

## **PIP-II Roles, Responsibilities, Authorities, and Accountabilities**

### **Fermilab Director**

Overall authority and responsibility for successful execution of PIP-II. Provides laboratory infrastructure and personnel resources from within the Fermilab staff as required to support PIP-II. Provides the primary oversight role for PIP-II.

Accountable to: DOE/Office of High Energy Physics, FRA Board

### **Accelerator Division Head**

Overall authority and responsibility for operations and development of the Fermilab accelerator complex, including successful execution and integration of PIP-II. Specific PIP-II responsibilities include:

- Provide Fermilab Directorate oversight (delegated from the Director) of PIP-II ;
- Serve as Directorate liaison to the PIP-II Machine Advisory Committee;
- Host the PIP-II Department and Project Office within the Accelerator Division;
- Develop, maintain, and operate infrastructure required to support the PIP-II development and construction phases, including the PXIE facility;
- Implement established ESH and QA programs for AD activities;
- Assign adequate resources to support PIP-II activities;
- Assume responsibility for operations of PIP-II following project completion

Accountable to: Fermilab Director

### **PIP-II Project Manager**

Authority and responsibility for organization, management, and execution of PIP-II including:

- Develop a complete PIP-II Conceptual Design, followed by a Technical Design appropriate for construction;
- Develop and manage the PIP-II R&D Program;
- Establish the PIP-II baseline including the project scope, and associated technical performance, cost, and schedule goals;
- Manage the construction phase of PIP-II;
- Coordinate with the Fermilab Division and Section Heads to assure that resources are appropriately identified and managed;
- Coordinate efforts of national and international partners;

- Coordinate all project documentation and reporting as required by DOE 413.3b;
- Serve as Accelerator Division Associate Head for PIP-II;
- Provide oversight for all activities required to assure successful integration of PIP-II within the accelerator complex;
- Organize and manage the PIP-II Project Office.

Accountable to: Accelerator Division Head

#### **PIP-II Deputy Project Manager for Development and Accelerator Integration**

The Deputy Project Manager(s) will support the Project Manager in the execution of his/her responsibilities, and will be fully capable of assuming the responsibilities of the Project Manager on an as-needed basis. In addition the Deputy Project Manager for Development and Accelerator Integration will assume the following specific authorities and responsibilities:

- Manage the PIP-II R&D Program;
- Assure that PIP-II is being developed in a manner that will allow integration into the existing accelerator complex;
- Provide oversight for the development and execution of the PIP-II commissioning plan;
- Serve as the PIP-II Department Head within Accelerator Division;
- Support the Program Manager in the coordination of interactions with national partners;
- Accept other assignments as deemed useful by the Project Manager

Accountable to: PIP-II Project Manager

#### **PIP-II Deputy Project Manager for Construction Coordination**

The Deputy Project Manager(s) will support the Project Manager in the execution of his/her responsibilities, and will be fully capable of assuming the responsibilities of the Project Manager on an as-needed basis. In addition the Deputy Project Manager for Construction Coordination will assume the following specific authorities and responsibilities:

- Provide coordination of all technical deliverables from international partners;
- Provide oversight for development of technical requirements and construction strategy for the PIP-II civil design, in collaboration with the Associate Project Manager for Civil Construction, and with assistance from the Project Engineer and Project Scientist;
- Provide technical oversight for development of the PIP-II Resources Loaded Schedule, in collaboration with the Associate Project Manager for Planning and Reporting;
- Provide oversight for development and execution of the PIP-II installation plan;

- Monitor progress against established schedules, in collaboration with the Associate Project Manager for Planning and Reporting;
- Accept other assignments as deemed useful by the Project Manager

Accountable to: PIP-II Project Manager

### **PIP-II Project Engineer**

Authority and responsibility for organization and coordination of the PIP-II engineering and systems integrations efforts, including:

- Establish and implement engineering standards for PIP-II in conformance with the Fermilab Engineering Manual;
- Establish the PIP-II integrated systems engineering design;
- Develop functional specifications for all PIP-II components and systems, based on performance requirements provided by the Project Scientist;
- Establish interface requirements for all PIP-II components and systems;
- Implement electronic document management processes for all engineering drawings and supporting documentation;
- Develop an engineering risk assessment for each system, sub-system and major element utilized in the project, in concert with the Associate Project Manager for Planning and Reporting;
- Review and approve all engineering designs to assure conformance with Fermilab engineering standards and PIP-II functional specifications;
- Qualify and integrate PIP-II systems and components, with assistance from the Project Scientist;
- Develop and document all technical – civil construction interfaces in coordination with the Associate Project Manager for Civil Construction and the Deputy Project Manager for Construction Coordination;
- Develop and implement the PIP-II installation plan with the Deputy Project Manager for Construction Coordination;
- Assist and support the Deputy Project Manager for Construction Coordination in developing MOUs with international partners;
- Provide documentation of the above, as required.

