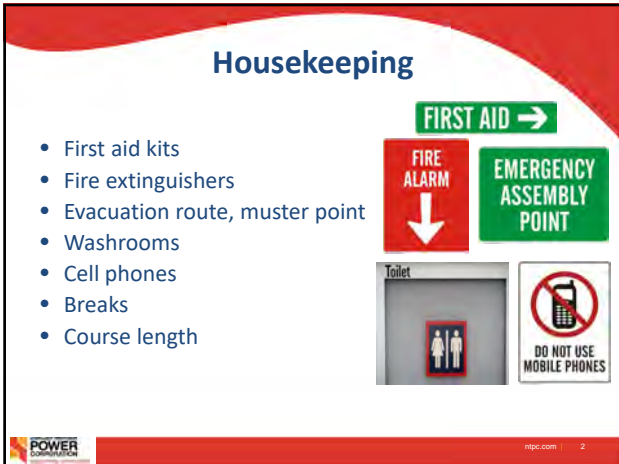
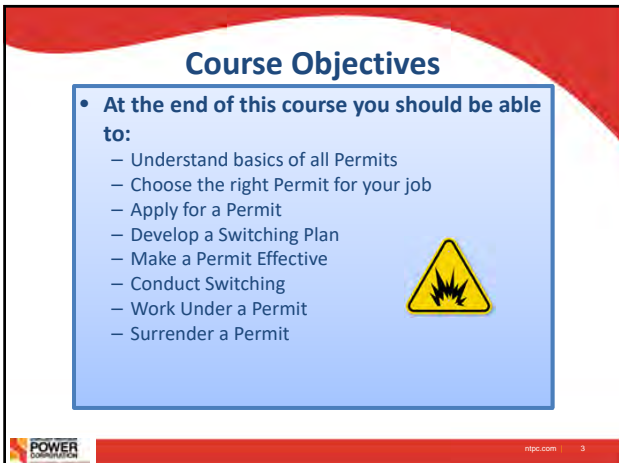


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3

Course Contents

1. Introduction	6. Lock-out/Tag-out (Switching)
2. Permits	7. Permit Issuance & Making Effective
3. Applying for Permits	8. Permit Surrender
4. Permit Processing	9. Working under a permit
5. Switching Plans	10. Work Protection in an Emergency

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4

MODULE 1: Introduction


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5

What is the Work Protection?

Working on or near equipment can involve risks to workers and system security.

The Work Protection Code is designed to protect workers from various forms of hazardous energy while conducting work on specified apparatus.



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6

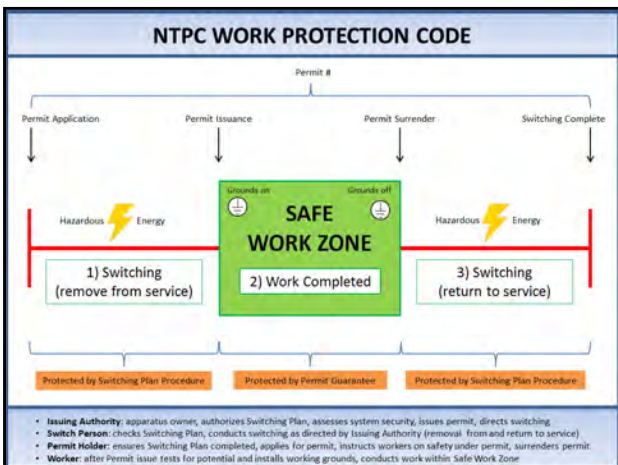


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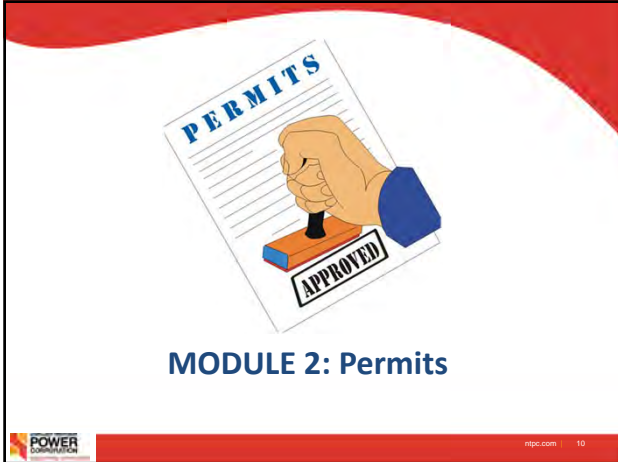
Introduction

Exercise 1 and 2

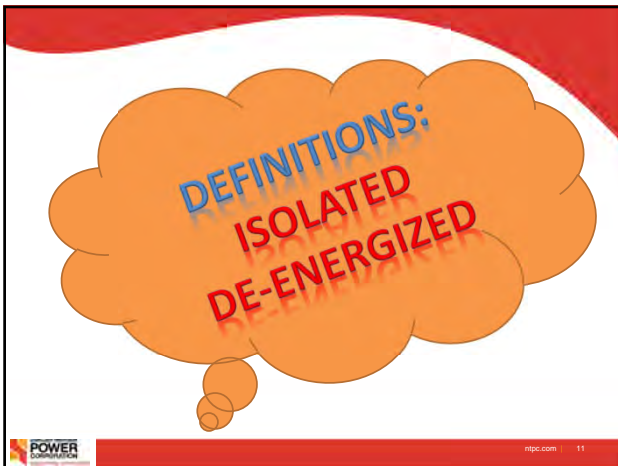
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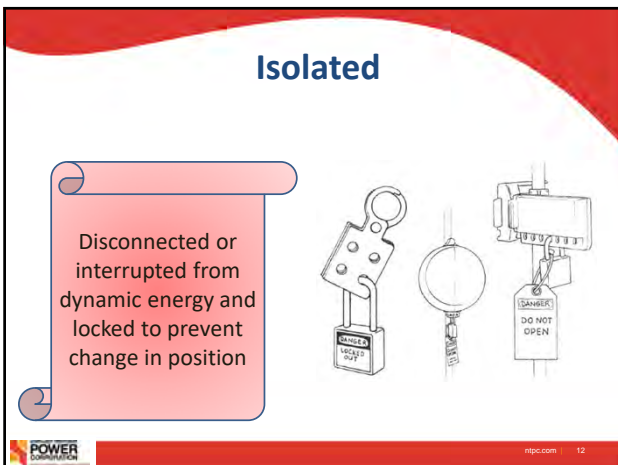
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12

De-energized

Electrical: Isolated and Grounded.
 Mechanical: Isolated and all sources of energy dissipated.

