Contractor Orientation Mill/Concentrator - Thompson

1. Mill/Concentrator Contractor Orientation.

1.1 Preparation

1.2 Learner Objectives

Preparation

Learner Objectives

Upon completion of this module as a worker you will be able to:

- Identify Mill Entry Requirements
- Be aware of Hazards and Controls present in the Mill/Concentrator.
- Follow Procedures in the event of:
  - Equipment Damage
  - Personal Injury
  - Mill/Concentrator Alarms

1.3 The Mill/Concentrator Process

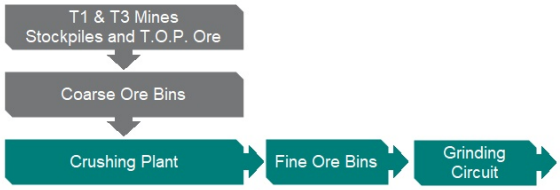
Preparation

The Mill/Concentrator Process

The Thompson Mill/Concentrator processes Ore received from the Thompson Mines T-1 and T-3. This Ore is first directed to the coarse ore bins.

From these bins it goes through the various stages of our crushing department and ends up in the fine ore bins for further processing.

From the fine ore storage bins it is introduced to the Grinding circuit and ground up in rod and ball mills.



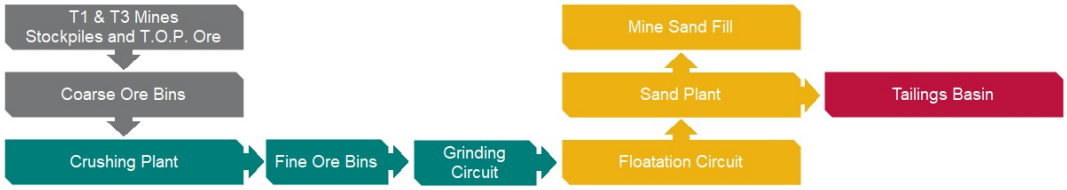
1.4 The Mill/Concentrator Process

Preparation

The Mill/Concentrator Process

The slurry produced is pumped to the flotation area. In the Flotation circuit, the slurry is treated with various reagents so that nickel minerals can be separated from the waste or reject material.

The waste materials are sent from Flotation to the Sand Plant where it is classified or sized. The coarser material or “sand” goes underground for sand fill and the finer materials are pumped to the tailings pond.



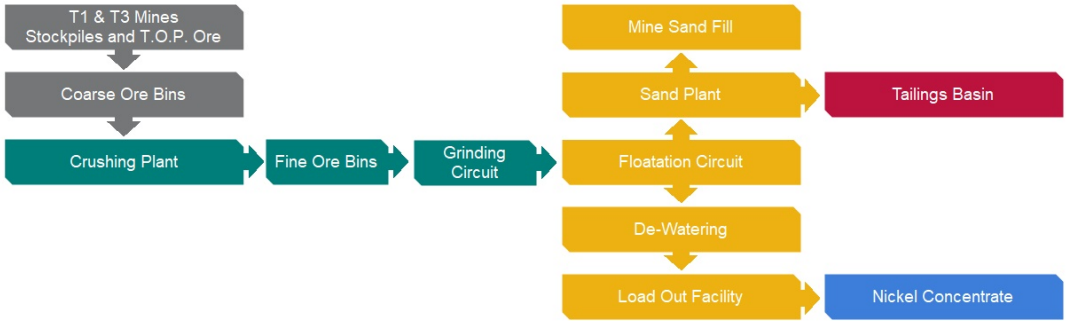
1.5 The Mill/Concentrator Process

Preparation

The Mill/Concentrator Process

The mineral slurry is pumped from the flotation circuit to the De-watering system as nickel concentrate where it is pressed free of water and moisture.

This Nickel Concentrate is transported by road and railcar to external sources for smelting and refining.



1.6 PPE - Entry Requirements

Preparation

PPE - Entry Requirements

To ensure the safety of all employees and visitors, the Mill/Concentrator requires the following standards for PPE:

Eyewear: Protective eyewear must be in good repair. All glasses must be equipped with side shields and worn at all times.

Hearing Protection: Hearing protection must be worn at all times when the Mill is in operation. The entire building is an earmuff zone with the exception of lunchrooms, offices, control booths.

Technical Services Lab, the sample room and the maintenance shop area when shop equipment is not in operation. Earplugs alone are not allowed.

Some areas are classified as double hearing protection zones. These zones will be identified with signage in the locations that they are required.

1.7 PPE - Entry Requirements

Preparation

PPE - Entry Requirements

To ensure the safety of all employees and visitors, the Mill/Concentrator requires the following standards for PPE:

Footwear: All footwear must be CSA approved puncture resistant grade one construction steel-toed boots with metatarsal protection. The boots must be in good condition.

Hard Hats: All areas of the Mill except offices, lunchrooms and control booths require the use of hard hats with attached earmuffs that conform to CSA Z94. 1-05.

1.8 PPE - Entry Requirements

Preparation

PPE - Entry Requirements

To ensure the safety of all employees and visitors, the Mill/Concentrator requires the following standards for PPE:

Clothing: All outer clothing must conform to Class 2 High Visibility. Welders must wear flame retardant outer wear. Standards for high visibility and flame-retardant clothing are CSA Z96-09 and CSA W117.2-01 respectively.

Hand Protection: All employees and workers on site must wear a pair of gloves suitable for the task they have been assigned.

Respirators: All areas of the Mill are mandatory respirator use areas. With the exception of offices, lunchrooms and control booths all personnel must carry a properly fitted respirator at all times.

1.9 Check In/Out Procedure (General)

Preparation

Check In/Out Procedure (General)

To travel inside the Mill/Concentrator you must have had Mill/Concentrator Orientation or be accompanied by someone who has.

If an emergency arises in the Mill/Concentrator it is essential to know where everyone is located.

The check in procedure is designed to ensure that all persons are accounted for at any given time.

1.10 Check In/Out Procedure (General)

Preparation

Check In/Out Procedure (General)

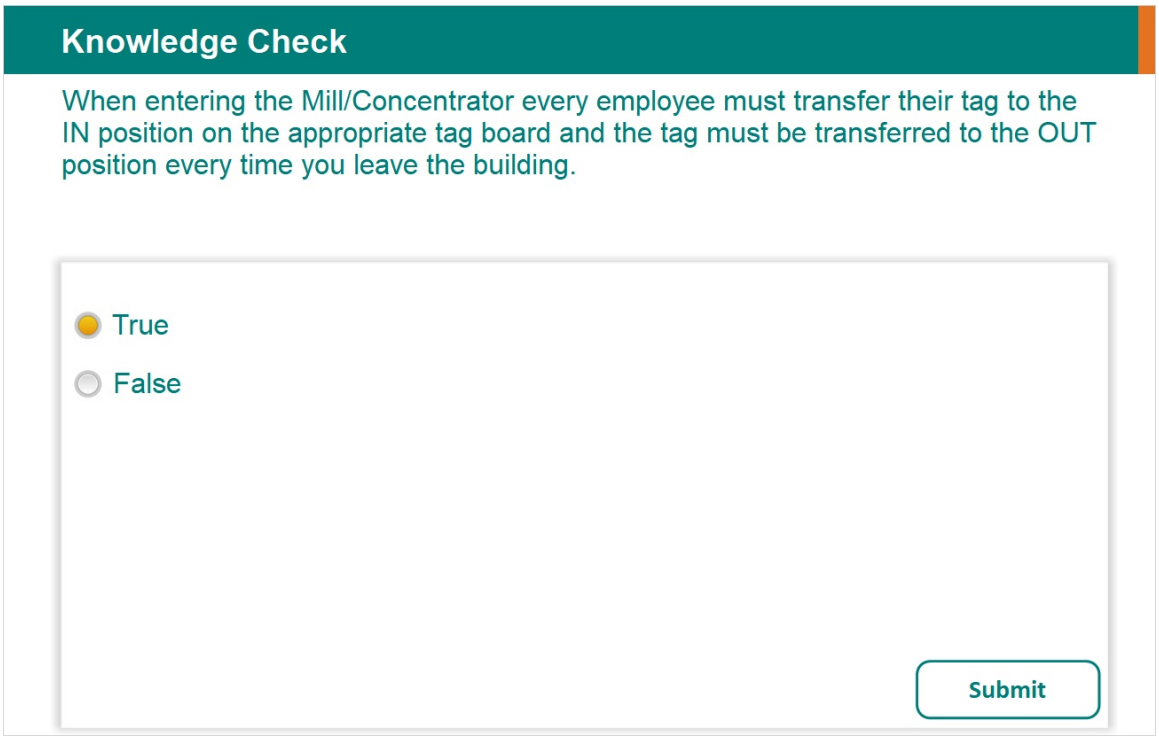
There is a tag board and Visitor's Sign-In Log Book located in the hallway just inside Door #2. All visitors must tag in on the board or sign in the Visitor's Sign-In Book upon entering.

When entering the Mill/Concentrator each person must transfer his tag to the “IN” position on the appropriate tag board.

The tag must be transferred to the “OUT” position every time you leave the building. Anyone signed into the Visitor's Sign-In Book must sign out when leaving the Mill/Concentrator.

1.11 Question 1

(Multiple Choice, 10 points, unlimited attempts permitted)



Correct	Choice
X	True
	False

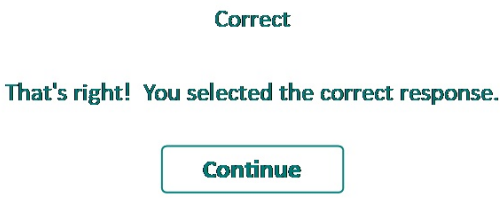
Feedback when correct:

That's right! You selected the correct response.

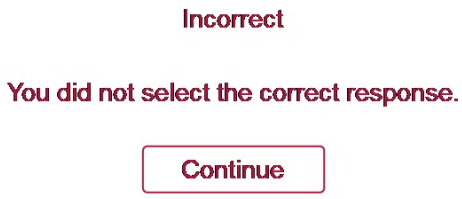
Feedback when incorrect:

You did not select the correct response.

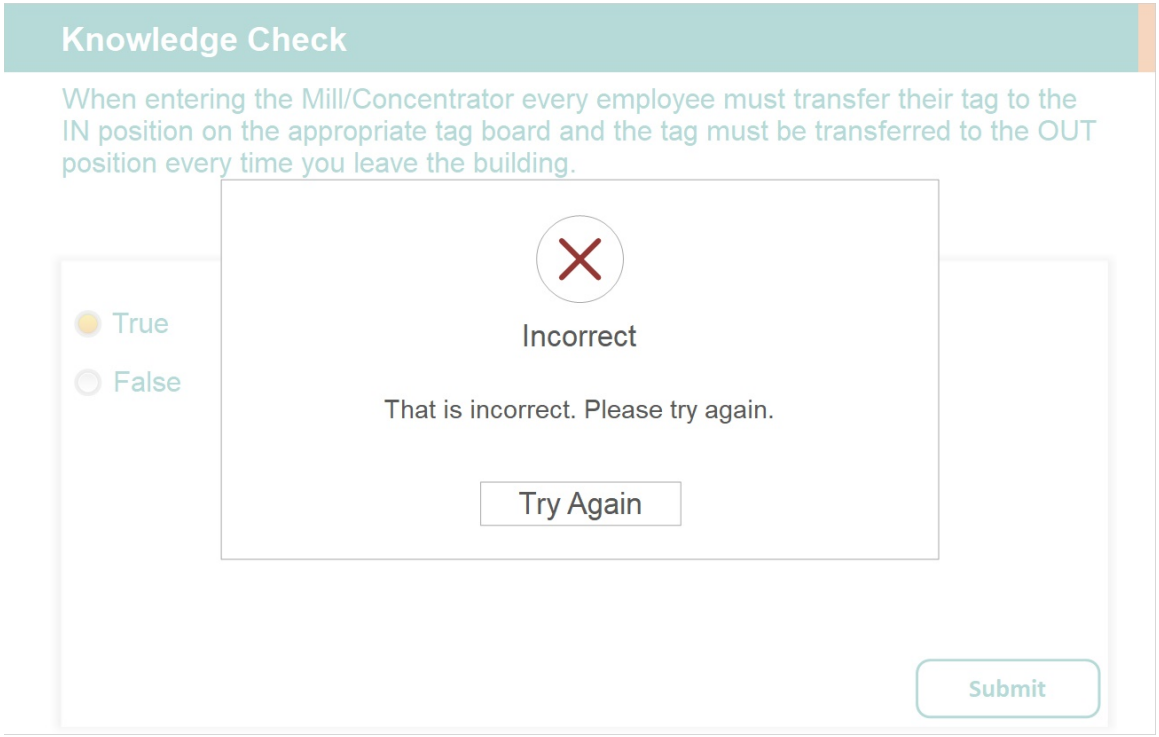
Correct (Slide Layer)



