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C-A OPERATIONS PROCEDURES MANUAL

1.12 Training and Qualification Plan

Text Pages 2 through 10

Attachments

Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
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Approved: _____ *Signature on File* _____
Collider-Accelerator Department Chairman Date

J. Maraviglia

1.12 Training and Qualification Plan

1. Purpose

This document establishes C-A policy as to the Conduct of Operation of its Training Program.

- 1.1. It is the policy of the C-A Department to ensure facility specific safety training of any BNL employee, contractor employee, visitor, guest or experimenter, who will require unescorted entry into one or more of the buildings which form the C-A Complex.
- 1.2 It is the policy of the C-A to ensure appropriate training of individuals including: employees, contractor employees, guests, visitors and all others who perform work or provide a service within the C-A Complex. Training shall be provided, to the level appropriate, to ensure conformance to the [C-A Operations Procedures Manual](#), to protect the environment and to maintain the health and safety of personnel at the C-A Complex.

2. Responsibilities

2.1 C-A Department Chair

- 2.1.1 The C-A Department Chairman has overall responsibility for the approval of and implementation of the Training and Qualification Plan and for ensuring that staff are trained and qualified to perform assigned work.
- 2.1.2 The C-A Department Chairman has designated the ESHQ Division Training Manager to act as liaison with the BNL Training and Qualifications Office.

2.2 C-A Training Manager

- 2.2.1 The Training Manager (TM) is responsible for the management and coordination of the C-A training and qualification program. Responsibilities include the following:
 - a. Coordinate and assist responsible managers, group leaders and technical supervisors in the assessment and documentation of training and qualification requirements for personnel, based on the hazards encountered, potential environmental impacts, work performed, location access needs, and site requirements.
 - b. Consult with the C-A managers, ESHQ Associate Chair, ESHQ Division Head, ES&H Coordinators, technical supervisors, and others in the ESHQ Division to achieve a coordinated effort in ensuring appropriate training.

- c. Represent the C-A Department in matters pertaining to training and to provide departmental participation into the formulation and revision of site training policies, identification of training needs and priorities, and the evaluation of training activities.
- d. Serve as the focal point for developing and implementing the C-A Training and Qualification Plan, which serves as the training plan agreement with BNL Management.
- e. Actively assist in the communication of lapsed training qualifications for incumbents to appropriate managers and supervisors, in the effort to ensure that only qualified personnel perform tasks.
- f. Provide active assistance in the administration, documentation, and record-keeping of C-A training courses.
- g. Ensure that attendance records for internally-delivered required training courses are incorporated into the [Brookhaven Training Management System \(BTMS\)](#), and retain original hard copies of signed training rosters, on-the-job training checklists/performance measures, indoctrination records, and/or examinations.
- h. Assist in defining and prioritizing objectives for organizational training initiatives and actively coordinate their accomplishment.
- i. Work with supervisors of reassigned/new employees to determine which competencies, hazards or environmental implications, are significantly different, and develop a plan to train the individual on the necessary skills.

2.3 C-A Department Managers, Group Leaders and Supervisors

2.3.1 Managers, Group Leaders, and Supervisors shall be responsible for the training of employees under their supervision. To fulfill this responsibility they shall:

- a. Ensure that employees are trained and qualified to perform assigned tasks unsupervised. Emphasis is placed on training personnel who perform operations or work that has worker occupational safety and health (OSH) implications or that can significantly impact the environment.
 - A graded approach to training shall consider the potential OSH and environmental risks involved with the employees work activities, and the employee's responsibility, literacy and ability.

