



COLLIDER-ACCELERATOR DEPARTMENT

Title: OSH Management Plan for C-AD Accelerators, Experimental Areas, Shops and Offices

Prepared by: E. Lessard

Group: ESH&Q

Approvals

_____ *Signature on File* _____ Date: _____

ESH&Q Division Head

_____ *Signature on File* _____ Date: _____

Collider-Accelerator Department Chairman

(Indicate additional signatures)

Y N

x FS Representative: _____ Date: _____

x Radiological Control Coordinator: _____ Date: _____

x Chief ME: _____ Date: _____

x Chief EE: _____ Date: _____

x ESH Coordinator: _____ *Signature on File* _____ Date: _____

x QA Manager: _____ Date: _____

x Other: _____ Date: _____

COLLIDER-ACCELERATOR DEPARTMENT
OSH MANAGEMENT PLAN

Completed by:

E. Lessard

Date:

July 12, 2004

1. Hazards at Accelerators, Experimental Areas and Shops:

- Ionizing Radiation
- Non-Ionizing Radiation
- Hazardous or Toxic Materials
- Radioactive Materials
- Electrical Energy
- Explosive Gases and Liquids
- Oxygen Deficiency (Not applicable to shops)
- Kinetic Energy
- Potential Energy
- Thermal Energy
- Cryogenic Temperatures

Hazards at Offices:

- Housekeeping Hazards
- Working Environment Hazards
- Flammable or Combustible Materials
- Electrical Energy
- Hazardous or Toxic Materials

2. Department Objectives ([See BNL FY04 Critical Outcome, Appendix B, 3.4.4.1, Safety Implementation Path Forward](#)):

- An injury free workplace ([See BNL OSH Vision Statement, 8-4-03](#) and BNL Safety Improvement Plan (SIP) Action 3.2)
- Move towards 3rd party registration of OSH Management System (BNL SIP Action 1.1)
- Maintain staff training > 95% complete (BNL SIP Action 1.1)
- Closeout WOSH Committee issues in a timely manner consistent with issue's risk (BNL SIP Action 3.9)
- Close out Tier 1 findings in a timely manner consistent with the finding's risk (BNL SIP Action 5.1)
- Meet BNL requirements on closure of OSHA findings (BNL SIP Action 5.1)
- Compliance with OSH requirements in SBMS (BNL SIP Action 1.1)
- Workers are consulted and encouraged to participate actively in all elements of the OSH management system (BNL SIP Action 3.9)
- Improved performance of the OSH management system (BNL SIP Action 1.1)
- OSH management system is integrated with the EMS management system (BNL SIP Action 3.3)

3. Department Targets ([See BNL FY04 Critical Outcome, Appendix B, 3.4.4.2, OSHA Reportable Injury Management](#)):

- Reduce year over year injury/illness rates (BNL SIP Action 3.2)
- Maintain C-AD DART < 0.5 (BNL SIP Action 3.2)
- Reduce number of first aid cases by 10% from FY03 number (BNL SIP Action 3.2)
- Minimize findings in QA Assessments of OSH topics (BNL SIP Action 3.2)
- Define the OSH requirements for procured items (BNL SIP Action 1.1)
- Start C-AD weekly meetings with a safety topic (BNL SIP Action 3.5)
- Coach F&O Directorate Engineering in their roll-out of 18001-type OSH MS (BNL SIP Action 1.1)
- Complete Job Risk Assessments (JRA) for the C-AD JRA Bank (BNL SIP Action 1.1)
- Be prepared for 3rd party registration by 9/04 (BNL SIP Action 1.1)
- Get Tier 1 Committee trained on OSHA regulations (BNL SIP Action 5.2)
- Implement OSHA training for Building Managers (BNL SIP Action 5.2)
- Close out WOSH issues within 90 days, track in family ATS (BNL SIP Action 5.1)
- Close out Tier 1 issues within designated times, track in family ATS (BNL SIP Action 5.1)
- Implement corrective actions in C-AD Report of Electrical Ad Hoc Committee (reference ATS 1425)
- Implement corrective actions in C-AD Report on Improving Tier 1 Reviews (reference ATS 2015)
- Implement corrective actions in C-AD Report on Enhancing Electrical Work Practices (reference ATS 2016)
- Maintain an efficient and functioning WOSH committee (BNL SIP Action 3.9)
- Maintain an ILO-OSH-2001/OSHAS 18001 type OSH management system (BNL SIP Action 1.1)
- Conduct quarterly safety awareness programs (BNL SIP Action 3.8)
- Conduct a joint OSH, EMS and Self-Assessment Management Review (BNL SIP Action 5.3)
- Celebrate safety achievements (BNL SIP Action 3.11)

4. OSH Performance Indicator(s):

- Tier I inspection results
- Injury/ Illness Rates
- The number of Occurrence Reports and Critiques dealing OSH
- Completion of tasks listed in Section 10

5. Plan Description:

The OSH Management Plan is assured through a documented program of safety reviews, risk assessments and work planning. OSH subject matter experts from the BNL Safety and Health Services Division (SHSD) serve on the C-AD safety committees. The C-AD safety committees include the Accelerator Systems Safety Review Committee (ASSRC) and the Experimental Safety Review Committee (ESRC), which are the focal point for documenting safety issues for new or modified accelerators and experiments. Radiological issues are reviewed by the Radiation Safety Committee (RSC) and the ALARA Committee. The physical plant is inspected regularly for OSHA compliance via the Tier 1 process. See the [ESHQ Committees web page](#). It is the responsibility of the subject matter experts from SHSD to help review activities brought before the committees for implementation of OSH controls.

