## **Tier 3: Transportation Work Permit Orientation**

## 1. Work Permit Training - April 2017

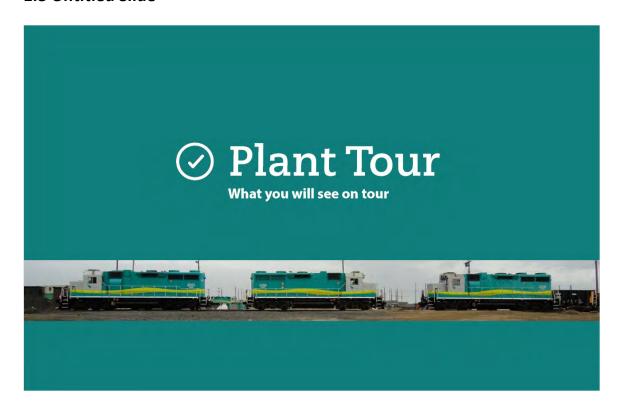
### 1.1 Untitled Slide



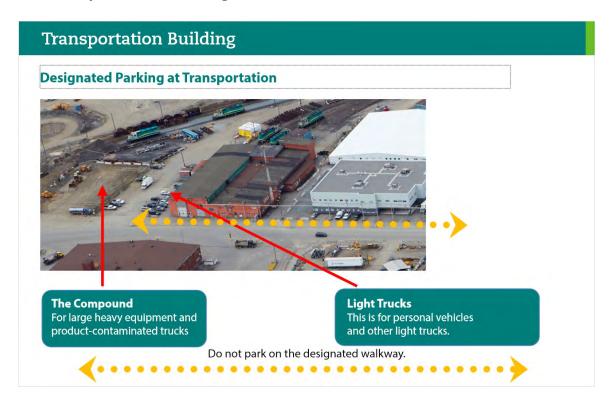
## 1.2 Life Matters Most



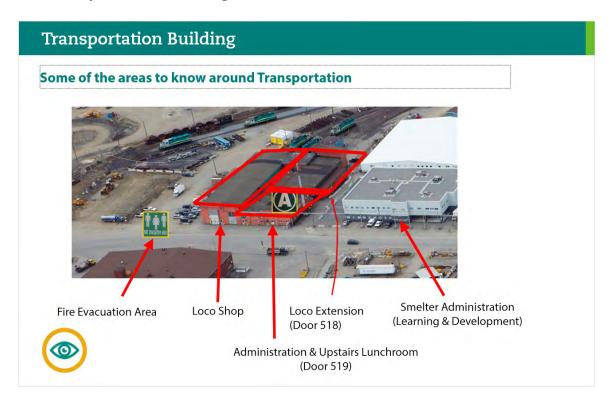
### 1.3 Untitled Slide



## 1.4 Transportation Building



## 1.5 Transportation Building



## 1.6 Sign in Location

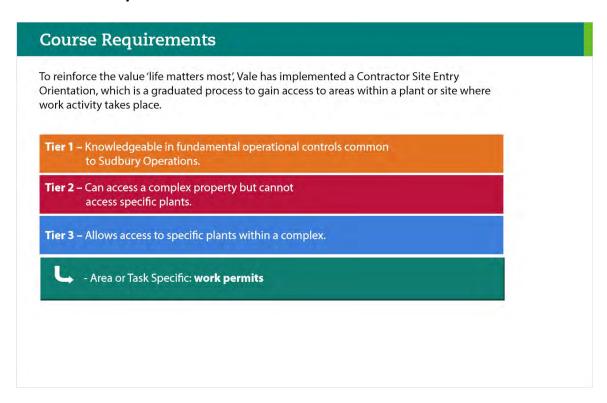


## 2. Course Requirements

## 2.1 Course Requirements



## 2.2 Course Requirements



## 2.3 Course Requirements

## **Course Requirements**

To participate in this Tier 3 Module, non-Vale workers will need the following:

- Norcat Card
- Lenel Card
- Tier 1 Vale Operational Controls
- Applicable Tier 2 Vale Orientation
- Transportation Tier 3 Orientation
- · Proof of Full ZES Training



## 3. Course Objectives

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## 3.2 Course Objectives

## **Course Objectives**

Work Permit Training is a separate training module outside of the scope of orientation alone.

### Upon completion of this module, you will be aware of:

- the purpose and requirements of a Transportation Work Permit
- requirements of obtaining a Transportation Work Permit Variance.
- pertinent rules from Transportation Handbook of Rules and Special Instructions



## 3.3 Course Objectives

## **Course Objectives**

Work Permit Training is a separate training module outside of the scope of orientation alone.

### Upon completion of this module, you will be aware of:

- energy isolating devices used as protection against hazards of rolling stock
- how to obtain ZES by installing switch locks and /or derails for a work permit.
- requirements of track flag signals





## 4. Introduction

### 4.1 Introduction



## **4.2** Transportation Department Overview

## **Transportation Department Overview**

The Transportation Department's primary function is to service other plants by transporting bulk materials by rail or by road.



## **4.3 Transportation Department Work Permits**

## **Transportation Department Work Permits**

The Transportation Department has specific rules and procedures in place to protect their crews work on their rails, as well as specific procedures for other workers performing maintenance or construction projects near or over the tracks.

