



Expectations...

- Meeting goals & organization
- Detailed objectives per Working Group



PURPOSE OF THE SPL STUDY

The purpose of the SPL Study is to provide in 2011 a definition of the project with enough details to allow for a “safe” realization starting in 2012, with a reasonably (!) accurate cost estimate.

We must therefore:

- 1. list all items that deserve detailed design and/or experimental validation**
- 2. define how to achieve the objectives set in 1 (including “who does what?”)**
- 3. identify uncovered objectives and suggest solutions/mitigation measures.**



MEETING GOALS

Remark: H^- ion source, modulators and beam instrumentation are deliberately not on the agenda of this meeting.

MEETING GOALS

They are meant to contribute to fill the purpose of the SPL Study:

- to review specifications and technical choices + to set deadlines for decision on pending questions,
- to define the precise contribution of each partner (deliverables and planning) and the interactions between partners (names of persons in charge, exchange of information/hardware, planning of meetings, ...),
- to propose how to demonstrate 25 MV/m ($\beta=1$) and 19 MV/m ($\beta=0.65$) before mid-2011
- to list untreated subjects and collect suggestions for addressing them,
- to organize the collaboration (Constitution?),
- to define the dates of the main meetings until end of 2009.



MEETING ORGANIZATION

Remark: H⁻ ion source, modulators and beam instrumentation are deliberately not on the agenda of this meeting.

WORKING GROUPS:

The mandate of the working groups is to fulfill the meeting goals on a subset of subjects.

WG 1: High power RF equipment (RF distribution, amplitude/phase modulators, circulators, loads...)

WG 2: Cavity design (Geometric beta, high power coupler, HOM damper/coupler, tuner...) and construction (Manufacturers, processing facilities, low power RF tests...)

WG 3: Cryomodule and integration (Design, construction, assembly...)

WG 4: Beam dynamics and loss management (Collective effects, H⁻ stripping, collimation...)



WG 1 (High Power RF Equipment)

MAIN ISSUES:

- **Project definition:**
 - Architecture [type of power distribution, location of isolators & windows, need for vector modulators (joint with WG 2 and LLRF), ...]
 - Cost difference between 1 and n cavities/ klystron ?

- **List of items needing experimental validation before mid-2011:**
 - RF distribution
 - RF coupler
 - ???

- **Procedure for validating items:**
 - Work distribution among partners
 - ???

- **Unresolved (open) issues before 2011:**
 - High power RF test place ?...
 - ???



WG 2 (Cavity Design and Construction)

MAIN ISSUES:

- **Project definition:**
 - Geometric β of the cavities (joint with WG 4)
 - Need for HOM damper (joint with WG 4)+ type of damper (if needed)...
 - Mechanical modes (joint with WG 1 and 4)
 - Type of tuner

- **List of items needing experimental validation before mid-2011:**
 - Accelerating gradients (for given Q)...
 - 50 Hz pulsed operation (link with WG 1) ?
 - Integration in cryomodule ?

- **Procedure for validating items:**
 - Work distribution among partners
 - ???

- **Unresolved (open) issues before 2011:**
 - Cavity fabrication (industry workload) ?
 - Chemical treatment / electro polishing facilities ?
 - Demonstration of accelerating gradient ?
 - ???



WG 3 (Cryomodule and Integration)

MAIN ISSUES:

- **Project definition:**
 - Integration needs (RF and HOM couplers, tuner...)
 - Compilation of functional specifications (alignment, thermal, mechanical...)
 - Interaction with layout + installation + cryogenics
 - ???

- **List of items needing detailed design before mid-2011:**
 - Couplers
 - Interconnect space
 - Cryogenics operation with 1.7 % slope
 - ???

- **Procedure for validating items:**
 - Work distribution among partners
 - ???

- **Unresolved (open) issues before 2011:**
 - Clean room for assembly of cryomodule ?
 - Test place with High Power RF and 2 K cooling capability
 - ???



WG 4 (Beam Dynamics and Loss Management)

MAIN ISSUES:

- **Project definition:**
 - Geometric β of the cavities (joint with WG 2)
 - Accelerating gradients
 - Need for HOM damper (joint with WG 2)
 - ???

- **List of items needing detailed design before mid-2011:**
 - Collimation (all planes) / geometry of transfer line
 - Beam ejection at 1.4 and 2.5 GeV
 - Management of spread of gradients between cavities
 - Operation with unpowered ("bad") cavities
 - Fault handling
 - Specification of beam instrumentation
 - ???

- **Procedure for validating items:**
 - Work distribution among partners
 - ???

- **Unresolved (open) issues before 2011:**
 - ???