**Illinois Accelerator Research Center (IARC) Building Functional Review**

IARC Mission:

Goal: New construction for IARC will be funded via a $ 20 M grant from Illinois Department of Commerce and Economic Opportunity. The DOE will provide $ 13 M for site preparation, FESS oversight and to outfit the newly constructed space. A site selection process has occurred and it has been decided that new state funded building will be adjacent to the CDF building. DOE has made a commitment for the D&D of the CDF experiment and to refurbish and contribute the CDF assembly building to serve as both office and heavy assembly area for IARC.

The basic DCEO goal for IARC is to make Northern Illinois a center for accelerator development and initiate/promote/support related industry in Illinois. IARC to provide office space and infrastructure that will increase the probability that new accelerators like Project X and ILC are sited at Fermilab and allow industry to more easily work with us.

Industry and universities have difficulty testing accelerators for medical or industrial purposes in typical university buildings and industrial parks. These same locations often lack the necessary power, water, cryogenic, RF, radiation shielding, interlocks, and other infrastructure necessary to develop new accelerator components. Access to trained accelerator and technology experts is also limited. IARC would provide such assets to industrial and university partners and for laboratory projects.

The IARC proposal includes an educational mission which in association with local universities will support training of scientists and engineers in accelerator physics and related technology.

Secondary goals: Additional office space for TD/AD/APC; Additional conference and meeting rooms.

Outreach: exhibit space for visitors, including members of the public, students and teachers and VIP visitors. The exhibit space would highlight the connections between accelerator technology development, scientific discovery, and accelerator applications in medicine, energy and the environment, industry, and national security.

Possible additional IARC Missions:

* Center for HEP role as “Stewards of Accelerator Development”
* House infrastructure for 3 Gev CW linac in support of ICD-2 (e.g. spoke processing & HPR, cavity dressing, coupler testing, CM assembly, Spoke CM test stand?)

IARC STATUS:

Awaiting state funding via sale of bonds, expected to occur in May 2010. The expected time line is such that new state funded construction would be accomplished in two years beginning fall 2010 with beneficial occupancy in 2012-13. D&D of the CDF experiment and refurbishment of the CDF assembly building would take place ~2012-2014. The IARC building conceptual design is in progress with DOE funds using an outside A&E firm. Ross Barney and Associates are now prepared to present two different conceptual designs for consideration by Fermilab.

Objectives of the new construction:

* Meet the function needs of the IARC mission
* Achieve good functional relationship to existing CDF building
* Achieve High degree of flexibility for rotating tenants
* Maximize State funding with “bricks & mortars”
* Produce a high profile building making a dramatic statement on the FNAL site
* Produce a design that fits with existing Fermi design themes
* Provide State-of-the-art computing, classroom, and video capabilities
* Maintain CDF truck access and provide adequate parking
* Design to LEED Gold

Purpose of the Review

As the member of the Directorate leading IARC I would like to seek advice from experienced FNAL colleagues on the proposed designs before proceeding to a selection and more detailed design and costing.

Charge for the review:

1. Listen to the RBA presentations
2. Evaluate the proposed design solutions and indentify merits and possible problems.
3. Will the building layout function for its intended purpose?
4. Is the proposed technical space functional?
5. Will the planned technical space infrastructure ( power, water, cooling, etc) be sufficient?
6. Is the newly constructed space well integrated with a refurbished CDF building?
7. Will materials, equipment, and personnel be able to move efficiently around the complex
8. Are the proposed solutions for class room and office space reasonable?
9. Are there sufficient conference rooms?
10. Will the proposed building be visually appealing and prominent?
11. Can issues associated with the operation of CDF through 2011 and subsequent D&D of CDF be adequately addressed?
12. Provide a few page written report with your recommendations
13. Please comment on any other issues the committee feels are relevant.