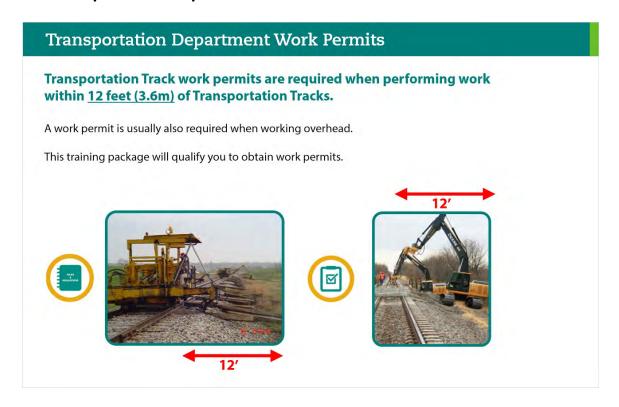








## 4.4 Transportation Department Work Permits



## 5. Work Permit Procedure

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## **5.2 Transportation Work Permits**

## **Transportation Work Permits**



#### The work permit procedure has been created to:

- protect workers performing work within 12 feet of the tracks from rolling stock, and,
- protect rail equipment from impassable track due to that work





## **5.3 Transportation Work Permits**

## **Transportation Work Permits**



## **Work Permit Procedure - Protection**

Non-Vale employees must comply with our ZES program for personal protection when obtaining a work permit.



## **5.4 Transportation Work Permits**

## **Transportation Work Permits**



## **Work Permit Procedure - Protection**

There are other logistic forms of protection that can be used in certain cases when ZES is not obtainable or practical.

- · Lookout protection, and
- Flagman Protection



ONLY <u>qualified</u> Vale <u>Transportation</u> <u>Employees</u> can perform these procedures!

## **5.5 Transportation Work Permits**

## **Transportation Work Permits**



## **Work Permit Procedure Variance**

Work permit variances are alternative specific procedures created for specific work groups performing normal routine work. They must be:

- created jointly with Transportation and the affected work group, and
- approved by the Transportation Manager based on a risk assessment.





## **5.6 Transportation Work Permits**

## **Transportation Work Permits**



## **Work Permit Procedure Variance**

### Some examples of current work permit variances:

- Acid Plant Operation Inspection of Safety Showers (61RZA005)
- Contactor Cleaning in Skull Pit Area (P66 MISC 14-001)
- Loading ore cars at Creighton or Stobie mines

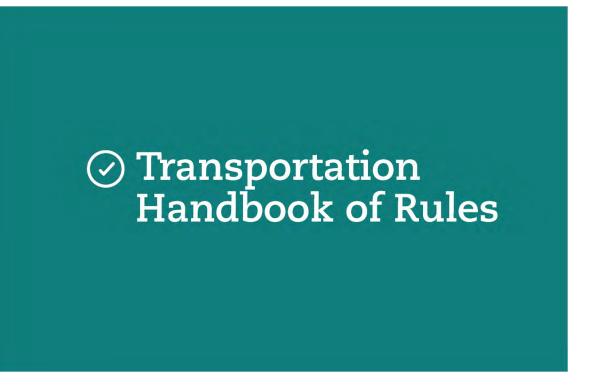






## **6. Transportation Handbook of Rules**

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## **6.2 Transportation Handbook of Rules**

## Transportation Handbook of Rules

### **Handbook of Rules and Special Instructions**

The following slides are for awareness for any employee working under the authority of the Transportation Department.



Your Vale Transportation contact is your essential source of all other information once you begin work! They shall provide all other rules, policies or procedures that may apply to the work being performed.







## **6.3 Transportation Handbook of Rules**

## Transportation Handbook of Rules

Handbook of Rules and Special Instructions (section1)

11.01 - Vale employees in any department and non-vale employees connected with the movement of trains, including the use of track switches, track work, are subject to all applicable rules and shall;

- 11.02 Be subject to and conversant with these rules;
- 11.04 Communicate by the quickest available means to proper Transportation Supervision any condition which may affect the safe operation on rail;
- 11.05 Obtain assistance when required to control a harmful or dangerous condition;







## **6.4 Transportation Handbook of Rules**

## Transportation Handbook of Rules

Handbook of Rules and Special Instructions (section1)

11.01 - Vale employees in any department and non-vale employees connected with the movement of trains, including the use of track switches, track work, are subject to all applicable rules and shall;

- 11.07- Expect the movement of equipment at any time, on any track and in either direction;
- 11.09 Not stand on the track in front of an approaching engine or train;
- 11.10 Not stand or walk between rails;

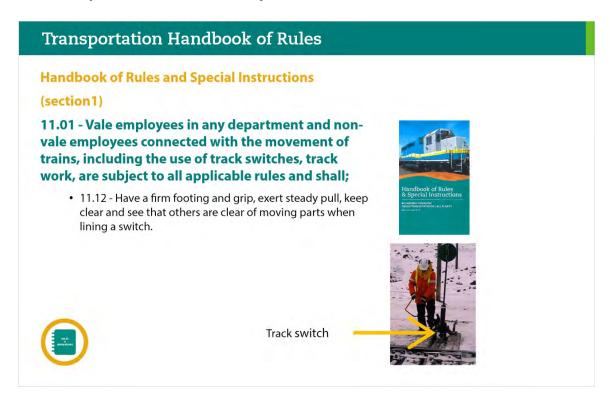








## **6.5 Transportation Handbook of Rules**



## 7. Transportation MSD Injury Prevention

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## 7.2 MSD Injuries

## **MSD** Injuries

MSD injuries (musculoskeletal disorder) comprise of about 40% of all reported injuries.

