



Booster High level RF

GROUNDING REQUIREMENTS FOR ANODE POWER SUPPLY VCB CABINET 13.8 KV

Purpose and Scope

The purpose of this procedure is to outline and detail the process of grounding the Anode Power Supply VCB Cabinets 3-Phase 13.8 KV Input Busses.

All Three VCB Phases must be grounded to do maintenance in the AC VCB Cabinets. This equipment needs to be grounded when working on or within the AC cabinets to ensure that the proper precautions have been taken to remove all stored energy to safely work on the equipment.

Performance of Maintenance Activities

This procedure is always performed by two trained employees due to the dangerous voltages that may be present.

All personnel who access or work within the described equipment must comply with the specific instructions and follow all Hazard Analysis procedures and related LOTO procedures defined in the document. In cases where unusual circumstances may require deviation from these instructions, the Department Head or his/her designee and all participating personnel shall discuss and agree upon an appropriate course of action.

For an overall view of this system, refer to the block diagram on Attachment 2.

Authorized Personnel

An Accelerator Division employee is authorized to perform this procedure if he/she understands all Hazard analysis procedures, has the necessary knowledge, including current training and is authorization to perform the following LOTO procedures:

- **Booster Anode Power Supply LOTO procedure (ADDP-EE-9933)**

Equipment

- Proper PPE per LOTO Procedures
- Salisbury by Honeywell 24308 Assembled Ground Set (4-Way)
Mitchell Part Number: SAL-24308 or Equivalent grounding straps.
- Philips / Flathead screwdriver
- Wrench

The Steps of LOTO Prior to Maintenance Activity

Shutdown Procedure:

The authorized employee shall shutdown or turn off the equipment or systems by using the normal shutdown procedure.

1. Place Anode Power Supply Control Panel in local mode. Disconnect all modulators from Anode Power Supply by using the Anode Power Supply Display Panel under **Subpage Switches**. Actuate the switches by pushing on the disconnect icon button for each Station. **Note:** Disconnecting/connecting of the Switches can only be done locally!
2. **Leave the Anode Power Supply Control Panel in local mode.**
3. **Lock Out/Tag Out:** The authorized employee shall isolate, relieve, restrain, and verify the sources of AC energy feeding the Anode Power supply using the **Booster Anode Power Supply LOTO procedure (ADDP-EE-9933)**.

The Steps for VCB Maintenance Activity

1. Two air gaps are required in order to access the 13.8KV Anode Power Supply VCB cabinets.
2. Booster East and West Gallery Anode Power Supply's require two air gaps.
 - a. S&C Yard disconnect switch must be open
 - b. FESS must pull the 13.8KV fuses from the S&C Yard disconnect switch.
 - c. Proper PPE must be worn for this procedure.
3. Once fuses are pull, FESS must verify within the Anode Power Supply's VCB cabinet the absence of AC 13.8 KV voltage.
4. RF Group, wearing proper PPE, will use a ground stick on each of the input 13.8KV bus connects including grounding capacitors on each phase.
5. RF group personnel will install grounds on the 13.8KV 3 phase bus work in the VCB cabinet using commercial grounding straps.

Returning Anode Power Supply into Service

1. RF Group personnel will remove 13.8 KV grounds in VCB cabinet following maintenance activities.
2. Call FESS to install fuses in the Yard 13.8KV disconnect.
3. Follow normal turn on procedure for the Anode Power Supply.