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BROOKHAVEN NATIONAL LABORATORY

managed by Brookhaven Science Associates
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C-A ASRC and ESRC

Memo

date: *December 8, 2015*

to: *ASSRC Members, ESRC, and Guests*

from: *D. Raparia, Y. Makdisi, and P. Cirnigliaro*

subject: ***Combined ESRC and ASSRC Review of s. PHENIX Solenoid Low Power Cold Test***

Members: D. Raparia*, J. Alessi, P. Bergh, P. Cirnigliaro, F. Craner*, A. Drees, A. Etkin*, P. K. Feng*, M. Gaffney*, P. Ingrassia*, S. Jao, R. Karol, K. Kusche*, M. Kretschmann (J. Terranova), E. Lessard*, G. McIntyre*, W. Needrith*, D. Phillips*, J. Sandberg (P.K. Feng), M. Sivertz*, J. Tuozzolo, R. Than*, M. Van Essendelft*, J. Wright* D. Beavis, P. Bergh, W. Christie, C. Folz, C. Pearson, A. Pendzick, P. Sampson
**members present*

Guests: D. Lynch

Presenters: K. Yip, R. Lambiase, Y. Than, D. Phillips

A collaborative meeting of the ESRC and The ASSRC was held on December 8, 2015, to review the sPHENIX solenoid low power cold test that will take place in building 912.

The following topics were presented by the project team:

Introduction and Overview – K. Yip
An overview of the sPENIX solenoid test was presented including the location in building 912. The proposed schedule was presented to the committee which was previously presented to the LESHC for the low power test and the high power solenoid test. Ongoing work and progress was reported to this committee review.

Cryogenic system – Y. Than
An overview of the cryogenics system was presented. This included LN_2 precool He gas cooler, ERL plant tie-ins, and controls of the cryogenic system and modes of operation. Review of the pressure reliefs and discharge from the reliefs were discussed.

Power Supply – R. Lambiase
An overview of the power systems including the power supply (100A, 16V), solenoid measurements and test summary, and machine protection system testing. The possibility of quenching due to high current was not plausible for this low power test at 100A. The magnetic fringe field was calculated to be below 320G at any point, eliminating any ferrous object being pulled into the solenoid.

Physical layout – R. Phillips
An overview of the physical layout of the location of the solenoid and support electronics was presented. The cables will be run in trays above the floor to the elevated platform of the solenoid. The cables will be neatly dressed on the platform. Clearance for the overhead crane is sufficient in the present configuration for the low power test.

The following ASSRC/ESRC Checklist items must be addressed before sPHENIX low power testing proceeds:

1. M. Gaffney to review sPHENIX low power test set up as SME for Pressure Safety. (**CK-01**, K. Yip)
2. Ensure that the LESHC check list is complete. (**CK-02**, K. Yip)
3. Barrier (isolate access to leads) from power supply to valve box to prevent personnel access during testing. (**CK-03**, D. Phillips)
4. Direct flow from vacuum reliefs and pressure relief on valve box away from personnel that may be on platform. (**CK-04**, Y. Than)
5. Post the platform with a startle hazard posting. (**CK-05**, K. Yip)
6. Pressure test cryogenic system field joints. (**CK-06**, Y. Than)
7. Implement Enhanced Work Permit incorporating SMD Traveler. (**CK-07**, M. VanEssendelft)
8. Schedule an ASSRC/ESRC sPHENIX low power pretest walk down.(**CK-08**, K.Yip)

The following Action item will be tracked:

Dist: ASSRC / ESRC
Guests and Presenters
T. Roser
B. Mueller
W. Fischer
D. Passarello