Accountable to: PIP-II Project Manager

### **PIP-II Project Scientist**

Authority and responsibility for developing and maintaining the PIP-II accelerator design including:

- Establish and document the accelerator design for PIP-II, including the superconducting linac, transfer lines, and upgrades to the existing proton complex;
- Develop and approve performance requirements for all PIP-II systems;
- Assist the Project Engineer in qualifying and integrating PIP-II systems and components;
- Develop and implement the PIP-II commissioning plan, in coordination with the Deputy Project Manager for Development and Accelerator Integration;
- Assist and support the Deputy Project Manager for Construction Coordination in developing MOUs with international partners;
- Provide documentation of the above, as required.

Accountable to: PIP-II Project Manager

### **Technical Division Head/SRF Program Manager**

Responsibility and authority for the development and fabrication of major technical components at Fermilab, including srf accelerating modules for PIP-II. Specific PIP-II responsibilities include:

- Establish budgets and schedules, and manage the development, fabrication, and testing of PIP-II superconducting rf and magnet components;
- Develop, maintain, and manage infrastructure required to support the PIP-II development and construction phases (including cavity processing infrastructure, clean rooms, and vertical, horizontal and cryomodule test stands);
- Develop engineered designs and prototypes based on functional and technical requirements;
- Develop technical documentation in support of the engineered designs and prototypes;
- Implement established ESH and QA programs for TD activities;
- Assign adequate resources to support these activities

Accountable to: Fermilab Director

### **PIP-II Associate Project Manager for Civil Construction**

Authority and responsibility for organization and management of all civil construction activities on PIP-II. Specific responsibilities include:

- Develop design criteria for all conventional facilities in collaboration with the Project Engineer and Deputy PM for Construction Coordination;
- Develop the construction package strategy for PIP-II;
- Develop PIP-II civil construction cost estimates and schedules;
- Provide coordination of Architectural Engineering firm(s) engaged in the development of conventional construction drawings and specifications;
- Review and approve all PIP-II construction drawings, specifications, estimates, and schedules;
- Review and approve all PIP-II construction contracts;
- Provide coordination of Construction Management firm(s) engaged in the physical construction of PIP-II ;
- Monitor construction, cost, and schedule progress on all PIP-II construction contracts;
- Provide documentation of the above, as required.

Accountable to: Fermilab PIP-II Project Manager

### **PIP-II Associate Project Manager for Planning and Reporting**

Authority and responsibility for organization and management of all planning and reporting activities on PIP-II. Specific responsibilities include:

- Organize and coordinate the Project Controls effort on PIP-II through all phase of the project;
- Organize and coordinate the implementation and operations of the PIP-II EVMS, in conformance with FRA policies and requirements;
- Organize and coordinate preparation of PIP-II cost estimates, budgets and schedules;
- Oversee budget planning exercises, including identification of resource assignments requested from the laboratory;
- Assure that the Resource Loaded Schedule is aligned with PIP-II technical, cost and schedule goals, in collaboration with the Deputy Project Manager for Construction Coordination;
- Organize and coordinate preparation of the PIP-II risk management program;
- Organize and coordinate preparation of the PIP-II procurement strategy;
- Oversee and monitor PIP-II procurements;

- Oversee and monitor PIP-II human resources activities;
- Coordinate the development and publication of all required PIP-II documentation and reports;

Accountable to: Fermilab PIP-II Project Manager

### **PIP-II Associate Project Manager for Environment Safety & Health (ESH) and Quality Assurance (QA)**

Authority and responsibility for organization and management of all ES&H and QA activities on PIP-II. Specific responsibilities include:

- Organize and coordinate an effective ES&H program, in collaboration with the PIP-II technical and project management staff, the participating Fermilab Divisions, and the Fermilab ESHQ Section;
- Provide ES&H input to the development phase of PIP-II;
- Provide ES&H oversight and assistance to the PIP-II technical team during the construction phase;
- Develop PIP-II Safety Assessment Documents;
- Coordinate the preparation and submission of PIP-II NEPA documentation;
- Organize and coordinate an effective QA program, in collaboration with the PIP-II technical and project management staff, the participating Fermilab Divisions, and the Fermilab ESHQ Section;
- Provide documentation of the above, as required

Accountable to: Fermilab PIP-II Project Manager

### **Superconducting Linac Manager**

Authority and responsibility for the organization and coordination of the superconducting linac (SCL) design, construction, installation, and commissioning. Specific responsibilities include:

- Organize and execute of all work associated with the SCL technical components;
- Establish budgets and schedule;
- Develop civil interface requirements;
- Provide documentation and reporting as required

Accountable to: Fermilab PIP-II Project Manager

### **Superconducting Linac Engineer**

Authority and responsibility for the organization and coordination of engineering support for the superconducting linac design, construction, installation, and commissioning. Specific responsibilities include:

