



12.1 INTRODUCTION

Concern for the environment is a top priority at PPPL in relation to the operations of fusion devices and support facilities. There are numerous federal and state regulations which require PPPL's operations to be environmentally sound. In order to meet the requirements of the various environmental regulations, PPPL has given responsibility to the organizations which are most closely related to a particular aspect of the program. Since this involves a matrix organization (see Appendix A and Appendix B), an Environmental Review Committee (ERC) has been appointed to ensure that all aspects of the program are being handled properly. PPPL projects are accountable for ensuring that environmental issues are properly addressed when developing new programs. One of the responsibilities of the ERC is the oversight of these new programs and, as part of the oversight function, reporting its findings to the Environmental, Safety, and Health Executive Board.

The U.S. Department of Energy (DOE) has placed increased emphasis on environmental issues. DOE Order 5400.1 integrates, consolidates, and updates DOE environmental requirements. The order reflects the fact that the majority of DOE's environmental activities are subject to regulations by other agencies. Environmental management of DOE installations is extensively, but not entirely, regulated by the U.S. Environmental Protection Agency (EPA) and state environmental agencies. In matters of environmental protection where these agencies exercise their authority, that authority is final. This applies to required permits, compliance, and/or performance.

12.2 SCOPE

This section is applicable to all Laboratory employees and Laboratory subcontractors.

12.3 DEFINITIONS

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; another common name used for CERCLA is "Superfund." PPPL is primarily concerned with an amendment to this act called the Superfund Amendment and Reauthorization Act (SARA); SARA deals with the right-to-know laws and reporting certain chemicals to the Department of Environmental Protection and Energy (DEPE) and local community.

EPA - The U. S. Environmental Protection Agency.

Mixed Waste - Materials for disposal which include hazardous waste and are also radioactive or contain radioactive materials.

NEPA - National Environmental Policy Act; this act governs required environmental actions for activities which receive federal funds.

NESHAPS - National Emission Standards for Hazardous Air Pollutants, 40 CFR 61, subpart H. This EPA regulation, which is also required by DOE Order 5400.5, contains standards for radionuclide, asbestos, and other hazardous air pollutant emissions to the air. New projects have to give consideration to applications to



EPA for construction and notification of startup under this regulation.

NJDEPE - The New Jersey Department of Environmental Protection and Energy; most of the federal EPA requirements are carried out by the NJDEPE.

NPDES - The National Pollutant Discharge Elimination System. Under this system PPPL must provide the state with our discharge water quality. A permit is applied for through DOE/PAO to the NJDEPE.

RCRA - The Resource Conservation and Recovery Act. This act covers many of PPPL activities in hazardous chemical control and disposal, including radioactive mixed waste.

SPCC - Spill Prevention, Control and Countermeasures (40 CFR 112). An SPCC plan must be in place indicating how the Laboratory is complying with preventing, controlling, and responding to potential spills.

12.4 RESPONSIBILITIES

12.4.1 ES&H EXECUTIVE BOARD (ES&H-EB) (REF. PPPL 0 - 021)

The ES&H Executive Board (ES&H-EB) is responsible to the Laboratory Director for the overall direction and effectiveness of the Environment, Safety, and Health (ES&H) program at PPPL. The ES&H-EB, whose membership consists of senior Laboratory management chaired by the Deputy Laboratory Director, is the highest level policy and review committee for all Laboratory ES&H functions. Responsibilities include:

- Evaluating the effectiveness of ES&H systems as implemented by PPPL line management.
- Approving policies to ensure uniformity and consistency of ES&H activities throughout PPPL.
- Establishing and overseeing the Resource Subcommittees:
 - Environmental Review Committee
 - Safety Review Committee
 - As Low As Reasonably Achievable Review Committee
 - Health Review Committee
- Evaluating effectiveness of ES&H activities by reviewing reports and other information associated with PPPL ES&H systems.

12.4.2 PPPL LABORATORY COUNCIL

The PPPL Council, chaired by the Director, is established to consider and advise on such matters as the Director may bring before the Council. The Council will ordinarily consider issues that affect personnel policy, salaries and promotions, budget and manpower, compliance, and Laboratory operations.



