

**TENNESSEE VALLEY AUTHORITY
COO TECHNICAL TRAINING**

Industrial Safety Training

TRAINING PROGRAM

TVA Clearance Procedure

00059227

COURSE TITLE

ATIS NO.

Authorized Contractor Clearance Training

LESSON TITLE

PREPARED BY	----- Signature / Date
G. Sinkfield	----- Signature / Date
Primary Approver	----- Signature / Date
T. Pitchford	----- Signature / Date
Secondary Approver	----- Signature / Date
	----- Signature / Date



**SAFETY TRAINING
REVISION/USAGE LOG**

Rev.	Description of Change	Date	Pages Affected	Reviewed by
0	Initial issue.	10/01/10	All	T Pitchford

- I. **PROGRAM:** Industrial Safety Training
- II. **COURSE:** Contractor and Non-TVA Personnel Safety Training
- III. **LESSON TITLE:** Authorized Contractor Clearance Training
- IV. **LENGTH OF LESSON/COURSE:** 60 minutes
- V. **PREREQUISITES:** No training prerequisites. *Within the FPG **only**, the facilitators for this instructor-led course shall be responsible employees (RE), qualified employees (QE), or primary authorized employees (PAE) that are currently designated as Level I certified instructors or subject matter experts (SME's) per TVA-SPP-17.5, and possess a detailed knowledge of the course materials.*
- VI. **TRAINING OBJECTIVES**
 - A. **Terminal Objective**

Upon completion of this course, you will demonstrate your knowledge of the various responsibilities that are required of contractor personnel authorized to perform unescorted work under a clearance at any of the properties that are owned and operated by TVA. Successful completion of the material requires a minimum score of 80 percent on a written examination and the completion of course evaluation documents, where applicable.
 - B. **Enabling Objectives**
 1. Understand the purpose and scope of the TVA Clearance Procedure
 2. Recognize the color and purpose of the danger tag, hold order and hold notice tags, caution order tag, and the operating permit tag used in the clearance process
 3. Describe the roles of primary authorized employees (PAE) and authorized personnel performing work under a clearance
 4. Recognize a ground disc and its purpose, and describe the responsibilities of authorized employees with regard to ground discs
- VII. **TRAINING AIDS:**
 - A. Computer with projector for Power Point Presentation
 - B. Whiteboards and markers

VIII. TRAINING MATERIALS (include props):

- A. Computer based training (CBT) or PowerPoint file
- B. Emergency Evacuation Plans (handouts)
- C. Training Ground Rules (handout)

IX. REFERENCES

- A. TVA Safety Procedure 613, "Clearance Procedure to Safely Control Hazardous Energy Using Group Tag Out" TVA Safety Manual.
- B. TVA Safety Procedure 615, "Lockout / Tagout (LOTO)" TVA Safety Manual.





Obj 1 - Purpose & Scope | Obj 2 - Clearance Tag Types | Obj 3 - PAE & Authorized Roles | Obj 4 - Ground Disk ID

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X. Lesson Body

- A. Participants Entering & Round Table Introduction

Instructor Notes

Project slide 6 on to screen while participants are entering the training area.

After all are seated, pass out and discuss the **Training Ground Rules** before the start of training

Conduct a roundtable introduction

Introduction

This course is designed to provide Contractors and Non-TVA personnel with the essential information for promoting site access and general work practice safety. An understanding of protective tags, lockout devices, and the basic safety rules to utilize while in the vicinity of isolated energy sources and while working under a clearance shall be discussed.

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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X. Lesson Body

Instructor Notes

A. Introduction

This course is designed to provide Contractors and Non-TVA personnel with the essential information for promoting site access and general work practice safety. An understanding of protective tags, lockout devices, and the basic safety rules to utilize while in the vicinity of isolated energy sources and while working under a clearance shall be discussed.

Read the ***Introduction*** and elaborate on the purpose below.

