

External Independent Review & Independent Cost Review

RUN IIb CDF DETECTOR PROJECT and RUN IIb D-ZERO DETECTOR PROJECT at FERMI NATIONAL ACCELERATOR LABORATORY

November 8, 2002



External Independent Review (EIR)

- Detailed review of the entire project
 - Cost
 - Schedule
 - Technical
 - Management
 - External Factors
- Performed per DOE O 413.3

EIR

- Assist in the validation of the proposed technical, cost, and schedule baseline
 - Assess the overall status of the project: cost, schedule, scope and technical elements, management, and elements external to the project but which affect the project

Independent Cost Review (ICR)

- Provides independent assessment of project costs

Independent Cost Review (ICR)

- Methods include:
 - Parametric evaluations
 - Material takeoffs & cost estimate
 - Risk evaluations

Definitions

- **Finding** - Clear statement of deficiency with respect to practices, regulations and codes, orders, requirements, and agreements
- **Essential Finding** - A finding requiring prompt action of the project to have reasonable expectation of achieving its documented objectives and/or action that must be taken before a Critical Decision can be made
- **Observation** – Other areas noted for suggested improvements or of good practice

Positive Observations

- Technical analyses are demonstrably thorough and meticulous.
- Value Engineering is an ongoing practice, broadly and systematically applied throughout the design development.
- Logic leading to design specifications is directly traceable to the detector performance goal.

Positive Observations

- The projects have effectively employed the peer review process to provide the rigor with regard to project management, schedule and critical path, project risk analyses, and the technical design basis necessary for project success.
 - Merging the best elements of modern project management into the peer review processes characteristic of the academic approach to research without compromising either is considered a “best practice” for the projects, in particular for the D-Zero project.

Positive Observations

- The cost estimates and schedules of both projects contain all the elements for the work activities associated with the projects.
- The cost estimates and schedules of both projects appear to be reasonable and verifiable.

Positive Observations

- The cost and schedule documentation of both projects is well structured and cross-referenced.
- The Work Breakdown Structures are appropriately detailed for effective use as management tools.

Preliminary ICR Results

- Estimated costs and contingencies of both projects are reasonable and consistent with Laboratory policy.
- Escalation rates for materials and supplies are consistent with DOE guidelines.
- Labor rate escalation is consistent with Laboratory policy.

Preliminary Essential Findings - Management

- The Project Execution Plan for these projects is incomplete. While included in the Project Management Plans, many technical considerations required to be in the PEP by DOE O 413.3 are neither addressed nor referenced in the PEP. Among these are:
 - Value Engineering,
 - Quality Assurance,
 - Configuration Management,
 - Risk Management.

Preliminary Essential Findings - Management

- Neither project has developed a project specific configuration management and control process, as required by DOE O 413.3. Neither is any Laboratory configuration management/control policy or procedure cited in either PMP.

Preliminary Findings - Management

- There is no description or reference in the PMPs to flow-down of requirements and processes for Quality Assurance/Quality Control to specifics of design, fabrication, procurement, or establishment/maintenance of document approval/authenticity.

Schedule

- 11/18 Draft Review Report, Draft CAP Shell issued for comment
- 11/25 Receive comments/factual accuracy review
- 12/3 Final Report, CAP Shell, Synopsis, Comment Resolution, to DOE
- 12/31 Issue Printed Report