12.4.3 ENVIRONMENTAL REVIEW COMMITTEE (ERC) (REF. PPPL 0 - 023)

The Environmental Review Committee (ERC) is a Resource Subcommittee which supports the ES&H Executive Board. The chairperson for the ERC is the ES&H Environment and Health Branch Head. The membership of the ERC includes the Environmental Restoration/Waste Management (ER/WM) Waste Management Branch Manager, the ER/WM Environmental Restoration Manager, the ES&H Environmental Engineer, the ES&H Industrial Hygiene Section Head, the PPPL Attorney, and representatives from the Engineering Department, TFTR Project, Physics Department, and the Area Safety Coordinator Program. The ERC meets, as a minimum, quarterly. The ERC is responsible for:

- Approving the content of each ES&H Directive, plan, and procedure which affect Laboratory environmental issues.
- Reviewing incidents and accidents involving environmental issues and each environmentally-related Occurrence Report.
- Evaluating changes to instruments and/or equipment or equipment modifications which can significantly impact the environment.
- Reviewing and approving each spill report (sent to the state) and other documents as directed by the ES&H Executive Board.
- Tracking progress of environmental projects at PPPL.
- Communicating environmental regulations (and their revisions) which affect PPPL to the PPPL Laboratory Council and the ES&H Executive Board.

12.4.4 ENVIRONMENTAL SECTION

The Environmental Section, within the ES&H Division's Environment and Health Branch, is responsible for the coordination of the overall environmental program. This includes being the focal point for reviewing documents relating to environmental issues, responding to action items relating to environmental matters, developing the annual environmental report, responding to DOE on environmental issues, ensuring adequate environmental monitoring programs, finalizing any reports on environmental insults, and retaining environmental records as required.

The Environmental Section will develop and implement operational procedures to cover the National Pollutant Discharge Elimination System (NPDES), environmental release response, notifications and reporting, air permits and operating certificates, an overall environmental plan, and other plans as needed to define a program which will ensure a minimum impact or insult to the environment. The Environmental Section is headed by the Environmental Engineer.



12.4.5 EMERGENCY SERVICES UNIT (ESU)

The Emergency Services Unit (ESU) has responsibility as dictated by the Emergency Preparedness Plan to respond to all emergencies. An ESU team will be the initial responders to any incident or accident which may impact the environment. They will call on help both within and outside the Laboratory as dictated by the Emergency Preparedness Plan. For environmental issues, especially spills or leaks, ESU will provide information to the Environmental Section to be included in the Incident Report.

12.4.6 SPILL PREVENTION, CONTROL, AND COUNTERMEASURES (SPCC) TEAM

PPPL's outside subcontractors will respond to and clean up oil spills. The Facility Engineering Division (FED) will provide ESU heavy-equipment qualified personnel to act under FED's direction, as required to protect nearby sites or personnel through defensive measures.

12.4.7 HAZARDOUS MATERIALS (HAZMAT) BRANCH

The Hazardous Materials Branch (HAZMAT), under the Environmental Restoration/Waste Management Administration Division, ensures the proper handling and storage of waste turned over for 90-day RCRA storage and disposal, including providing specifications to Procurement for outside contractors to meet disposal requirements. During a spill cleanup, the HAZMAT will supervise cleanup when the duties are officially handed over by the ESU Incident Commander. This transfer of responsibilities can take place only after the emergency has been controlled and the HAZMAT agrees that the environmental impact can be minimized by the use of available PPPL personnel and/or outside contractors.

12.4.8 ENVIRONMENTAL RESTORATION/WASTE MANAGEMENT ADMINISTRATOR (ER/WM)

The Environmental Restoration/Waste Management (ER/WM) Administrator Head is responsible for the coordination of all projects funded through the DOE ER/WM system. The coordination includes baseline project planning activities, budget and scheduling activities, and project tracking functions. The ER/WM Head is the communications interface between PPPL and DOE/PAO and DOE-CH. Communications addressing project funding are channeled through this position.

12.4.9 HEALTH PHYSICS BRANCH

The Health Physics Branch, within the ES&H Division, will monitor for potential releases of radioactive materials, e.g., tritium and activated materials and air. Their environmental monitoring results will be given to the Environmental Section for inclusion in the annual site environmental report. They will also review project plans/designs to ensure that the Laboratory has taken every practical preventive measure to minimize any potential environmental insult. The HP Branch will provide the data for the annual radioactive air emissions report [DOE National Emission Standards for Hazardous Air Pollutants (NESHAPS) reporting].

**12.4.10 INDUSTRIAL HYGIENE SECTION**

The Industrial Hygiene Section, within the ES&H Division Environment & Health Branch, will be available to advise and work with the ESU and HAZMAT groups on such matters as training, selection of protective equipment, decontamination, personnel and environmental monitoring, and the hazardous properties of materials.

12.4.11 OCCUPATIONAL MEDICINE OFFICE (OMO)

The Occupational Medicine Office (OMO) will be available to advise management, the ESU and HAZMAT Branch, the Environmental Section, and the ERC on the health aspects of any chemical release or spill.

12.4.12 EMPLOYEES

The following are the responsibilities of every person employed at PPPL, including subcontractors.