Purpose

- * Overview of hazards, personal responsibilities, and basic safe work practices
- * Defn. of signs and markings

One (1) graded test given with an 80 percent score required for passing. Other tests for other training objectives will also be given:
Ex. Human Performance (HU)

Terminal Objective

Upon completion of this course, you will demonstrate your knowledge of the various responsibilities that are required of Contractors and Non-TVA Personnel performing unescorted work under a clearance at any of the properties that are owned and operated by TVA. Successful completion of the material requires a minimum score of 80 percent on a written examination and the completion of course evaluation documents, where applicable.

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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X. Lesson Body

Instructor Notes

B. Course objectives

1. **Terminal objective** - Upon completion of this course, you will demonstrate your knowledge of the various responsibilities that are required of Non-TVA Personnel and Contractors performing unescorted work under a clearance at any of the properties that are owned and operated by TVA. Successful completion of the material requires a minimum score of 80 percent on a written examination and if applicable, course evaluation documents shall also be completed.

Read the Terminal Objectives and elaborate.

Make certain that the participants know that this course is for performing work. There is another course for site access only.

Course Objectives

1. Understand the purpose & scope of the TVA clearance procedure
2. Recognize the color and purpose of the danger tag, hold order and hold notice tags, caution order tag, and the operating permit tag used in the clearance process
3. Describe the roles of primary authorized employees (PAE) and authorized personnel performing work under a clearance
4. Recognize a ground disc and its purpose, and describe the responsibilities of authorized employees with regard to ground discs

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

X. Lesson Body

Instructor Notes

B. Course objectives (cont)

2. Enabling objectives

1. Understand the purpose & scope of the TVA clearance procedure
2. Recognize the color and purpose of the danger tag, hold order and hold notice tags, caution order tag, and the operating permit tag used in the clearance process
3. Describe the roles of primary authorized employees (PAE) and authorized personnel performing work under a clearance
4. Recognize a ground disc and its purpose, and describe the responsibilities of authorized employees with regard to ground discs

Read each objective and briefly expound on what it means



General Requirements

Objective 1

Understand the purpose & scope of the TVA clearance procedure

Obj 1 - Purpose & Scope Obj 2 - Clearance Tag Types Obj 3 - PAE & Authorized Roles Obj 4 - Ground Disk ID

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XI. Lesson Body

- B. Clearance procedure (cont)
 - 1. Purpose of TVA Safety Procedure 613

Instructor Notes

Objective 1 – Explain the purpose & scope of the TVA clearance procedure.

- ✓ Establish standardized requirements for group tagout
- ✓ Level of safety equivalent to that obtained by the use of a lockout program
- ✓ Isolate machines and/or equipment from energy source (includes electrical, mechanical, hydraulic, pneumatic, chemical, thermal, motion, etc.) and rendered non-operative, prior to work activities

Purpose



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

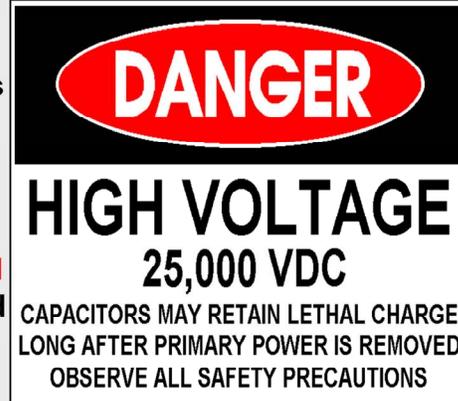
B. General requirements (cont)

1. Purpose of TVA Safety Procedure 613 (cont)
 - a. This procedure establishes standardized requirements for group tag out (hereafter referred to as clearance) to safely control hazardous energy.
 - b. Proper implementation of the requirements of this procedure demonstrates a level of safety equivalent to that obtained by the use of a lockout program.
 - c. This procedure is used to ensure that before performing work on machines or equipment where the unexpected energizing, start up, or release of stored energy could occur and cause injury or property damage, the machine or equipment is isolated from its energy source and rendered inoperative.

The term energy includes any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, motion, gravity or other hazardous energy.

