

Charge
Director's Preliminary Cost and Schedule Review of Project X
Based on the Initial Configuration Document
March 16-17, 2009

The Committee is to conduct a Director's Preliminary Mission Need Review of the proposed Project X at Fermilab. The Committee is to review the cost range estimate that has been prepared based on the initial configuration set forth in the Project X Initial Configuration Document (ICD).

The HEPAP / P5 June 2008 Report supports three particular future initiatives that rely on the development of a very high intensity proton source at Fermilab:

- A neutrino beam for long baseline neutrino oscillation experiments: A new 2 megawatt proton source with proton energies between 50 and 120 GeV would produce intense neutrino beams, directed toward a large detector located in a distant underground laboratory
- Kaon and muon based precision experiments exploiting 8 GeV protons from Fermilab's Recycler, running simultaneously with the neutrino program: These could include a world leading muon-to-electron conversion experiment and world leading rare kaon decay experiments.
- A path toward a muon source for a possible future neutrino factory and, potentially, a muon collider at the Energy Frontier: This path requires that the new 8 GeV proton source have significant upgrade potential.

In light of the need to integrate these opportunities into a coherent program for the future of U.S. HEP the committee "recommends an R&D program in the immediate future to design a multi-megawatt proton source at Fermilab and a neutrino beamline to DUSEL... "

Assuming the ICD describes at the early concept level a facility that will meet the Mission Need (multi-megawatt proton source) set forth by the HEPAP / P5 Subpanel, the committee should address the following questions / topics:

1. Is the cost range estimate complete?
2. Has the cost range estimate been prepared using a sound estimate methodology?
3. Is the schedule set forth reasonable?
4. Are the labor estimates reasonable?
5. Are the materials and services estimated those needed to deliver the facility?
6. Are the estimates for the M&S reasonable at this early stage of the project?
7. Is the estimated technical contingency appropriate / adequate?
8. Are there ways the cost could be reduced?
9. (Is the PED funding profile adequately defined to support a request for PED funds later this year?)

The Committee should conduct the review, share their findings / comments / recommendations with the Project X Team and Fermilab management in a closeout meeting, develop a report and submit it to the Fermilab Directorate soon after the review.