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Executive Summary: Review of Proposed LHC Collimation Work in DS for 2012

The proposed interim upgrade of the IR3 collimation system during the 2012 long shutdown of LHC was reviewed on July 8th. The work proposed had been included as draft into the recent medium-term plan (MTP). CERN director of accelerators, Steve Myers, chaired the review. The slides from the morning session are available at:

http://indico.cern.ch/conferenceDisplay.py?confId=100156

An executive discussion session in the afternoon came to the following conclusions:

1. The work on adding dispersion-suppressor (DS) collimators and upgrading the IR3 collimation system during the 2012 shutdown must start now.
2. The following technical issues should be addressed:
   a. Study additional measures to advance operational efficiency before the 2016 full upgrade of the collimation system.
   b. Confirm with RP and magnet experts that no radiation shielding is needed for the beam pipes in the shorter cryostat and the beam pipe in the DS collimator.
   c. Study possibilities to add additional diagnostics for radiation and loss monitoring into the dispersion suppressor, during the 2012 shutdown or before (monitor radiation load to installed SC magnets).
   d. Check on potential issues in general safety for the installation of DS collimators with the safety commission (R. Trant).
   e. Verify the feasibility of the different routing of dipole and quadrupole busbars (A. Siemko). An independent routing should be studied.
   f. An additional work package for cold tests should be defined, as that has not been included into the MTP.
   g. It should be checked with the vacuum group that their MTP work package was complete.
3. Concerning resources the following conclusions were taken:
   a. Availability of resources is critical in the various groups involved. There are conflicts with work on other projects.
   b. The beneficial effect of upcoming decisions on shutdowns needs to be considered.
   c. The project leader, in collaboration with the CERN group in charge, should try to identify practical, useful ways to obtain help from the experiments or outside laboratories.
4. Concerning the schedule, the following conclusions were taken:
   a. The cryo bypass completion is on the critical path and it should be studied whether the production can be accelerated in order to build up some margin (parallel production of 4 modules?).
   b. The availability of e-beam welding is on the critical path and alternatives should be studied.
   c. Delaying the start of the 2012 shutdown would give margin to the surface activities (no change for the tunnel work) and may lead to a more optimized design if a decision is taken early enough.

   d. The final decision on start and length of the 2012 shutdown (including work on IR3 DS collimators) will be taken in the Chamonix 2011 meeting.
5. A decision on an IR2 collimation upgrade during 2012 for ALICE will be taken later, taking into account the availability of resources.
6. Concerning project management the following decisions were taken:
   a. R. Assmann as collimation project leader will set up a project structure for the 2012 collimation upgrade of IR3 and the associated work. This structure shall be agreed with the A&T Director and Department heads.
   b. Spending on construction can start from collimation project R&D accounts.
   c. Completion of the technical specification and the preparation of an Engineering Change Request (ECR) are high priority.