1. Notify ESU at extension 3333 of a spill or release to the environment. If possible, to stop release or prevent further damage, take appropriate actions.
2. Provide protection against harmful releases to the environment—land, water, and/or air. It is to everyone's benefit to protect individuals and the environment from unnecessary exposures to harmful chemicals. Call ES&H Environment and Health Branch if you have questions regarding how to achieve this objective.
3. Complete the NEPA Planning Forms when project/activity is first defined. Receive NEPA approval before beginning any work associated with the project/activity. See PPPL Procedure ESH-014 or call ES&H NEPA Administrator or NEPA Compliance Manager.
4. Notify the ES&H Environmental Section about the need for, or with questions about, Environmental Permits or other environmental issues for new or existing activities. See ES&H Division Procedure EN-OP-003 for information about which activities require permits.
5. Know which chemicals/products are harmful; check the Material Safety Data Sheet (MSDS) in the Right-to-Know manuals or call ES&H Environment and Health Branch.
6. Know how to properly dispose of all waste products—soiled rags, empty containers, recyclables, etc. Any questions, call ER/WM or ES&H Environment and Health Branch.
7. Be aware of the proper methods for obtaining/handling/storage of chemicals; see Laboratory Procedure EWM-001 and ES&H Directive 5008, ES&H Manual, Section 8, Chapters 1 and 3. Any questions, call ES&H Industrial Hygiene Section and/or ER/WM.
8. Be aware of prohibited activities in Freshwater Wetlands and in the fifty (50) foot Transition Area surrounding the wetlands. Any questions, call ES&H Environment and Health Branch.



9. Make every effort to minimize waste and to practice pollution prevention.

12.5 PROCEDURES

12.5.1 WRITTEN PROCEDURES

Written procedures, giving detailed responsibilities and actions as to how PPPL will comply with the various DOE and EPA regulations, have been developed by the Environmental Section and others. The ERC reviews and approves these procedures, which are ES&H Division Procedures. As part of the ERC, the HAZMAT Branch will ensure that any federal regulatory requirements for hazardous materials are included in appropriate PPPL documents.

12.5.2 ENVIRONMENTAL NOTIFICATIONS

An incident involving a release/discharge or spill to the ground or water pathways will be reported in accordance with PPPL Laboratory Procedure GEN-006. Notification and reporting requirements for radioactive or nonradioactive (e.g., freon) air emission, which has potential for on-site or off-site exposures, will be performed in accordance with the Emergency Preparedness Plan.

12.5.3 ENVIRONMENTAL REPORTS

The Environmental Section will collect data from all parties for any release/discharge or spill to the environment and will submit an official spill report, if required, to the ERC for review and approval prior to submitting the report to NJDEPE. It will also develop and publish environmental reports, plans, and programs in accordance with DOE Orders and/or federal, state, and local environmental requirements.

12.5.4 ENVIRONMENTAL PERMITS (NON-RADIOLOGICAL)

As primary Lessee of the PPPL site, DOE has the responsibility for submitting applications for environmental permits. PAO has been delegated this responsibility. The Environmental Section will complete the applications and transmit them to PAO for submission to other government authorities.

12.5.5 NEPA COMPLIANCE

All PPPL activities, except for certain low hazard activities, require NEPA review in accordance with PPPL procedure ESH-014, "NEPA Review System." ESH-014 specifies those activities that are low hazard. ESH-014 specifies steps needed to be taken to ensure compliance with the DOE NEPA guidelines, including DOE 5440.1E, DOE CH 5440.1E, SEN-15-90, and 10 CFR Part 1021. Activities are reviewed in accordance with NEPA at the earliest possible time in the life-cycle of an activity in order to integrate environmental activities into the planning process. Generic (ongoing activities) and unique (one-of-a-kind) activities are reviewed and certified by the NEPA Compliance Manager (or designee) within the ES&H Division Environment & Health Branch for a period of two years, unless changes are to be made in the activity that would significantly alter the environmental considerations previously documented. In the latter case, the activity would have to be recertified prior to expiration of the two-year period.