MSD injuries include sprains, strains, breaks or dislocations caused by physical movements that are forceful, awkward, or repetitive.

Reducing these high risk activities will reduce MSD injuries. Proper switch lining is just one example.







## 7.3 General Hazards – MSD Injuries

## General Hazards – MSD Injuries

The portable derail storage lockers were designed to enable workers to lift portable derails (18-36kg) from the waist level instead of having to pick them up off the ground, preventing an MSD injury.









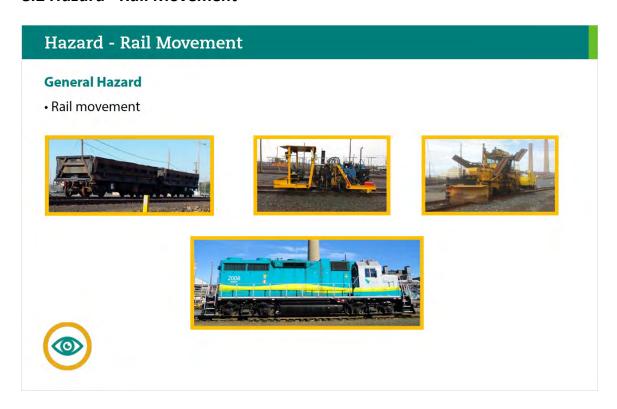
Be aware of other MSD hazards in the workplace and adjust your work to avoid them!

## 8. Using ZES with Work Permits

### 8.1 Untitled Slide



## 8.2 Hazard - Rail Movement



### 8.3 Hazard - Rail Movement

### Hazard - Rail Movement

Failure to understand the rail network's complexity can result in a number of different hazards:

- Communication failures can lead to trains colliding with each other or other pieces of equipment.
- Unexpected movements can result in struck-by personal injury
- Improperly lined switches can result in trains entering restricted areas or even cause derailments.





### **8.4 Hazard Control**

### **Hazard Control**

#### **Hazard Controls**

#### **Zero Energy State - ZES**

(Golden Rule #4)

#### **Definitions:**

### **Energy Isolating Device**

• a mechanical device that physically prevents the transmission or release of energy (such as movement of rolling stock).

# DANGER DO NOT OPERATE

#### **Tagger**

• a qualified worker who installs and removes his/her personal protection and manages status tags.



## 8.5 Using ZES with Work Permits

## **Using ZES with Work Permits**

#### Zero Energy State Rule Review

#### Only a Tagger can install/remove his/her personal protection.

When the worker has not been <u>trained</u> as a Tagger, a **Designated Tagger** will instruct the worker to install their red lock on the locking device(s) or will put a lock box in place.

## Do not operate an energy isolating device unless qualified and authorized to do so.

Qualified – A competent person designated by his/her employer as qualified because of knowledge, training and experience to safely perform an assigned task.



## 8.6 Using ZES with Work Permits

## Using ZES with Work Permits

#### Responsibilities

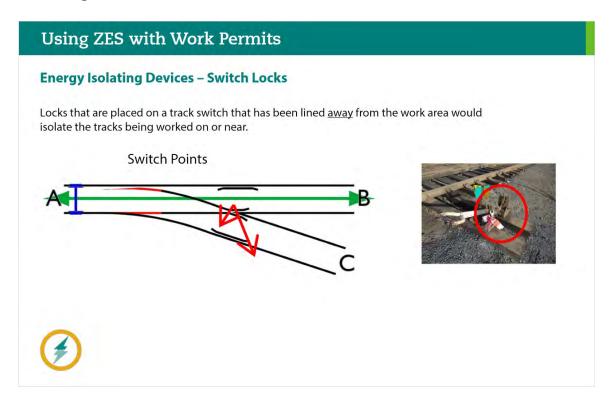
It is the supervisor's responsibility to ensure that their employees are properly trained, qualified and current

#### (ZES modules 1 to 3 are minimum requirements to lock and tag)

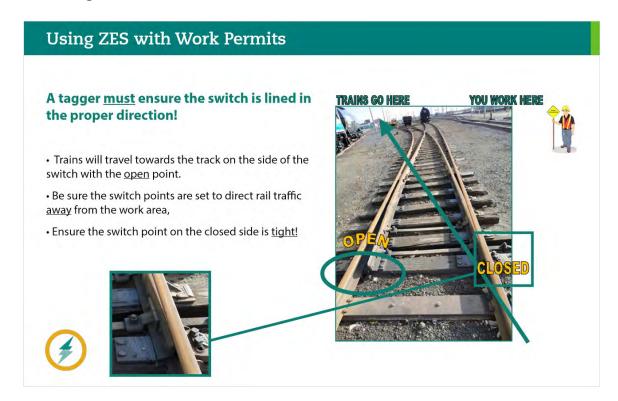
- Supervisors require <u>ZES module 4</u> to know their additional responsibilities under the Health and Safety Act.
- Every person working under the protection of a Transportation work permit shall install their own approved personal protection lock and tag and ensure that ALL energy sources are:
  - ✓ isolated
  - ✓ locked
  - √ tagged



# 8.7 Using ZES with Work Permits



# 8.8 Using ZES with Work Permits



# 8.9 Transportation Work Permits

# **Transportation Work Permits**

**Work Permit Procedure - Protection** 

Non-Vale employees must comply with our ZES program for personal protection when obtaining a work permit.

