

Welcome to KEK and Mandate to PAC

1. Financial status
2. Recovery and improvements
 - Response to the previous PAC recommendations
3. Mandate

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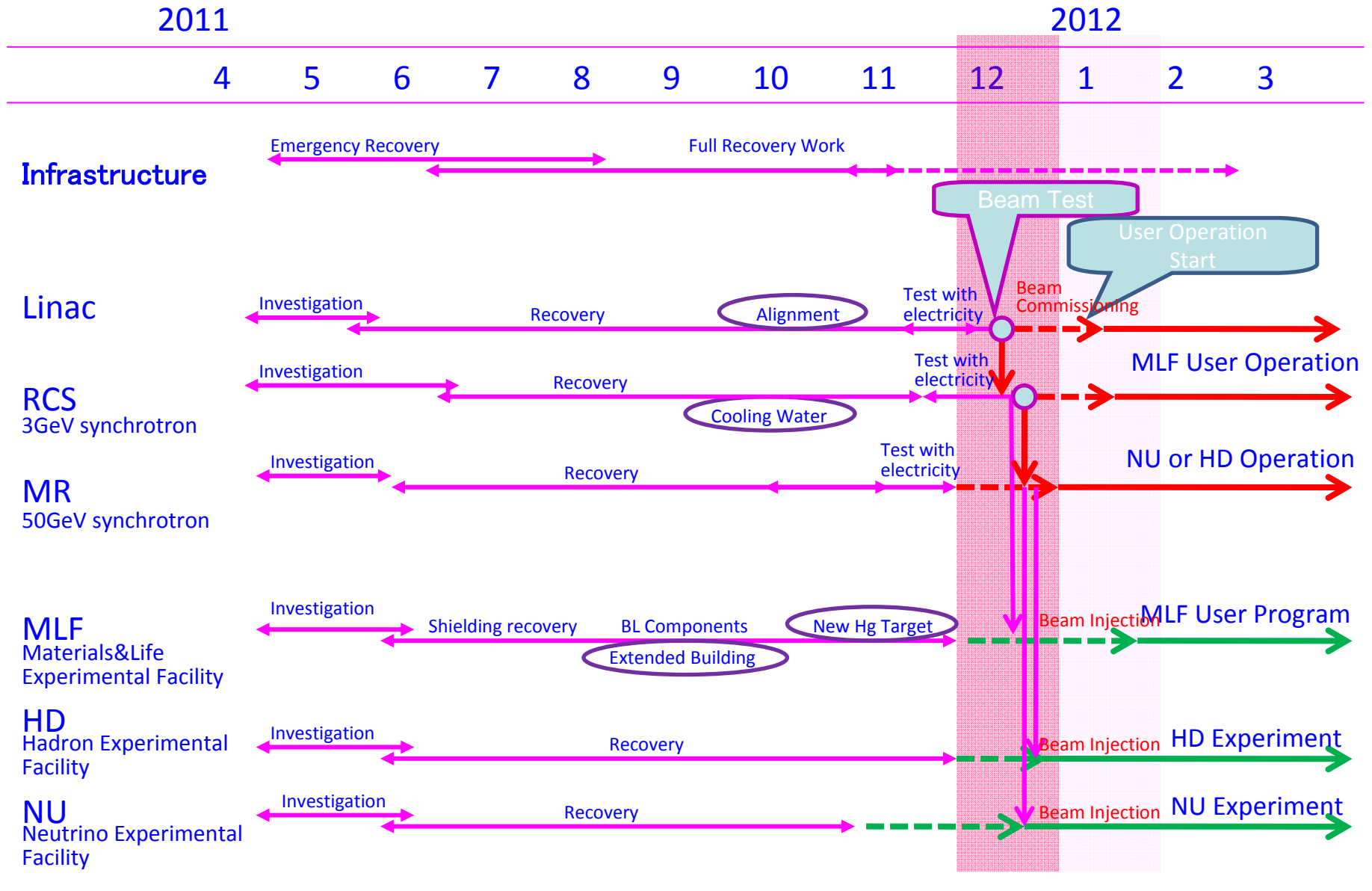
JFY 2011 J-PARC related KEK budget

