12/20/01

ESHQ CORE ADS

STATUS: OPEN

ADS* #**: AAOD0009 ***TYPE: ESH

COLLIDER-ACCELERATOR DEPARTMENT ESHQ CORE PROGRAMS

WHEN REVISING ADS - ATTACH ADDITIONAL SHEETS AS REQUIRED!

PROJECT CHAMPION: LESSARD, E. ***EXT:*** 4250

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PROGRAM DESCRIPTION:

The Collider-Accelerator Department is administered and organized to assure safe operation in accomplishing its mission. Its mission is to:

- Excel in environmental responsibility and safety in all department operations
- Develop, improve and operate the suite of proton/heavy ion accelerators used to carry out the program of accelerator-based experiments at BNL
- Support the experimental program including design, construction, and operation of the beam transports to the experiments plus partial support of detector and research needs of the experiments
- Design and construct new accelerator facilities in support of the BNL and national missions

In meeting its mission, the C-A Department is under a formal Conduct of Operations Agreement with the Department of Energy. The day-to-day document used to comply with this agreement is the C-A Department Operations Procedure Manual, C-A OPM, which specifies key procedures, chain of command, authorized personnel and other operational aspects. The process used to assure that personnel are qualified in safe and environmentally responsible operations is an extensive training program including formal examinations to certify operational qualifications where appropriate.

The C-A Department is comprised of four Divisions, the Accelerator Division, the Experimental Support and Facilities (ES&F) Division, the Controls Division and the Environmental, Safety, Health and Quality (ESHQ) Division. It is the responsibility of the ESHQ Division to provide environmental protection, safety and health related services to the C-A staff and experimenters. The ESHQ Division provides technical work products, training services, referrals to outside professionals, documentation services, conventional and radiological safety services, environmental management, waste management and internal assessment resources to help resolve problems and meet day-to-day requirements.

The administration of ESHQ core programs requires a hierarchy of documents: BNL Policies, BNL Standards of Performance, BNL Management Systems, BNL Subject Areas, R2A2s, C-A Department Conduct of Operations Agreement, C-A Department Facility Use Agreements, and at the working level, department procedures (C-A OPM). Department operating procedures are task- or group-specific procedures that are used to implement the Laboratory-level governing requirements. C-A Department procedures typically affect only C-A Department facilities. The C-A

ESHQ Division ensures that C-A OPM procedures are current and that they are based on and are not in conflict with Laboratory-level governing documents.

The C-A Department ESHQ programs and roles are indicated in Table 1. The Associate Chairman for ESHQ is a member of the C-AD Chairman's Office. The Associate Chairman's functions are to implement new or revised ESHQ programs and to carry out existing ESHQ programs. The overall approach is to integrate ESHQ into all work via formal C-AD programs and procedures designed to ensure BNL's management systems are executed. BNL's management systems, which are located in the Standards Based Management System, are in turn designed to ensure that contractual requirements set by DOE are met.

Table 1, Formal Programs and Roles at Collider-Accelerator Department

C-AD ESHQ Programs	C-AD ESHQ Roles
ISO14001 Registration	Accelerator Systems Safety Review Committee
Facility Use Agreements	ALARA Committee
Accelerator Safety Envelope	Experimental Safety Review Committee
Conduct of Operations Agreement	Radiation Safety Committee
Safety Assessments Documents	Safety Inspection Committee
Environmental Assessments	Shield Block Inspection Committee
Operations Procedures Manual	Associate Chair for ESHQ
Quality Assurance Procedures	ESHQ Division Head
Assessment Tracking System	Building Managers
Trouble Reporting System	Emergency Coordinators
Work Permit Programs	EMS Management Representative
Training and Qualification Programs	ESH Coordinator
Hazard Assessments	Environmental Coordinator
Self Evaluation Program	Environmental Compliance Representative
Internal Assessment Program	Waste Management Representative
Waste Management	Facility Representative
Safety Inspection Program	Radiological Control Technicians
Chemical Management System	Training Manager
	Procedures Coordinator
	QA Manager
	Self-Assessment Coordinator
	Work Control Manager
	Tier 1 Coordinator