#### **Handbook of Rules and Special Instructions**

(section10)

60.03 – When protection of workers from rail movement is required, the alignment and locking of a track switch away from the work area is the <u>preferred</u> method of protection







# **8.10 Transportation Work Permits**

# **Transportation Work Permits**

**Work Permit Procedure - Protection** 

Non-Vale employees must comply with our ZES program for personal protection when obtaining a work permit.

#### **Handbook of Rules and Special Instructions**

(section10)

60.04 – If it is not practical to align a track switch away from the work area, a derail must be installed







# 8.11 Using ZES with Work Permits

# Transportation Work Permits Energy Isolating Devices - Derails

A track device used to derail a train or rolling stock in the case of an emergency. A permanent derail can be positioned:

- ON position which would derail a train, or
- OFF position to allow train passage.





# **8.12** Transportation Handbook of Rules

# Transportation Handbook of Rules

Handbook of Rules and Special Instructions (section 4)

#### 27.03 - Each derail must be left in the derailing position when:

- a) protecting doors;
- b) protecting work sites;
- c) protecting equipment
- d) protecting loading or unloading sites







# **8.13** Transportation Handbook of Rules

# Transportation Handbook of Rules

# **Handbook of Rules and Special Instructions** (section 4)

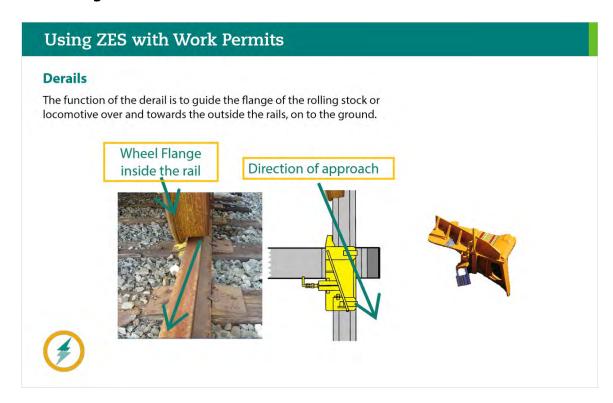
27.05 – Derails will be <u>locked</u> in the derailing position when being used as <u>personal protection</u> and/or when directed by special instruction.







# 8.14 Using ZES with Work Permits



# 8.15 Using ZES with Work Permits

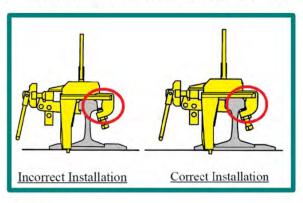
# Using ZES with Work Permits Derails Portable derails must be secured and locked flush to the rail. The graduated teeth must be against the corner of the tie or tie plate Tie plate

# 8.16 Using ZES with Work Permits

# **Using ZES with Work Permits**

#### Derails

- Portable derails must be secured and locked flush to the rail.
- •The graduated teeth must be against the corner of the tie or tie plate





# 9. Rail Signals

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# 9.2 Transportation Work Permit Example

# Transportation Work Permit Example

# **Handbook of Rules and Special Instructions** (section 3)

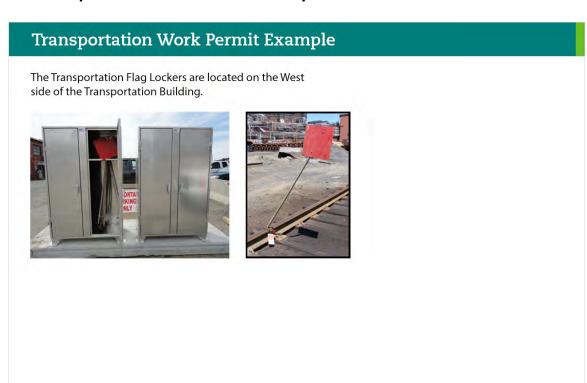
23.02 – Protection signals will be placed to protect people, equipment, impassable track, and designated work areas.

23.05 – Before undertaking any work which may render the track unsafe for train movement, workers must display appropriate protection signals





# 9.3 Transportation Work Permit Example



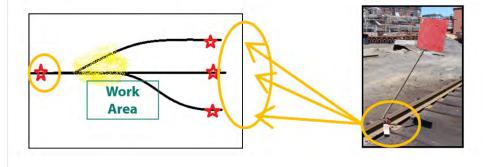
# 9.4 Transportation Work Permit Example

# **Transportation Work Permit Example**

# The Transportation Flag Lockers are located on the West side of the Transportation Building.

- Must be clamped securely to the rail with flag positioned in between the rails
- · Must be visible from all directions of travel
- Must be tagged

Flags **must** be returned to the lockers after their use.



# 9.5 Transportation Work Permit Example

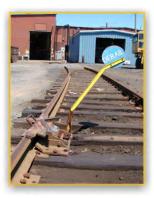
# Transportation Work Permit Example



Switch is properly lined Lock it – Tag it



Flag the track Tag it



Place a derail? Lock it - Tag it

# **10. Work Permit Example**

# 10.1 Untitled Slide



# 10.2 Transportation Work Permit Definitions

# **Transportation Work Permit Definitions**

Work Permit is written permission to work within 12 feet of tracks.

Vale Project Sponsor is the Vale contact person that is assigned to provide Transportation a scope of work including but not limited to:

- · ensuring all members of the work group has proper site safety training,
- ensuring all safety procedures and policies are planned into the work.

#### **Designated Contact** is the worker who completes the Work Permit Form

• is in contact with the Train Dispatcher in the case of an emergency.



