



MICE CM20

Spokesmouse remarks

The International Muon Ionization Cooling Experiment



Overview

Neutrino Factory and Muon Collider have not disappeared from the horizon, on the contrary they receive substantial signs of support (EURO ν , MCTF)

The physics goals and motivation of the experiment remain unchanged:
Design and build a section of cooling channel for a neutrino factory, place it in a beam and measure its properties precisely.

MICE is a crucial step for Neutrino Factory and Muon Colliders.

The uncertainty and delay in UK Phase II funding will delay MICE step IV and the following.

This may lead to a relaxed attitude towards the schedule of earlier steps.

--- DON'T !! ---

A lot needs to be done to

operate,

operate safely,

operate precisely

▪



-- Much progress has been accomplished in the MICE beam line and Hall construction

Technical uncertainties still in the target operation and the PSI solenoid

How much beam can we get without producing excessive radiation in ISIS?

-- aim of running period I: GET BEAM LINE TO OPERATE with detectors (CKOV, TOFO)

-- Many loose ends remain to be finalized before being able to run. (see MOM's talk)

-- Serious schedule conflict arises between infrastructure construction (magnetic shielding and MICE hall floor) and installation of tracker in the hall.

First estimate leads to completion of infrastructure construction by July 4th. This seriously compromises our running in period III (June 9-July 31) where we would be performing the first emittance measurement.

==> request PM to make every effort to remain within original schedule (May 31)

-- schedule of SW calorimeter somewhat fuzzy: should organize construction!

-- Funding has made substantial progress in 2007 (especially in the USA) and the construction of Phase II elements has begun: coupling coils, cavities etc..



