

**METAL BAND CUT-OFF SAW
FACILITATOR'S GUIDE (MM10-FG)
IRI POWER PLANT
MECHANICAL DISTRIBUTION SECTION**

1.0 Introduction

This Facilitator's Guide is designed to assist you in coordinating the Training for Module (MM10) of the IRI Power Plant Mechanical Distribution Section Training Program. It contains information about conducting training for the IRI Power Plant Mechanical Distribution Equipment.

Each Trainee is required to successfully complete all four (4) elements of the module to be certified on the Training Progress Monitoring Card (TPMC) as completed. Each of the following four (4) elements are included in each system training module to ensure the trainee has knowledge of each system and can perform the required tasks.

Formal System Training provides the trainee with a structured training session that teaches and tests the knowledge required to understand the operation of the system and related equipment. The instructional method can be Facilitator Led Classroom, Video Program, Computer Based Training, Self-Study, or any combination of acceptable methods that provides quality instruction that meets the lesson objectives.

Equipment Maintenance Procedure (EMP) Formal Training provides a formal process for instructing the trainee on the understanding and proper execution of all Equipment Maintenance Procedures.

On-The-Job Training will be designed to include 1) equipment preventive maintenance, and 2) corrective maintenance. OJT will also include how to properly perform all equipment checks, the frequency of each check, and any equipment adjustments that are made to bring the checked parameter within limits.

Equipment Checkout involves formal instruction on how to properly perform all equipment maintenance and checks. This includes 1) how to perform preventive maintenance, 2)

make routine equipment adjustments 3) perform corrective maintenance 4) proper use of checklists while performing routine system inspections and equipment checks.

Both knowledge tests and Job Performance Measures will be used to test trainees on both knowledge and performance to measure competency.

This training program may utilize the self-study method of training. Training materials and assistance will be provided to the trainee as needed to complete the module. However, trainee progress will depend on their willingness to gain the required knowledge and skills.

As the trainees gain the knowledge and skills listed for each module they will be required to demonstrate actual work proficiency before they can be signed off on that module.

Preparing to complete each module will require preparatory work, such as reading, studying, observation, or practical experience. The trainee should ask questions if they are unsure about any items. It is the trainee's responsibility to take the initiative to request training or help in learning a knowledge or skill.

The training requirements for each module are listed in the module outline. They have been designed to include the knowledge and skills needed to satisfactorily perform the job. The Facilitator is responsible for observing the trainee's safety habits, work procedures, and completion time. As the trainee demonstrates skills, the Facilitator will initial and date the space next to the knowledge or skill demonstrated on the TPMC.

The module requirements as listed in the TPMC do not have to be completed in their order of appearance except that one (1) level must be completed before the next can be started. The order in which the trainee performs the demonstration of these skills depends on their experience and preparation. It also depends on their current work schedule.

The Facilitator will consider safety habits when judging whether or not to approve a skills demonstration. An unsafe act may invalidate an otherwise approved performance.

Remember that safety is a crucial part of any Mechanical Distribution Mechanic's work and of every task performed.

Your Facilitator, or someone designated by the Facilitator, must approve skill demonstrations. The company-approved safety procedures will be used to determine the quality of a demonstration. In some cases, the Facilitator may use a team to approve a demonstration. The Facilitator will date and initial or sign all approvals on the TPMC.

2.0 Equipment Maintenance Facilitator's Guide

The Equipment Maintenance Training Module is designed as part of the IRI Power Plant Maintenance Distribution Training Program. This module is designed to aid mechanics in upgrading their knowledge and understanding of the equipment.

Reference Materials: IRI Power Plant Mechanical Distribution Technical Manuals, and Charts or Diagrams used in performing the maintenance.

2.1 Formal Training

The format of the Module formal training materials (Equipment Maintenance Description Document) is suited for either formal classroom instruction, self-study or for refresher training.

Unless a waiver is granted, the trainee must have completed the prerequisite basic knowledge modules (IRI Web Based Training, Videos or CD Rom Programs) and safety modules before starting training on the next module. If the training is presented as classroom instruction the following applies.

2.2 Equipment Maintenance Description (EMD) - Facilitated Training

The following guide is used to formally instruct the trainee in a structured training environment. If the training is presented as classroom instruction, the following applies:

2.2.1 Suggested training aids and materials:

- Overhead Projector
- Chalkboard/Whiteboard
- Flipchart
- PC and Monitor
- Pencils
- Notebook paper
- Hi-liters

2.2.2 Facilitator Preparations

- Review Equipment Maintenance Description text.
- Prepare copies of Equipment Maintenance Description for trainee handouts.
- Print EMD drawings as overhead slides.
- Review the Job Performance Measure
- Prepare copies of JPM.
- Display or Review Reference Materials: IRI Power Plant Mechanical Distribution Technical Manuals, and Charts or Diagrams used in performing the maintenance.