Incorrect (Slide Layer)

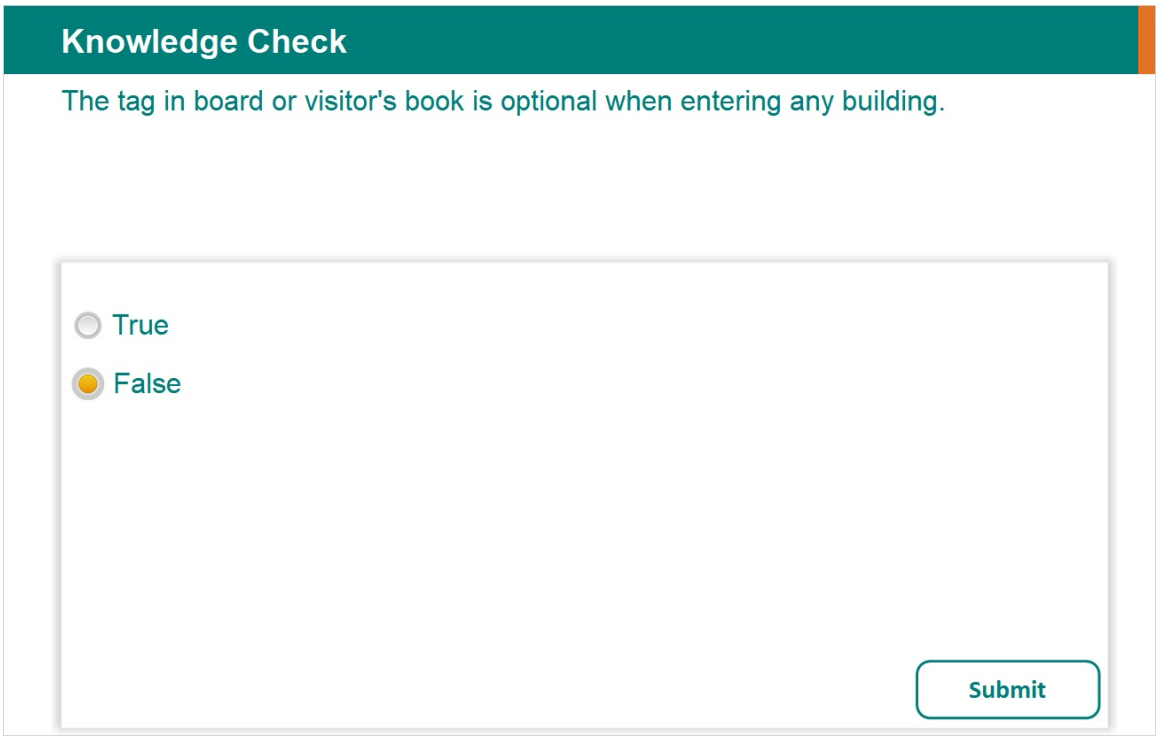


Try Again (Slide Layer)



1.12 Question 3

(Multiple Choice, 10 points, unlimited attempts permitted)



Correct	Choice
	True
X	False

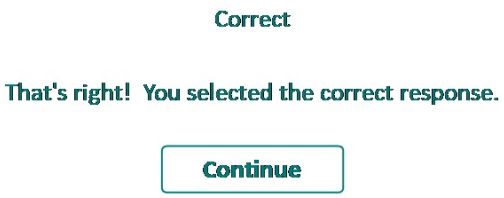
Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)



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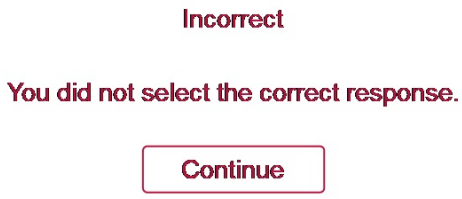

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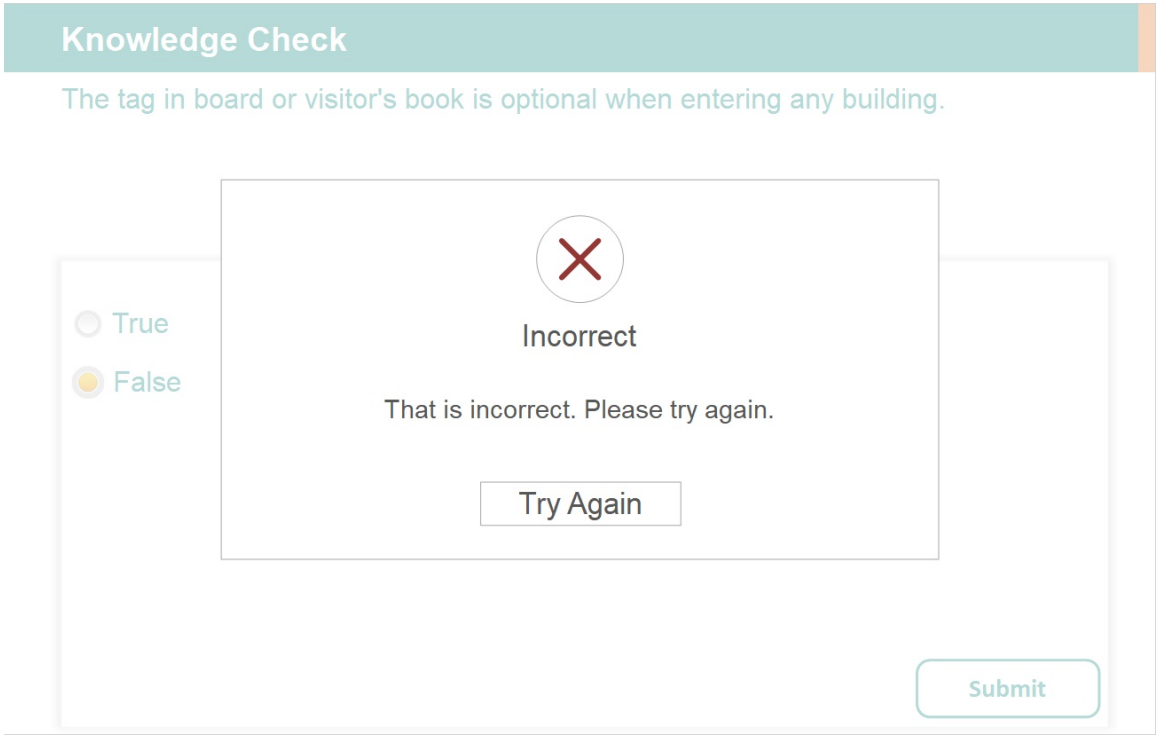


2. Plant Hazards and Controls

2.1 Hazard Awareness

2.2 Introduction

Hazard Awareness

Site Specific Hazards

Using the tools that you learned in the Contractor Surface Orientation, ensure you apply the necessary operation controls to mitigate risk associated with the identified hazards.

Be Aware
Be aware of your surroundings and the risks around you.

Follow Policies & Procedures
Our internal policies and procedures guide us in doing our work in a manner that reduces risk.

The following section lists identified hazards that may be encountered in the work you're doing.

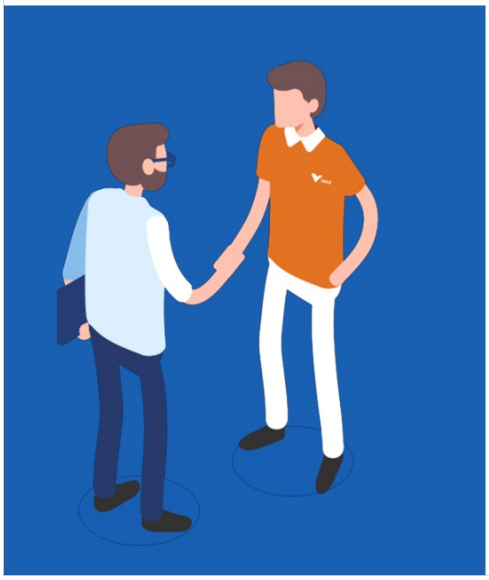
Knowing if these hazards apply to your work can be found through:

- Vale Contact Person
- PHA/PHR (or other Risk Assessment Tools)
- SLAM

2.3 Introduction

Hazard Awareness

Introduction



Thompson Mill/Concentrator workers need to be aware of site specific hazards and their related controls.

These include but are not limited to:

- Mill/Concentrator Doors
- Conveyors
- Explosives
- Overhead Crane Operations
- Reagents
- Carbon Disulphide CS_2
- Radiation Sources
- Rubber Lined Pipes

2.4 Overhead Doors - Hazard

Hazard Awareness

Overhead Doors - Hazard

The Thompson Mill/Concentrator uses overhead doors to access many different areas of the plant with mobile equipment.

Pedestrians using these doors introduce several hazards:

- The risk of pedestrians being struck by mobile equipment using the doors for access to buildings.
- Potential compromise of building ventilation, which depends on these doors being in the open or closed position.

2.5 Overhead Doors - Controls

Hazard Awareness

Overhead Doors - Controls

To mitigate the risks associated with doors at the Mill/Concentrator, the following steps need to be adhered to:

- Use man doors whenever possible.
- If no man door exists, or no other means to safely gain access or egress, travel through an overhead door only after it is stopped and fully open.
- After entering or exiting, return the door to the fully closed position, if necessary.

2.6 Overhead Doors - Controls

Hazard Awareness

Overhead Doors - Controls

To mitigate the risks associated with doors at the Mill/Concentrator, the following steps need to be adhered to:

If at any time an overhead door does not operate properly, i.e. cannot be fully opened or closed;

- Do not travel through the door.
- Place a status tag on the door controls.
- Rope off the door if required.
- Report the status of the door to the Mill/Concentrator shift office so action can be taken to raise a repair order.

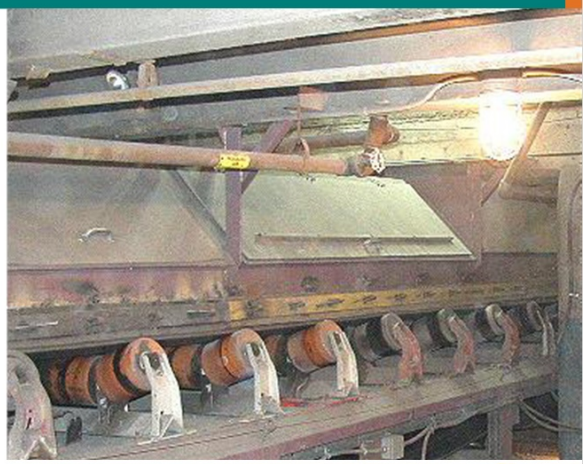
2.7 Conveyors - Hazard

Hazard Awareness

Conveyors - Hazard

The Mill/Concentrator has conveyor belt systems throughout the plant. Operating conveyors present numerous hazards to workers.

- Moving parts of the conveyor belt assembly can injure workers. Although there is guarding at head and tail ends, the areas in between aren't always guarded.
- Conveyor belts are often operated on remote and can be started/stopped at any time without warning; operators in the vicinity can be exposed to moving parts.



