Sept 15, 2010

**Illinois Accelerator Research Center (IARC) Mission and Status**

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”
* Center for Project X personnel
* House SRF infrastructure in support of Project X (e.g. spoke processing & HPR, cavity dressing, coupler testing, CM assembly, Spoke CM test stand)

**IARC STATUS:**

$ 20 M of Illinois State Funding has been received by FNAL. The FNAL Director and the Director of OHEP has authorized the $ 13 M DOE expenditures. FY10 DOE funds at FNAL have been allocated for FESS management and oversight personnel. FY11 funds have been allocated and the Fermi DOE site office has issued a directive for $ 5.5 M Industrial Areas Utility Upgrades IGPP project which will refurbish utilities in the Industrial Area including the area in and around the West end of the CDF building leaving a clean site for the construction of the state funded Office, Technical, and Engineering (OTE) building that will form part of IARC. $ 2 M of the $13 M provided by DOE is identified as contingency for the State funded OTE building. The Fermilab Director has requested that we “maximize the bricks and mortar” of the OTE such that solutions that ultimately expend the full $ 20M + $ 2 M are acceptable and desirable provided they correspond to a “finished” building.

The OTE building is built under a “Work for Others” agreement under the terms and conditions of the State of Illinois Department of Commerce and Economic Opportunity (DCEO) Grant. As such OHEP and the FNAL site office has determined that since the DCEO grant has its own requirements, a strict application of DOE 413 is not appropriate. Nevertheless, the building must be well managed during its construction and DOE 413 guiding principles will be employed.

D&D of the CDF experiment and refurbishment of the CDF assembly building will be funded separately following the end of the Tevatron Run. The combined OTE and refurbished CDF building constitute the physical plant of the Illinois Accelerator Research Center (IARC). Separate funds will outfit IARC with furniture and initial office infrastructure.

A Functional Requirements review of two OTE building designs was conducted and the Façade Design was selected by the FNAL director. Ross Barney Associates (RBA) architects have completed a Conceptual Design Report for this building. A new large A&E firm (HOK) has been selected to prepare a detailed Engineering Design based on the RBA Conceptual Design Report and a subsequent construction bid package for the OTE. FESS has created a Project Plan. A Project Management Group is being formed to provide over sight and advice to the Directorate during the OTE building construction. This PMG, supplemented by outside consultants will review FESS plans for the OTE construction at a Director’s review scheduled Oct 13, 2009. Following the review the PMG will meet monthly to monitor progress on the OTE Project.

Objectives of the OTE construction:

* Meet the function needs of the IARC mission
* Produce a high profile building making a dramatic statement on the FNAL site via a design that fits with existing Fermi design themes
* Construct the OTE with minimal or ideally no impact on the operations of CDF or the Tevatron Collider complex.
* Maintain CDF truck and emergency access to the CDF building during OTE construction.
* Provide access for the eventual D&D of the CDF experiment
* Provide adequate parking for building occupants
* Design a green building to LEED Gold Standards
* Deliver a finished building but maximize the “bricks & mortar” of the OTE building

Industrial Area Upgrades work organization

The Industrial Area Upgrades are tasks that will, among other things, contribute ultimately to the Physical plant of IARC. These tasks have been organized in the following way:

1. Industrial Area Site Upgrades (Utilities upgrade GPP project that leaves a clean site for the OTE building)
2. Office, Technical, and Education Building (State funded building attached to CDF)
3. FESS Management & Oversight (the work funded by lab operating)
4. OTE Outfitting (furniture, etc for the completed OTE building
5. CDF Repurposing (Refurbish the CDF assembly building after CDF D&D)