2.2.3 Classroom Presentation

- Describe the module and how the material is to be presented.
- Hand out copies of student text.
- Present each chapter objective.

- Review the contents of each chapter with the students using student text and drawings.
- Allow for discussion at the end of each chapter. Encourage the students draw on their past experiences with regard to the lesson.
- Summarize each chapter.
- Inspect the equipment with the trainee and instruct them to describe the flow path, identify the equipment components and describe the function of each component.
- At completion of lecture and discussion, administer the written test.

2.2.4 Module Equipment Maintenance Description (EMD) Overall Training Objectives

The objective of this lesson is to present the material relating to the equipment. Upon completion of the training the Maintenance Mechanic should be able to:

- Describe the function of the equipment.
- List the components that make up the equipment.
- Describe the flow path through the equipment.
- Describe the function of each component of the equipment.
- Identify equipment under the maintenance jurisdiction of the IRI Power Plant Mechanical Distribution Mechanic.

2.2.5 Module Equipment Maintenance System Description Chapter 1.0 - Training Objectives:

This section describes the function of the equipment. It provides a simplified description of the equipment; introducing the equipment major parts, and flow path. Components are described as they apply to IRI Power Plant.

Upon completion of this chapter, each student should be able to:

- State from memory the function of the equipment.
- Draw a simplified diagram of the equipment, including internal parts.
- Describe the equipment connections and interaction with other systems.
- List the equipment operating parameters.

2.2.6 Module Equipment Maintenance Description Chapter 2.0 - Training Objectives:

This segment addresses each Equipment Major Part. The major parts are described as to their function and type. Upon completion of the chapter, each student should be able to:

- Draw from memory a diagram of the equipment showing major parts.
- State from memory the names and functions of major parts.
- Describe the location of the major parts.

2.2.7 Module Equipment Maintenance Description Chapter 3.0 - Training Objectives

This section describes the Equipment Preventive and Corrective Maintenance as it applies to IRI Power Plant Maintenance Mechanics. Upon completion of this section, each student should be able to describe:

- Routine Preventive Maintenance (equipment not taken out of service).
- Preventive and Corrective Maintenance (requiring the equipment to be taken out of service for inspection and repair.)
- Reassembly and Testing after Preventive or Corrective Maintenance that requires the equipment to be taken out of serve.

At the end of the training session a written test will be administered. A score of 75 percent must be obtained to satisfactorily complete this part of the training.

2.3 Equipment Maintenance Description (EMD) - Self-Directed Learning

The following guide is used to provide direction to the trainee to self-study the module training materials. If a self-directed approach is used then the following applies:

2.3.1 Trainee Preparation for Self-Study

Provide the trainee with the following tools and training materials:

- Pencil
- Notebook
- Hi-liter
- Equipment Maintenance Description
- Plant reference materials such as: IRI Power Plant Mechanical Distribution Technical Manuals, and Charts or Diagrams used in performing the maintenance.

Discuss the self-directed learning strategy with the trainee:

- Read each chapter of the Equipment Maintenance Description (EMD) and be able to complete each of the chapter objectives.
- Review the IRI Power Plant Mechanical Distribution Technical Manuals, and Charts or Diagrams used in performing the maintenance.
- Inspect the equipment and refer to the training materials to help you understand the function of each component, the location of each component, the flow path and maintenance parameters.
- Interact with more experienced Maintenance Distribution Mechanics and your assigned facilitator. They are responsible for answering questions, providing you with On-The-Job Training and conducting oral quizzes to determine your progress and competency level.

- When the facilitator agrees you are ready then you will be given the written test. A mastery level of 75 percent is required to demonstrate knowledge.

2.4 Equipment Maintenance Procedure (EMP) - Facilitated Training

The following guide is used to formally instruct the trainee to understand and perform all maintenance tasks described in the Equipment Maintenance Procedure.

2.4.1 Suggested Training Aids

- Overhead Projector
- Chalkboard/Whiteboard
- Flipchart
- PC and Monitor

2.4.2 Suggested Student Materials

- Pencils
- Notebook paper
- Hi-liters

2.4.3 Classroom Preparation

- Review Equipment Maintenance Procedure Text.
- Prepare copies of Equipment Maintenance Procedure Text for student handouts.
- Prepare copies of the written test.
- Prepare the Equipment Maintenance Checklist as overhead slides.
- Display Reference Materials: IRI Power Plant Mechanical Distribution Technical Manuals, and Charts or Diagrams used in performing the maintenance.

