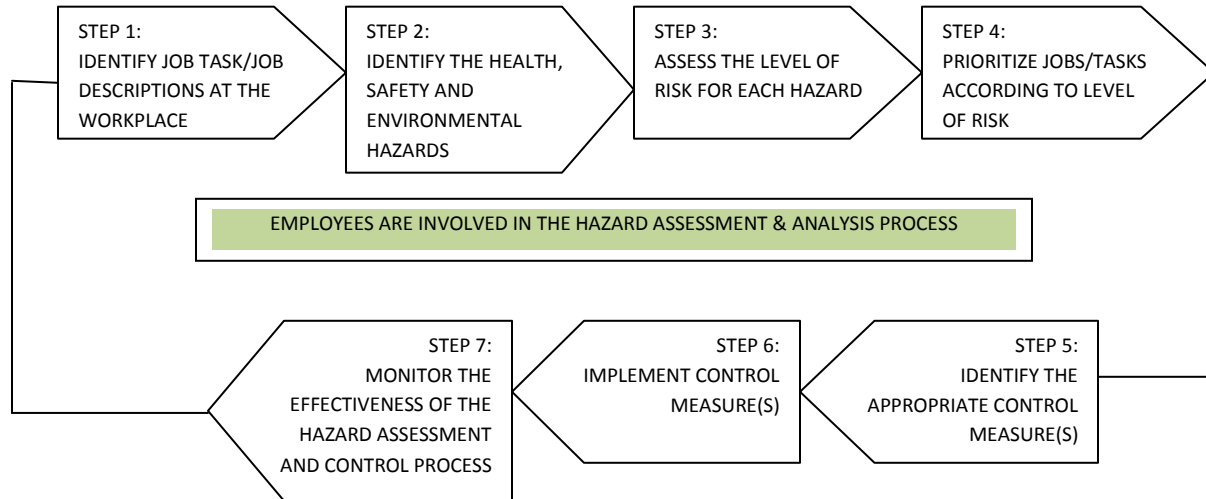
**Hazard Assessments will assess, analyze, and identify the safest way to complete job tasks using the following:**

- Identifying job tasks/job descriptions
- Identify the health, safety and environmental hazards involved in each job task
- Assess level of risk for each hazard
- Prioritize the job tasks according to level of hazard risk
- Identify the appropriate hazard control (engineering, administrative, P.P.E., substitution, elimination)
- Implement the control measures
- Monitor the effectiveness of the hazard assessment and control process

Western Millcraft Inc. has a process in place for the identification and evaluation of worksite Health, Safety, and Environmental hazards. This process describes the effective arrangement for conducting hazards assessment, analysis process, and is shown by the figure below:

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**HAZARD ASSESSMENT & ANALYSIS PROCESS:**



**STEPS FOR COMPLETING HAZARD ASSESSMENT AND ANALYSIS:**

**STEP 1: IDENTIFY THE JOBS/TASKS PERFORMED BY EMPLOYEES AT WESTERN MILLCRAFT INC.:**

- Identify and create a job inventory list of all job positions at Western Millcraft Inc. and the Health, Safety and Environmental Hazards associated with all activities and operations performed in Western Millcraft Inc. worksite environment
- These consist of people, materials, environment, tools, equipment

**STEP 2: IDENTIFY THE HEALTH, SAFETY, AND ENVIRONMENTAL HAZARDS INVOLVED IN COMPLETING THE JOBS/TASKS:**

- Evaluate and identify the hazards and risk level associated with each specific job task or operation
- Identify and evaluate the tasks and operations performed for each position in the company down to basic steps
- Look at frequency performed, training required, skill sets, etc
- These include chemical, biological, physical, ergonomic

**STEP 3: ASSESS THE LEVEL OF RISK FOR EACH HAZARD:**

- Prioritize, identify and evaluate the hazards and risk levels associated with each basic step in terms of the risk they pose to the employee(s):
  1. Safety Hazard
  2. Health Hazard
  3. Environmental Hazard

Three elements are used to evaluate and identify hazards and risk levels associated with each job task or operation.

Use Risk Priority Index (RPI) defined by: **RPI = Severity \* Probability \* Detection**

1. Severity/Risk (S/R):

If an accident occurs, what is the probable severity of the consequences?

- 1:** Imminent Danger – causing death, widespread illness, loss of facilities
- 2:** Serious – severe injury, serious illness, property or equipment damage

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**3:** Minor – non-serious injury, illness or damage

**4:** Not Applicable (N/A)

2. Probability (P):

How often is an employee exposed to the hazard?