# 10.3 Transportation Work Permit

# **Transportation Work Permit**

#### When the scope of work is generated by the Transportation Department:

- ✓ The Project Sponsor, in conjunction with the Train Dispatcher, will determine the level of protection required
- ✓ The train Dispatcher will verify the details required of the Work Permit





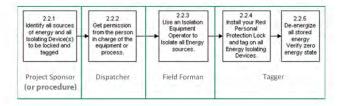


# 10.4 Transportation Work Permit Responsibilities

# Transportation Work Permit Responsibilities

#### When the scope of work is generated by others and approved by Transportation

- ✓ The Sponsor will designate a worker provide a completed work permit
- ✓ Train Dispatcher will grant permission by signing the work permit
- ✓ Level of protection must be approved and confirmed by the Transportation Department's Field Supervisor
- ✓ Transportation Field Supervisor will demonstrate proper aligning of track switches, placement of locks, tags, flags and/or derails that may be used as protection, or act as the designated tagger.



#### 10.5 Transportation Work Permit Responsibilities

# Transportation Work Permit Responsibilities

#### Project Sponsor plans the work.

Determines level of protection for tagger - protection can be listed in a procedure

#### Train Dispatcher is the equipment owner:

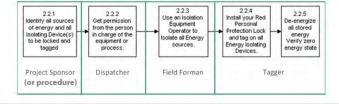
Grants permission to lock and tag tracks- verifies then signs the work permit

#### Field Supervisor acts as designated tagger if Designated Contact is not qualified

- Works with the dispatcher but in the field
- Verifies personal protection in the field

#### Designated Contact must communicate details of work permit to work crew;

- Ensures work remains within the specified boundaries
- must not leave the plant and remain in contact with the dispatcher



# 10.6 Transportation Work Permit Responsibilities

# Workers obtaining a work permit shall: Fill in all required fields in appropriate locations. The work permit will not print if all required fields are not filled in. Print the work permit, sign it and with approval by the Train Dispatcher File a copy of the Work Permit in the "Open Permits" section in the binder Keep a copy of the work permit on the jobsite When work has been completed and/or protection removed, the Designated Contact will sign off the original work permit with the dispatcher, terminating the work permit

# 10.7 Transportation Work Permit Example

# Transportation Work Permit Responsibilities

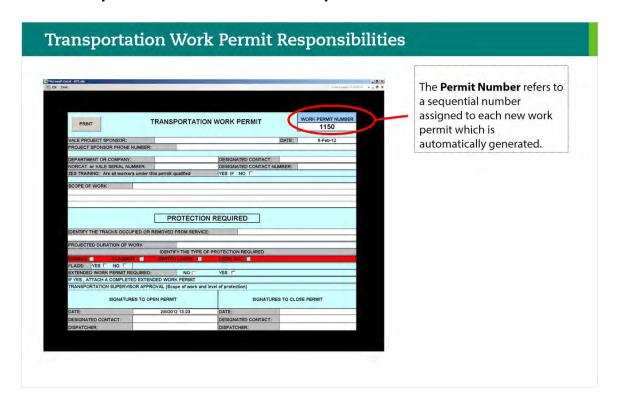


The following is an example that illustrates the process of filling out a work permit:

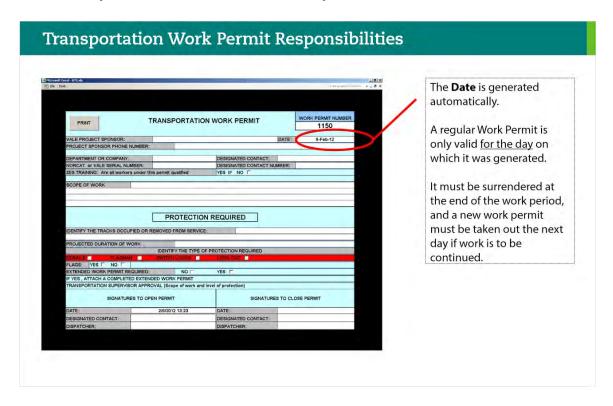
ACME Construction has been awarded the following work:

• change all the rail ties on the Heat Station Track

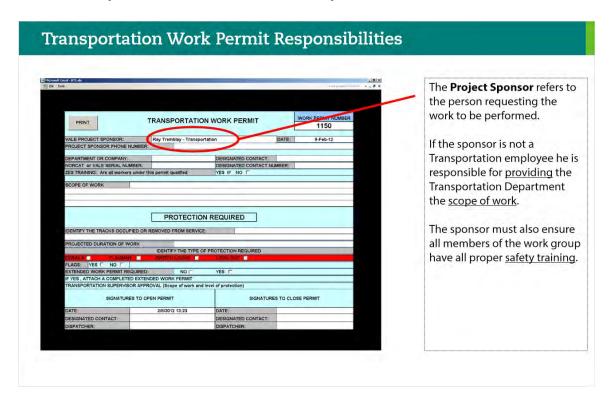
# 10.8 Transportation Work Permit Example



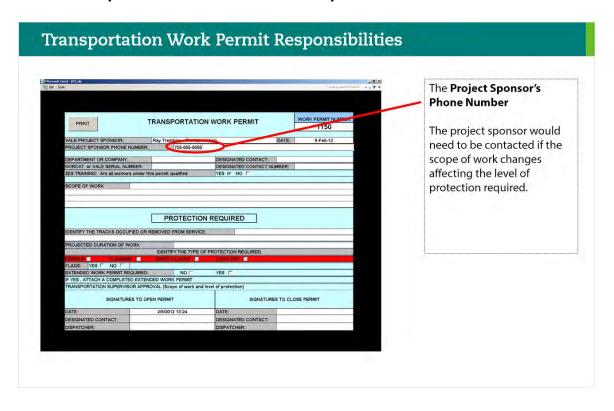
# 10.9 Transportation Work Permit Example