Purpose

- ✓ It is vitally important that each employee remain aware of and strictly adhere to the requirements of the TVA Clearance Procedure
- ✓ Where hazardous energy cannot be safely controlled the work is considered “**working on energized equipment**” and must be approved by the management official in charge (MOIC)



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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Instructor Notes

B. General requirements (cont)

1. Purpose of TVA Safety Procedure 613 (cont)

- d. It is vitally important that each employee remain aware of and strictly adhere to the requirements outlined in TVA Safety Procedure 613.
- e. Before anyone performs servicing, maintenance, or modifications on a machine or equipment where unexpected energizing, start up, or release of stored energy could occur and cause injury, the hazardous energy must be safely controlled.
- f. For any task where hazardous energy cannot be safely controlled by implementing the requirements of this procedure, the work is considered “working on energized equipment” and must be approved by the management official in charge.



Applies to:

- ✓ **Work on machines and equipment under plant control**
- ✓ **Personnel who work on generating plant machines and equipment including TVA employees, managed task contractors, and staff augmented employees**

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

B. General requirements (cont)

1. Scope of TVA Safety Procedure 613 (cont)
 - a. Applies to work on machines and equipment under plant control.
 - b. Applies to personnel who work on generating plant machines and equipment including TVA, contractor, and staff augmented employees. When outside service personnel perform activities on equipment, this procedure is used to establish the necessary clearance.

Note: In NPG, this procedure does not apply to machines and equipment that are not an integral part of the power generation processes or equipment. Clearance requirements for these machines and equipment are in NPG MMDP-12, "Lockout/Tagout."



PSO (Switchyard Work Activities)

Clearances for **Power Systems Operation (Switchyard Activities)** controlled equipment are obtained from the transmission operator in accordance with the current PSO Operating Letter on clearances

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

B. General requirements (cont)

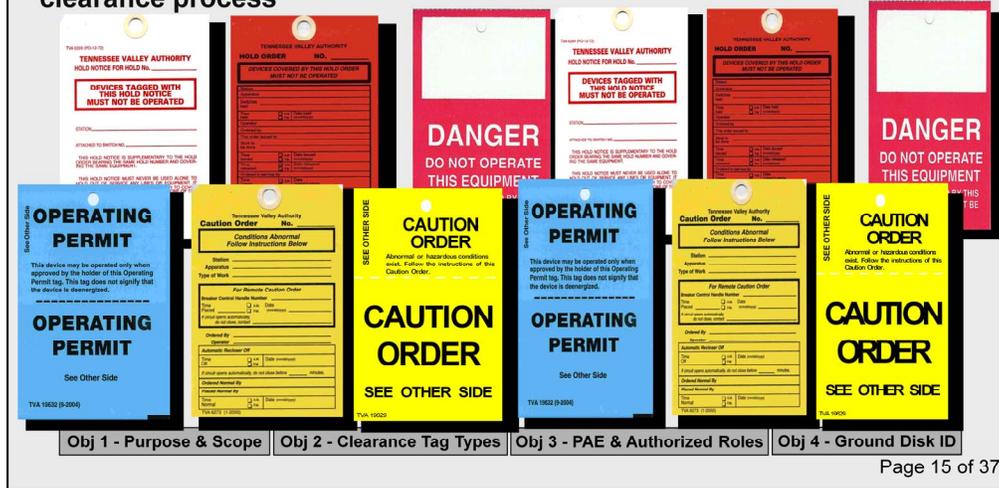
1. Scope of TVA Safety Procedure 613 (cont)

- c. Clearances for work on or near Power Systems Operations (PSO, *switchyard*) controlled equipment are obtained from the transmission operator in accordance with the current PSO Operating Letter on clearances.