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13

Isolated

Examples of Work Permits Requiring Isolation Only

- Oil change on electric start engines
- Change out of rad fan motor

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14

De-Energized - Electrical

Inductance

- Isolated apparatus can be induced with hazardous electrical energy when in close proximity to energized circuits.
- Can be considered de-energized only after grounds are applied.


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15

De-Energized - Electrical

Generators

- Can store hazardous electrical energy even after shutdown and isolation
- The generator can be considered de-energized only after generator connections grounded




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16

De-Energized - Electrical

Backfeed

- Back-feed can occur when a temporary power source is setup on the customer's side of the distribution system.
- A line can only be considered de-energized and protected from back-feed when grounded.



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17

De-Energized - Mechanical

Powered Mobile Equipment

- Store hazardous potential energy when implements not fully at rest
- Only considered de-energized once bucket lowered or safety stands installed




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18

De-Energized - Mechanical

Hydraulic Systems

- Store hazardous energy even following isolation from the pump
- Can only be considered de-energized once pressure is bled from the cylinder




The diagram illustrates a hydraulic system. It includes a fluid tank on the left, a pump, a pressure relief valve, a control valve, and a cylinder on the right. Arrows indicate the flow of fluid between these components. A red circle highlights the pressure relief valve, and a yellow circle highlights the control valve. The cylinder is shown with a piston and rod.

19

De-Energized - Mechanical

Air Start Engines

- Store hazardous energy which could turn the engine even after the pump has been isolated
- Only considered de-energized once the pressure is bled from the system



The photograph shows a large, green industrial air start engine. It has various pipes, valves, and a control panel. The engine is mounted on a metal frame.

20

De-energized

Examples of Work Permits Requiring De-energization


- Full Engine Overhauls
- Danger Tree Removals
- Changing Insulators
- Stringing Conductors


* De-energization is necessary when the Work (Switching Plan) requires dissipation of hazardous energy

21

Isolated and De-energized

Exercise 3 and 4




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22

Permits

Four Permits

- Work Permit
- Work and Test Permit
- Hold-Off Permit
- Equipment Access Permit (Permit A and B)







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23

Work Permit

Primary Work Protection Permit

- Guarantee that an apparatus is Isolated or De-energized (i.e., hazardous energy has been controlled or eliminated).
- When in effect, the Safe Work Zone created by the permit protects workers from the hazardous energy associated with normal operation of the apparatus





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24

Work Permit

Examples

- Oil change
- Engine overhaul
- Danger tree removal





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25

Work and Test Permit

Controlled Worker Protection

- A guarantee of de-energization under which specific work and tests are done on specific apparatus.
- Permissible to change the status of isolating and/or de-energizing devices to make the apparatus alive for testing.
- Requires a written procedure to ensure the testing is safe and the system secure.





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26

Work and Test Permit

Examples

- Megger or Hipot Testing while out of service
- Relay testing while out of service




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27

Hold-Off Permit

Apparatus Protection

- A guarantee of non-reclose for work on or near dynamically alive apparatus
- Hold-off Permit affords no worker protection
- Protection of apparatus only

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28

Hold-Off Permit

Examples

- Transmission line brushing
- Lifting a transformer into a substation

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29

Equipment Access Permit

Work that does not require worker or apparatus protection

Two types:

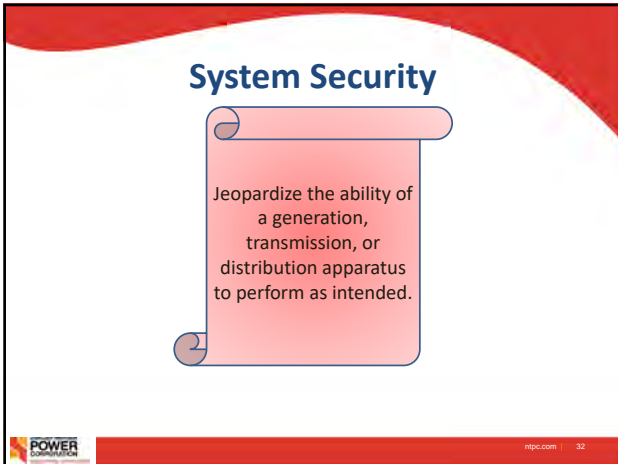
- Equipment Access A
- Equipment Access B

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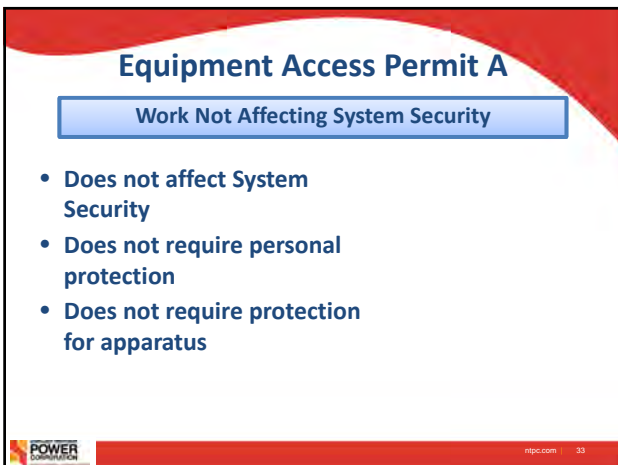
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31



32




33


Equipment Access Permit A

Examples

- Working on positron
- Work on network components
- Work on UPS

- Working on Phone Systems





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34

Equipment Access Permit B

Work Could Affect System Security

- Could affect System Security
- Does not require personnel protection
- Does not require protection for apparatus





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35

Equipment Access Permit B

Examples

- Governor Setting
- Load sharing module settings
- PLC online edit


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36



40




41



42

Authorized Worker

A worker given documented authority by NTPC to conduct specific work.