- b. Suspend qualifications for individuals who are unable to re-qualify successfully until successful performance is demonstrated.
- c. Ensure that employees are aware of:
 - BNL policies and procedures related to OSH and EMS necessary to conduct their work.
 - Actual or potential OSH and environmental consequences of their work activities and the benefits of improved performance.
 - Their roles and responsibilities in achieving conformance to OSH and EMS system requirements including emergency preparedness and response requirements.
 - Potential consequences of not following approved procedures.
- d. Review status of training and qualification requirements prior to making work assignments to ensure that all personnel within their area of responsibility have fulfilled the training and qualification requirements needed to safely perform assigned activities.
- e. Ensure that employees do not perform tasks with lapsed qualifications that are regulatory driven, or are required for specific task performance. The TM can assist in this determination.
- f. Assist the TM in the identification and updating of job training and qualification requirements for positions and personnel under their supervision that result from facility modifications, changes in tasks, changes in requirements, or changes in personnel assignments.
- g. Notify the C-A TM of new training needs or new positions/tasks that need to be assessed for training and qualification requirements.
- h. Endorse instructors, with concurrence of the ESHQ Associate Chair or ESHQ Division Head, to teach specific courses on the basis of their knowledge of systems and equipment, and on their academic background.
- i. Ensure that all contractors who perform work in their area are qualified.
- j. Work with the TM when reassigned/new employees report to determine which competencies, hazards, or environmental implications, are significantly different, and develop a plan to train the individual on the necessary skills.

- k. Involve employees to develop and review training, policies and procedures aimed at eliminating or reducing OSH and E risks.
- l. Provide employees with an opportunity and mechanism to voice their concerns about OSH and E training, procedures or requirements.

2.4 Department/Division Employees

- 2.4.1 All Departmental employees shall be responsible for their own training and qualifications as described below:

Note:

New/transferred employees may be dismissed/removed from their assigned positions if they fail to pass required examinations or fail to demonstrate required job skills .

- a. Attend required training courses to maintain training and qualification requirements needed for task performance.
- b. Maintain the level of knowledge required for safe and efficient performance of assigned duties.
- c. Provide feedback on training adequacy/quality to course instructors, supervisors and the TM.
- d. Refrain from performing tasks that they are not trained and qualified to perform.
- e. Notify the TM of any job-related training courses/certifications completed outside of the Laboratory.
- f. Identify new training and qualification needs for assigned work to their supervisor and TM.

3. Prerequisites

- 3.1 The following C-A personnel shall be knowledgeable with the contents of this procedure:

- ESHQ Associate Chair
- ESHQ Division Head
- Training Manager

- 3.2 Other C-A managers and supervisors shall be aware that they must consult with one of the above personnel in matters related to training and qualification.
- 3.3 Significant changes to this Plan shall be reviewed by the BNL Training and Qualification Office for concurrence. The ESHQ Associate Chair, or ESHQ Division Head, shall determine when the concurrence is necessary.

4. Precautions

- 4.1 Personnel are responsible for not performing work or conducting operations for which they are untrained, or when their training or qualifications have lapsed. Waivers for lapsed training and qualifications may be approved by the ESHQ Associate Chair, as long as a plan is in place to retrain or re-qualify in a timely manner. A maximum extension of one month may be granted unless such extensions are not allowed by SBMS, contractual or for legal reasons.
- 4.2 Training and qualification shall be verified by management and supervisory staff prior to assignment of work.

5. Procedure

- 5.1 Required training needs shall be identified and documented for all departmental personnel. The development of these needs shall be a cooperative effort between the individual's supervisor, ESHQ Associate Chair, ESHQ Division Head, and the TM. The training needs may be generic for the various C-A positions, may be specific for the individual or a combination of both.
- 5.2 Required training needs and employee links to required training shall be reviewed when: working plans and experimental reviews are conducted; when jobs or requirements change; when new jobs are created; when new locations or facilities, which require training must be accessed; or at minimum yearly. These reviews shall be coordinated by the TM and will be a cooperative effort as described in step 5.1.
- 5.3 Retraining intervals shall comply with the standards set by the BNL Training and Qualification Office for Laboratory-wide courses or shall be set by appropriate C-A Department Management for C-A specific courses. The retraining intervals set by the C-A Department shall consider the following potential impacts of the activity, operation and/or work: the public, worker, and environmental hazards; the complexity; the potential programmatic impacts; the regulatory requirements, etc. The information in DOE-HDBK-1078-94, DOE Training Program Handbook: A Systematic Approach to Training is considered when determining C-A course retraining intervals. If a retraining interval is required, the interval shall be shown on the BTMS. Examples of C-A course with specified retraining intervals are biennial [C-A Access Training](#) and annual Experimental User

Training. Some courses have no retraining interval such as [ESH Training for Conference Attendees](#).