Clearance Tags

Objective 2

Recognize the color and purpose of the danger tag, hold order and hold notice tags, caution order tag, and the operating permit tag used in the clearance process



XI. Lesson Body

Instructor Notes

C. Clearance tags

1. Enabling Objectives:
 - a. Objective 2 - Recognize the color and purpose of the danger tag, hold order and hold notice tag, caution order tags, and the operating permit tag used in the clearance process

Danger Tag

Danger Tag:

- ✓ Used to identify the boundaries of a clearance
- ✓ Installed on energy-isolating devices, used to isolate equipment from all sources of energy
- ✓ Equipment with danger tags in place must never be energized or operated



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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Instructor Notes

C. Clearance tags (cont)

1. Danger tag (cont)

- a. Red color tag with white letters.
- b. Used to identify the boundaries of a clearance.
- c. The danger tag is installed on all energy-isolating devices used to isolate equipment from all sources of energy and to permit work to be safely performed on the equipment.
Energy Isolating Device – A device that physically prevents the transmission or release of energy.
- d. Equipment with danger tags in place must never be energized.
- e. No one may operate any equipment with a danger tag attached.

Caution - A danger tag must never be placed upon any equipment that is energized or in service.

Danger Tag

- ✓ Regardless of the presence of a danger tag, all equipment must be considered energized unless it is known to be within the limits of a clearance that has been properly issued and the equipment grounded, if required

- ✓ The mere presence of a danger tag does not ensure that the equipment is under clearance because the clearance may not be fully established



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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Instructor Notes

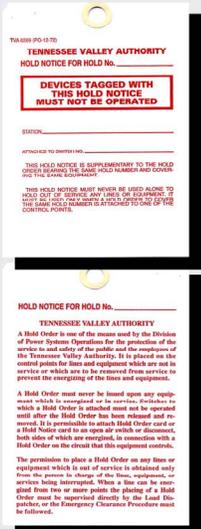
C. Clearance tags (cont)

1. Danger tag (cont)

- f. Regardless of the presence of a danger tag, all equipment must be considered energized unless it is known to be within the limits of a clearance that has been properly issued and the equipment is grounded if required.

- g. The mere presence of a danger tag does not ensure that the equipment is under clearance, because the clearance may not be fully established.

PSO (Switch Yard) Tags



✓ Transmission system clearance hold order tags and hold notice tags are used on transmission operator issued clearances and have the same purpose as the danger tag

✓ Power Systems Operations (PSO) current Operating Letter on clearances establishes the criteria for the use of transmission system clearance tags



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

XI. Lesson Body

Instructor Notes

C. Clearance tags (cont)

2. Hold order and hold notice tags (cont)

a. Colors:

- 1) Hold order tag – red color tag with black letters.
- 2) Hold notice tag – white color tag with red letters.

b. Transmission system clearance hold order tag, and hold notice tag, are used on transmission operator issued clearances and have the same purpose as the danger tag.

c. The Power Systems Operation (PSO *switchyard*) current Operating Letter on clearances establishes the criteria for the use of transmission system clearance tags.

Caution Order Tags

✓ The caution tag may be attached to plant equipment, switches, or controls where a hazardous or abnormal conditions exist. Caution order tags identify the existence of unusual circumstances and provides direction concerning the circumstances

✓ The placement of a caution order tag does not mean that the equipment is de-energized or that it is safe to work on

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

XI. Lesson Body

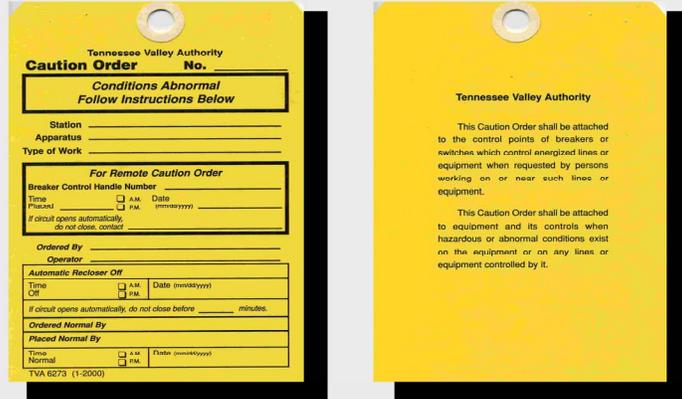
Instructor Notes

C. Clearance tags (cont)

3. Caution order tags (cont)

- a. Yellow color tags with black letters.
- b. The caution tag may be attached to plant equipment, switches, or controls where a hazardous or abnormal conditions exist. The caution order tag identifies the existence of unusual circumstances and provides direction concerning the circumstances.
- c. A caution order tag is not used to establish control of components or to control their configuration. The placement of a caution order tag does not mean that the equipment is de-energized, or that it is safe to work on.