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43

DEFINITIONS: ISSUING AUTHORITIES




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44

Local Issuing Authority

Authorized to issue Work Protection permits in a work area separate from the Electrical System





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45

System Issuing Authority

The System Control Operator that is authorized by NTPC to issue Work Protection permits relating to the Electrical System.



46



DEFINITION: PERMIT HOLDER



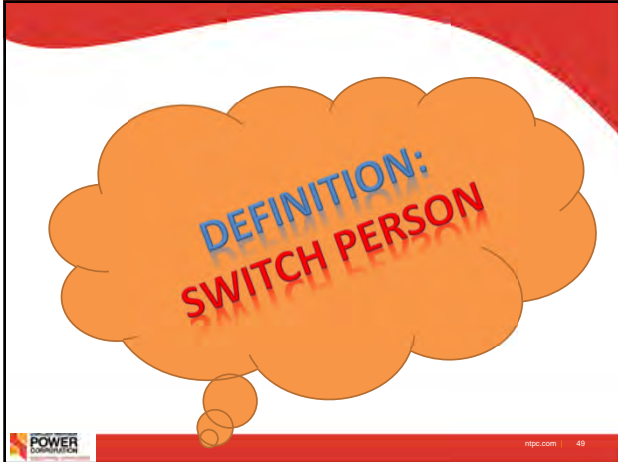
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Permit Holder

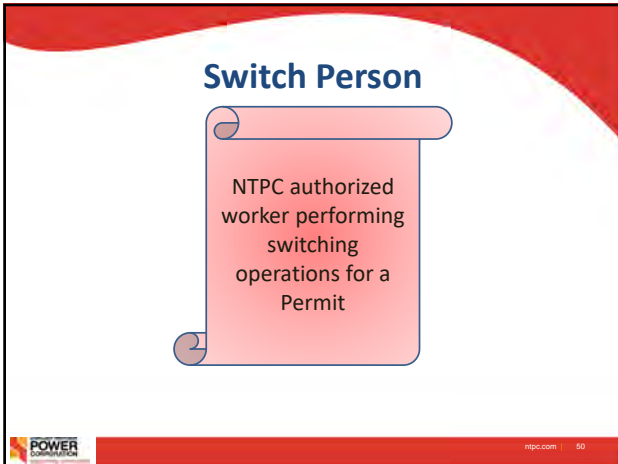
A WPC authorized worker to whom a Work Protection permit is issued



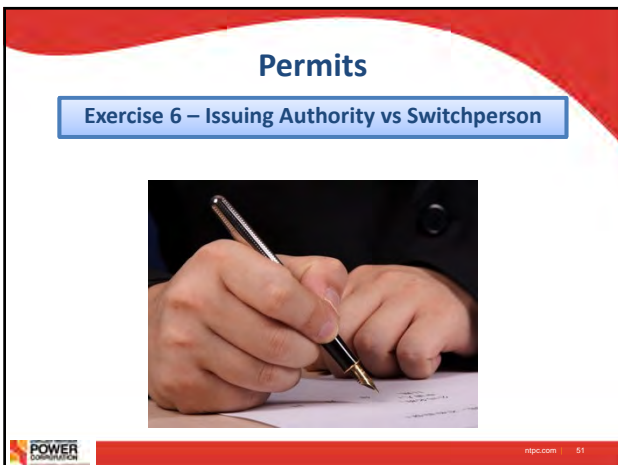
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49





50



51

MODULE 4: Switching Plans





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55

Switching Plan

Change of State

The Switching Plan dictates the steps required to safely remove an apparatus from service and return an apparatus to service





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56

Switching Plan

Prepare Switching Plan

- Prepared by an Authorized Worker
- Verified by a second Authorized Worker




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57

Switching Plan

Authorize Switching Plan

Issuing Authority:

- Reviews all steps
- Authorize with:
Signature, date, & time



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58

Switching Plan

Remove from Service

Identify the following on the Switching Plan:

- Isolating devices requiring change of state
- De-energizing devices requiring a change in state
- All operable devices (i.e., will change state while permit is in effect)
- All verification testing

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59

Switching Plan

Return to Service

Identify the following on the Switching Plan:

- Isolating devices requiring change of state
- De-energizing devices requiring a change in state

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60

Switching Plan

Guarantee of Protection

- The Switching Plan is the foundation of the Permit's Guarantee of Protection
 - Authorized Workers that develop and verify Switching Plans are obligated to fully understand all isolation points that form the Permit guarantee.
 - The Issuing Authority is obligated to note any concerns with the Switching Plan (based on their knowledge of the system and the apparatus being worked on).

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61

Switching Plan

Right to Refuse – STOP WORK

STOP

- If at any point in the permitting process or during the course of work a worker loses faith in the Work Protection Guarantee Work shall stop. This may include one of the following reasons:
 - The Authorized Worker does not understand the system and is not comfortable completing the Switching Plan
 - The Issuing Authority and Authorized Workers do not agree on the Switching Plan
 - A Worker noticed that switching is insufficient or compromised

STOP

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62

Switching Plan

Right to Refuse – STOP WORK

STOP

Contact Work Protection Manager who may resolve the issue by:


- Reviewing the Switching Plan;
- Assessing the Risk;
- Facilitating agreement between Workers using a subject matter expert;
- Adjusting the Switching Plan

STOP

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63

MODULE 5: Permit Processing




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64

Permit Processing

Issuing Authority

- Assign a Permit number
- Record permit information in the Work Protection Log



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65

Permit Processing

Assign Permit Number

Permit Numbers shall be:

- Unique and sequential.
- Numbered by calendar year, plant, and permit number (e.g., 2019-YK-001, 2019-YK-002, 2019-YK-003).
- Recorded by the Issuing Authority in the Work Protection Log.