**1:** Probable – likely to occur immediately or soon

**2:** Reasonably probable – likely to occur eventually

**3:** Remote – could occur at some point

**4:** Extremely Remote – unlikely to occur

3. Detection (D):

What is the probability to discover a hazard before an accident?

**1:** Error would be discovered less than 50% of the time

**2:** Error would be discovered 50% of the time

**3:** Error would be discovered 70% of the time

**4:** Error would be discovered 90% of the time before it reaches the employees

**STEP 4: PRIORITIZE JOBS/TASKS ACCORDING TO LEVEL OF RISK:**

- Prioritize, identify and evaluate the hazards and risk levels associated with each basic step in terms of the risk they pose to the employee(s):
- Prioritizing ranks items on a “worst first basis”
- Critical items to be reviewed first

**STEP 5: IDENTIFY THE APPROPRIATE CONTROL MEASURE(S):**

Identify and describe the type of Control Measure(s) required and identified in Step 4. This process must continue until the hazard and risk levels associated with each job task or operation are eliminated or reduced.

- Elimination
- Substitution
- Engineering Controls
- Administrative Controls
- Personal Protective Equipment (P.P.E.)

1. ELIMINATION:

The ultimate control measure is to eliminate the workplace condition or act presenting the hazard.

Example: remove and dispose of defective ladders

2. SUBSTITUTION:

Substituting a particular work activity for a safer method has proven to be very effective as a hazard control.

Example: replacing the need for electrical cords running across walkways by installing more outlets

3. ENGINEERING CONTROLS:

Engineering designs and control measures should be made at the conceptual stage of a project.

**Example:**

- Installation of guards or barriers to protect against hazards
- Re-design of an operation or process for safety
- Local exhaust ventilation to remove contaminants at source
- Installation of monitoring and warning equipment
- Installation of equipment to prevent environmental contamination

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#### 4. ADMINISTRATIVE CONTROLS:

Since engineering controls are not always practical, administrative controls are used.

##### Example:

- Policies, procedures, education and training
- Provide sufficient space to avoid, congested work areas
- Measuring workers' performance
- Establishing procedures for the ongoing maintenance of tools, equipment, vehicles and facility
- Monitoring all aspects of the Health, Safety and Environmental Program
- Assignment of responsibilities: company HSE policies, Safe Work Practices (SWP), JHA/SJP
- Hazard reporting review and follow up system: Company rules, Preventive maintenance program, orientations
- Field Level Hazard Assessment: toolbox/tailgate meetings, investigations, inspections
- May also be used in concert with SWP, JAH/SJP: Quality Assurance/Control, Education and training, audits

#### 5. PERSONAL PROTECTIVE EQUIPMENT (P.P.E):

When elimination, substitution, engineering or administrative controls fail to provide the required protection, personal protective equipment (P.P.E.) should be considered as a last line of defense or as back up protection. PPE may be used as a supplement to these other controls, but not as a substitute for them.

In using P.P.E. as a control method, the following must be considered:

- Personal Protective Equipment (P.P.E) must be selected specifically for the hazard with consideration for the degree of the hazard and limitations of the personal protective equipment, and industry regulations
- It is management responsibility to ensure that appropriate Personal Protective Equipment (P.P.E) is available for the job task, that it is in good condition, and that the employee(s) are properly trained in the correct use, care and limitations of the Personal Protective Equipment (P.P.E)
- Employees are required to use the Personal Protective Equipment (P.P.E) as specified, and must inspect the equipment prior to use to ensure that it is in proper working condition, and if not, replace the Personal Protective Equipment (P.P.E)

#### STEP 6: IMPLEMENT CONTROL MEASURES:

Once a control method has been established, it must be implemented. Documents describing the control method, assigning the person primarily responsible for implementing it, and fixing the date that the control method (or corrective action) must be completed, should be developed.

#### STEP 7: MONITOR THE EFFECTIVENESS:

There must be a follow up to confirm the control method or corrective action was implemented and it is effective in eliminating the potential hazard. Results of this follow up process must be documented for purposes of "due diligence".

It is important to recognize that the hazard assessment does not deal strictly with things that are wrong at the present time; rather, the assessments must deal with what could go wrong. When examining the processes keep asking the question "what if?"

Western Millcraft Inc. ensures that all employees affected by the hazards and risk levels associated with each job task or operation are identified in a hazard assessment worksheet, and that employees are informed of the hazards and risk levels associated with each job task or operation and the HSE controls required to control, reduce or eliminate the hazards and risk levels.

The Information in this policy does not take precedence over the OH&S Act, Regulation, Codes, or applicable Government Legislation

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