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U.S. LHC Accelerator Construction Project

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Summary - 1

- The three-laboratory collaboration is moving from Design into Construction.
- Project is 68 percent complete compared to planned 72 percent. More than adequate float to meet CERN delivery requirements.
- Project contingency is holding at near 20% but will require vigilant management.



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Summary - 2

\$90 million contributions of in kind

? IGC(OK)Advanced Superconductors

Considered by CERN as one of two best suppliers

? Wah Chang, Albany, Oregon

Due to challenges with composite superconductor production in Europe they are well ahead of production requirements by CERN.

? Kaneka High-Tech Materials, Inc., Pasadena, Texas

Production of insulating tape is ahead of requirements.

Properties improved.



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Summary - 3

- Brookhaven has completed three D-1 magnets as well as coils for others in the series. Major cryostat parts have been delivered.
- Fermilab has completed the first quadrupole and is well along their scheduled production schedule.
- Berkeley has the majority of parts for the two types of absorbers. Construction will start soon. The design package for the DFBX is nearing completion. A procurement study has been successful and should result in savings.
- Deliveries now reflect the most recent CERN schedules.



SCHEDULE ISSUES

- As a result of evolution of the project LHC issued an updated installation schedule (LHC-PM-MS-0009 rev. 2.0) on 23 May 2001. In addition the list of deliverables from the US LHC Project have changed. BCR-37 has gathered and codified all of these changes.
- Float on deliverables ranges from a minimum of 3 months to over a year.



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R&D Program

- The U.S. LHC Accelerator Project is formulating a R&D follow on program.
 - Accelerator Physics
 - Instrumentation
 - Increased luminosity
 - Upgraded interaction regions
 - Next generation quadrupole magnets
 - Coordination with base program



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BROOKHAVEN

- Magnets
- Because of a change in the collider lattice around IP4 the number of 36-inch diameter cryostats has been reduced from 21 to 15 reflecting the decrease in the requirements of D3 and D4 magnets. Single D3 and D4 magnets will replace the D3a-D3b and D4a-D4b magnet combinations respectively.
- SC Testing
- Progress is reflective of material deliveries from CERN. Capped cost element.



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FERMILAB

- Based on the excellent performance of the first quadrupole prototype it was decided to cancel the second prototype and move directly to production.
- Interface with KEK appears to be working well.
- Contingency holding at near 20% with active management.



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LBNL-1

Feedboxes (DFBX)

-  The first 7.5 kA HTS lead successfully passed acceptance tests at CERN.
-  Design and procurement study in cooperation with Fermilab was very fruitful.
-  The drawing and specification package is nearing completion.
-  The benefits of a full time senior staff on this project are obvious.



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LBNL-2

Absorbers

Major (heavy) parts have been delivered. The project awaits the copper beam tubes.

Superconducting Cable Support
Essentially complete.