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66

Permit Processing

Permit Evaluation

- Is there sufficient information to proceed with the processing of the permit
- Other Permits in the zone of the application
- System Security





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67

Permit Processing

Assess System Security

- Local Issuing Authority
- System Issuing Authority (connected to the Yellowknife and Taltson Electrical Systems)





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68

Permit Application

Apparatus Connected to the Electrical System


<p>Local Issuing Authority</p> <ul style="list-style-type: none"> – Request permission from System Issuing Authority – Use Electrical System Security Form 	<p>System Issuing Authority</p> <ul style="list-style-type: none"> – Verification of Electrical System Security – Approve Form – May cancel at any time to preserve Electrical System Security
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69

Permit Application

Exercise 8 – Approve or Request Additional Information




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73

MODULE 6: Lock-Out/Tag-Out (Switching)




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74


Lock-Out/Tag-Out (Switching)

What is Lock-Out/Tag-Out?

Switching in accordance with the Authorized Switching Plan to guarantee the Safe Work Zone by:

- Separating
- Isolating (lock and/or tagging)
- De-Energizing




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75

Switching

Commence Switching

Once Permit processing complete

1. Issuing Authority gives permission to commence Switching
2. Issuing Authority establishes communication with all Switch Persons
3. Request switching be completed by the Switch Person as per the Switching Plan


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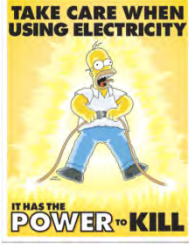

76

Lock-Out/Tag-Out

When is Lock-Out/Tag-Out required?

- Cleaning, maintenance, repair, testing or adjustment to equipment other than a power tool
- Apparatus with the potential to cause injury due to the release of hazardous energy or substances

****Note:** Even if the switching step involves only tagging, this is still considered switching.




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77

Lock-Out/Tag-Out (Switching)

Permit Holder Verification

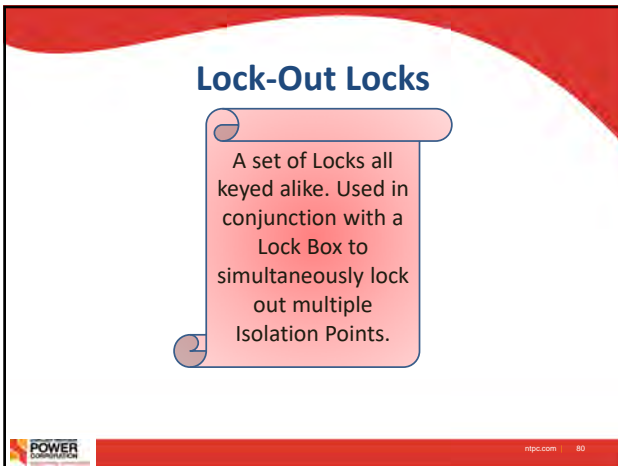
- Where feasible the Permit Holder shall accompany the Switch Person during switching
- Where not feasible, verbal confirmation shall take place between the Switch Person and the Permit Holder and shall be noted by the Issuing Authority on the Permit


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78



79



80




81

Lock-Out/Tag-Out

Locks vs Tags

In certain instances where placement of a lock is not physically possible (e.g., line applications, manual local/remote switches, etc.) the isolation point must be tagged.

A tag must be respected as though it is a lock, however a tag is **NOT** a lock. If an isolation point can be physically locked a lock must be applied. A tag cannot be used in place of a lock.


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82

Lock-Out/Tag-Out

Personal Locks

Each worker shall have the ability to place a lock and tag :

- Directly on the Isolation Device;
- or
- On the group lock box





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83

Lock-out Devices

Multi Hasp Locking Device (Scissor Lock)

- Used when there is a limited number of isolation points on the apparatus




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84

Lock-out Devices

Lock Box

- If there are more Isolation Points than the worker has locks for, a Lock Box shall be used
- Shall only be used for one permit at a time
- Accompanied by Lock-Out Locks; which are keyed alike and to be used to lock out each isolation point.





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85

Lock-Out/Tag-Out

Personal Locks

- Permission from permit holder required
- Name of lock owner
- Issuing Authorities need not place personal locks on the lockbox unless working under the permit



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86

Lock-out

Personal Locks Guarantee

- Your lock is your Guarantee that the apparatus is safe to work on
- Worker shall remove and maintain the key on their person at all times

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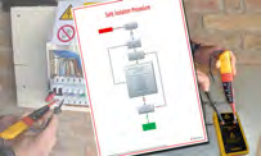
87


Lock-Out/Tag-Out

Verification Testing

All isolation points shall be tested to ensure:

- Effectiveness
- The apparatus will not move
- All sources blocked
- All stored energy has been removed or restrained





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88

Lock-Out/Tag-Out

Verification Testing Examples

- Checking isolation points are correct and they are in isolated position
- Testing for zero pressure, volts, movement, etc.
- Attempting to operate the equipment controls remotely or pressing the button locally
- Verification testing must be documented in the comments section of the switching plan





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89


Lock Removal

Removing Personal Locks



- No person shall remove a lock-out device except for the worker who installed it.
- The last person to remove their Lock & Tag shall check the state of the apparatus and ensure all workers are clear.





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90

Lock-Out/Tag-Out

Personal Locks – Keep Your Key!

