

Collaboration meeting on DS 11T Dipole grounds

Preparation meeting #1



F. Savary



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Outline

- When/Where
- Goal
- Structure
- Milestones / Past reviews

When / Where

- 21 to 23 September 2015
- Fermilab, room to be confirmed

Goal

- Address the following recommendation of the Review Panel of the 2nd International Review of the HL-LHC 11 T Dipole for DS Collimation held at CERN from 8 to 10 December 2014
(<https://indico.cern.ch/event/354499/>)
 - ***“Organize an internal review in the collaboration, to better integrate the best features of the previous FNAL and CERN developments to the further 11 T dipole development”***

Goal

- **NOT a ‘formal’ review of the project ...
NO review panel**
- Answer the following questions:
 - Are we using effectively/best the results of the R&D work carried out at CERN and Fermilab?
 - Are there still items which are not addressed, or not sufficiently developed?
- An opportunity to recall the original functional requirements and the grounds of the conceptual design

Structure in 4 parts

- Part I (Monday 21):
Design
- Part II (Monday 21):
Technology development and fabrication
- Part III (Tuesday 22):
Tests
- Part IV (Wednesday 23):
Conclusions

Part I: Design

- Functional specification and resulting concept [CERN, M. Karppinen]
- Magnetic design [CERN, B. Auchmann]
- Mechanical/structural design:
 - Concept by FNAL [I. Novitski]
 - Concept by CERN [M. Karppinen]

Part II: Technology

- Technological choices, including cable insulation
 - Choices by CERN [D. Smekens]
 - Choices by FNAL [A. Nobrega]
- Conductor and cable development [FNAL, E. Barzi – CERN, B. Bordini]
- Visit of the magnet and cable fabrication facility in IB3

Part III : Tests

- Magnet test plan
 - FNAL [TBD]
 - CERN [TBD]
- Field quality
 - CERN [L. Fiscarelli]
 - FNAL [J. DiMarco]
- Quench performance
 - CERN [G. Willering]
 - FNAL [S. Stoynev]
- Protection
 - FNAL [G. Chlachidze]
 - CERN [S. Izquierdo Bermudez]
- Visit of the magnet test facility in IB1

Part IV - Conclusions

- Current baseline design [F. Savary] ... for benchmarking
- Conclusions to be drafted as regards relevance of the final choices made for the current baseline design

Part IV - Conclusions

Item #	Item Description	FNAL	CERN	Conclusion
1	Magnetic design			
1.1	...			
2	Conductor			
2.1	...			
3	Cable			
3.1	...			
4	Mechanical design			
4.1	...			
5	Tooling and technology			
5.1	...			
6	Quench performance			
6.1	...			
7	Quench protection			
7.1	...			
8	Field and field quality			
8.1	...			
9	Magnet test procedure			
9.1	...			

Milestones / Past reviews

Previous events:

- Meeting to Review the Field Quality of the 11 T Dipole and Preliminary Meeting on Interface 11 T - Cold Collimation
4-5 October 2011
<http://indico.cern.ch/event/155408/>
- 11 T Collaboration Review, 26 and 27th September 2012
26-27 September 2012
<http://indico.cern.ch/event/207539/>
- 11 T Dipole informal coil and assembly readiness review
23-24 September 2013
<http://indico.cern.ch/event/273023/>
- 2nd International Review of the HL-LHC 11 T Dipole for DS Collimation
8-10 December 2014
<https://indico.cern.ch/event/354499/overview>

The upcoming event:

<http://indico.cern.ch/event/434223/>



Questions?