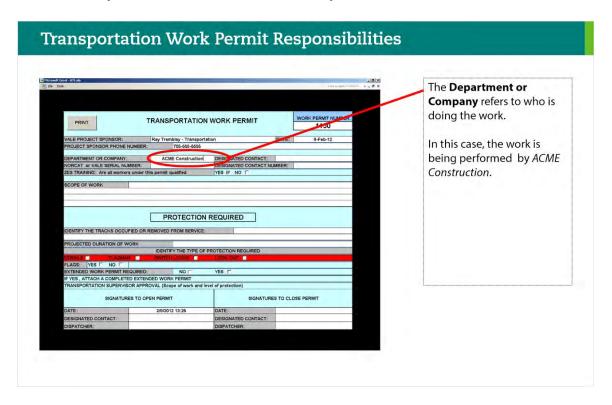
# 10.10 Transportation Work Permit Example



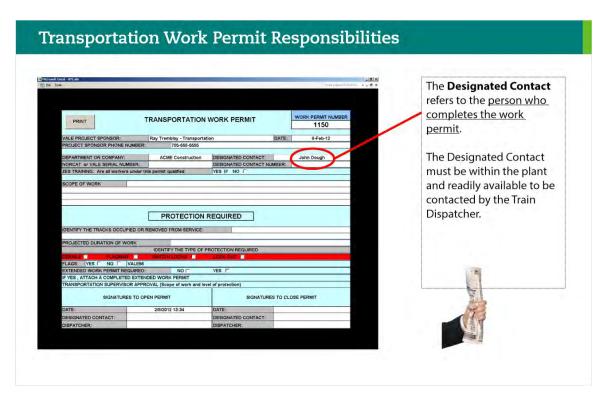
# 10.11 Transportation Work Permit Example



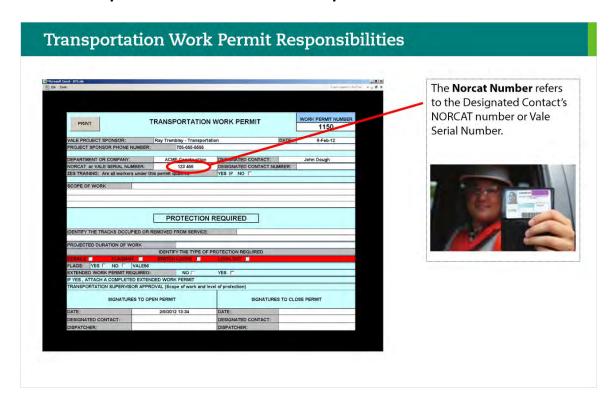
# 10.12 Transportation Work Permit Example



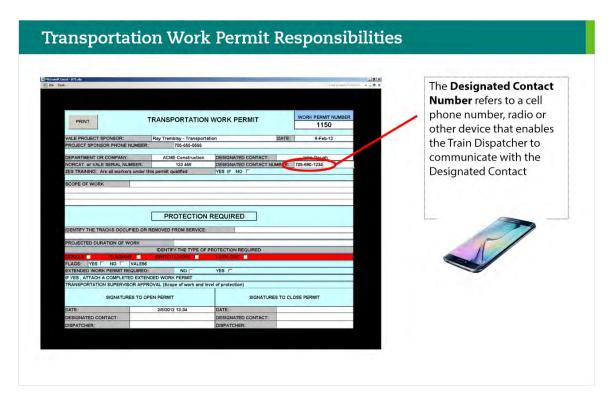
# 10.13 Transportation Work Permit Example



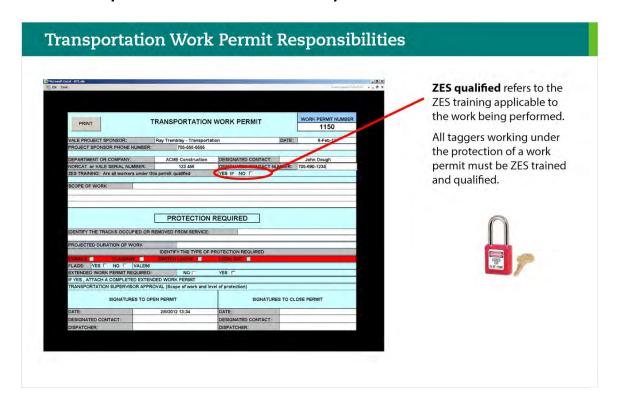
# 10.14 Transportation Work Permit Example



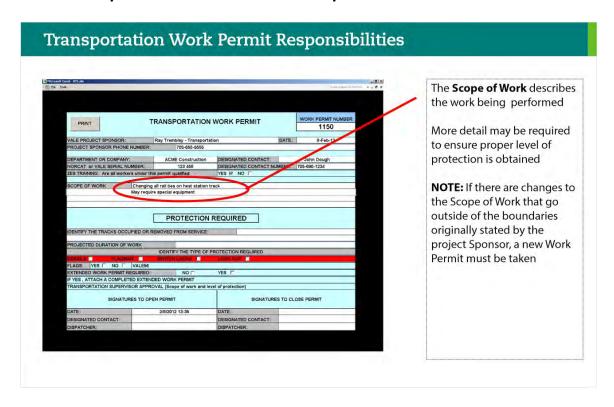
# 10.15 Transportation Work Permit Example