PSO



For transmission system equipment, the Caution Order tag, form TVA 6273 is used exclusively

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

XI. Lesson Body

Instructor Notes

C. Clearance tags (cont)

4. Caution order tags (cont)

- a. For transmission system equipment, the Caution Order tag, form TVA 6273 is used exclusively.

The use of caution orders in the switchyard is covered in detail in the current Power Systems Operations operating letter

Operating Permit Tag

Requirements:

- ✓ Attached to equipment or controls that are located away from main control panels and/or switch panels when the equipment is to be operated only by the person named on the operating permit
- ✓ An operating permit is issued by name to only one person at a time
- ✓ Presence of an operating permit tag does not signify that the equipment is de-energized, or that it is safe to work on



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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Instructor Notes

C. Clearance tags (cont)

5. Operating permit tag (cont)

- a. Blue color tag with black letters.
- b. The operating permit tag may be attached to equipment or controls that are located away from main control panels and or switch panels when the equipment is to be operated only by the person named on the operating permit. The equipment operator may not operate equipment except by instruction of the person holding the operating permit. Operating permit requirements include the following:
 - 1) Presence of an operating permit tag does not signify that the equipment is de-energized, or that it is safe to work on.
 - 2) An operating permit is issued by name to only one person at a time.

Objective 3

Describe the roles of primary authorized employees (PAE) and authorized personnel performing work under a clearance



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

XI. Lesson Body

D. Roles and Responsibilities (PAE & AE)

1. Enabling Objectives:
 - a. Objective 3 – Describe the roles of primary authorized employees (PAE) and authorized personnel performing work under a clearance

Instructor Notes

Objective 3 - State the role of the PAE and AE.

PAE Maintains CPAL

Clearance Personal Accountability Log (CPAL)*

Equipment by Name:		CLEARANCE NO.	CPAL Page	of
Primary Authorized Employee Holding Clearance:		Work Order / Document Number:		
Date/Time Clearance Issued:				
Date/Time Clearance Release:				
Name of Authorized Employee (printed):	Indicate start work on equipment covered by this clearance	Indicate stop work on the equipment covered by this clearance		Comments/Status
Name:	Date/Time: Signature**:	Date/Time: Signature**:		
<p>The PAE maintains a “Clearance Personal Accountability Log (CPAL) for each clearance to indicate the authorized employees who are working on the cleared equipment</p> <p>Note: 1 CPAL per clearance</p>				
Obj 1 - Purpose & Scope	Obj 2 - Clearance Tag Types	Obj 3 - PAE & Authorized Roles	Obj 4 - Ground Disk ID	

XI. Lesson Body

Instructor Notes

E. Clearance personal accountability log (CPAL)

1. The PAE maintains a “Clearance Personal Accountability Log (CPAL) TVA form 17989, for each clearance to indicate the authorized employees who are working on the cleared equipment. This log may be maintained either manually or electronically.

Note: A single CPAL may not be associated with more than one clearance (i.e., a single CPAL must not list multiple clearances).

Holds the Clearance



Primary Authorized Employee (PAE)

- ✓ Holds a clearance by name on the equipment on which work will be performed
- ✓ Maintains a clearance personal accountability log (CPAL) of Authorized Employees
- ✓ Physically walks down the clearance boundary using the tagging list

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

D. Roles and responsibilities

1. Primary authorized employee (PAE)
 - a. The PAE holds a clearance by name on the equipment that servicing, maintenance, and/or modification work will be performed
 - b. The PAE also maintains a clearance personal accountability log (CPAL) of the Authorized Employees who are working on equipment under clearance
 - c. The PAE is also responsible to physically walk down the clearance boundary using the tagging list to ensure that the equipment under clearance is safe to work on, prior to the start of any work

The PAE is the AE's primary contact concerning clearances. All problems detected with the clearance should be directed to the PAE