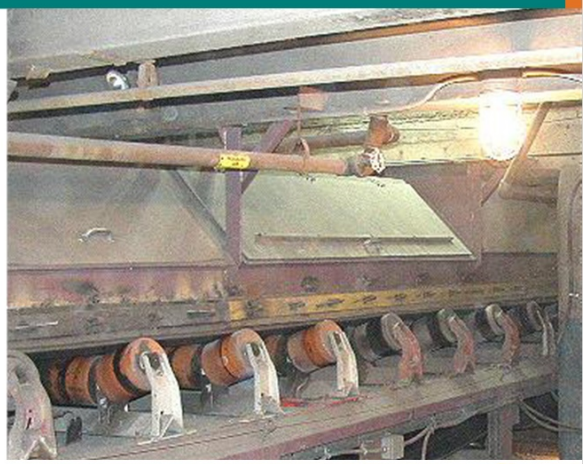
2.8 Conveyors - Controls

Hazard Awareness

Conveyors - Controls

To mitigate risk when working around conveyor systems...

- Access to conveyor galleries is restricted while in operation.
- All access points will have a physical barrier installed to prevent unauthorized access.
- Warning buzzers to warn of a conveyor line becoming operational.



2.9 Explosives - Hazard

Hazard Awareness

Explosives - Hazard

Because the Mill/Concentrator processes ore that comes directly from the mines, there exists the rare possibility that explosive materials may be found in the ore.

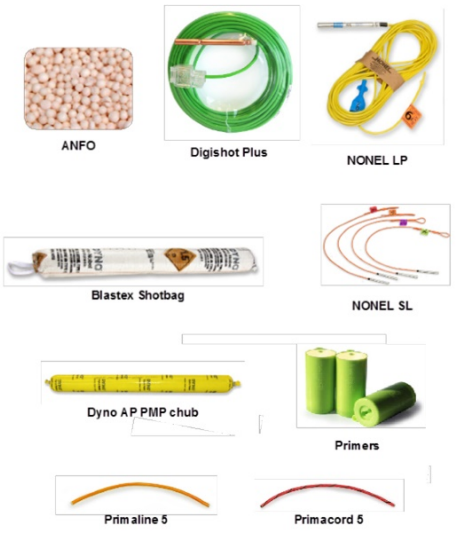
2.10 Explosives - Controls

Hazard Awareness

Explosives - Controls

Any worker who comes across suspected explosives must do the following:

- Treat any suspicious material or device found in the ore that's suspected to be explosives as such.
- If possible, immediately stop any affected equipment.
- Never handle the explosive or in any way attempt to remove the device from the ore.
- Contact the Shift Office (2224) and inform them that you suspect an object in the ore that may be an explosive.
- From that point on, the Mill Shift Office has a detailed procedure on steps to take depending on the circumstances.



2.11 Crane Movement - Hazard

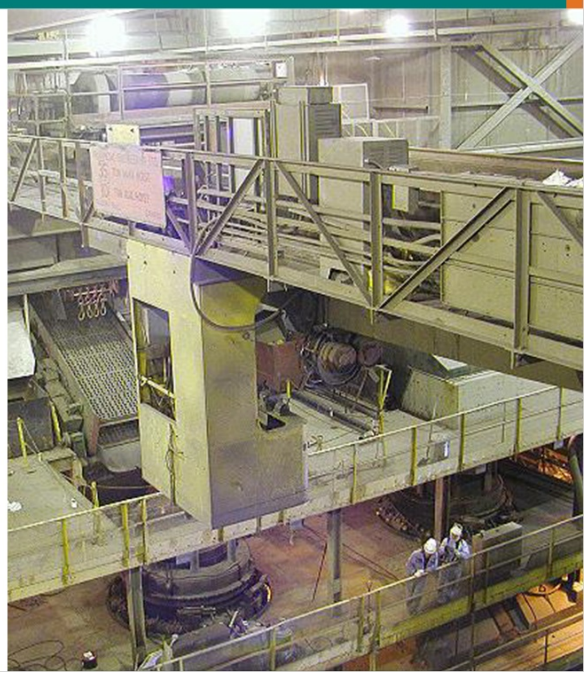
Hazard Awareness

Crane Movement - Hazard

Cranes are used to facilitate the movement of materials throughout the Mill/Concentrator.

Some of the hazards associated to crane movement include but are not limited to;

- Suspended loads.
- Contact with stationary equipment.
- Contact with workers at different levels (floors, walkways and platforms).



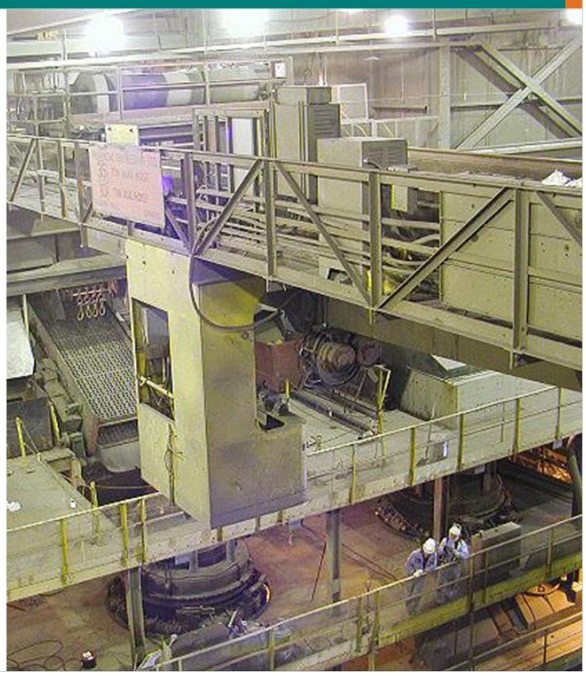
2.12 Crane Movement - Controls

Hazard Awareness

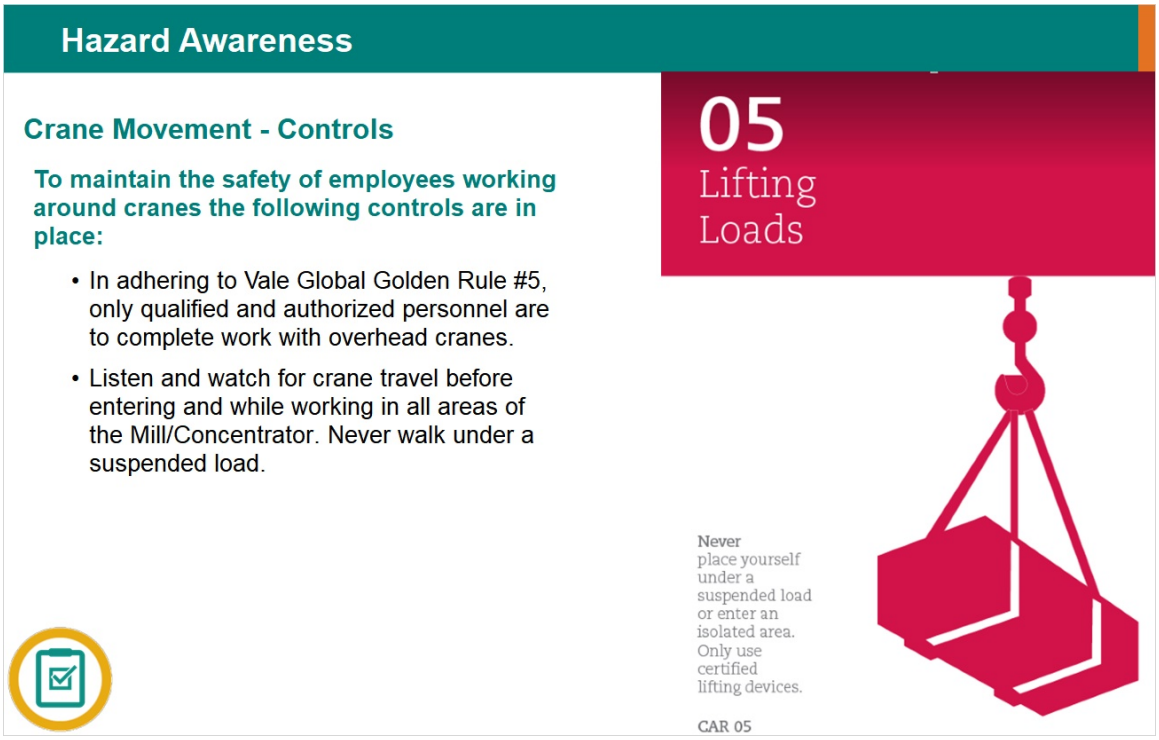
Crane Movement - Controls

To maintain the safety of employees working around cranes the following controls are in place:

- A red operating light on the main 35 Ton Mill Aisle Crane indicates that the crane is powered and in use (cab operated or by remote control).
- All Mill/Concentrator cranes have sirens/buzzers to warn you that they are in use.
- Do not place yourself under a suspended load.



2.13 Crane Movement - Controls



2.14 Reagents - Hazard (General)

Hazard Awareness

Reagents - Hazard (General)

Reagents are compounds or mixtures that are added to process to cause chemical reactions.

Some of these reagents create additional hazards due to the reaction they can produce.

2.15 Reagents - Hazard (General)

Hazard Awareness

The following reagents are used in the Mill's floatation process:

Soda Ash: Added to the Rod Mill feed as a pH modifier. It is introduced as a steam heated caustic solution.

PAX: Potassium Amyl Xanthate is the collector used to make the nickel minerals attract and accumulate to the bubbles in the Flotation process. As it breaks down it turns into Carbon Disulphide CS_2.

CMC: Sodium Carboxy-Methyl Cellulose is used to disperse unwanted particles to minimize their recoveries and increase nickel grade output.

MIBC: Methyl Isobutyl Carbinol is the frother used to give the flotation froth bubbles strength in the flotation cells.

Only qualified and authorized personnel are to complete work with reagents in accordance with Mill/Concentrator policies and procedures.

2.16 Reagents - Controls (General)

Hazard Awareness

Reagents - Controls (General)

Direct contact with reagents at Thompson Mill/Concentrator is possible however the following are good work practices that will help mitigate any exposures to reagents in the Mill operating areas:

- Use appropriate PPE.
- Standard PPE requirements apply and in addition:
  - Neoprene rubber where prescribed.
  - Respirators in all mill areas.
  - Chemical goggles/faceshields in accordance with procedures.

2.17 Reagents - Controls (General)

Hazard Awareness

Reagents - Controls (General)

Direct contact with reagents at Thompson Mill/Concentrator is possible however the following are good work practices that will help mitigate any exposures to reagents in the Mill operating areas:

- Apply standard good hygiene practices;
- No smoking, drinking and/or eating in the workplace.
- Before smoking or eating, in designated areas, remove PPE and ensure that all exposed skin surfaces are washed with soap and water.
- PPE must be removed prior to entering the lunchroom.

There are specific policies and procedures for working around reagents. Never perform any work around reagents without understanding the risks and comply with all required controls.

2.18 Carbon Disulphide - Hazard

Hazard Awareness

Carbon Disulphide - Hazard

To aid in the bond between certain minerals to bubbles in the floatation process, Thompson uses Potassium Amyl Xanthate (PAX).

As with many reagents, provided handling procedures and storage vessels are maintained there's little risk of harm, however when this reagent breaks down it turns into Carbon Disulphide CS_2; a gas that can affect the body adversely.

The TLV (Threshold Limit Value) for Carbon Disulfide CS_2 is 1 ppm. It's a colourless vapor that's 2.5x heavier than air; leading to vapors tending to hang close to the ground.