Day to day OSH issues and action items are addressed, as appropriate, through the work planning process

documented in [C-A-OPM 2.28](#) and [C-A-OPM 2.29](#).

OSH issues and action items are addressed in offices through periodic ergonomic review as indicated in the Subject Area for [Occupational Ergonomics](#). Housekeeping is a direct responsibility of all employees, and each employee is held accountable to do the things necessary to implement an effective housekeeping program (see [Housekeeping Policy](#)).

The Departmental Self-Assessment (SA) program, Worker Occupational Safety and Health Committee, OSH/EMS/SA Management Review, Tier I inspections, Facility-Area and Job Risk Assessments, and the annual OSH audit are also designed to help the meet the FY04 objectives in this Plan. Tracking and trending illness/injury rates as well as on time regulatory reporting contribute towards achieving OSH objectives and targets.

It is noted that the C-A OSH management system is also intended to capture the five core-functions and 7 Guiding Principles from DOE's Integrated Safety Management System Guide, DOE P 450.4.

- Core Function 1, Define Scope of Work
- Core Function 2, Analyze Hazards
- Core Function 3, Develop/Implement Controls
- Core Function 4, Perform Work and Operation Authorization
- Core Function 5, Feedback/ Improvement
- Guiding Principle 1, Line Manager Clearly Responsible for ESH
- Guiding Principle 2, Clear ESH Roles and Responsibilities
- Guiding Principle 3, Competence Commensurate with Responsibilities
- Guiding Principle 4, Balanced Priorities
- Guiding Principle 5, Identify ESH Standards and Requirements
- Guiding Principle 6, Hazard Controls Tailored to the Work
- Guiding Principle 7, Operations Authorization

6. Potential Impact(s):

- Unsafe acts could injure personnel
- Undocumented or unreported OSH events could violate DOE requirements
- Improper compliance with SBMS requirements could create hazardous work environments, which could injure workers

7. Legal and Other Requirements:

ESH Standards

[1.2.0 Departmental Environment, Safety & Health Inspection](#)

[1.2.1. Corrective Action Management and Tracking for Internal and External Assessments](#)

[1.3.1 Construction Safety](#)

[1.4.0 Compressed Gas Cylinder Safety](#)

[1.4.1 Pressurized Systems for Experimental Use](#)

[1.4.2 Glass and Plastic Window Design for Pressure Vessels](#)

[1.5.0 Electrical Safety](#)

[1.5.1 Lockout/Tagout Requirements](#)

[1.5.2 Design Criteria for Electrical Equipment](#)

[1.5.3 Interlock Safety for Protection of Personnel](#)

[1.9.0 Traffic Safety](#)

[1.11.0 Aviation Safety](#)

[1.12.0 Marine Safety](#)

[1.12.1 Diving](#)

[1.14.0 Identification of Piping Systems](#)

[1.18.0 Excavation Safety](#)

[2.1.3 Pesticides](#)

[2.3.2 RF and Microwaves](#)

[2.6.0 Sanitation](#)

[5.10 Nonflammable Cryogenic Liquids](#)

Subject Areas

[Beryllium](#)

[Biosafety in Research](#)

[Bloodborne Pathogens](#)

[Chemicals, Working with](#)

[Confined Spaces](#)

[Emergency Preparedness](#)

[Investigation of Incidents, Accidents and Injuries](#)

[Laser Safety](#)

[Lifting Safety](#)

[Lead](#)

[Lifting Safety](#)

[Natural Hazards in the Environment](#)

[Noise and Hearing Conservation](#)

[Oxygen Deficiency Hazards \(ODH\), System Classification and Controls](#)

[Personal Protective Equipment](#)

[Respiratory Protection](#)

[Static Magnetic Fields](#)

8. Operational Controls: See [OSH Operational Controls Form](#)

9. Budget: Operating Budget**10. Structure, Authorities, Responsibilities**

Tasks	Person Responsible	Completion Dates
Maintain a formal OSH Management system at C-AD that can be registered to OHSAS 18001	E. Lessard	9/30/04
Complete the OSH Team task list and perform annual risk assessments with worker involvement	C-AD OSH Team	9/30/04
Maintain a functioning WOSH Committee	E. Lessard	9/30/04
Review the PHENIX, PHOBOS, STAR, and BRAHMS and polarized proton experiments at RHIC for conventional safety issues	Y. Makdisi	Prior to startup during FY 04
Review the NSRL experiments for conventional safety issues	Y. Makdisi	Prior to startup during FY 04
Conduct quarterly safety awareness programs	J. Maraviglia	Quarterly during FY04
Complete the work plans for NSRL, RHIC and AGS experiments	P. Cernigliaro	Prior to startup during FY 04
Perform RSC radiation safety review of accelerators and beam lines and prepare appropriate Radiation Safety Check-off Lists	D. Beavis	Prior to startup during FY 04
Perform ALARA Committee radiation dose reduction reviews of jobs and modifications to accelerators and beam lines	D. Ryan	During FY04
Perform Tier 1 facility safety inspections for the complex	A. Etkin	During FY04
Maintain the C-AD work planning system	P. Cernigliaro	During FY04