

Last edited:
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NuMI Startup Checklist

Shutdown Work

All shutdown work completed

Vacuum

- All ion pumps turned on, pressures at operational values **(E45)**
- Exercise (open and close) vacuum valves. Then verify all valves are open. **(E45)**

LCW Systems

- MI-62 LCW system running
- Horn 1 RAW skid running
- Horn 2 RAW skid running
- Target RAW skid running
- Upstream Decay Pipe RAW skid running
- Downstream Decay Pipe RAW skid running
- Absorber Intermediate RAW skid running
- Absorber RAW skid running
- All magnets verified valved-in to LCW
- All magnet power supplies verified valved-in to LCW
- Check for water leaks in MI NuMI stub and NuMI pre-target enclosures

Instrumentation

Verify TLM high voltage output and Ar/CO2 gas pressure **(E38 loss <16>, HV local control @ MI-65)**

- E:TLMHV0 readback approx. 800 V
- E:TLMHVR readback approx. 800 V
- E:TLMHVS setting 800 V, readback 800 V
- E:TLMGP > 200 psig

BLM high voltage supplies on **(local control @ MI-65)**

- BLM high voltage "out" and "return" parameters reading approx. 1800 V **(E38 loss <4>)**

Profile monitors **(E41)**

- Sequences enabled, high voltage on, timing events verified, background seen upon trigger
- Motor control fuses in place, wires put in and out of beam path to verify motion

Hadron monitor and Muon monitors 1-3

- Detector gas flows approx. 30 L/hr **(E38 mons <1>)**
- High voltage supplies on and outputting **(E38 mons <2>)**. Local reset underground required if no output.
- Sequences enabled, timing events verified, background noise plotting **(E41, NuMI AAT)**

Magnet power supplies

Ask MCR Crew Chief to put NuMI events in the timeline to test power supply ramps

Main power supplies

- Turn on supplies in Main Injector with the **148** sequencer
- Turn on supplies with the **E46** sequencer
- Manually turn on the NuMI CDC and critical device power supplies **(D106 misc <18>)**
- Verify output of bend supplies **(E38 bnds <3> and <4>)**. Reset BuLB status parameters if necessary **(I18 <37>)**
- Verify output of quadrupole supplies **(E38 quad <1>)**

Correctors

- Verify that corrector bulk power supplies E:CPS6NV and E:CPS65 are turned on **(E38 trms <1>)**

Extraction kicker

- Verify that the kicker power supply I:KPS6N is on and pulsing **(E38 kick <1>)**

Target Hall

Horns

- Turn on the operational horn power supply E:NHSA or E:NHSB **(E38 horn <1>)**
- Verify successful horn pulsing, E:HSLIP approx. 45,000 A **(E38 horn <2>)**
- Verify the horn polarity is as requested. E:HRNDR positive for neutrinos, negative for anti-neutrinos **(E38 horn <1>)**

Miscellaneous

Ensure that the Incomplete RFGE NuMI abort input switches at MI-60 are all enabled.

Signature/Date: _____