- About 60% of the equipment budget has been used/being used for recovery and renewal of equipments
- The remaining part will be assigned soon, according to the priority set in this PAC
- The major civil and building recovery has been done with general budget and the equivalent amount of supplementary budget is being requested to MEXT.
- Electricity bill is unknown at this moment

Recovery work

- Priority in recovery work
 1. Civil (building, electricity, water, safety)
 2. Accelerator recovery
 3. FX and SX(K1.8,K1.8BR and KL) beam lines
 - K1.1BR has been used for temporary storage area the work
 - will be back into operation later than the others
 - alignment and checking out the system needed
 4. Accelerator improvements
 5. Improvements of the beam line facilities

J-PARC Recovery Schedule (@2011.5.20)



The previous PAC recommendation

- The PAC encourages the J-PARC accelerator group and IPNS to support and monitor performance
- The PAC also encourages the Lab to initiate R&D work for the new power supplies and to start on a financial plan for this important replacement. This will need to be accomplished while keeping the planned improvements on the current system.

Allocated FY2011 budget and work have been started

new low-ripple high rep. power supply development,

high gradient RF core R&D

improvement of MR collimator

improvement of present MR power supply system

New 2012 budget request for MR improvements

- The PAC understands that the present obstacle for higher-power, fast-extraction operation is in the injection kicker in the MR.

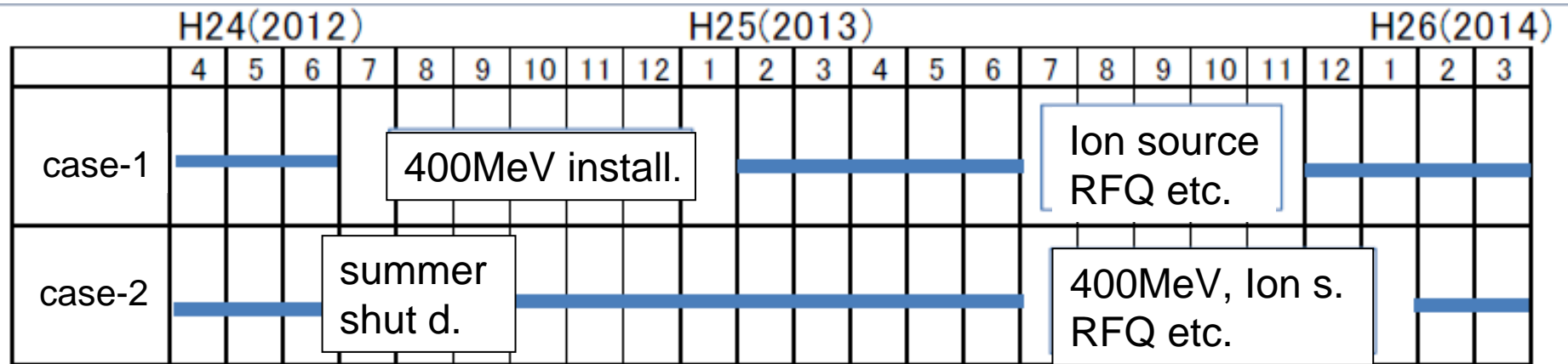
Being built and will be installed in Dec. 2011

- The PAC requests information on the quantitative improvement of MR power expected from installing the 400MeV linac.