PAE Maintains CPAL

Clearance Personal Accountability Log (CPAL)*

Equipment by Name:		CLEARANCE NO.		CPAL Page of	
Primary Authorized Employee Holding Clearance:		Work Order / Document Number:			
Date/Time Clearance Issued:					
Date/Time Clearance Release:					
Name of Authorized Employee (printed):	Indicate start work on equipment covered by this clearance		Indicate stop work on the equipment covered by this clearance		Comments/Status
Name:	Date/Time:	Signature**:	Date/Time:	Signature**:	
<p>Each Authorized Person that will work on equipment under a clearance, will take a <i>personal action to sign their name</i> on the CPAL form for that clearance prior to starting work on the cleared equipment</p>					
Obj 1 - Purpose & Scope		Obj 2 - Clearance Tag Types		Obj 3 - PAE & Authorized Roles	
				Obj 4 - Ground Disk ID	

XI. Lesson Body

- E. Clearance personal accountability log (CPAL) (cont)
 - 2. Each Authorized Employee who will work on equipment under a clearance will take a personal action to sign their name on the CPAL for that clearance prior to starting work on the cleared equipment. This action may be accomplished by the Authorized Employee “signing-on” the CPAL either manually or using their unique identification electronically.
- Note: During the pre-job briefing is a good time for authorized employees to sign the CPAL form.

Instructor Notes

Question: What does the signature of an authorized employee signify?

Answer: The employee’s signature on a CPAL is that employee’s “personal lock” on that clearance ensuring that no one can release the clearance without the employee signing off. It is another level of administrative security for the safety of employees working under the clearance.

PAE Responsibility

- ✓ Primary Authorized Employee (PAE) is responsible for verifying the absence of hazardous energy sources prior to work
- ✓ PAE may delegate the responsibility for testing to an authorized employee



Caution:

Under no circumstances will tests for the absence of hazardous energy be performed by personnel that is not qualified

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

- F. Perform work under clearance (cont)
 - 3. Test for absence of energy (cont)
 - a. Primary Authorized Employee (PAE) is responsible for verifying the absence of hazardous energy prior to performing work. This includes energy in the form of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, motion, or gravity.
 - b. PAE may delegate the responsibility for testing to an authorized employee
- Caution:
- Under no circumstances will employees who are not qualified perform tests for the absence of energy.

If cleared equipment under a single clearance is located remote from each other, the cleared equipment is tested for the absence of energy at the location where the work will be performed before beginning work.

Devices tagged with danger tags must never be operated.

Responsibilities

Authorized Employee will:

- ✓ Sign on to the CPAL

- ✓ Participate in the pre-job briefing by providing feedback on improving performance, efficiency, and reducing risk associated with work activities



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

- F. Perform work under clearance (cont)
 - 2. Pre-job activities (cont)
 - a. Each Authorized Employee who will work on equipment under a clearance will take a personal action to place their name on the CPAL for that clearance prior to starting work on the cleared equipment.
 - b. Authorized Employees will participate in pre-job briefing by providing feedback on improving performance, efficiency, and reducing risk associated with work activities.

Responsibilities

- ✓ Authorized Employees test for the absence of hazardous energy prior to performing work on equipment under clearance by:
 - Testing electrical circuitry
 - Visually inspecting the position of devices
 - Observing bleeds, gauges, indicators, etc.,
 - Before starting work, may request a walk down of the applicable clearance boundary
- ✓ If hazardous energy is detected, stop work and immediately report it to the PAE



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

- F. Perform work under clearance (cont)
 - 3. Test for absence of energy (cont)
 - c. Authorized Employees test for the absence of energy prior to performing work on equipment under clearance by:
 - 1) Testing electrical circuitry
 - 2) Visually inspecting the position of devices.
 - 3) Observing bleeds pressure gauges, indicators, or other available means.
 - d. If hazardous energy is detected on the equipment that is under clearance, stop work and immediately report the presence of the hazardous energy to the PAE.

Note: A PER is submitted in accordance with the appropriate "Corrective Action."