<https://www.youtube.com/watch?v=kk6OWepIbj8>
<https://www.youtube.com/watch?v=7TmwhmAkl3Q>


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91

Tags

Requirements

- Legible
- Included permit number, name of Permit Holder, date, and apparatus number
- Placed according to Switching Plan
- Affixed with non-conductive material
- Placed in conspicuous locations
- Placed before Permit Issuance and removed after Surrender
- Destroyed and disposed of after removal




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92

Tags

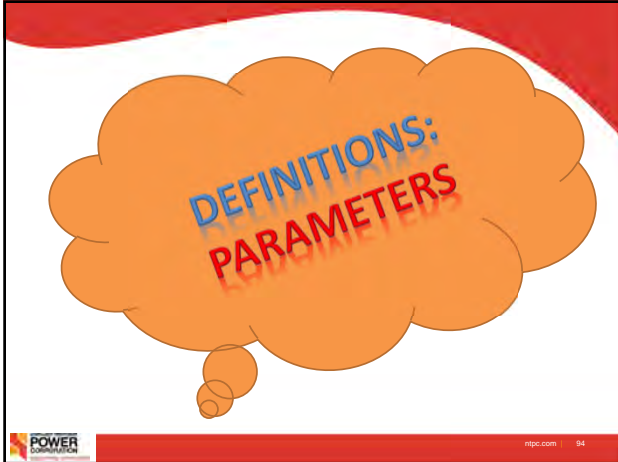
Work Permit Hold

- Isolating and mechanical de-energizing devices that have guaranteed positions
- All control devices and/or indicators of isolating devices at all locations (e.g., SCADA tags)

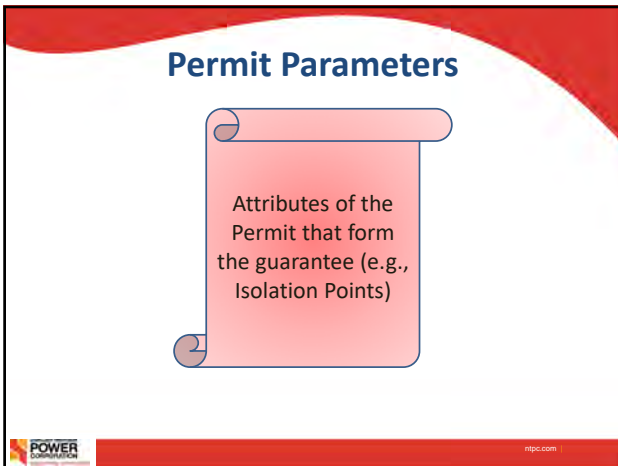




npc.com 93

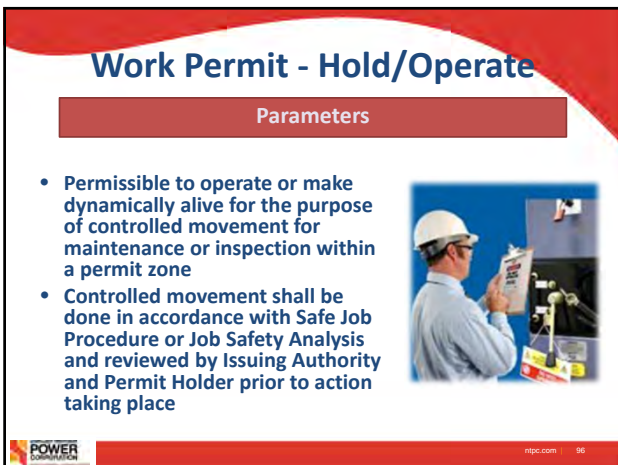
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94



95






96

Tags

Work Permit Hold/Operate

- Isolating and mechanical de-energizing devices that need to be operated
- All control devices and/or indicators of isolating devices that need to be operated




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97

Tags

Work Permit Grounded

- Electrical de-energizing devices
- All control devices or indicators of isolating devices at all locations. If these locations are not available tags shall be placed in other appropriate conspicuous locations to indicate the apparatus covered is grounded
- If behind a closed door the physical ground shall be tagged and the outside of the door
- If grounds in a remote location tags shall be placed at the isolation devices

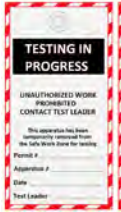


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98

Tags

Testing Under a Work Permit

- Temporary modification to Work Permit parameters to allow for testing (e.g., operate isolation devices)
- Only one test procedure can be completed at a time and cannot be allowed if the testing impacts the safe work zone of another permit


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99


Work Permit

Common Isolating Devices

Hold/Operate and Testing Under a Work Permit

- Common isolating devices between Work Permits is allowed, however the device cannot be operated while any other permit that shares the device is in effect
- Operation (controlled movement or testing) done under a written procedure




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106

Tags

Work & Test Permit

- Indicate a device has been de-energized prior to Permit Issuance and there is a written procedure to make the apparatus live for testing purposes

WORK & TEST PERMIT

HOLD


Operate only at request of Permit Holder.

Permit # _____
Apparatus # _____
Date _____
Permit Holder _____

DANGER

SEE REVERSE

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107

Tags

Work & Test Permit Hold

All isolating and mechanical de-energizing devices that:

- Have guaranteed positions
- May be operated for Work and Tests

All control devices and/or indicators of isolating devices

WORK & TEST PERMIT

HOLD

Operate only at request of Permit Holder.

Permit # _____
Apparatus # _____
Date _____
Permit Holder _____

DANGER

SEE REVERSE

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108

Tags

Work & Test Permit - Grounded

- All electrical de-energizing devices
- All control devices or indicators of isolating devices at all locations. If these locations are not available tags shall be placed in other appropriate conspicuous locations to indicate the apparatus covered is grounded
- If behind a closed door the physical ground shall be tagged and on the outside of the door
- If grounds in a remote location tags shall be placed at the isolation devices


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109

Tags

Hold-Off Permit

- Indicate that a device shall not be operated without consent of the Permit Holder







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110

Tags

Hold-Off Permit

- Local control panel in remotely controlled switching stations where local switching is to be performed
- The remote control switch for automatic reclose devices


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111

Tags

Hold-Off Permit

- On the local device in the switching station where a remotely controlled switch for the auto reclose device is not available
- All switching station power transfer controls that have been disabled




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112


Tags


Special Instructions

Provide temporary operational information:

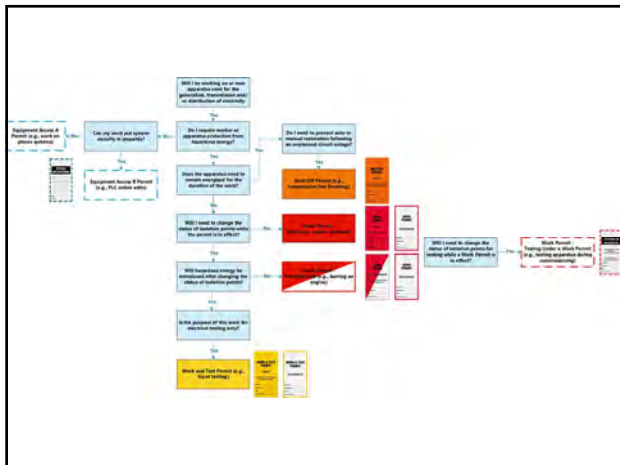
- Removed from Service
- Equipment damaged
- Do not operate

Documented in the Plant Operating Log by Plant Operator/Superintendent




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113



114

Lock-Out/Tag-Out

Permit Holder Verification

Permit Holder accompanies the Switch Person during isolation. Where not feasible, verbal confirmation shall take place between the Switch Person and the Permit Holder.