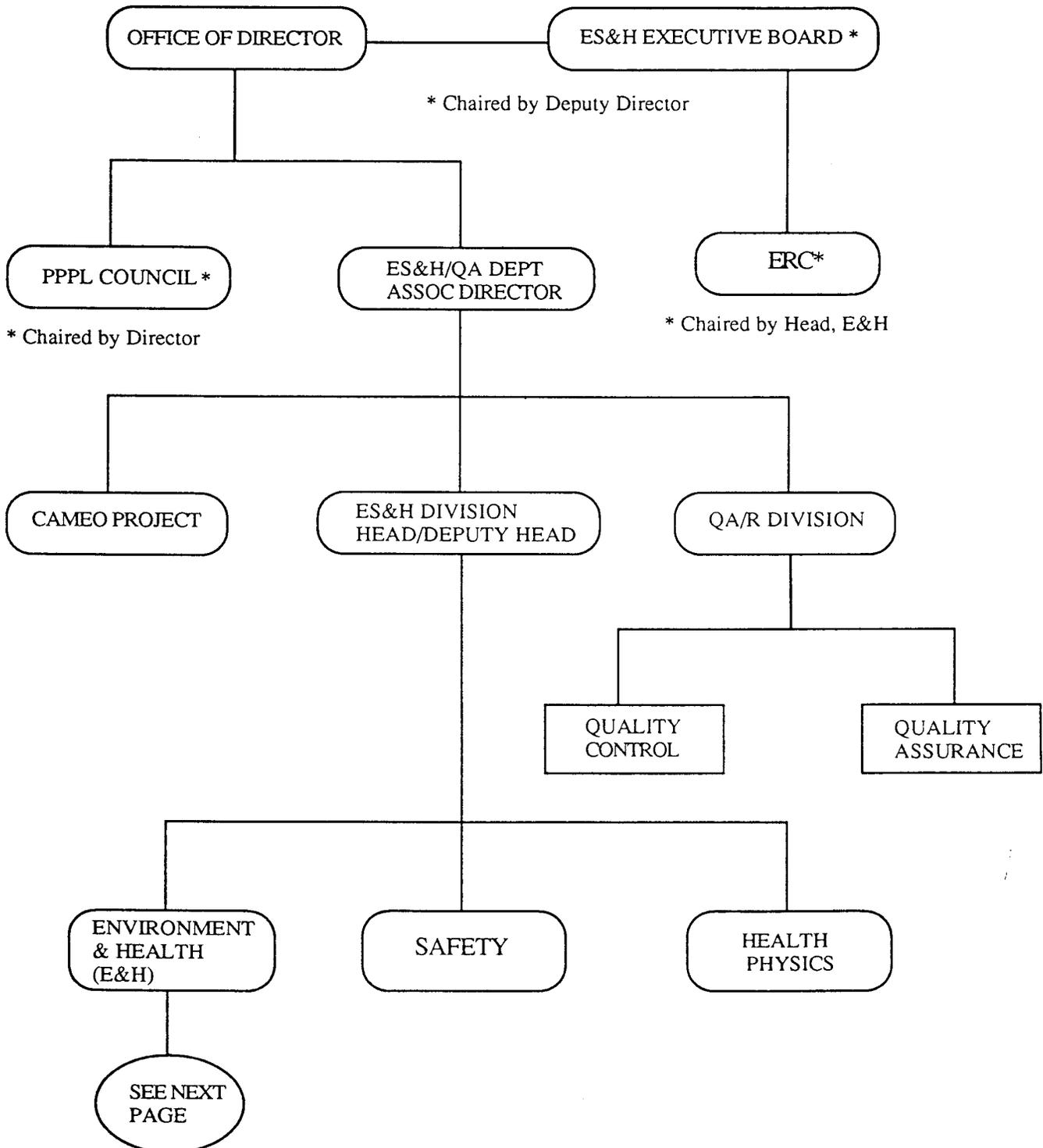
**12.6 REFERENCES**

- DOE 5400.1, General Environmental Protection Program Requirements
- DOE 5400.2A, Environmental Compliance Issue Coordination
- DOE 5400.5, Radiation Protection of the Public and the Environment
- DOE 5440.1E, National Environmental Policy Act
- DOE CH 5440.1E, National Environmental Policy Act (NEPA)
- DOE 5480.1B, Environment, Safety, and Health Program for Department of Energy Operations
- DOE 5480.4, Environment Protection, Safety, and Health Protection Standards
- DOE 5480.14, Comprehensive Environmental Response, Compensation, and Liability Act Program
- DOE 5482.1B, Environmental Protection, Safety, and Health Protection Appraisal Program
- ESH-014, NEPA Review System
- EWM-001, Hazardous Waste Management
- ES&H Division Procedure EN-OP-003, Environmental Permits (Nonradiological)
- PPPL Laboratory Procedure GEN-006, Occurrence Reporting and Processing of Operations Information
- PPPL Materiel Control Policy and Procedures Manual, Section 15
- PPPL Organization/Mission Charter 0-021, ES&H Executive Board Charter
- PPPL Organization/Mission Charter 0-023, Environmental Review Committee Charter
- SEN-15-90, National Environmental Policy Act
- 10 CFR 1021, DOE NEPA Guidelines



APPENDIX A

ENVIRONMENTAL COMPLIANCE ORGANIZATION





APPENDIX B

ENVIRONMENT & HEALTH BRANCH ES&H DIVISION