2.19 Carbon Disulphide - Hazard

Hazard Awareness

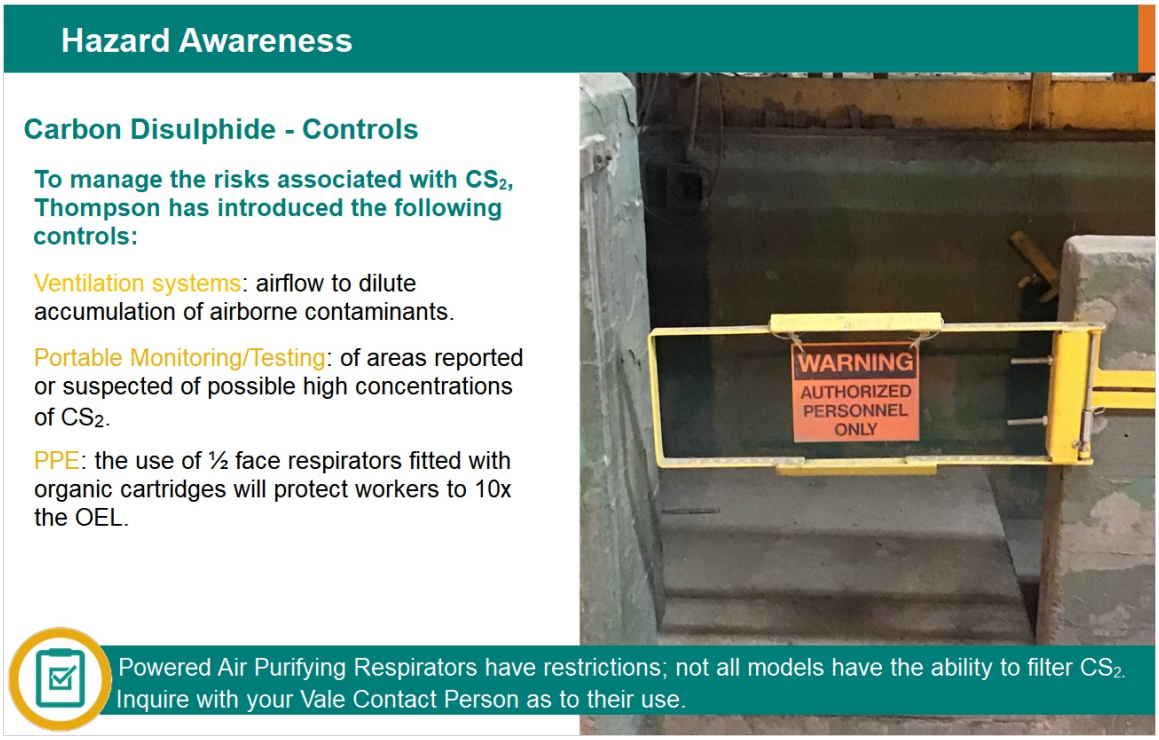
Carbon Disulphide - Hazard

CS_2 has a distinct smell that can be noticed well before reaching the OEL of 1ppm.

At levels above 10ppm (well beyond the OEL), health effects include:

- Irritation of skin/respiratory tract
- Central Nervous System (CNS) symptoms
- Dizziness, fatigue and headache.

2.20 Carbon Disulphide - Controls



2.21 Carbon Disulphide - Controls

Hazard Awareness

Carbon Disulphide - Controls

To manage the risks associated with CS_2, Thompson has introduced the following controls:

Due to the chemical properties of CS_2, respirators with organic vapor cartridges used in a CS_2 contaminated area require more frequent respirator cartridge change out.

Note: Current respirator cartridge change frequency for Thompson Mill/Concentrator Vale workers is based on current conditions and is subject to change.

Contractor assessments are required to determine required respirator cartridge change frequency.

Powered Air Purifying Respirators have restrictions; not all models have the ability to filter CS_2. Inquire with your Vale Contact Person as to their use.

2.22 Radioactive Sources - Hazard

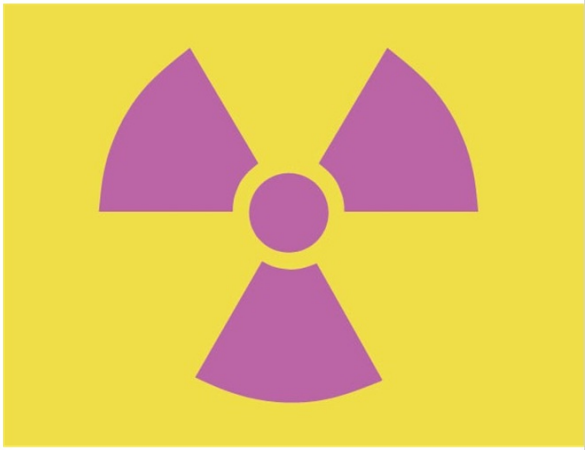
Hazard Awareness

Radioactive Sources - Hazard

There are processes in the Mill/Concentrator that use equipment that contain radiation sources as components. These sources are located in the following areas:

- Crushing Plant - Fine Chutes
- Sand Plant - Tailings Lines
- Flotation Floor - Courier 6 Analyzer (x-ray header)
- Loadout Facility - Thickener underflow and feed lines

There are special precautions/procedures required when working with the equipment.



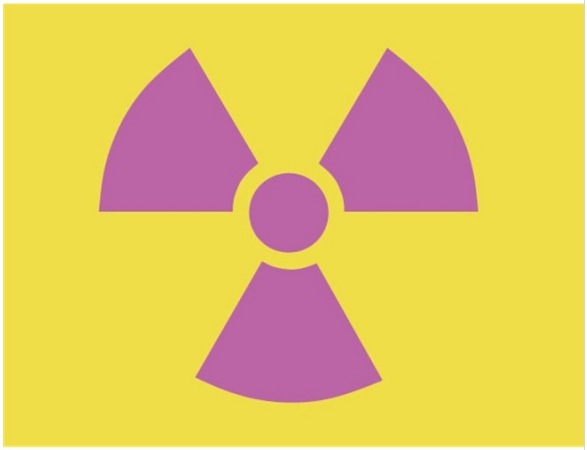
2.23 Radioactive Sources - Controls

Hazard Awareness

Radioactive Sources - Controls

To maintain the safety of employees working around radiation sources the following controls are in place:

- Only qualified and authorized personnel are to complete work with radiation sources in accordance with policies and procedures.
- Special permits and procedures are required when working with the equipment.
- Authorized Vale personnel will shutter and lock them out whenever there is work near them.



2.24 Rubber Lined Pipes - Hazard

Hazard Awareness

Rubber Lined Pipes - Hazard

Rubber is bonded to metal or plastic to provide a tough, corrosion resistant lined pipe. The Mill/Concentrator sometimes uses rubber lined pipes and vessels in its process.

- The health hazard common to rubber lined pipes is the potential for fire during hot work.

2.25 Rubber Lined Pipes - Controls

Hazard Awareness

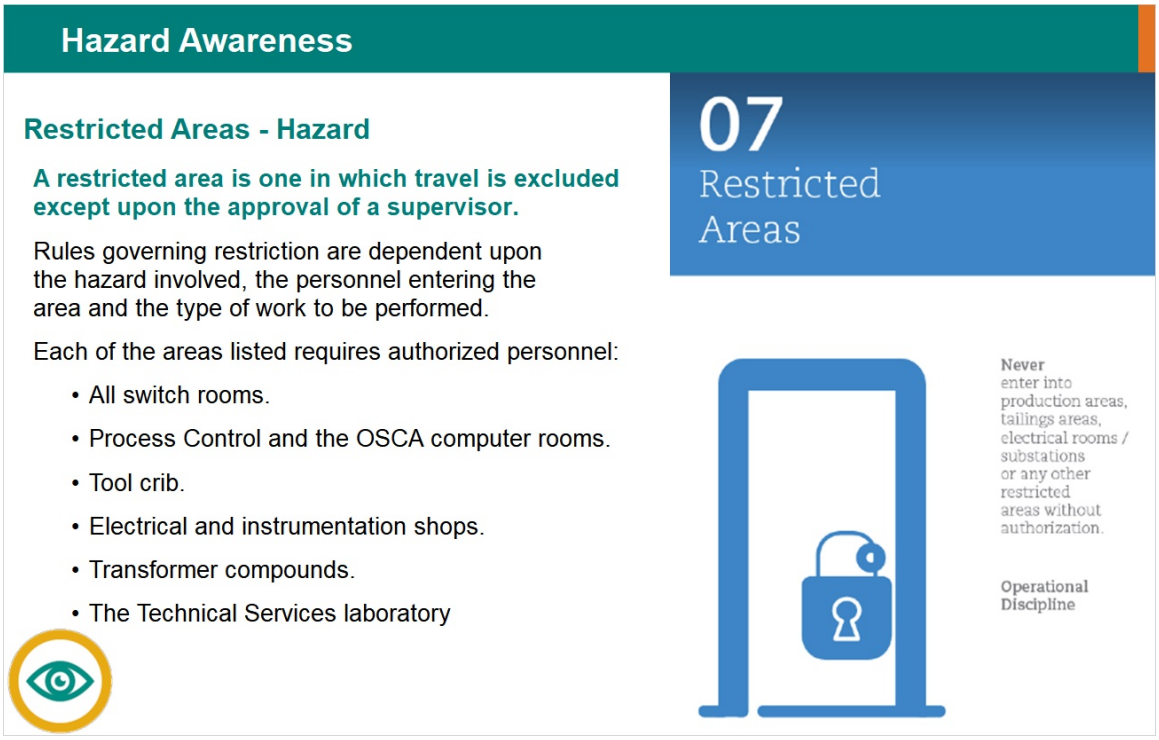
Rubber Lined Pipes - Controls

To mitigate the risk of fires with rubber lined pipes, Thompson has implemented the following:

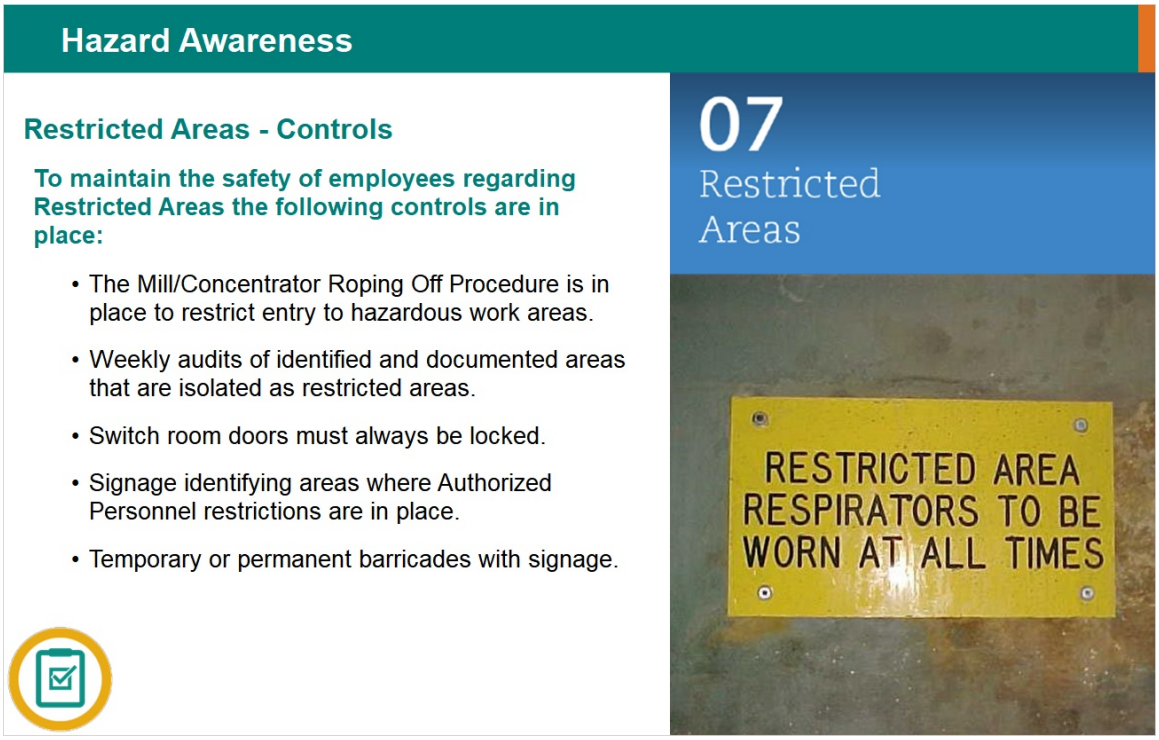
- All pipes at the Mill are presumed to be rubber lined and must be treated as such, until proven otherwise.
- All rubber lined pipes and vessels in the vicinity of hot work should be capped with a non-flammable cover, mechanically fastened, to prevent it from being accidentally or inadvertently removed.
- All hot work conducted in the Mill requires an issued hot work permit prior to job start.