Lockout/Tagout Prevents Unpleasant Surprises!




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115

Lock-out/Tag-out



Exercise 9 – True or False



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116

MODULE 7: Removal From Service, Permit Issuance & Making Effective


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117

Permit Issuance

Verify Switching

- The Issuing Authority shall ensure the required switching has been completed
- Maintain communication with the Switch Persons to ensure switching has been completed
- Note Verbal confirmations between Switch Person and Permit Holder

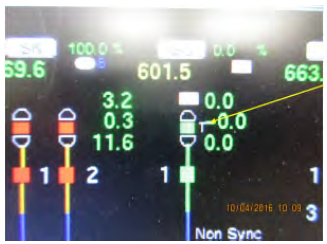


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118

Verify Switching

SCADA TAGGING




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119

Verify Switching

REMOTE/LOCAL




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120

Verify Switching

TRIP BREAKERS




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121

Verify Switching

SWITCH DISCONNECTS

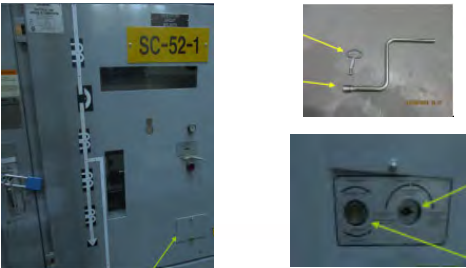


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122

Verify Switching

RACK OUT BREAKERS






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123

Verify Switching

CLOSE VALVES







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124

Verify Switching

STATION GROUNDS INSTALLED




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125


Permit Issuance

Authorize the Permit

To Issue the Permit following switching, the Issuing Authority shall:

- Sign the Issuance section of the form
- Record the date and time on the form and in the Work Protection Log





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126

Permit Issuance

Finalize Issuance by Notification to Permit Holder

- Notify the Permit Holder that the permit is now in effect as follows:
“This Work Permit is the authority to work on the apparatus described and applies to this apparatus only. It is a guarantee that Work Protection is in effect and the apparatus is safe to work on.”




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127

SUCCESS!

SAFE WORK ZONE ESTABLISHED




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128

WORK PERMIT ISSUED

TIME TO GO TO WORK




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129

Lock-out/Tag-out

Exercise 10 – True or False



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130

MODULE 8: Permit Surrender & Return to Service




DONE!

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131

WORK COMPLETE!

Ready to Close Safe Work Zone



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132


Surrendering a Permit

Permit Holder

Before Surrendering the Permit:

- Inspect the apparatus covered by the permit
- Verify safe conditions for surrender
- Inform Workers the Permit will be Surrendered
- Ensure Workers are clear of the apparatus




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133


Surrendering a Permit

Permit Holder

To Surrender the Permit:

- Notify the Issuing Authority
- Sign surrender section of the Permit
- Record date and time
- Submit all documentation to Issuing Authority




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134


Surrendering a Permit

Issuing Authority

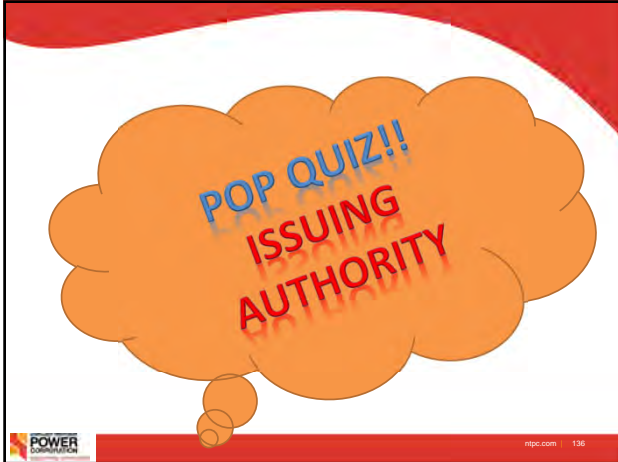
When documentation or notification is received from Permit Holder

- Verify that the permit has been Surrendered using the wording in the surrender section of the permit *"All workers are clear of the apparatus and the permit is hereby surrendered"*

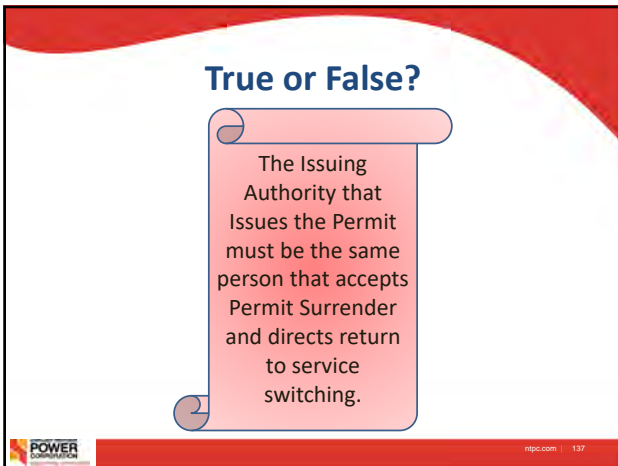



npc.com 135

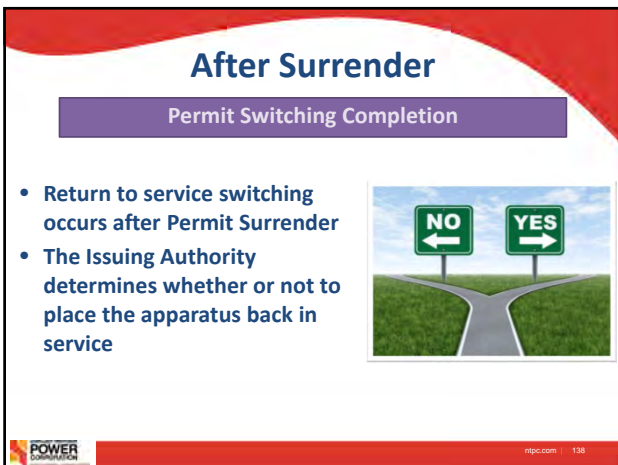
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136