Performs the Work



Authorized employee:

Performs servicing, maintenance, and/or modification work in accordance with the clearance procedure

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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Instructor Notes

D. Roles and responsibilities (cont)

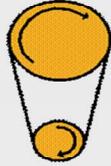
2. Authorized employee

- a. Performs servicing, maintenance, and/or modification work.
- b. Performs work in accordance with the clearance procedure.

Examples of AE's include:

- Craftsmen
- Partners
- Engineers
- Contractors
- Vendors

Anyone that requires a clearance to safely perform work



Testing and Basic Safety

- ✓ At times, energy is applied to cleared equipment for testing purposes
- ✓ Comply with all safety and clearance procedures during the application of test energy as directed by the PAE
- ✓ Remain in the clear during application of energy
- ✓ Work must not be performed on an energy isolating device used to establish a clearance



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

F. Perform work under clearance (cont)

4. Test energy application and basic safety
 - a. At times sources of energy for testing purposes need to be applied to equipment involved in a clearance.
 - b. Authorized Employee responsibilities during testing:
 - 1) Comply with all clearance instructions and safety procedures during the application of sources of energy for testing as directed by the Primary Authorized Employee.
 - 2) Remain in the clear during application of energy as directed by the Primary Authorized Employee, clearance instructions, and prescribed safety procedures.
 - c. Work must not be performed on an energy isolating device that is used to establish a clearance

Discuss testing situations where this is applicable such as:

- Fan balancing
- Operation of FD/ID fans for cooling air during boiler maintenance activities

Responsibilities

Upon completion of the work Authorized Employees:

- 1) Remove tools, instruments, and special equipment
- 2) Cleanup jobsite
- 3) Notify PAE work is complete
- 4) Sign off CPAL



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body

Instructor Notes

G. Upon completion of work (cont)

2. By holding PAE
 - a. Authorized Employee responsibilities - upon completion of the work:
 - 1) Remove tools, instruments, and special equipment
 - 2) Cleanup jobsite
 - 3) Notify PAE work is complete.
 - 4) Sign off CPAL

PAE Maintains CPAL

Clearance Personal Accountability Log (CPAL)*

Equipment by Name:		CLEARANCE NO.		CPAL Page of	
Primary Authorized Employee Holding Clearance:		Work Order / Document Number:			
Date/Time Clearance Issued:					
Date/Time Clearance Release:					
Name of Authorized Employee (printed):	Indicate start work on equipment covered by this clearance	Indicate stop work on the equipment covered by this clearance		Comments/Status	
Name:	Date/Time: Signature**:	Date/Time: Signature**:			
<p>Authorized Employees sign off the CPAL:</p> <ul style="list-style-type: none"> ✓ When their work is complete ✓ As requested to ensure operational readiness of equipment ✓ To facilitate a temporary lift 					
Obj 1 - Purpose & Scope		Obj 2 - Clearance Tag Types		Obj 3 - PAE & Authorized Roles	
				Obj 4 - Ground Disk ID	

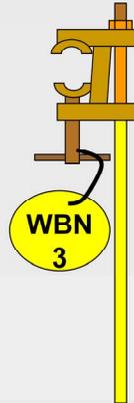
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Instructor Notes

- E. Clearance personal accountability log (CPAL) (cont)
4. The PAE maintains the CPAL by having each Authorized Employee “sign-off” the CPAL upon completion of their work under the clearance or whenever the Authorized Employee does not plan to perform any additional work under the clearance.
 5. When the equipment under clearance needs to be placed into operational status the authorized employees may be required to “sign-off” the CPAL before leaving the plant to avoid delay in releasing the clearance and returning the equipment to operational status.
 6. The PAE must not release a clearance until all authorized employees have personally signed off the CPAL.

