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| | | Subject: | Effective Date: | Initiated by: |
| Engineering and Infrastructure Department Organization and Mission | | 12/20/07 | Associate Director for Engineering and Infrastructure | |
| | | Supersedes: Revision 1 Dated 9/4/98 | Approved: Director | |

Introduction

The role of the Engineering and Infrastructure Department is to provide world-class engineering resources and facility services in support of the Laboratory's mission. This includes responsibility for the technological infrastructure required for the Laboratory's experimental facilities. The primary functions of the Department include:

- Providing recognized engineering leadership and unique technical contribution to the Laboratory, US and World fusion programs.
- Effectively maintaining the technical infrastructure with a particular emphasis on ensuring a safe and economically viable environment for current and future experiments.
- Providing for safe and environmentally friendly operation of new and upgraded experiments, the continued maintenance and operation of the D-Site facility and the maintenance of Laboratory experimental facilities and equipment which are not presently in use but could be of significant potential value in future activities.
- Continually improving our most important resource - our staff - through a commitment to technical training and employee development.
- Complying with environmental regulations;
- Protecting DOE and Princeton University property;
- Managing and minimizing waste products;
- Operating and maintaining facilities cost effectively; and
- Maintaining an attractive and functional facility.

Department Organization

The Department is organized functionally into seven Divisions:

- Mechanical Engineering Division
- Electrical Engineering Division
- Computer Engineering Division
- Fabrication, Operations and Maintenance Division

- Materiel and Environmental Services Division
- Site Protection Division
- Maintenance and Operations Division

Responsibilities

The Mechanical Engineering Division is primarily responsible for:

- Providing conceptual, preliminary and final designs and systems engineering services in support of new and upgraded experimental facilities.
- Developing the engineering designs and advancing the state-of-the-art for magnetic confinement plasma physics research devices.
- Performing engineering analysis including thermal, stress and electromagnetics.
- Developing and maintaining application codes for engineering design and analysis.
- Providing centrally managed Computer Aided Design (CAD) services using state of the art software, equipment and techniques.

The Electrical Engineering Division is primarily responsible for:

- Operating, maintaining and upgrading AC Power distribution systems including emergency (diesel) and standby power supplies.
- Operating, maintaining and upgrading motor generator sets and ancillary equipment.
- Repair and calibration of electronic equipment.
- The design, development, operation and maintenance of electrical power conversion systems, radio frequency systems, neutral beam systems and other technologies used as plasma heating systems.

The Computer Engineering Division is primarily responsible for:

- Design, management and operation of PPPL's computing facilities in support of scientific and engineering staffs, including general purpose computing systems and collaboration technologies.
- Design, development and implementation of computing facilities and functions in support of project specific applications such as control and data acquisition systems.
- Design, development and implementation of computing facilities and functions in support of administrative computing such as Information Resource Management.

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- Design, implementation, operation and maintenance of facilities and infrastructure in support of distributed computing, including data communications, networking, desktop computing and office automation.
- Cyber security for all computing at PPPL.

The Fabrication, Operations and Maintenance Division is primarily responsible for:

- Providing shop services required for mechanical, electrical, materials test, brazing and welding, vacuum components testing, hardware assembly and machine operations.
- Providing management and oversight for the hoisting and rigging and welding programs.
- Providing construction engineering design and management.
- Providing engineering design, development, fabrication, maintenance and operations support for vacuum, cryogenic, water and diagnostic (mechanical) systems.

The Materiel and Environmental Services Division is primarily responsible for:

- Protecting the health and safety of PPPL employees, subcontractors, the public, and the environment from hazards due to regulated wastes.
- Developing and maintaining PPPL’s environmental management programs to ensure compliance with applicable laws and regulations with a commitment to continuous improvement, pollution prevention, and sustainable facility operations.
- Providing engineering and remediation services for hazardous waste/material spills and environmental restoration projects.
- Managing the Laboratory’s property system to record, track, control, and dispose of government owned assets in accordance with applicable regulations and best practices.
- Managing the Laboratory’s fleet of vehicles and vehicular equipment.
- Conducting receiving, storage, and delivery operations.
- Providing spares, inventory control, and stores support.
- Providing packaging and transportation services.
- Providing the Laboratory’s mail management services.

Site Protection Division is primarily responsible for:

- Providing security for the protection of PPPL personnel, subcontractors, visitors, neighbors, and property from injury, damage or loss.
- Developing appropriate emergency plans to mitigate site emergencies.

- Providing immediate response and assessment to site emergencies involving security, fire, and/or hazardous materials. In accordance with mutual aid agreements, provide similar support to the surrounding community.

The Maintenance and Operations Division is primarily responsible for:

- Designing and constructing new structures, modifying existing structures, and coordinating significant site improvements.
- Engineering and planning of maintenance and operations for existing conventional facilities, including administration of the maintenance database.
- Maintaining, operating, inspecting, and repairing existing conventional facility systems and experimental support systems.
- Managing the site-wide efficient use of energy (electric/gas) and utility (water/sewer) services.
- Coordinating work space planning efforts.
- Providing housekeeping, grounds maintenance (snow removal and landscaping), trash removal, recycling and material handling services.
- Maintaining, operating, repairing and modifying security and fire detection, suppression and reporting systems.
- Providing support and service for telecommunications system, local and long distance equipment and lines, voice mail, billing, calling cards, cellular phones, pagers, 2-way radio systems, and home data lines.
- Providing management of cafeteria services.