MICE run and MOMs in 2008

Step I --

-- Step I -->

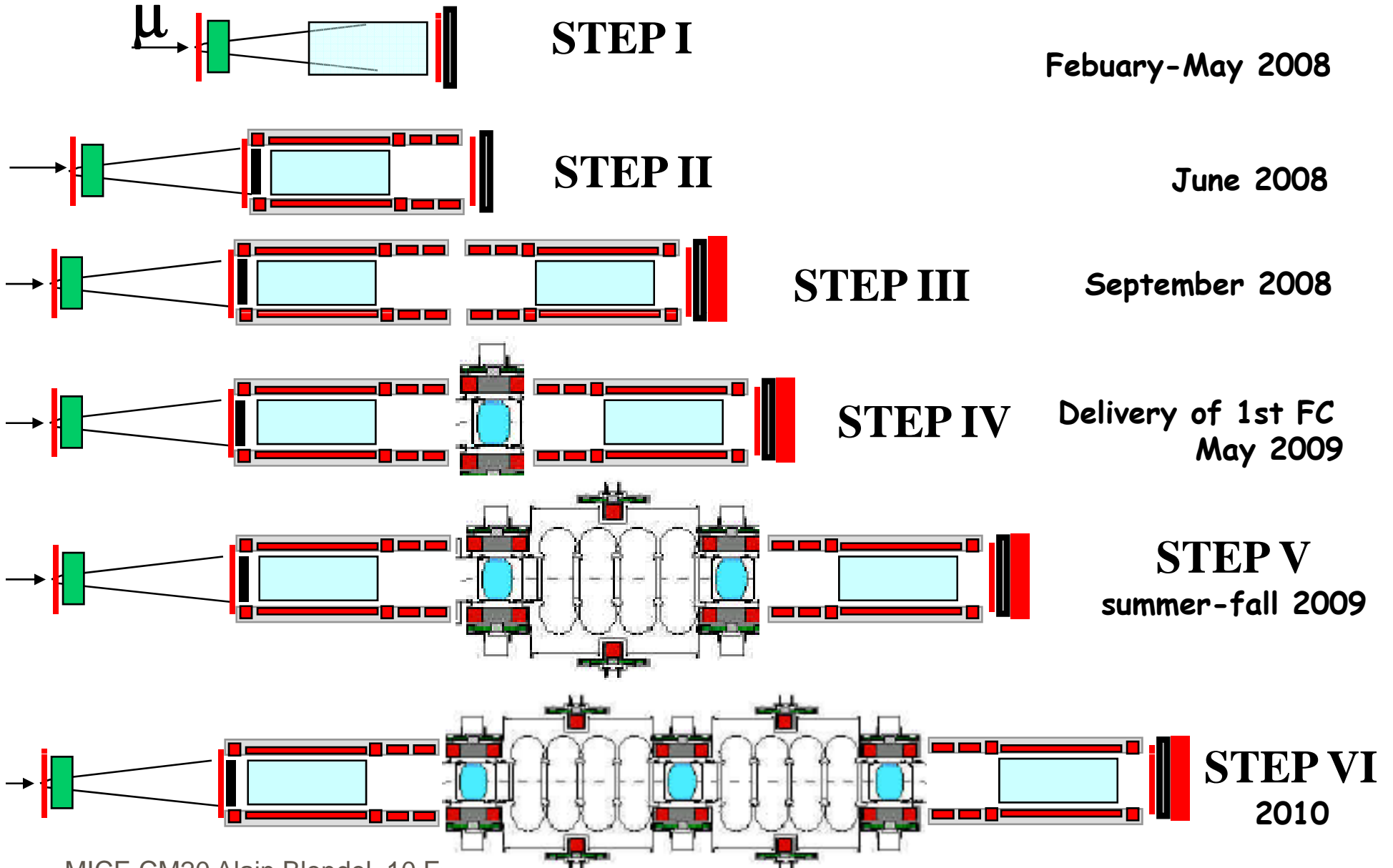
<-- Step II -->

<-- Step III -->

<- Step III.1 -->

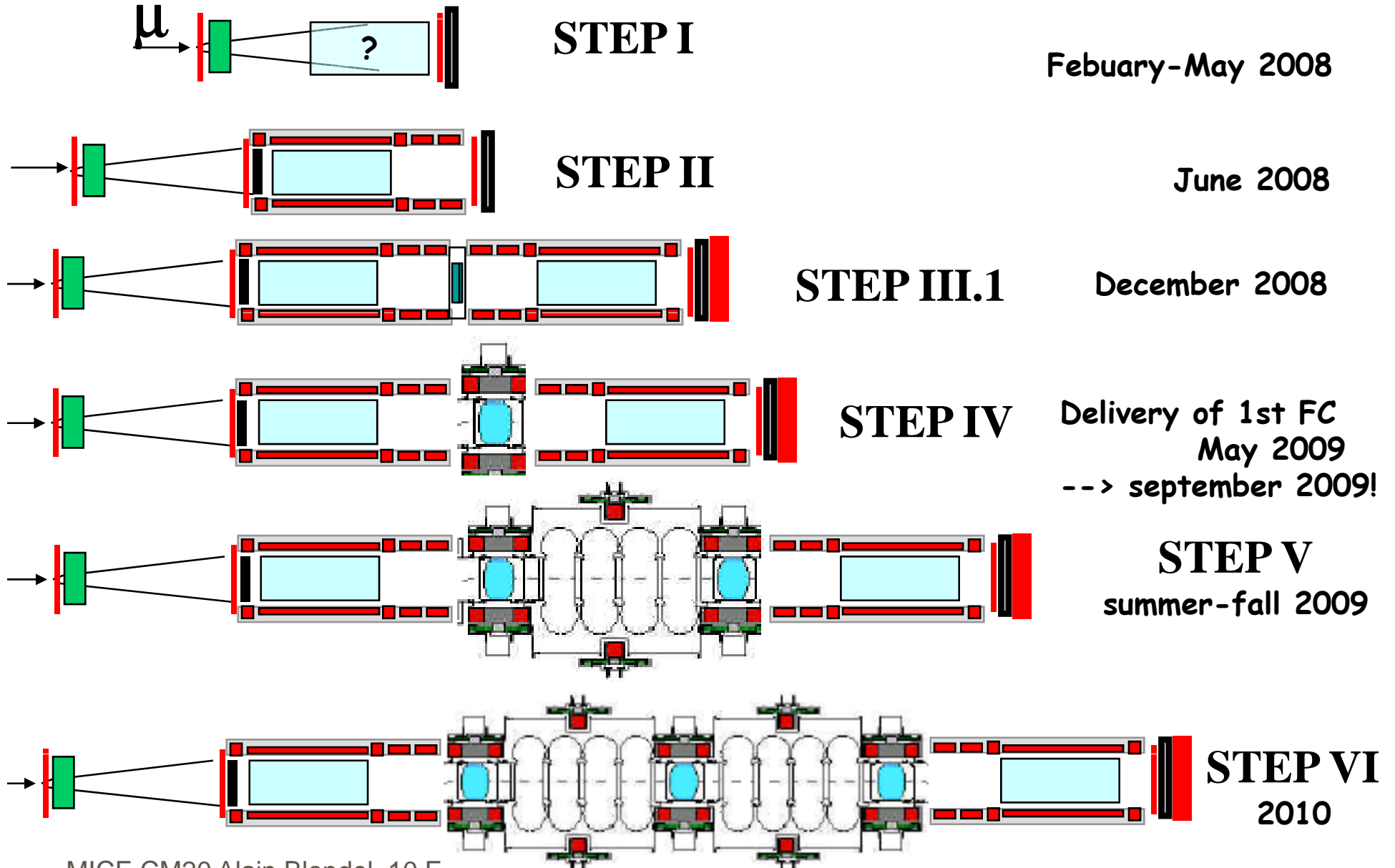


Aspirational MICE Schedule as of January 2008





Aspirational MICE Schedule as of February 2008





Important aspects of running MICE

The Technical Coordinator/Project Manager is responsible for the safe implementation of the experiment and for its safe operation.

Day-to-day responsibility for safety during the build phase of the experiment is delegated to the Hall Manager and Principal contractor.

During running, the safe operation of the experiment is delegated to the MICE Operations Manager(MOM) .

For each MICE step a set of safety reviews will be organized by the MICE project manager, before installation (safety design review), before commissioning (authorization to operate) and before regular operation.

The critical subsystems of MICE will be reviewed either collectively or one by one as will be seen fit by the MICE project manager in agreement with the spokesperson and in presence of one or several designated ISIS representatives as required.

A fool-proof operations manual, including safety aspects, will have to be ready for each MICE subsystem before regular operation.

Documentation is responsibility of each MICE subsystem



Selected News:

-- it is agreed to include 250k€ for access to MICE muon beam in EUCARD

-- Muons Inc. has expressed wish to join MICE formally.

Project is to take care of the beamline correction and collimation system

T.Roberts at Collaboration board



Final Comment -- Beyond Phase II

Once PHASE II is completed, the MICE hall remains a facility with

- spectrometers, TOF and PID able to measure emittance to 10^{-3}
- 8 MW of 201 MHz RF power
- 23 MV of RF acceleration
- Liquid hydrogen infrastructure and safety system

MICE can become a **facility to test new cooling ideas**

Longitudinal cooling?

Lithium lense?

ISS cooling cell?

Guggenheim?

etc etc...

Initiatives welcome.