Objective 4

Recognize a ground disc and its purpose, and describe the responsibilities of authorized employees with regard to ground discs



Ground Identification Discs

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

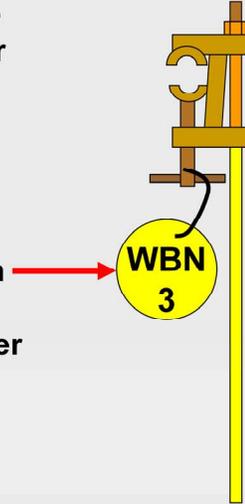
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Instructor Notes

H. Ground Identification Discs

Identification

- ✓ Specified electrical tasks require the use of protective grounds for worker safety
- ✓ Grounding disks are used to control administratively the installation and removal of electrical safety grounds
- ✓ Electrical safety grounds are used in conjunction with a clearance and assigned a specific clearance number



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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XI. Lesson Body**Instructor Notes**

H. Ground Identification Disc (cont)

2. Identification

- a. When working on electrical equipment, sometimes protective grounds are installed for worker safety. Each ground that is installed must be identified with a numbered metal disc or Lamicaid for purposes of tracking the ground. Grounding disks are used to administratively control when and where electrical safety grounds are installed and removed. Ground discs are used in conjunction with a clearance and assigned to that particular clearance number.
- b. Generating plants - electrical representatives and qualified technicians authorized by site management are the only personnel who may receive and return ground discs.

Install & Remove Ground Identification Discs



Process:

- ✓ A representative electrical PAE is responsible to install or to observe the installation and removal of any ground identification discs
- ✓ The numbered disc is attached to the “ground side” clamp of each ground before the ground is installed
- ✓ For breaker grounding devices, such as a “grounding buggy,” the disc is placed in a visible location on the front of the device

Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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Instructor Notes

H. Ground Identification Discs

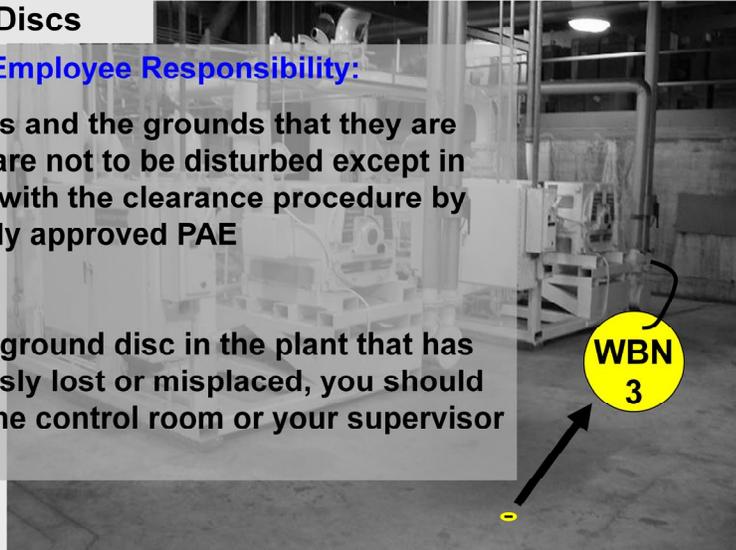
3. Install & remove ground discs
 - a. Electrical representative PAE is responsible to be present and observe the installation and removal of any ground identification discs.
 - b. The numbered disc is attached to the “ground side” clamp of each ground before the ground is installed.
 - c. For breaker grounding devices, such as a “grounding buggy,” the disc is placed in a visible location on the front of the device.

Ground ID Discs

Authorized Employee Responsibility:

- ✓ Ground disks and the grounds that they are attached to are not to be disturbed except in accordance with the clearance procedure by an electrically approved PAE

- ✓ If you find a ground disc in the plant that has been obviously lost or misplaced, you should return it to the control room or your supervisor immediately



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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Instructor Notes

H. Ground Identification Discs

4. Authorized employee responsibilities:
 - a. Ground disks and the grounds that they are attached to are not to be disturbed except in accordance with the clearance procedure by an electrically approved PAE.
 - b. Lost ground disc - If you find a ground disc in the plant that has been obviously lost or misplaced, you should return it to the control room or your supervisor immediately.



Obj 1 - Purpose & Scope

Obj 2 - Clearance Tag Types

Obj 3 - PAE & Authorized Roles

Obj 4 - Ground Disk ID

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Authorized Personnel (Contractors and Non-TVA)

Instructor Notes

Allow for discussion of presented material at this point.