

## W-07: PM Induction Heating

### SAFETY FIRST

- Follow all Caterpillar facility safety standards when performing this task.
- Electrical hazard exists: Working with over 600 volts AC/DC. The high KW inverters may have an explosive hazard if short circuits exist.

### EQUIPMENT

- lockout/tagout equipment

### RESOURCES

- engineering PM requirements, if available

## PM Induction Heating

1. Inspect the induction heater process while the machine is operating.
  - Look for abnormalities and leaks.
  - Listen for an erratic change in the normal operating frequency.
2. Perform lockout/tagout.
  - Follow the zero energy chart (ZEC) for the machine.
  - Verify that there is no power at the three phases and to ground.
  - Check the DC buss bar for discharge of capacitance.
  - Short out and ground the output buss if a cross tie to another inverter exists.
  - Attach your lock and a tag to the main disconnect, note the reason for shutting off the power.

3. Inspect inside the cabinets.
  - Check inside each cabinet for leaking coolant water on the floor.



Check for Water Leakage

#### Cabinet Inspection

- Check the coolant lines for discoloration. Look for abnormalities such as a change in the red insulating paint on the coolant lines. A dark brown color indicates overheating.
  - Check wiring for frays, nicks, and scratches.
  - Check boards and other components for discoloration or blackness.
4. Communicate with the Operator.
    - Ask the Operator if there have been any problems with the induction heating process.
  5. Report or request any required maintenance to restore the inverters.
  6. Restore power.
    - Remove your lock and tag.