BNL ESH Standard 1.3.5 and 1.3.6 are used by the C-AD ESHQ staff to guide operations in order to:

- Determine the concept and scope of the experiment, accelerator modification or work, assess for special requirements, review hazards and safety concerns
- Develop an experimental plan or define the scope of work in a Work Permit or establish the applicability of the Work Permit
- Identify hazards and controls, obtain Committee reviews if appropriate, and perform a pre-job or pre-experiment walk down,
- Obtain C-A management approval for experiments or supervisory approval for work
- Perform the experiment or work according to plan
- Determine ways to improve next time and feedback improvement information to management

The C-A Department uses independent ESHQ committees and ESHQ staff to help define the scope of the experiment or work, identify and analyze hazards and develop hazard controls. The ESHQ

staff and members of the ALARA, Experimental Safety Review, Accelerator System Safety Review and/or Radiation Safety Committees help the C-A Department meet requirements established in BNL ESH Standards 1.3.5 and 1.3.6. C-A Department ESHQ Committees are composed of scientific and professional members from the Collider-Accelerator Department, other BNL scientific Departments, and members of the BNL ESHQ Directorate. The C-A ESHQ Committees are required by the Conduct of Operations Agreement and they operate under a system of formal procedures given in the C-A OPM.

Self-assessment and self-evaluation are carried out by individual C-A Department employees and by C-A's Safety Inspection Committee, Shield Block Inspection Committee and Quality Assurance Group. Formal procedures for conducting self-assessments and self-evaluations are contained in the C-A OPM. Additionally, formal IS014001 environmental management assessments and Malcolm Baldrige-type management assessments are conducted annually by the Department.

GENERAL INFORMATION:

Currently, the C-AD directly funds 20.35 FTEs who are devoted to day-to-day ESHQ tasks (10.85 FTE C-A Department, 8.25 FTE BNL Radiological Control Division and 1.25 FTE BNL Waste Management Division). It is noted that an additional 1 FTE for an Environmental Compliance Representative is employed but is not funded by C-AD directly, and is not included in any of these figures. We also note that the C-AD FTE estimate does not include the effort expended by C-AD Building Managers, Emergency Coordinators or ESH Committee members.

FUNDING: OE/AD ***ACCOUNT#*** ***O/H POOL:*** AD

COST NOTES:
The 10.85 FTEs listed in the profile do not reflect the costs for on-site RCD, WMD and ESD FTEs (an additional $920,000 FY00) transferred directly from C-AD funds to BNL ESHQ Directorate funds each year. The profile does not reflect the costs for environmental monitoring or dosimetry services (an additional $450,000 FY00) transferred directly from C-AD funds to BNL ESHQ Directorate funds each year. The cost in the profile is based on FY00 data, and includes the cost of G&A. The cost is escalated each year to account for inflation and changes to the G&A rate.

Profile in Thousands

	FYOI	***FY02***	***FY03***	***FY04***	***FY05***	***FY06***	***FY07***	***FY08***	***FY09***
Costs	1,928,000	2,024,000	2,125,000	2,232,000	2,343,000	2,460,000	2,583,000	2,713,000	2,848,000
FTE's	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85	10.85

ESH FUNCTIONAL AREA:
CS %: 10 Control of Toxic Substances (1.25 FTE for waste management not shown in profile, $170k)
CW %: 10 Protection of Water Quality (1.0 FTE for environmental compliance not shown in profile)
EP %: 5 Emergency Preparedness
IH %: 10 Industrial Hygiene
IS %: 15 Industrial Safety
RP %: 40 Radiation Protection (8.25 FTE for radiation protection not shown in profile, $1,100k)
MO %: 10 Management And Oversight

ESH DRIVER:
Primary Drivers
ORD DOE 420.2a Safety of Accelerator Facilities
REG 10CFR835 Occupational Radiation Protection

Secondary Driver
DOE 5480.19 Conduct of Operations Requirements for DOE Facilities