



- Shutdown Work Progress:

Detectors and Beam Systems



NuMI-MINOS Status Report — A. Habig

- FAR DETECTOR: Alec Habig
- Cosmic ray operations continue with >95% livetime
- Some excitement on 7 October due to a lightning-induced power failure
 - 1pm Sunday lightning strike takes out Soudan Lab Power
 - DNR and Lab crew called in, apply usual caution to going underground into unknown atmosphere, isolate the experiments, change fuses, replace a burned through 2400V jumper on level 22, then bring power back to mine at 6:30
 - Lab power turned back on 7:07, the off again as there were only 2 of three phases (see next slide!) due to a second toasted cable
 - Jumpers replaced, power back, experimental equipment fine, but power turned off for the overnight (after another weather-induced power bump) to accommodate further DNR electrical work and truly nasty weather. There was no beam to lose, so an opportune time for such power fun.



NuMI-MINOS Status Report – A. Habig

- FAR DETECTOR: Alec Habig
- One leg of the jumper between Mine and Lab power boxes on the 27th level was burnt in two by the lightning strike:



- Resulted in operation of lab with 2 of 3 phases for a few minutes, but the UPS's and power conditioners protected the experiments perfectly throughout all this



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- FAR DETECTOR: Alec Habig
- Second power failure 2:29am October 10th.
 - Many inches of rain in past week plus caused high water alarm in the sump, tripped lab power
 - DNR installs vintage 150 HP backup pump to supplement, which trips breakers, causing power loss again
 - Modern backup pump then installed and operates properly
 - Experimental power restored on normal arrival of Lab personnel at 7:30am (again, no rush due to lack of beam)
- Equipment again ok, power conditioning working well
- Note that even at this historically high water intake rate, it is still a very low rate by underground standards. Combined with deep sumps and a higher lab than drift, a complete power failure for more than a couple weeks is needed before water gets into the lab
 - Tested in the pre-MINOS past during a six-day transformer maintenance operation



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- NEAR DETECTOR: Alec Habig
- Front-end electronics refit complete
 - Cards all have new robust fuses, installed, tested
 - Will prevent the previous several channels/week failure rate
- Minerva ceiling sealing complete
 - Near Detector shut down till dust cleaning is finished to avoid ingesting dust in the computers and electronics (will come back up latter half of this week)



NuMI-MINOS Status Report — A. Habig

- BEAM SYSTEM EFFORTS: (Jim Hysten, Mike Andrews)
- Target Pile Dehumidification Installation Project:
 - Chiller installed. Turning on chiller for first time this afternoon.
 - Dehumidifier installed. Wiring for controls in progress this week.
 - Evaporation system installation nearing completion. Controls not done yet.
- Horn 2 leak repaired, module electrically floated
 - Water line support installed, HiPot done.
 - Test pulse and final shielding replacement left to do.
- Target re-survey
 - Survey of new target carrier fiducials in target pile complete
 - Re-survey of old target in the morgue scheduled for Nov. 1-2



NuMI-MINOS Status Report — A. Habig

- BEAM SYSTEM EFFORTS: (Jim Hylan, Mike Andrews cont)
- Decay pipe helium project
 - Fill system piping complete.
 - Instrumentation in hand, but yet to install.
 - Monitoring and controls wiring in progress
- Helium Safety progress
 - ES&H documentation, internal reviews completing this week, committee review 30 October through 6 November
 - SAD review complete by 9 November
- Helium fill planned for 6-11 November
 - Requires unoccupied NuMI target area underground
- Estimate beam back to NuMI the first part of the week of 12th of November