137




138

After Surrender

If Returning Apparatus to Service

- **Issuing Authority:**
 - Direct return to service switching in accordance with the Return to Service Switching Plan
 - Maintain communication with Switch Persons at all times




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139

Return to Service

REMOVE STATION GROUNDS




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140

Return to Service

OPEN VALVES



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141

Return to Service

RACK IN BREAKERS




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rpc.com 142

142

Return to Service

SWITCH DISCONNECTS



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143

Return to Service

TRIP BREAKERS




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144

Return to Service

REMOTE/LOCAL




POWER CORPORATION npc.com 145

145

Return to Service

REMOVE SCADA TAG




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146

Return to Service

CONFIRM TAGS REMOVED

- Confirm that all tags and locks placed for the permit have been removed and noted on the Switching Plan



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147

Surrendering a Permit

Documentation

Following Switching Completion the Issuing Authority:

- Signs the Permit Switching Completion section
- Records date and time
- Files the Permit



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148

Surrendering a Permit

File the Permit

Submit the surrendered permit and all accompanying documentation to the System Issuing Authority:

- Email permits@ntpc.com (preferred)
- Fax to 1-888-442-6042

- The System Issuing Authority shall file the surrendered permit and accompanying documentation in the appropriate location in iManage.

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149

Documentation

System Issuing Authority

iManage Workspace

- A *Work Protection Documentation* iManage workspace shall be maintained by calendar year for the filing of Work Protection documentation.
- The workspace shall be structured as follows:
 - a) Divided into two tabs
 - b) Hydro Division and Thermal Division


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150

Documentation

iManage Workspace

- Separate folders maintained for all work locations (e.g., Bluefish, Lutsel K'e, Ulukhaktok, Dettah Substation, etc.)
- To file the permit, a new folder is created under the Work Location; and
- Named by calendar year, location, and permit number (e.g., 2014-YK-001).






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151

Permit Surrender

Exercise 11 – True or False

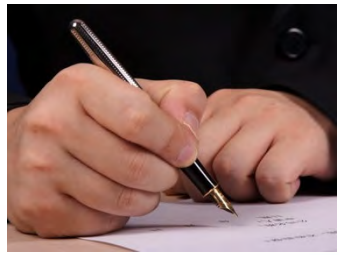




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152

Permit Application

Exercise 12 Complete the Permit





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153

Hazard Assessment

Tailboard Meetings

- Permit Holder Due Diligence
- Worker Opportunity to Speak Up
- Primary Workplace Hazard Assessment Tool
- No Surprises
- Communication to all
- Opportunity to re-assess as conditions change




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166

Hazard Assessment

Job Safety Analysis

- Shall be developed for all work where a Safe Job Procedure is not available
- Work and Test
- Hold/Operate
- Testing Under a Work Permit
- Reviewed with all Workers during the Tailboard



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167

Permit Holder Temporary Absence

Work Permit & Work and Test Permit

Permit Holder shall be at the work area while work is continuing, work can continue in Holder's absence only if:

- Permit integrity uncompromised
- Permit parameters don't change
- Can be contacted and return immediately

**** if all three not satisfied, Permit Transferred or work temporarily stops**


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168

Hold-Off

Permit Holder Onsite at All Times

- The Permit Holder shall be at the work area of the specified apparatus while the Hold-Off Permit is in effect and work is continuing.
- If the permit holder must leave the work area even briefly (e.g., for a communication check), work shall stop during the permit holder's absence or the permit transferred.



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169

Permit Transfer

Procedure

- Permit Holder notify Issuing Authority
- Issuing Authority Provide Permit to Permit Holder
- Permit Holder Complete Transfer Section of Permit
- All Work under the Permit shall stop
- Permit provided back to the Issuing Authority
- Issuing Authority sign and notify new Permit Holder

Transfer	Date	Time
Reason for transfer		
Existing Holder name	Signature	
New Holder name	Signature	
Issuing Authority name	Signature	
Changes in communication method <input type="checkbox"/> Yes <input type="checkbox"/> No	Details:	

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170

Permit Transfer

Additional Permit Transfers

- Additional permit transfers documented on the Permit Transfer Form



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171

Permit Transfer

New Permit Holder

A WP Authorized Worker shall take over the permit and receive full details regarding:

- Status of the apparatus;
- Permit zone; and
- Protection of the Permit




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172

Permit Transfer

Verbal Communications Only

Permissible for Permit Transfer only when necessary

- Issuing Authority, existing Permit Holder and new Permit Holder shall authorize verbally
- Issuing Authority shall complete the transfer section of the permit or permit transfer form


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173

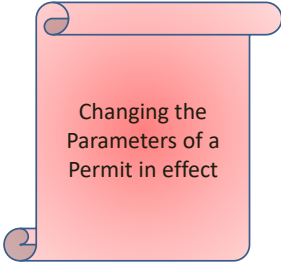


DEFINITION:
EXPAND/COLLAPSE


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174

Expand/Collapse



Changing the
Parameters of a
Permit in effect

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175

Expand or Collapse a Permit

Parameters

It is permissible to Expand/Collapse a Permit

This may be required due to

- A change in the size of the work zone
- A change of location
- Addition or surrender of isolating/de-energizing devices