2.4.4 Classroom Presentation

- Describe the EMP and discuss how the material is to be presented.
- Hand out copies of the EMP.
- Present each section objective.
- Review the contents of each section of the EMP with the students using drawings to illustrate locations of components and equipment.
- Allow for discussion at the end of each section. Encourage the students to draw on their past experiences with regard to the lesson.
- Summarize each section.
- When complete with the classroom instruction, thoroughly inspect the equipment with the trainee and discuss/demonstrate how to perform all steps of the equipment maintenance procedure.
- At completion of lecture and discussion, administer the written test.

2.4.5 Module Equipment Maintenance Procedures (EMP) Objectives

This section describes the maintenance of the equipment. Upon completion of this training the trainee should be able to:

- List the safety requirements associated with the equipment.
- Describe any environmental impacts or concerns involved with the equipment maintenance.
- Discuss training and responsibilities required for maintenance of the equipment.
- List the Precautions, Limitations and Setpoints relating to maintenance of the equipment.
- Perform equipment preventive maintenance.
- Perform the checks, isolations and tagouts required when performing corrective maintenance of the equipment.
- Perform corrective maintenance.
- Test the equipment after completion of corrective maintenance.

- Use the Equipment Maintenance Checklist to restore it to service.

2.5 Equipment Maintenance Procedure – Self-Directed Learning

To ensure the trainee fully understands all aspects of the Equipment Maintenance Procedure, it is required that he/she is provided with facilitated instruction. However, to minimize Facilitator time, the trainee can do the following self-study so he/she is better prepared prior to the formal training session:

2.5.1 Provide the trainee with the following tools and training materials:

- Pencil
- Notebook
- The Equipment Maintenance Procedure.
- IRI Power Plant Mechanical Distribution Technical Manuals, and Charts or Diagrams used in performing the maintenance.
- Equipment Maintenance charts and diagrams.
- Provide a handout of the Procedure Objectives listed in section 2.4.5

2.5.2 Instruct the trainee to do the following self-study:

- Discuss the Procedure Objectives with the trainee and instruct him/her to use the objectives to direct the outcome of the self-study session.
- Read the Equipment Maintenance Procedure.
- Inspect the equipment, following each step of the maintenance procedure, and mentally simulate how to perform the required actions.
- Make note of any questions that you may have concerning the procedure so they can be discussed with your facilitator.

- 2.5.3** Once the trainee has completed the self-study, the facilitator will conduct a facilitated training session that includes the following:
- Conduct an oral review to assess the trainee's understanding and answer the questions that were noted during the self-study.
 - Inspect the equipment with the trainee and have them discuss or demonstrate how to perform each step of the procedure.
 - Explain and demonstrate any aspects of the procedure that the trainee doesn't fully understand.

At the end of the training session administer the written test. A score of 75 percent must be obtained to satisfactorily complete this part of the training.

3.0 On-The-Job Training

The purpose of On-The-Job Training is to demonstrate to the trainee how to perform the various maintenance procedures associated with the equipment. Trainees are to be given copies of the JPM. The OJT Training Process is performed as follows:

Step 1 The Facilitator discusses the performance of the JPM

- Facilitator gives an overview of the maintenance procedure associated with the equipment.
- Shows location of the major parts of the equipment.
- Describes the preparations needed for maintenance of the equipment.

Step 2 Facilitator describes or performs the JPM

- Facilitator describes or performs each step that is needed to isolate the equipment.
- Facilitator describes or performs each step that is needed during preventive and corrective maintenance of the equipment.
- Facilitator describes or performs each step that is needed to isolate in readiness to perform corrective maintenance of the equipment.

- Facilitator describes or performs system corrective maintenance. This includes how to properly perform the maintenance task, the, any routine adjustments that may be required, and how to properly use and record information on the maintenance checklist.

4.0 Equipment Checkout

Equipment Checkout involves having the trainee properly perform all system preventive and corrective maintenance. The trainee will use the JPM, the Equipment Maintenance Procedure, and Equipment Maintenance Checklist to perform the System Checkout using the following process:

Step 1 Trainee discusses the System Checkout with the Facilitator

- Trainee gives an overview of the procedure or process that is to be performed.
- Trainee will show location of Equipment and the major parts.

Step 2 Trainee performs the System Checkout and is evaluated by the Facilitator

- Trainee describes or performs the preparations needed for Maintenance of the equipment using the Equipment Maintenance Procedure and associated Checklists as needed.
- Trainee describes or performs each step that is needed to perform preventive and corrective maintenance on the equipment.
- Trainee describes or performs each step that is needed during preventive and corrective maintenance of the equipment.
- Trainee describes or performs each step that is needed to test the equipment after corrective maintenance.
- Trainee performs complete equipment inspection and checks after returning the equipment to service.

5.0 Module Requirements Sign Off

When all the elements of the Equipment Maintenance Training Module have been completed, the Supervisor or designated Subject Matter Expert will sign off the associated documents in the trainee's TPMC.