

## Shutdown Plan

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## Work before Shutdown



- Check ISEG HV module
  - 2 have issues: Send ISEG modules with issues to repair
  - 2 unknown: test ISEG module in lab, send them to repair if have issues
- Check FST module
  - Setup test stand at BNL (Flemming's lab or clean room)
  - Check high current modules (7) and verify the status
  - Check the possibility to fix the modules (4) with broken cooling tube connector with epoxy
- Check ARC board
  - Gerard will send the ARC to BNL
  - Use the test stand to check ARC

## Work after Shutdown



- Cooling system maintenance
  - fix leaks in the rack, replace filters, etc.
  - Check leaks from the soft hose connection on FST modules
    - Needs to pull FST out of the TPC cone and stays on the TPC face
  - Replace soft cooling hose on the detector if the major leak is on detector side (>40% per month)?
    - Needs to bring FST back to clean room
    - Need help from CAD to uninstall and reinstall FST
    - 2 months of work in the clean room
- Check and replace high temperature PPB for module D3-M11
  - Need the pole-tip open to access the PPB on the TPC front face
- Check D1-M12 with fluctuating HV current (might due to grey cable)
  - Need the pole-tip open to switch gray cable or PPB
  - If the issue is not with gray cable or PPB, needs to bring FST back to clean room
- Replace D1-M6 and D3-M2 with high HV currents?
  - Needs to bring FST back to clean room
  - Similar requirement as replacing the soft cooling hose
  - Depends on how many good spares we could recover from previous test