As a requirement of the issued permit, all hot work must be guarded by a dedicated fire watch guard with a fully charged and running water hose capable of directing water at the pipe or vessel; this is to prevent fire, not to fight fire.

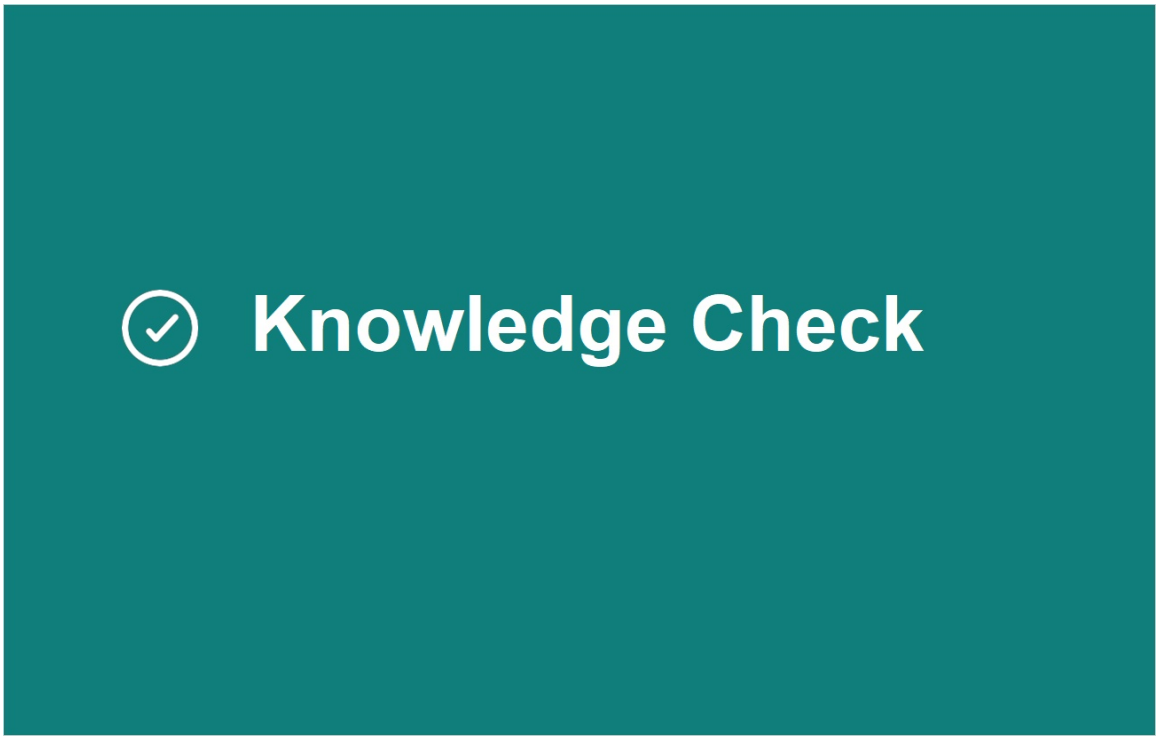
2.26 Restricted Areas - Hazard



2.27 Restricted Areas - Controls

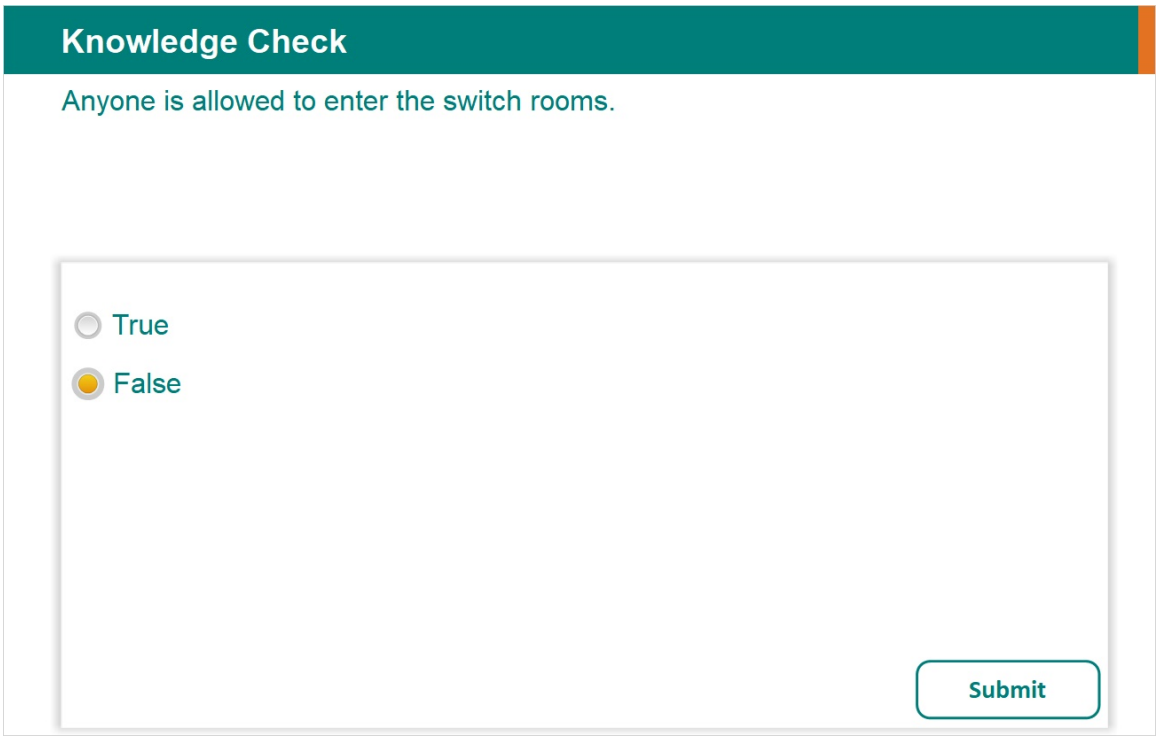


2.28 Knowledge Check



2.29 Question 2

(Multiple Choice, 10 points, unlimited attempts permitted)



Correct	Choice
	True
X	False

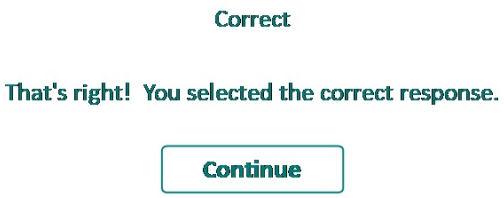
Feedback when correct:

That's right! You selected the correct response.

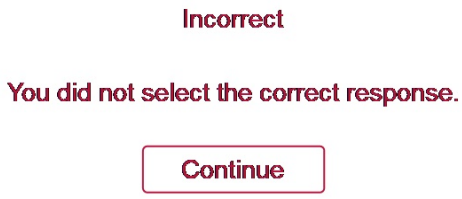
Feedback when incorrect:

You did not select the correct response.

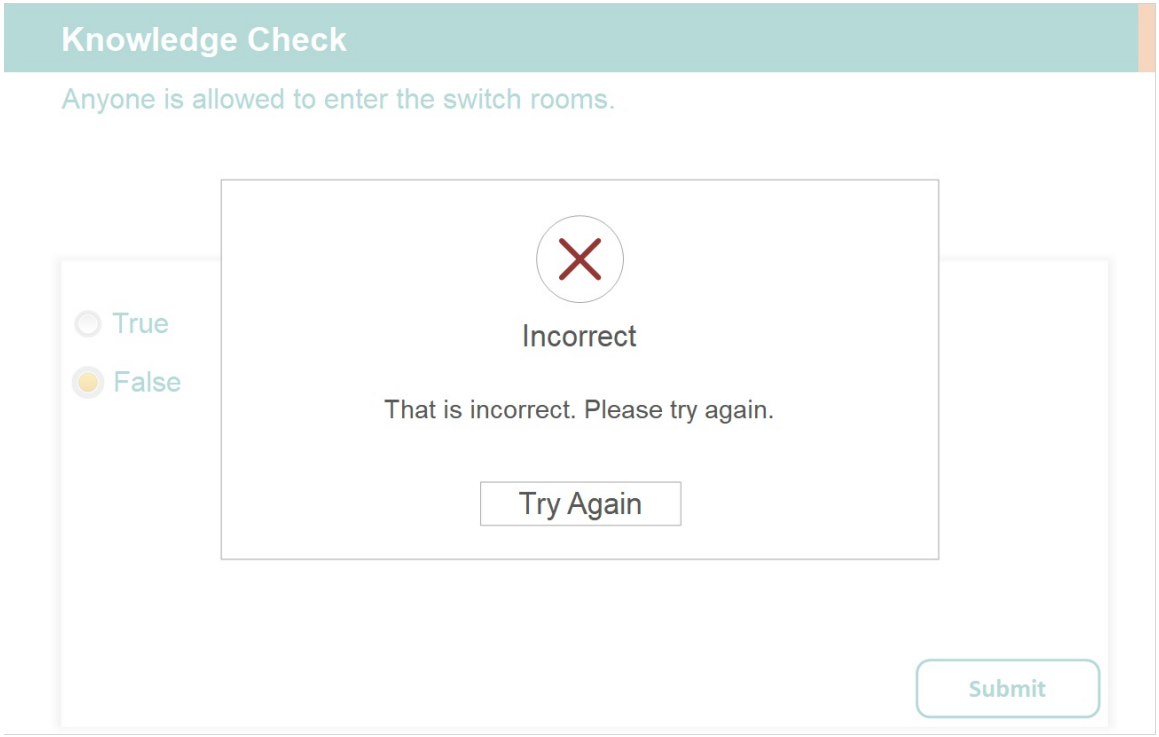
Correct (Slide Layer)



Incorrect (Slide Layer)

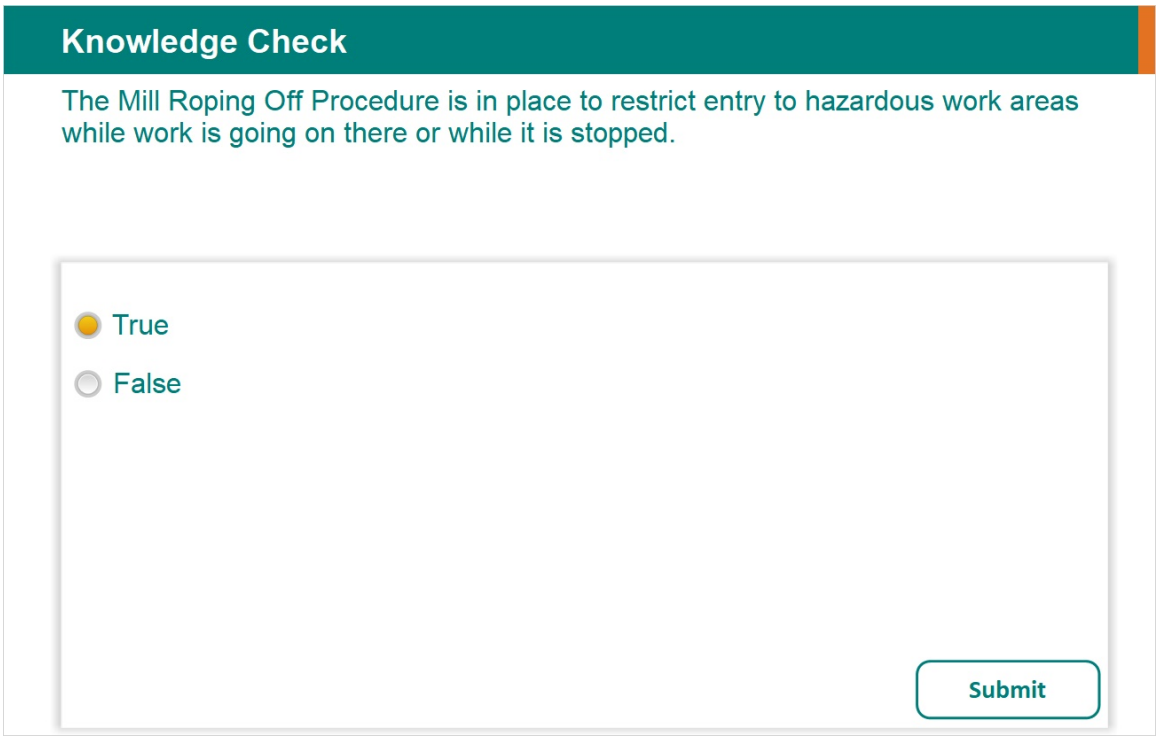


Try Again (Slide Layer)



