

## LIU project team meeting

Notes from the meeting held on  
**21 October 2010**

Present: Roland Garoby, Simone Gilardoni, Brennan Goddard, Klaus Hanke, Malika Meddahi, Maurizio Vretenar.

### 1- Mandate of the LIU project, project team and organisational matters

Roland Garoby reminded the terms of the [Memorandum](#) sent by Steve Myers concerning the Projects Structure in the Accelerators and Technology Sector:

Mandate of the LHC Injectors Upgrade project:

*“The LHC Injectors Upgrade should plan for delivering reliably to the LHC the beams required for reaching the goals of the HL-LHC. This includes LINAC4, the PS booster, the PS, the SPS, as well as the heavy ion chain”.*

Responsibility of the 4 project leaders –HL-LHC, CONS, LIU, ALC: *“The project co-ordinators will have the responsibility for the project management (WBS, technical co-ordination and integration, manpower and budget agreement with the departments as well as budget and timescale control). They will report on a regular basis to the Director of Accelerators and Technology”.*

The LIU Project is considered as High Priority project.

Roland Garoby confirmed the LIU project team members:

- Project Leader (R. Garoby)
- Deputy PL (M. Meddahi)
- SPS Upgrade Coordinator (B. Goddard)
- PS Upgrade Coordinator (S. Gilardoni)
- Booster Upgrade Coordinator (K. Hanke)
- Linac4 Project Leader (M. Vretenar)

If needed, one more coordinator will be nominated for the upgrade of the heavy ion injectors (Linac3+LEIR).

Concerning ion operation, Roland Garoby clarified with Stephane Maury the mandate of Stephane which indeed covers the nominal Lead beam operation. Stephane Maury's mandate does not cover the upgrade operation. All upgrade programmes for the ion operation will be part of the LIU project.

Also, Roland Garoby had a preliminary discussion with Christian Carli. When the Physics requests are known, Roland Garoby will propose to Christian Carli to evaluate the consequences of the heavy ion operation in the injector complex.

Transfer lines and injection/extraction systems: Necessity to define frontiers to ensure coherence and rationalisation. Transfer lines will be treated within each machine upgrade project with the TL end point being the entrance into the next accelerator. Injection and extraction systems are treated within the corresponding machine.

LINAC4: the project will include the BI transfer line all the way to the flange of the distributor BI.DIS near the entrance of the Booster.

PSB: will treat BI line from distributor onwards, including PSB injection (budget will remain in LINAC4), and will treat BTV line to entrance flange of PS injection septum.

PS: treats TT2 and TT10 to entrance flange of SPS injection septum.

SPS: treats TI2 and TI8 to entrance flanges of LHC injection septum.

EVM: each LIU sub-projects will be asked to use EVM for their management. At CERN the expert is Jurgen De Jonghe.

Alan Burns has accepted to provide help for all LIU manpower and resources management. He will most probably be ready to help the activity leaders to implement their activity into the EVM systems.

#### Organisational matters:

- Web and EDMS sites will be created for the LIU project
- A weekly meeting will be held with the PT members, lasting no more than 1 h. Minutes written by Malika Meddahi.

## **2- Mandate of the LIU sub-projects**

Name to be agreed on for the LIU sub-projects.

Each mandate is being written by Roland Garoby. Comments are encouraged.

- Constitute a working group with a core team, define the work, coordinate activities
- Evaluate/Confirm the actual maximum performance of the accelerator –
- Propose the optimum scenario for the accelerator upgrade - imply forming task forces when needed to study specific subjects
- Prepare WP (M+P), establish roadmap – EVM
- Follow the procurement, tests and implementation of the changes
- Prepare and commission the upgraded accelerator

The sub-projects are encouraged to continue their on-going activities.

Concerning the main power supply of the booster magnets, it was advised to wait until April 2011 to place any contracts.

## **3- LHC Injectors Upgrade Project - Organization & Resources –**

Roland Garoby reported on a meeting with the extended directorate management board which was held to discuss the resource needs. Roland Garoby presented the LIU project, the PT team and the resources evaluated with the different task forces and working groups - all details in [slides](#).

#### Milestones presented:

- a- Chamonix 2011 –Presentation of procedure followed by the LIU Project + synthesis of questions and required studies at the beginning of 2011 (short talk at the beginning of discussion after the last presentation in the LIU session);
- b- April 2011 (for MTP 2011):
  - Recommended upgrade path(es) (technical proposals)
  - Detailed work plan for 2011 and 2012 with resources
  - Baseline work plan for 2013 till 2016 with resources

Resources: Results of the task forces and working groups have been presented at the exception of LINAC4 project – separate budget

75 Millions CHF was requested, 25 MCHF for the booster and injection in PS and 50 MCHF for the SPS. This is included in MTP (up to 2016, flat distribution over years). Money is not committed and will be reviewed depending with the outcomes of the scenario evaluation. Some items have not been addressed yet (e.g. Dismantling and storage of radioactive waste, SPS to LHC TLs, ...). Some missing points will also be part of the consolidation project budget.

## **4- AOB**

Chamonix 11: A meeting with the speakers of the [LIU Chamonix session](#) will be held early December (slide). They will inform the LIU Project Team of the content of their presentations in view of collecting feedback and taking it into account. A doodle link will be sent to confirm the date of the Chamonix preparatory meeting.

One-day LIU project meeting: A one day meeting will be organised with the actors of the previous task forces and working groups. The main aim of the meeting will be to allow flow of information concerning what have been done previously and to address any open questions. Only the major main issues can be exposed. A doodle link will be sent to agree on the date of the meeting.

Next meeting: **28 October 2010**, 9:00-10:00, 864-2-C20

Malika Meddahi