NED CONDUCTOR REVIEW

Report of Contributions

https://indico.cern.ch/e/43168

Contribution ID: **0** Type: **not specified**

History of the NED conductor program

Tuesday 4 November 2008 13:30 (15 minutes)

The aims, the developments over the 4 years, the benchmark numbers, how we got to the NED specification

Author: OBERLI, Luc-Rene (CERN)

Presenter: OBERLI, Luc-Rene (CERN)

Contribution ID: **1** Type: **not specified**

Results of the PIT conductor development

Tuesday 4 November 2008 13:45 (20 minutes)

In the frame of the NED project, EAS/SMI successfully developed a Powder-In-Tube Nb3Sn conductor design and is currently manufacturing the final strand. The strand development, fabrication and delivery will be reviewed, together with characterization results for the achieved strands.

Author: BOUTBOUL, Thierry (CERN)

Presenter: BOUTBOUL, Thierry (CERN)

Contribution ID: **2** Type: **not specified**

Results of the IT conductor development

Tuesday 4 November 2008 14:05 (25 minutes)

The strand development performed by Alstom through an innovative fabrication process and through a more conventional process will be reviewed together with the results achieved during the first two steps of
development preceding the final fabrication on the NED strand. Alstom is currently launching in fabrication the final strand for the NED project. The delivery schedule of the final strand will be presented.

Author: OBERLI, Luc-Rene (CERN)

Presenter: OBERLI, Luc-Rene (CERN)

Contribution ID: **3** Type: **not specified**

Results of the cable development

Tuesday 4 November 2008 14:30 (20 minutes)

For the NED program, two Rutherford-type cables were already made on the basis of PIT strands: a 40-strand ˜27 mm wide cable by LBNL and a 14-strand ˜ 10 mm wide cable for the Short Model Coil program at CERN.
The characterization results for strands extracted from both cables are summarized and the cabling critical current degradation is discussed as function of the heat treatment schedule.

Presenter: BOUTBOUL, Thierry (CERN)

Contribution ID: **4** Type: **not specified**

Guidelines on stability

Tuesday 4 November 2008 14:50 (25 minutes)

What are the outstanding stability issues and what does this mean for the parameter space of Fresca2 and HQ. Requirements on strand diameter, filament diameter and RRR in relation to Jc and B.

Author: BORDINI, Bernardo (Unknown)

Presenter: BORDINI, Bernardo (Unknown)

Contribution ID: **5** Type: **not specified**

Review on stress sensitivity

Tuesday 4 November 2008 16:00 (35 minutes)

What do we know about stress sensitivity and where do we need more data. What do we need for Fresca2 and HQ on stress robustness.

Authors: SEEBER, Bernd (University of Geneva); FLÜKIGER, René (University of Geneva)

Presenters: SEEBER, Bernd (University of Geneva); FLÜKIGER, René (University of Geneva)

Contribution ID: **6** Type: **not specified**

Dipole conductor needs: examples for Fresca2

Tuesday 4 November 2008 16:35 (25 minutes)

Using several existing cables (e.g. HD2-OST and NED) a comparison will be presented between the existing HD2 and a set of conceptual Fresca2 designs. The conceptual designs are cosΘ, block coil and hybrid Nb3Sn - Nb-Ti block coil. From this directions and its consequences for conductors needed for high fields will be indicated.

Author: KIRBY, Glyn (CERN)

Presenter: KIRBY, Glyn (CERN)

Contribution ID: **7** Type: **not specified**

Quadrupole conductor needs: examples for HQ

Tuesday 4 November 2008 17:00 (25 minutes)

Using the HQ as an example, the possible field and stress values for a fixed number of conductor cases and coil layouts are to be evaluated. From this a recommendation which type of conductor would be best is to be deduced.

Author: CASPI, Shlomo (Lawrence Berkeley national laboratory USA)

Presenter: CASPI, Shlomo (Lawrence Berkeley national laboratory USA)

Contribution ID: **8** Type: **not specified**

Adjourn

Tuesday 4 November 2008 17:25 (5 minutes)

Contribution ID: **9** Type: **not specified**

NED ESAC introduction

Tuesday 4 November 2008 13:20 (10 minutes)

Author: DE RIJK, Gijs