2.30 Question 4

(Multiple Choice, 10 points, unlimited attempts permitted)



Correct	Choice
X	True
	False

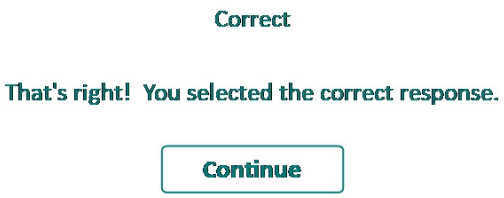
Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)



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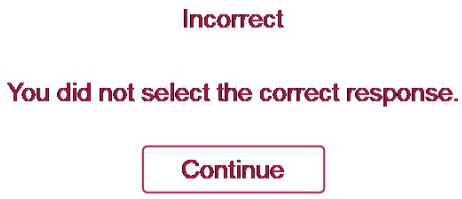
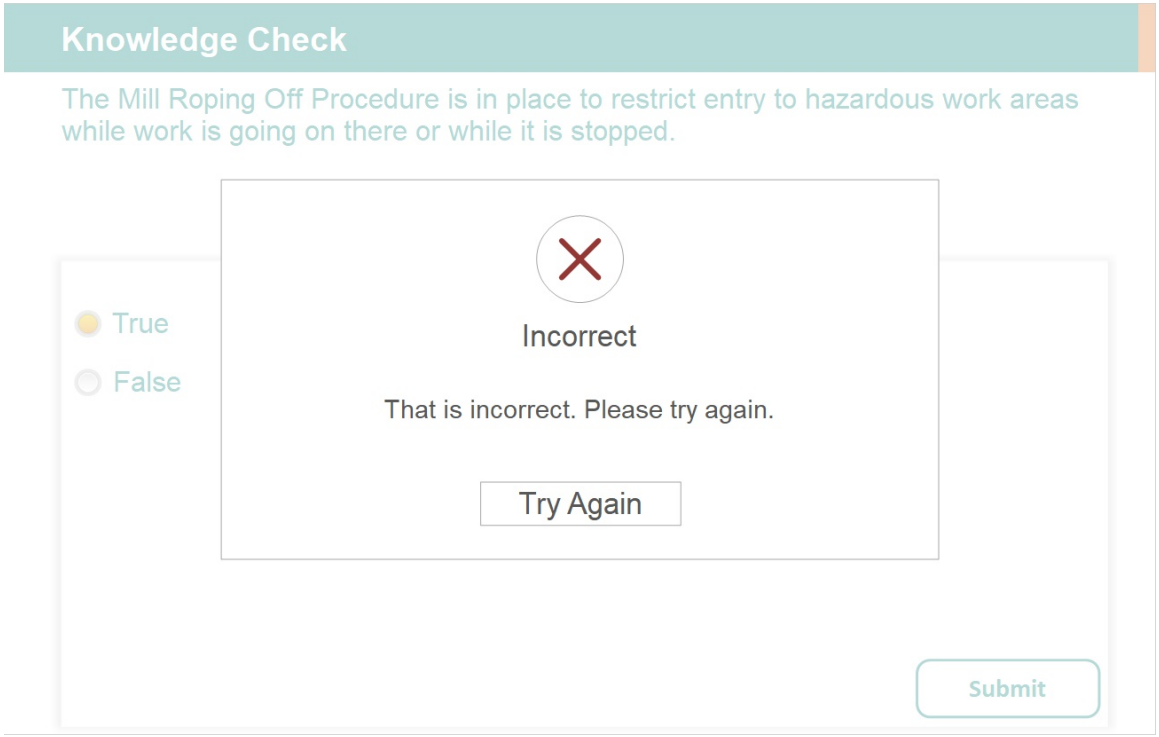
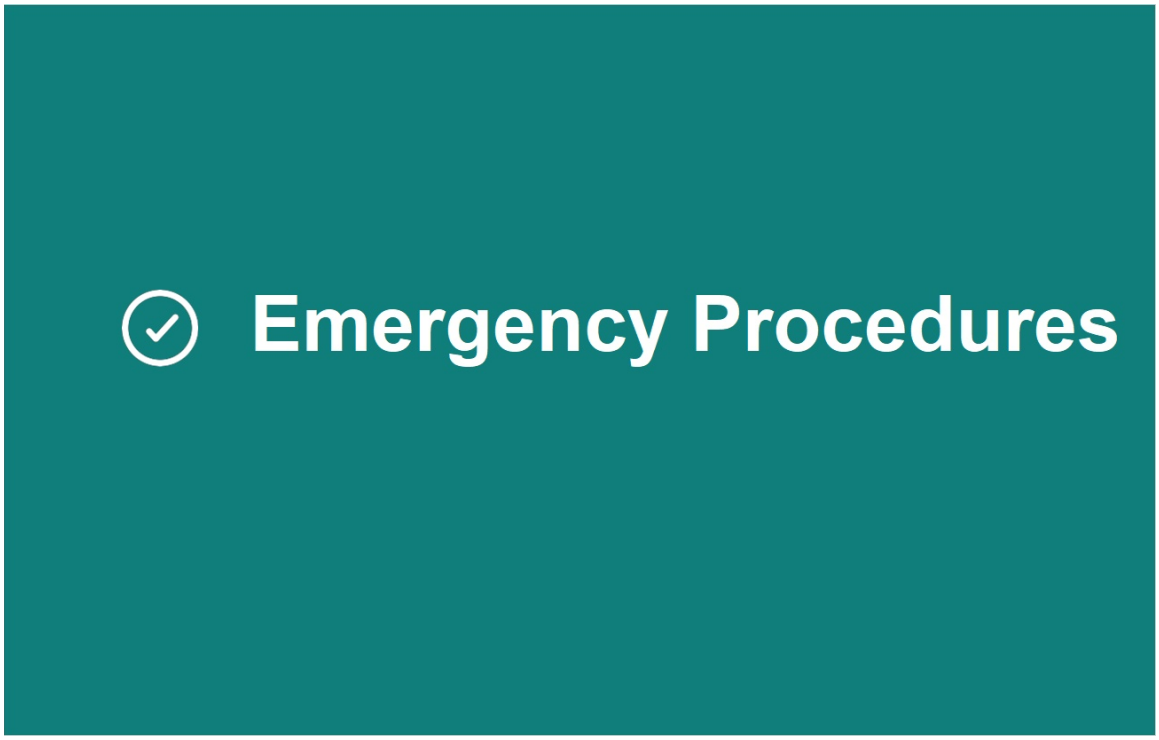


Try Again (Slide Layer)



3. Emergency Procedures

3.1 Emergency Procedures



3.2 Mill Alarms

Emergency Procedures

Mill Alarms and Warning Light Systems

There are many audible alarms in the Mill/Concentrator used as warning devices, some are accompanied by colored flashing lights, these include:

- Mill Level 1 Evacuation siren.
- Mill Level 2 Emergency foghorn.
- Hatch Hoist buzzers.
- Mill Grinding Aisle Crane hoisting siren.
- Conveyor start up buzzers.
- Temporary Restricted Access Warning Light Systems.

When an audible alarm is heard stop what you are doing and investigate the reason for the alarm. It may be warning you of a hazard in your immediate work area. If the cause of the alarm is not evident ask an operator or Mill Foreman for the reason the alarm is sounding.

3.3 Mill/Concentrator Alarms - Level 1

Emergency Procedures

Mill/Concentrator Alarms - Level 1

The level 1 alarm will be sounded in the event of a fire, explosion, or the generation of H_2S gas which could endanger personnel in the Mill.

The purpose of the evacuation procedure is to ensure all personnel are properly evacuated from the building as quickly as possible.

This alarm is a loud continuous undulating siren which will be activated and continue sounding until the building is declared protected for re-entry and is cancelled by the operations supervisor or his designate.

When sounded, exit the building by the nearest exit and report to the muster point outside of door #2 and await further instructions.

***Everyone* is to *know* and *understand* their role in the event of an emergency.**

3.4 Mill/Concentrator Alarms - Level 2

Emergency Procedures

Mill/Concentrator Alarms - Level 2

The evacuation alarm will be sounded to ensure all personnel on the plant site are warned to take shelter in each building's safe room. This could include a threat to the city or the plant site involving a toxic gas leak, a chemical spill or a major fire.

The alarm is a loud continuous foghorn cycle of 4 seconds on followed by a delay and the cycle repeating itself until silenced.

When sounded, proceed to the Mill/Concentrator safe room. The Mill lunchroom is the designated safe room for the building.

***Everyone* is to *know* and *understand* their role in the event of an emergency.**

3.5 Mill/Concentrator Alarms - Controls

Emergency Procedures

Mill/Concentrator Alarms - Controls

To maintain the safety of employees regarding Mill/Concentrator Alarms the following controls are in place:

- The Mill/Concentrator will conduct monthly Level 2 alarm testing. The last Friday of every month at 8:00am is designated for this test.
- The Mill/Concentrator will conduct monthly Fire Alarm testing (continuous SIREN). The first Monday of every month at 8:00am is designated for this test.
- Weekly and monthly preventative maintenance checks for all crane and conveyor systems.
- Daily pre-use inspections for all equipment prior to use.

***Everyone* is to *know* and *understand* their role in the event of an emergency.**

3.6 Soda Ash Flush Line - Hazard

Emergency Procedures

Soda Ash Flush Line - Hazard

After a prepared batch of Soda Ash (sodium carbonate) is transferred from the main product mix tank to the Day holding tank a flush sequence will follow.

The flush sequence is to ensure no residual product remains in the lines that could create a “frozen” line situation. The line is purged with heated water (35°C+) and dumped to #1 Clean-up sump located in the main floor Mill aisle.

3.7 Soda Ash Flush Line - Controls

Emergency Procedures

Soda Ash Flush Line - Controls

To maintain the safety of employees working around #1 Clean-up sump the following controls are in place:

To warn workers a Soda Ash Line Flush Warning Light will illuminate to indicate an initiated Soda Ash flush sequence is in progress and that an impending line dump to the sump is about to begin.

The light is a Red rotating strobe light which is located on the pump floor pillar beside the sump.

There are signs in this area to warn of the potential hazard.

3.8 Soda Ash Flush Line - Controls

Emergency Procedures

Soda Ash Flush Line - Controls

To maintain the safety of employees working around #1 Clean-up sump the following controls are in place:

Watch for this warning light before entering and while working in the area of #1 Clean-up sump.

Employees and workers are to stay clear of the area around #1 Clean-up sump until the flush warning light goes out to indicate the line flush sequence is complete.

3.9 Pond Soluble Nickel (PSN) - Hazard

Emergency Procedures

Pond Soluble Nickel (PSN) - Hazard

Pond Soluble Nickel (PSN) - is a revert produced by the Thompson Refinery.

The PSN is highly acidic and requires lime neutralization in the Mill to remove any Soluble Ni in C20 sump.

It is possible, although highly unlikely, to generate H_2S gas while the mill is receiving Pond Soluble Nickel (PSN).

This could occur if the pH level of the PSN is very low and the lime addition is insufficient to raise the pH enough to prevent the generation of H_2S if it were to be in contact with sulfides.

Due to the process being controlled by an automated system, the pumps and valves located at C20 sump may start or stop (open or close) at any time and perhaps several times during the unloading. Extra caution must be taken when working around equipment that will start automatically or from a remotely control system.

3.10 Pond Soluble Nickel (PSN) - Controls

Emergency Procedures

Pond Soluble Nickel (PSN) - Controls

To maintain the safety of employees working around PSN transfer areas the following controls are in place:

- The shift supervisors will notify crews of any scheduled PSN delivery planned for the day.
- Safe Work Procedures training for operators of PSN system.
- Pre-check/visual inspections of PSN transfer system prior to accepting a load into the Mill.
- The pH level of the PSN is continuously monitored by a series of PH sensors.