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176

Expand or Collapse a Permit

Permit Holder

1. Request permission from Issuing Authority
2. Prepare new Switching Plan
3. Clear workers of apparatus before switching changes begin



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177

Expand or Collapse a Permit

Issuing Authority

1. Record reasons for Expand/Collapse on Permit
2. Record changes on initial Switching Plan
3. Authorize new Switching Plan
4. Direct Permit Holder to clear workers of apparatus
5. Direct switching
6. Inform Permit Holder changes complete and provide a copy of the Permit to the Holder



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178

Lock Removal

Removal of Lock when Key unavailable

- All lost keys shall be reported to Work Protection Code Manager Immediately




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179

Lock Removal

Removal of Lock when Key unavailable

- Manager shall make a minimum of two attempts to contact the lock holder by phone
- If key and/or lock holder unavailable:
 - Manager shall complete Lock Removal Authorization Form
 - Submit to the Issuing Authority

Procedure: If a lock is required, and the lock holder is not available, the lock may be removed by a third (3) party. The Lock Manager or their designee.

Permit Details: Permit type: Work Work & Test Maintenance
 Location: Permit number: _____

Description of work: _____

Lock Holder Information:
 Lock Holder: _____
 Phone: _____

Communications Attempts (Minimum 2 attempts):


Attempt	Date	Time	Method	By	Result
1	_____	_____	_____	_____	_____
2	_____	_____	_____	_____	_____
3	_____	_____	_____	_____	_____

Conditions for Removal:
 The following conditions shall be met before the lock can be removed:
 Equipment is safe for lock removal. All equipment was locked prior to lock removal.

Reason for Removal: _____

Sign Off:
 Manager/Author: _____ Worker/Operator: _____
 Issuing Authority/Supervisor: _____ Locking Authority/Supervisor: _____
 Removal date: _____ Removal time: _____

 I hereby certify that the Lock Holder of the lock(s) required and the lock has been removed.
 Date: _____ By: _____


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180

Lock Removal

Removal of Lock when Key unavailable

Manager shall:

- verify apparatus is safe for lock removal
- Ensure workers in area notified of removal
- Be physically onsite prior to lock removal (or designate)




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181

Lock Removal

Removal of Lock when Key unavailable

- Manager or designate remove lock
- Attach new lock if job not completed
- Manager ensures Work Protection Log and Permit updated
- Lock holder notified as soon as possible




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182

Surrendering a Permit


When Permit Holder Unavailable

A Permit may be surrendered by a Work Protection Manager if Permit Holder unavailable

- Complete *Surrender when Permit Holder is not Available* form

If surrender of a permit is required and the Permit holder is not available, the permit may be surrendered by a Work Protection Code Manager.

Permit Details				
Permit type	<input type="checkbox"/> Work	<input type="checkbox"/> Work & Test	<input type="checkbox"/> Hold-Off	
Location	Permit holder			
Description of work				
Permit Holder Information				
Permit Holder	Email			
Local phone	Local fax			
Communication Attempts (Process of Issue)				
1	Date	Time	Method	By
2	Date	Time	Method	By
3	Date	Time	Method	By
Conditions for Surrender				
<small>The following conditions shall be met before the permit can be surrendered:</small>				
<input type="checkbox"/> All workers are clear of the permit area <input type="checkbox"/> All apparatus is in the proper state for return to service.				
Reason for Surrender				
Surrender				
<small>"I declare on oath of the above apparatus and all apparatus is in the proper state for return to service. I hereby surrender the permit."</small>				
Manager name	Manager signature			
Director name	Director signature			
Issuing Authority name	Issuing Authority signature			
Surrender date	Surrender time			
Permit Holder Notification				
Inform Permit holder at the earliest opportunity that permit has been surrendered and work cannot continue.				
Date	By			



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183

Surrendering a Permit

When Permit Holder Unavailable


- Minimum two attempts to contact Permit Holder
- Obtain signature approval from Director
- Confirm Workers Clear of permit zone
- Confirm apparatus in safe condition for surrender
- Inform Permit Holder at earliest opportunity



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184

MODULE 10: Work Protection in an Emergency



EMERGENCY
SITUATION


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185

Work Protection in an Emergency

Emergency

- Emergencies are conditions that may require extraordinary measures for response
- An emergency must be declared by NTPC Management in accordance with the NTPC emergency declaration guidelines



Emergency Works


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186

Work Protection in an Emergency

Immediate Surrender

- The Issuing Authority may request immediate Surrender of Permits
- Before immediate surrender of any permit all apparatus shall be in a safe condition


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187

Work Protection in an Emergency

Switching During an Emergency

Where communications with the Issuing Authority are unavailable:


- Qualified workers may perform, without a permit, a switching operation that they understand.
- All actions taken shall be noted to the Manager and all Documentation filed following the emergency



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188

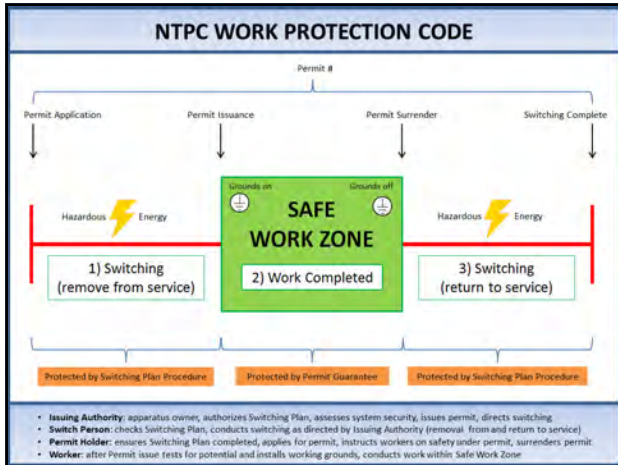
Working Under a Permit

Exercise 13 – Multiple Choice




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189



190

Review

1. Introduction	6. Lock-out/Tag-out (Switching)
2. Permits	7. Permit Issuance & Making Effective
3. Switching Plans	8. Permit Surrender
4. Applying for Permits	9. Working under a permit
5. Permit Processing	

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191

Thank-You

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192