Operating plan before the summer 2013

Case-2 : will be chosen

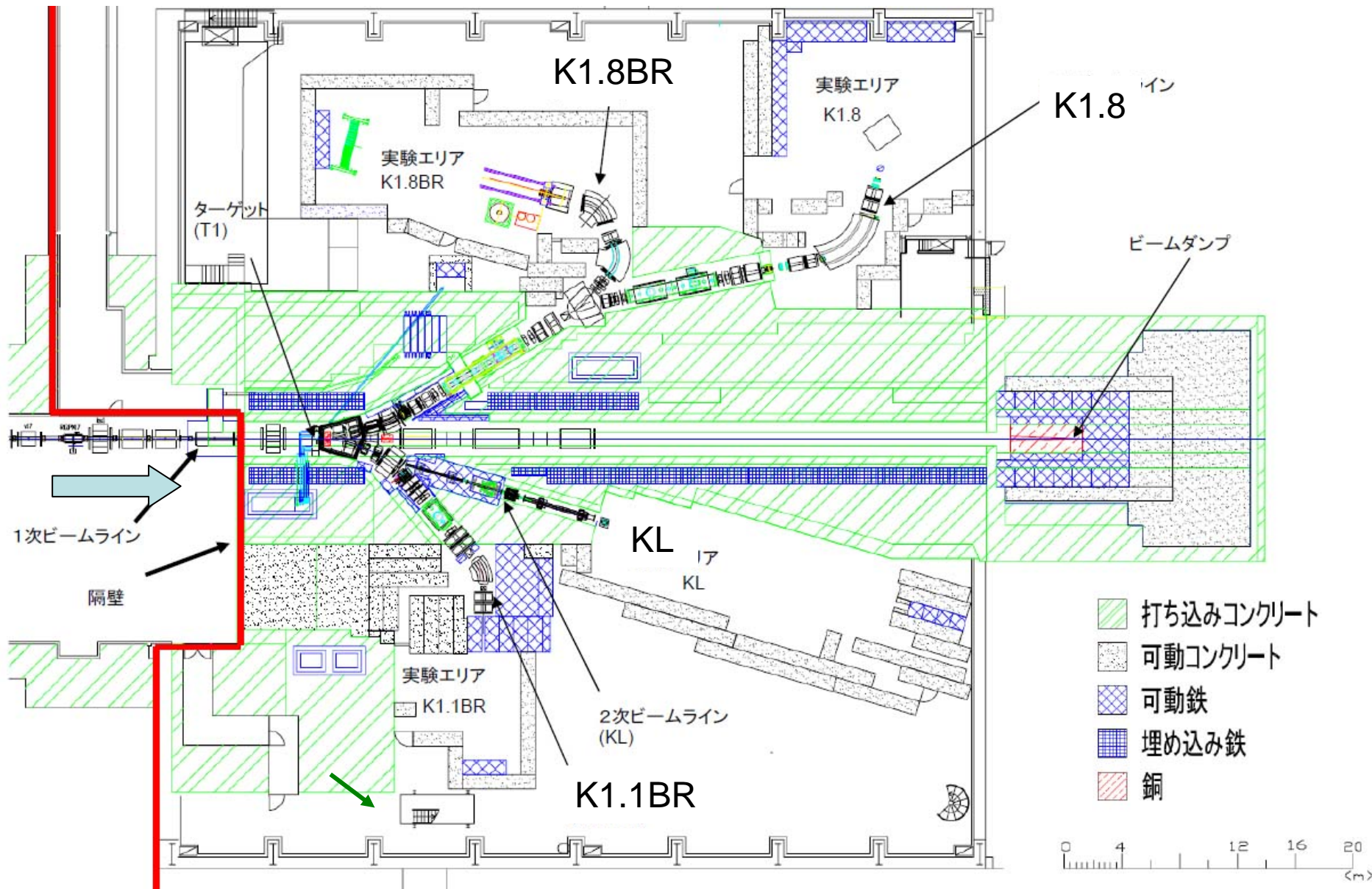
- 400MeV LINAC upgrade is moved to summer 2013
 - 2013 Linac energy upgrade + Ion source (50mA), RFQ
- Securing beam time after recovery
 - Probably Jan./Feb. 2012 will be used for tuning and full test of the whole complex, both FX,SX should be checked out
 - 2012.3 - 6, 2012.10 - 2013.6 total of 13 months