3.11 Pond Soluble Nickel (PSN) - Controls

Emergency Procedures

Pond Soluble Nickel (PSN) - Controls

To maintain the safety of employees working around PSN transfer areas the following controls are in place:

- H_2S sensors located at D2, C20 and C32 sumps.
- Flotation operator turns on blue warning light to indicate a PSN load transfer to the Mill is in progress. (light is located at column D13).
- If a leak is detected, E-stop Button located at C20 Feed Pump panel.
- Watch for this Blue warning light before entering and while working in the area of C20 and C32 sumps.

In adhering to Vale Global Golden Rules #7 and #9, never enter Temporary Restricted Access areas without authorization and workers must be aware of all possible hazards associated with PSN transfer areas and understand the risks and comply with all required controls.

3.12 Safety Equipment

Emergency Procedures

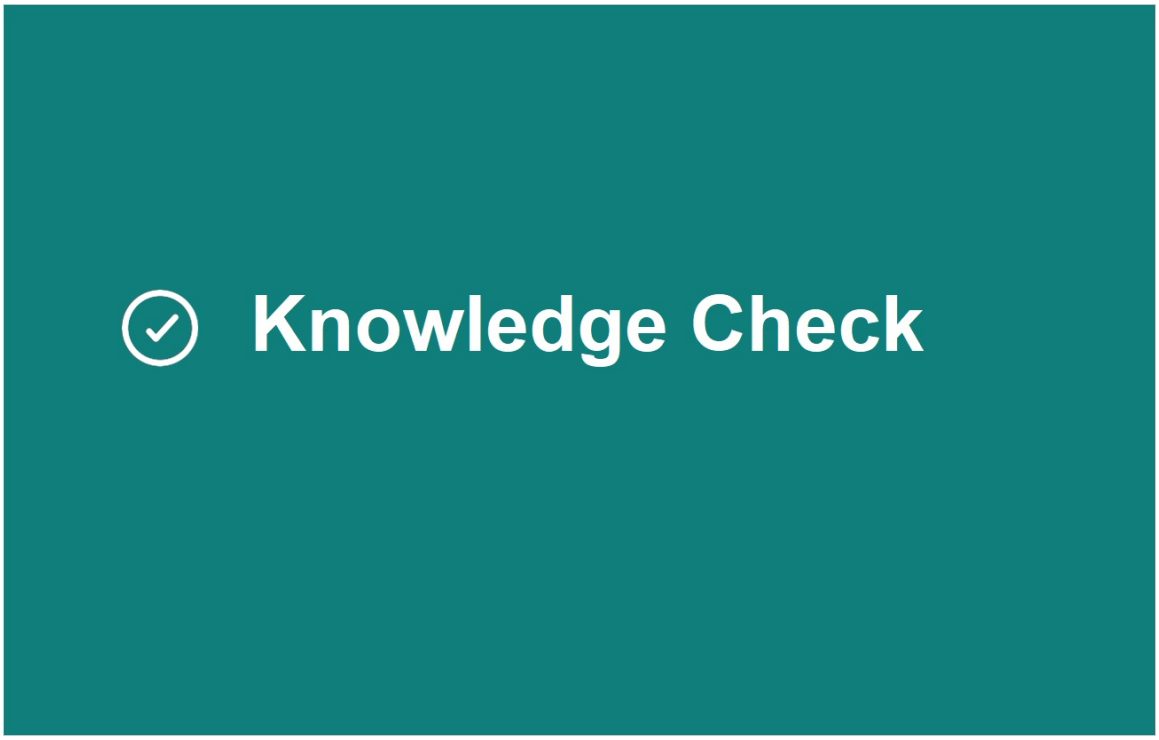
Safety Equipment

The following safety equipment is located in designated areas in the Mill/Concentrator.

- Fire Extinguishers
- Fire Hose Stations
- Emergency Eyewash Stations
- Emergency Eyewash Stations and Shower Stations
- Stretcher and Emergency Boxes

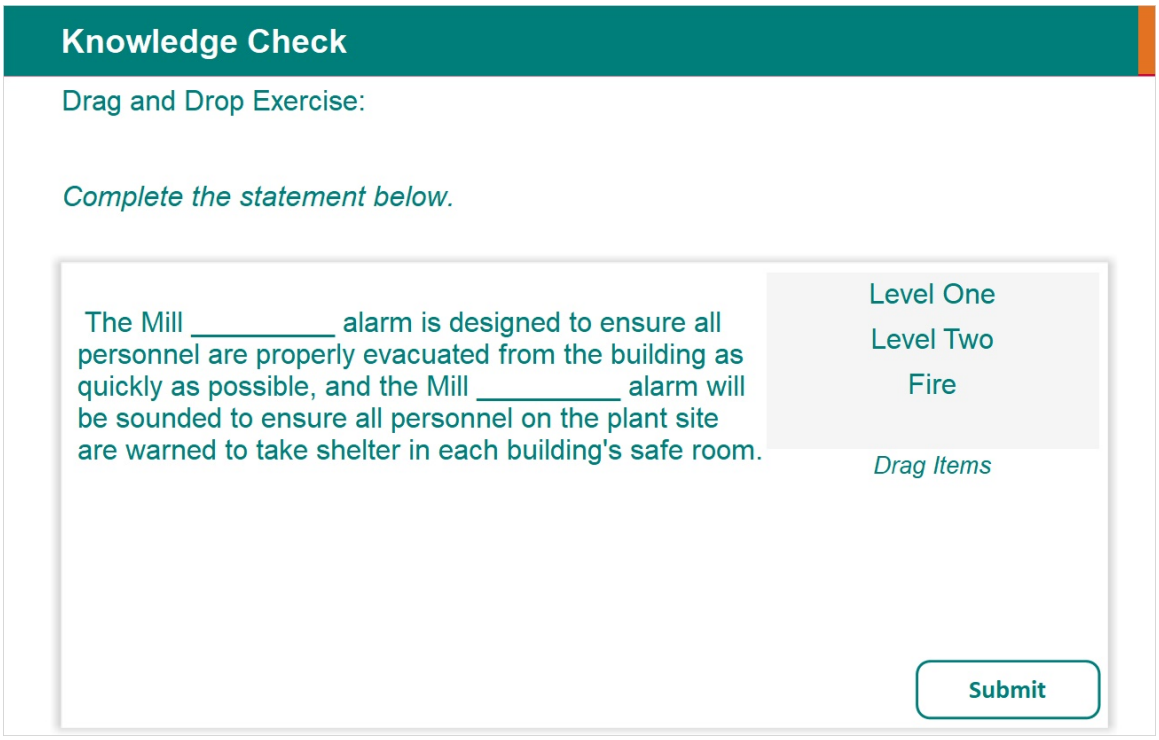
All Employees and workers should be aware of their work surroundings. Identify the location of the nearest safety equipment in your work area prior to starting any task.

3.13 Knowledge Check



3.14 Question 1

(Drag and Drop, 10 points, unlimited attempts permitted)



Drag Item	Drop Target
Level Two	Level Two
Fire	
Level One	Level One

Drag and drop properties
Return item to start point if dropped outside the correct drop target
Snap dropped items to drop target (Stack random)
Delay item drop states until interaction is submitted

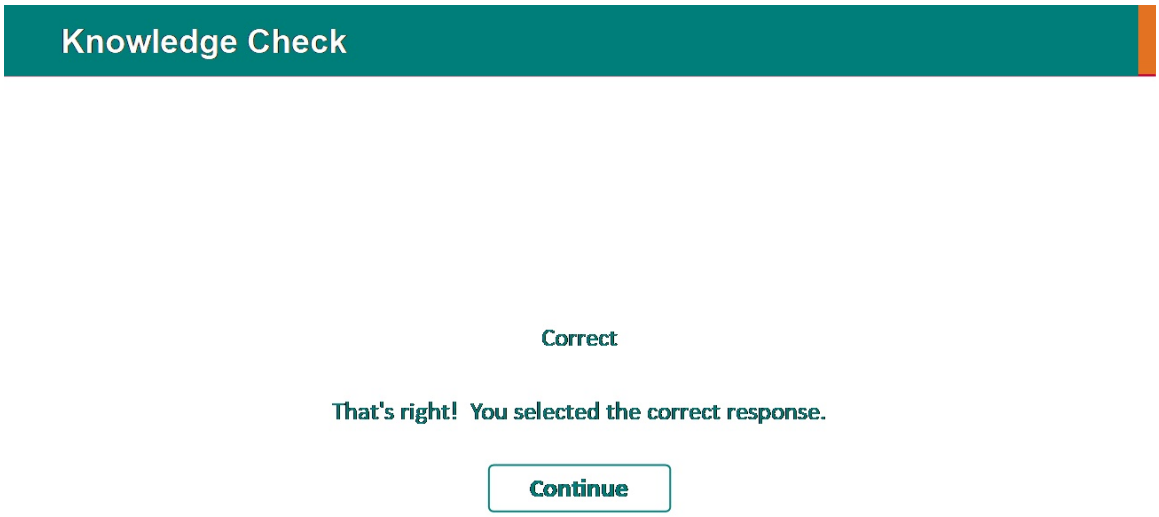
Feedback when correct:

That's right! You selected the correct response.

Feedback when incorrect:

You did not select the correct response.

Correct (Slide Layer)



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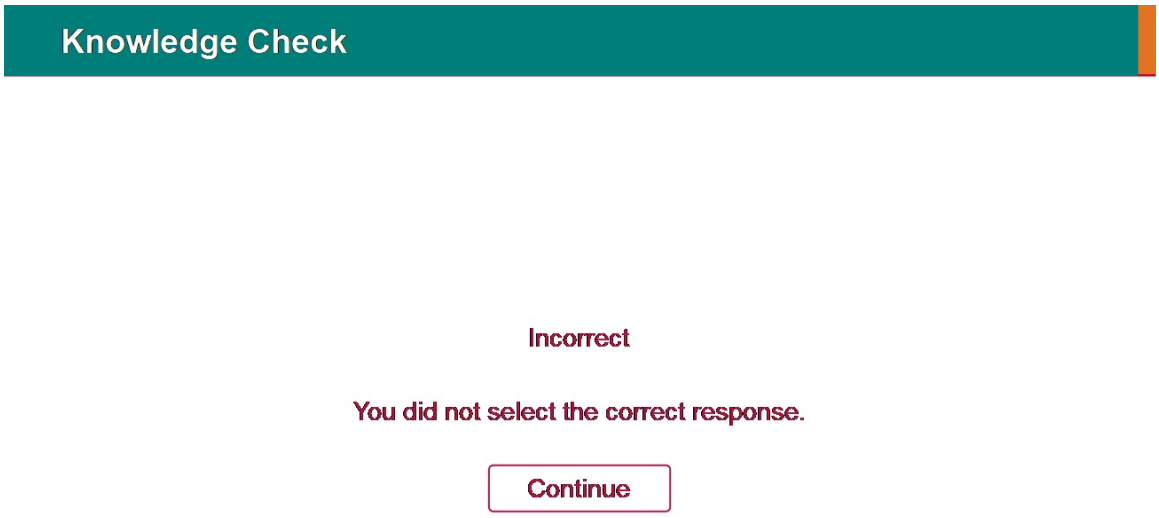
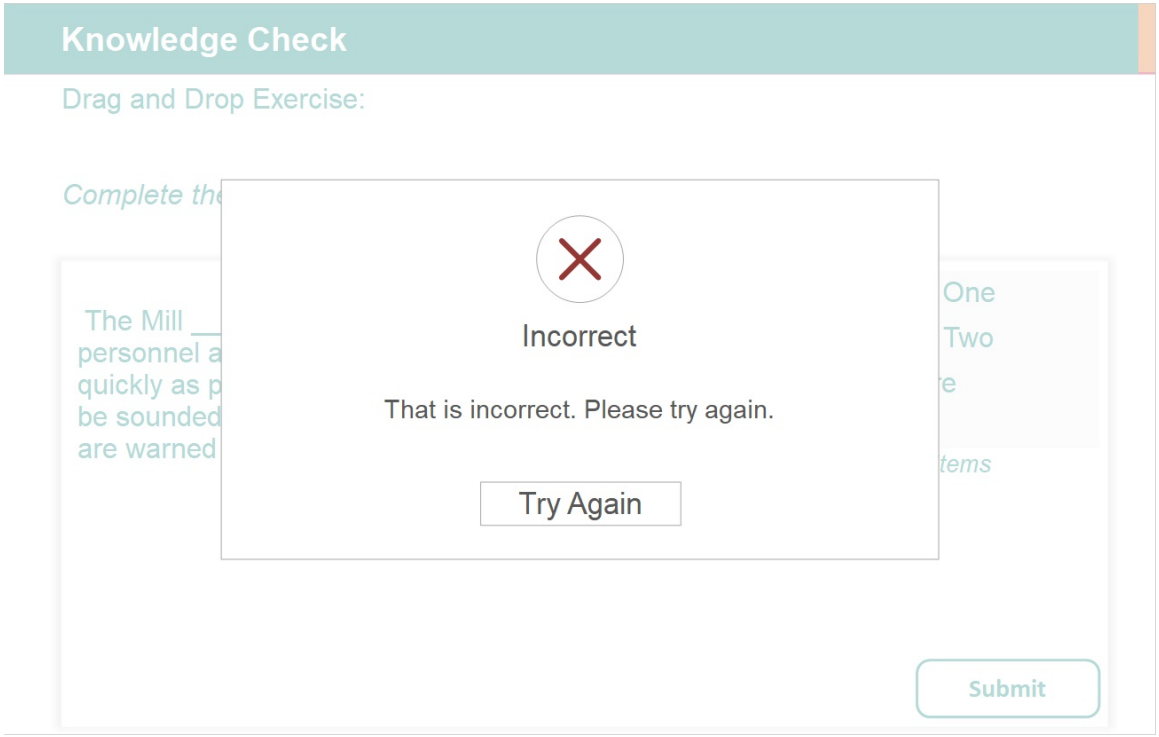