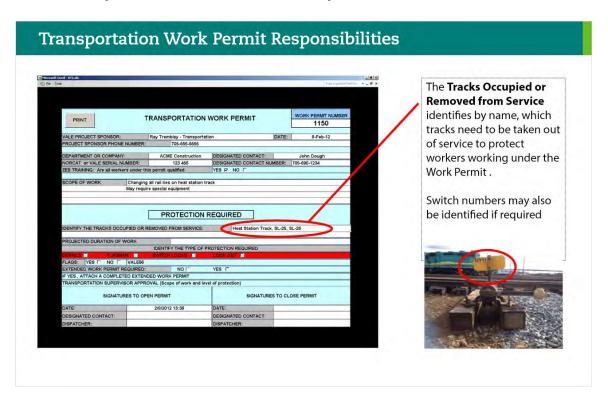
# 10.16 Transportation Work Permit Example



# 10.17 Transportation Work Permit Example



# 10.18 Transportation Work Permit Example



# 10.19 Transportation Work Permit Example

# Transportation Work Permit Responsibilities

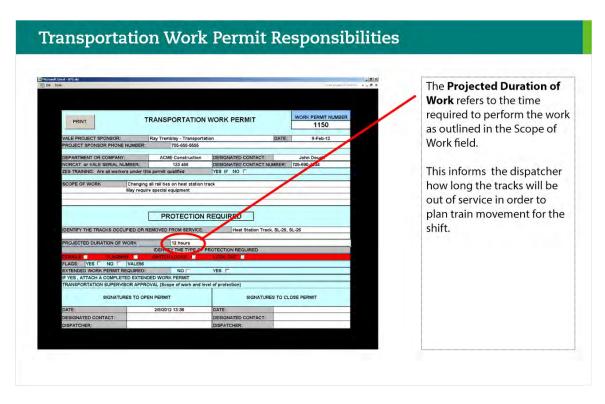
The dispatcher has many information boards to help dispatch safely, including the Track Occupancy Authorization Board (TOA).



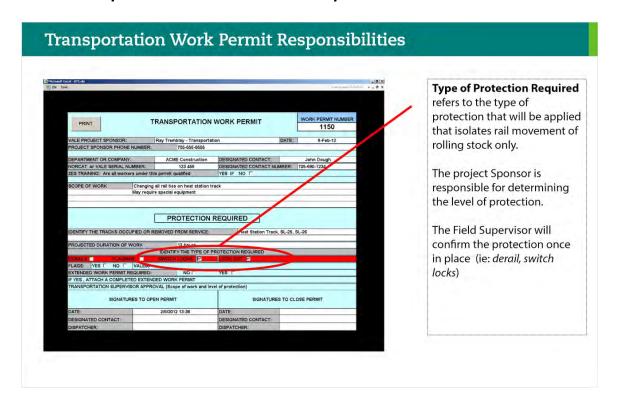
The **Tracks Occupied or Removed from Service** indicates to the dispatcher which tracks need to be taken out of service on his TOA board (highlighted in red) to direct train traffic away from protected workers.



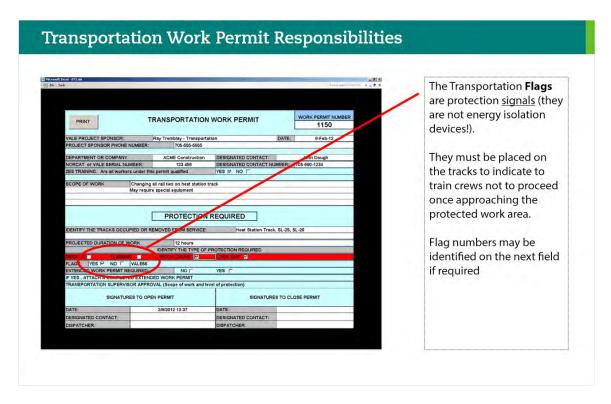
# 10.20 Transportation Work Permit Example



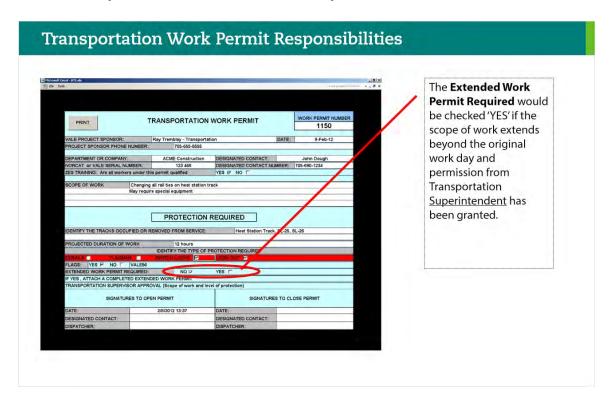
# 10.21 Transportation Work Permit Example