From previous PAC RECOMMENDATIONS FOR BEAM TIME ASSIGNMENT AND PLANNING FOR THE FUTURE

- The PAC reiterates that the two issues with the highest priority are: 1) a timely delivery of neutrino beam at the highest intensity to the T2K experiment and 2) the commissioning of the slow extraction to improve the spill structure and beam rate.
- The PAC endorses the plan for the slow extraction beam time in **April 2011**. In the K1.8 line, a pilot run for E27 and the second run of the E19 with a 2GeV/c pion beam are scheduled. In addition, beam tuning for the E17 in the K1.8BR line and the beam extinction test led by the MTF group should be arranged. In the K0 beam line, the PAC strongly supports the calibration the CsI calorimeter by the KOTO experiment.
- The experiments, which have requested to run in this period in the K1.8 and K1.8BR lines are E17 and E19. There are also requests for pilot runs for E10, E13 and E15. **The requests for beam time and the SKS spectrometer configuration during this period are in conflict.** The PAC would therefore like to hear a proposed plan from the JPNC at the next meeting in addition to the presentations from the experimental groups.

Also beam-right area usage for future is being discussed and will be reported to the NEXT PAC meeting in Jan.



+ High p line, COMET, K1.1.....

P36: (Measurement of $\Gamma(K \rightarrow e \nu) / \Gamma(K \rightarrow \mu \nu)$ and Search for heavy sterile neutrinos using the TREK detector system)

- The PAC supports the strategy of advancing P36 before TREK (E06) and **is pleased to recommend stage-1 approval for the P36 program based on scientific merit.**
- Execution of the R&D program must advance before the proposed P36 schedule can be reviewed.
- I agree with this PAC's conclusion with regard to the scientific merits of the experiment, I would like to ask to re-evaluate the feasibility of this experiment on the systematics uncertainty to the level of 0.1%
 - This is the first measurement, using stopped kaon. Careful estimation of systematic errors maybe possible using real data, for example KEKPS T-violation data. (E246/470 ~1%) \rightarrow 0.1%
 - differences of det. response. momentum dependence,
 - SD contribution, brems.
 - For this kind of precise experiment, the incessant refinement of systematic error analysis must be essential.
 - Considering also the relevant situation of the current hadron hall experimental coordination, which does not necessarily require urgent start of P36.
 - At the next PAC, a study of beam-right area as well as future plan of K1.8 area will be presented.

Mandate for this PAC

- Evaluation of the progress of experiments
- Beam allocation after recovery/improvement
 - T2K beam allocation
 - KOTO start-up scenario
 - K1.8/K1.8BR as in the past April (cancelled by earthquake) or change
 - a pilot run for the E27 and the second run of the E19 in K1.8
 - beam tuning for the E17 in the K1.8BR line
 - the beam extinction test led by the MTF group
 - LAr TPC at K1.1BR
- Proposals to be evaluated for the stage-1 approval
 - P40 (Measurement of the cross sections of Σ p scatterings)
 - P41 (An Experimental Search for μ - e Conversion in Nuclear Field at a Sensitivity of 10^{-14} with Pulsed Proton Beam from RCS)
 - Scientific merit evaluation with MEG, MEG upgrade and COMET/mu2e and time scale of each effort

P40: (Measurement of the cross sections of Σp scatterings)

- Before stage-1 approval can be granted, the collaboration needs to quantify the ability of the experimental observables to discriminate between different interaction models. Discussions with theoretical experts working on the baryon-baryon interaction based on their most up-to-date models might be helpful. The detector configuration should be optimized to maximize the physics outputs and significance of the new data.
- The PAC requests a realistic design of the detector system and detailed information with regards to the full specifications of each detector component used in the detector simulations. The PAC is particularly concerned with regards to the energy resolution of the calorimeter surrounding the vertex tracker.

P41 An Experimental Search for $m\rightarrow e$ Conversion in Nuclear Field at Sensitivity of 10^{-14} with Pulsed Proton Beam from the RCS (The DeeMe Experiment))

- The PAC recognizes the scientific merit of timely realization of such measurements but considers the description of the experiment to be largely at the conceptual level.
 - Extinction rate
 - Rather limited acceptance and a broadened spectrum of signal electrons by scattering and energy loss – sensitivity
 - further studies on neutron background and design optimization are needed in consideration of the impacts on other experiments.
 - encourages the lab to move towards constructing this beam line
 - The background rates and sources of backgrounds should be estimated.

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