- Team with the SCL Manager in the execution management of SCL activities;
- Support the PIP-II Project Engineer in establishing the PIP-II integrated systems engineering design, in conformance with the Fermilab Engineering Manual;
- Develop technical specifications for all SCL components and systems;
- Utilize electronic document management processes as established by the PIP-II Project Engineer;
- Establish interface requirements for all SCL components and systems;
- Review and approve all engineering designs to assure conformance with Fermilab engineering standards and SCL technical specifications;
- Support the SCL manager in providing documentation and reporting as required;

Accountable to: Superconducting Linac Manager

### **Existing Accelerators Upgrades Manager**

Authority and responsibility for the organization and coordination of the upgrades that will allow the existing Booster, Recycler, and Main Injector to accept beam from the PIP-II superconducting linac. Specific responsibilities include:

- Organize and execute all work associated with the design, construction, and commissioning of improvements to the existing proton accelerator complex necessary to accept beam from the SCL;
- Establish budgets and schedule;
- Provide civil interface requirements to the Associate PM for Civil Construction;
- Coordinate activities through the Deputy Project Manager for Development and Accelerator Integration;
- Provide documentation and reporting as required

Accountable to: PIP-II Project Manager

### **PIP-II Project Controls Manager**

Authority and responsibility for PIP-II Project Controls activities. Specific responsibilities include:

- Develop and implement the PIP-II Earned Value Management System, in conformance with FRA policies and requirements;

- Develop, implement, and maintain the PIP-II Resource Loaded Schedule and associated supporting documentation;
- Train and direct PIP-II Cost Account Managers;
- Provide tools as required to support CAM activities.

Accountable to: Associate Project Manager for Planning and Reporting

### **PIP-II Procurements Manager**

Authority and responsibility for the coordination of all PIP-II procurements. Specific responsibilities include:

- Develop procurement strategies in consultation with the Project Engineer and Associate Project Manager for Civil Construction;
- Develop and maintain the PIP-II Procurement Plan;
- Assure timely development of bid packages, subsequent evaluations, and placement of all procurements;
- Support annual budget preparations;
- Provide documentation and reporting as required

Accountable to: Fermilab Procurement Department Head (primary), PIP-II Associate Project Manager for Planning and Reporting (secondary)

### **PIP-II Financial Manager**

Authority and responsibility for the approval and accounting of PIP-II financial transactions. Specific responsibilities include:

- Assure accurate assignment of procurements to PIP-II task codes;
- Approve all PIP-II purchase requisitions;
- Provide monthly accounting of all resource expenditures;
- Support annual budget preparations;
- Provide documentation and reporting as required

Accountable to: Accelerator Division Financial Officer (primary), PIP-II Associate Project Manager for Planning and Reporting (secondary)



### **Environmental, Safety, Health, and Quality Assurance Section Head**

Responsibility and authority for the ESH and QA programs at Fermilab. PIP-II specific responsibilities include:

- Provide support to PIP-II ESH activities as in conformance with Fermilab requirements;
- Assist in the development and review of all PIP-II safety documents and analyses;
- Develop and submit all required NEPA documentation for PIP-II, in coordination with the PIP-II management team;
- Monitor the PIP-II QA program

Accountable to: Fermilab Director

### **Chief Financial Officer**

Responsibility and authority for the financial position of Fermilab. With regard to PIP-II specific responsibilities include:

- Support PIP-II by providing required financial and procurement services;
- Assist in the development of PIP-II budgets;
- Assign appropriate resources, including the PIP-II Financial Officer and Procurements Manager, in support of the above

Accountable to: Fermilab Director

### **Other Fermilab Division & Center Heads**

The Fermilab Divisions (FESS, Scientific Computing, and Particle Physics), and the Accelerator Physics Center will all provide some level of support to PIP-II. With regard to PIP-II division/center responsibilities include:

- Assignment of agreed upon resources to support accelerator physics and technology development, fabrication, testing, installation, and commissioning of PIP-II;
- Development of engineered designs and prototypes based on functional requirements;
- Development of technical documentation in support of the engineered designs and prototypes
- Development, maintenance, and operations of infrastructure and facilities in support of PIP-II;
- Implement established ESH and QA programs for division/center activities

Accountable to: Fermilab Director and Chiefs

### **Fermilab Section Heads**

The Fermilab Sections (Finance, ES&H, Facilities Engineering Support, Workforce Development and Resources) are the primary administrative support organizations within Fermilab for PIP-II. With regard to PIP-II the Sections responsibilities include:

- Assignment of agreed upon resources to support PIP-II business, financial, ES&H, and human resources activities;
- Implement established ESH and QA programs for division/center activities

Accountable to: Fermilab Director, Chief Operating Officer, Chief Financial Officer