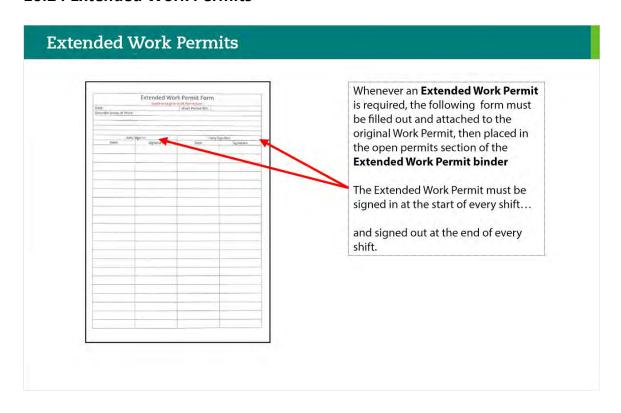
# 10.22 Transportation Work Permit Example



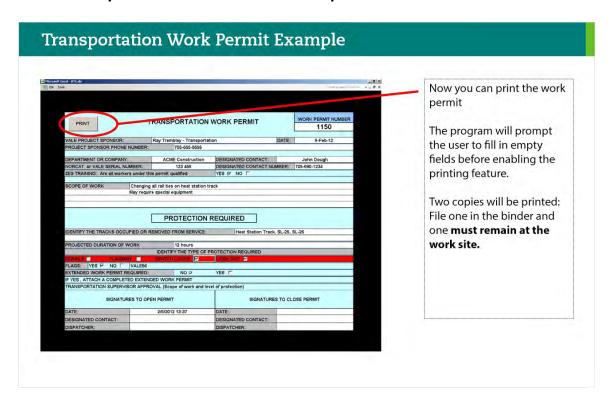
# 10.23 Transportation Work Permit Example



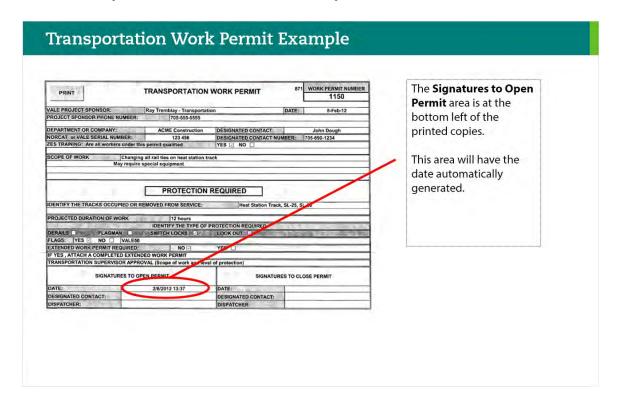
# 10.24 Extended Work Permits



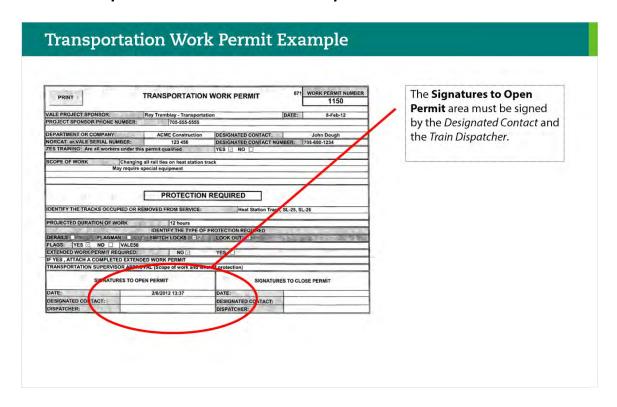
# 10.25 Transportation Work Permit Example



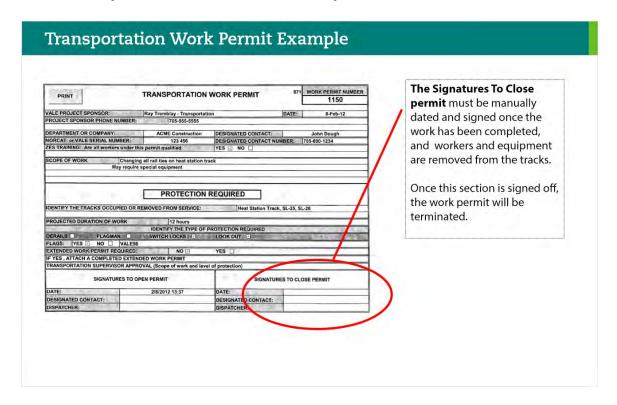
# 10.26 Transportation Work Permit Example



# 10.27 Transportation Work Permit Example

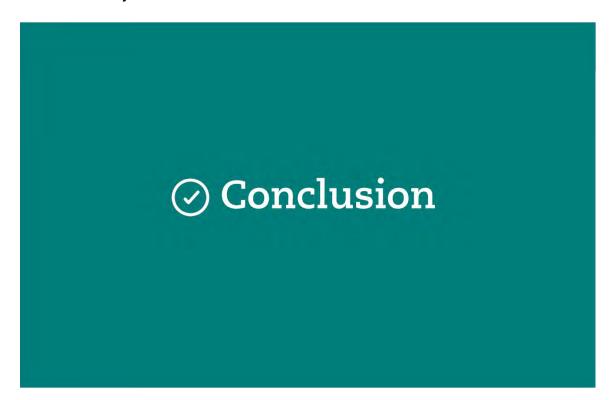


# 10.28 Transportation Work Permit Example



# 12. Conclusion

# 12.1 Summary



# 12.2 Summary

#### Conclusion

You have now completed the Work Permit Training Presentation!

You will now be required to complete a quiz to test your knowledge of the following:

- requirements of a Work Permit and Work Permit Variance.
- rules from Transportation Handbook of Rules and Special Instructions
- energy isolating devices used as protection from of rolling stock
- how to obtain ZES by installing switch locks or derails
- requirements of track flag signals