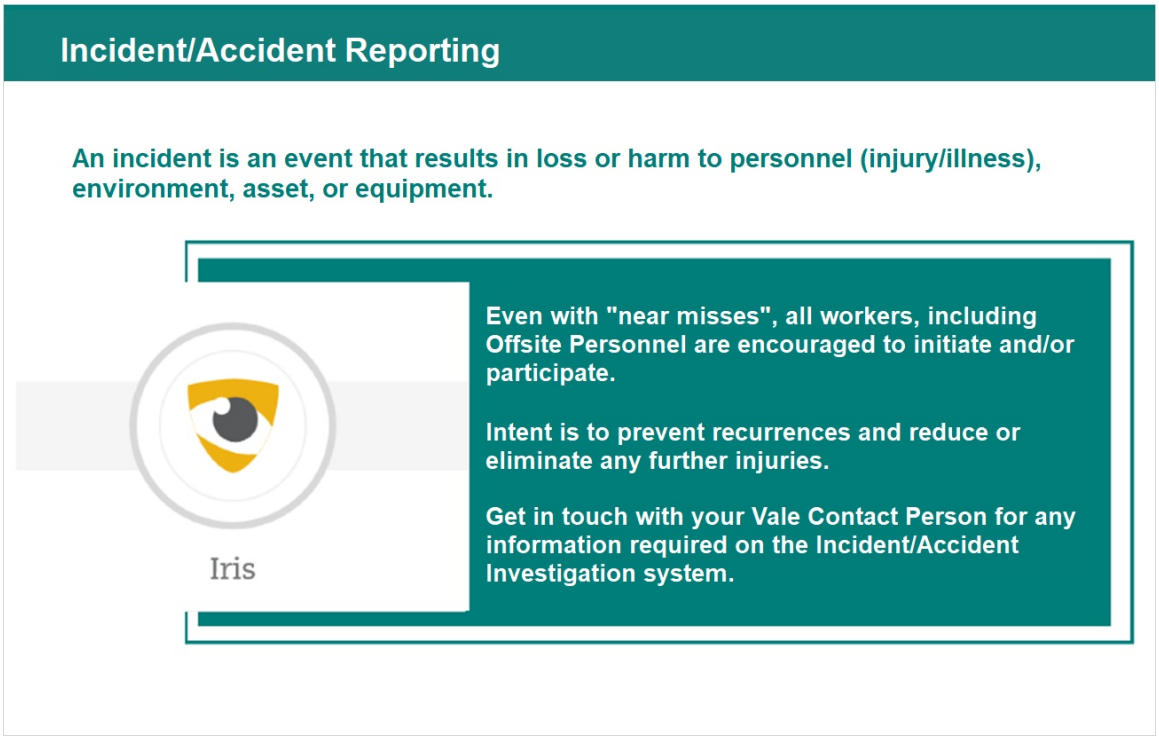
Try Again (Slide Layer)



4. Incident/Accident Reporting

4.1 Summary

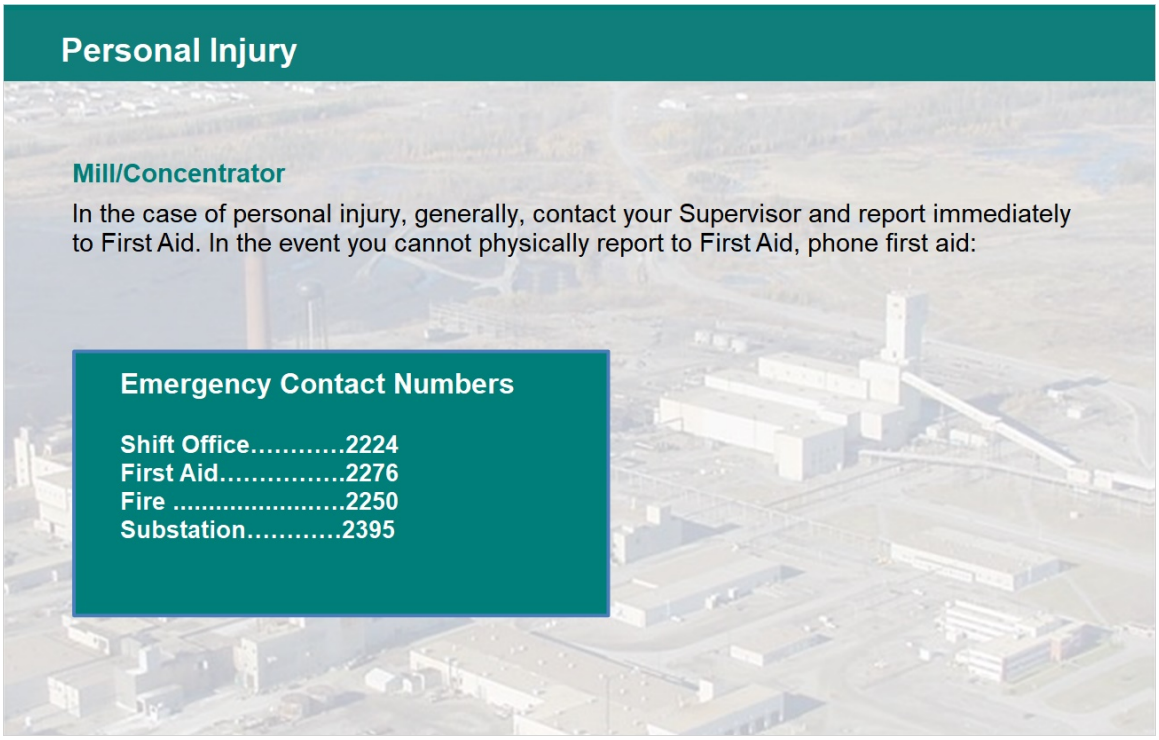
4.2 Equipment Damage



5. Personal Injury

5.1 Personal Injury

5.2 Personal Injury



6. Plant Exit

6.1 Plant Exit

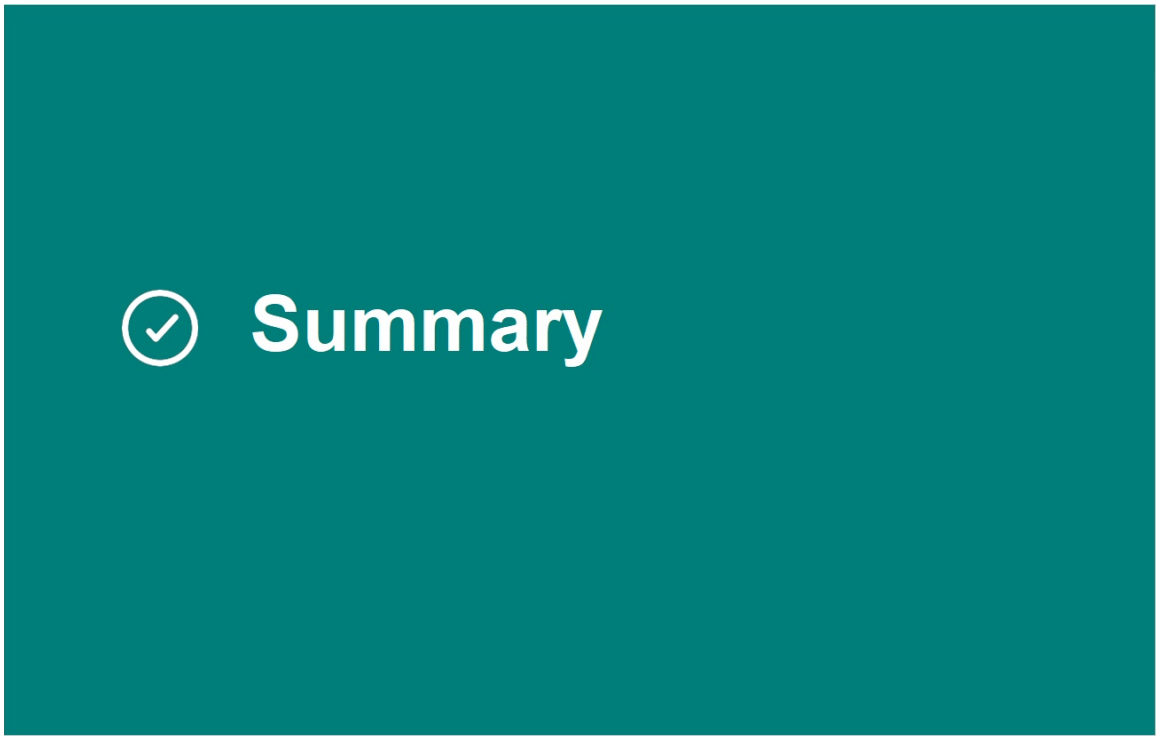
Plant Exit

Good work practices dictate that you close the loop on work you were doing to avoid creating risks or hazards for other work groups, cross shifts, or other work in the area. Here are some tasks to consider when getting ready to exit the plant to ensure the safety to you and those around you:

- ✓ Housekeeping – Is your worksite cleaned up after your job?
- ✓ Personal Lock and Tag – Has your personal protection been removed at the end of the shift.
- ✓ Status Tagging - Is there ongoing work that needs a status tag placed or is there equipment in Bad Order that needs to be identified?
- ✓ End States – Have you left the process in the proper state?
- ✓ Waste Segregation - Have you disposed of materials in the appropriate waste receptacles/bin/area?
- ✓ Control room – Do I need to let the control room know that I'm clear of an area?
- ✓ Vale Contact Person – Do they need an end of shift report from me?
- ✓ Permits – do I need to close or hand in any permits?
- ✓ Sign out at the gate or other designated areas as required.

7. Summary

7.1 Summary



7.2 Learner Objectives

Summary

This concludes the orientation material for the Mill/Concentrator. You should now have a general working knowledge and understanding of:

- Mill Entry Requirements.
- Hazards and Controls present in the Mill/Concentrator.
- Procedures in the event of:
  - Equipment Damage.
  - Personal Injury.
  - Mill/Concentrator Alarms.

To feel comfortable with the Mill/Concentrator, you may arrange a field visit with your Vale Contact Person to specifically identify procedures provided in the Orientation.