- 5.4 When specified by the TM, Lesson Plans or Course Outlines shall be developed for each training course in sufficient detail to ensure that any qualified instructor could teach the course. The TM, with assistance from the BNL Training and Qualification Office (as necessary), shall assist in the development and documentation of Lesson Plans and Course Outlines. Lesson Plans and Course Outlines shall be approved by the ESHQ Associate Chair, ESHQ Division Head, TM or the author's Division Head. Lesson Plans and Course Outlines shall be maintained as records by the TM.
- 5.5 Personnel from other laboratory Departments and Divisions may be included in selected C-A training courses. If the Department provides training on a general basis to other laboratory personnel, it shall comply with standards set by the BNL Training and Qualification Office (TQO). A description of the proposed course content and proposed trainers shall be reviewed by the BNL TQO, and a memorandum of approval to teach the course from the TQO shall be maintained by the C-A TM.
- 5.6 The assurance of required training for each person shall be based on a monitoring system under the direction of the TM. The BNL Training and Qualifications Program Office notifies incumbents of training due to expire. In addition, incumbents and the TM are notified of lapsed qualifications. Incumbents schedule and complete needed training or request their supervisor to obtain exemptions or extensions from the ESHQ Associate Chair, where applicable.
- 5.7 Reports listing outstanding training requirements are reviewed by the TM and are used to track the completion of outstanding training. Percentage of completion of required training is tracked and reported by the BNL Training and Qualification Office each month.
- 5.8 Individuals who fail examinations may, at the option of the Course Instructor or TM, be remediated until they can successfully demonstrate required knowledge or skills. No work involving the topic of the examination may be performed by the individual until remediation has been completed.
- 5.9 Wherever appropriate, training and/or retraining shall be done using Performance or On-the-Job-Training (OJT) Checklists (e.g. Main Control Room Operations Coordinators and Operators). OJT Evaluators shall be qualified (or previously qualified) in the specific skill areas. Evaluation methods may include oral or written examination, demonstration, simulation, walk-through, etc. Completed Checklists shall be maintained by the Line management in charge of the operation or work (in an auditable form) or by the TM.

5.9.1 For lockout/tagout department-specific training, a memo from the appropriate

supervisor (e.g. to the TM), is used to document that an individual has demonstrated job knowledge to place or remove locks or tags as assigned. For an individual to be “authorized” to place or remove locks or tags, the approval memo is required in addition to the individual being current in the Laboratory’s LOTO authorized training course. C-AD Management identifies the supervisors who may approve of an individual’s job knowledge. The above process is used in lieu of a department-specific lesson plan due to the complex nature of LOTO at C-AD.

- 5.10 Subject Matter Experts (SMEs) will be assigned by C-A Management, with the concurrence of the TM, to teach specific courses on the basis of their knowledge of systems and equipment, their experience, and on their academic background. Certification of trainers for specialized courses will be made by the agency or organization providing the course certification. Certain Department members are automatically considered qualified to teach courses within their authority (see [C-A-OPM-ATT 1.12.b](#)). Individuals who teach a C-A course are exempt from retraining requirements of that particular course.
- 5.11 Qualifications to perform tasks is established by the appearance of an individuals name on the BTMS JTAs. Individuals who are qualified to perform several jobs will appear on more than one JTA. An individual's BTMS History Record may also show current training qualifications in addition to those linked by JTA. In addition the C-A Department has current [Lists](#) showing personnel qualified for certain specialized C-A jobs.
- 5.12 Contract personnel performing work for C-A shall satisfy all specified training prior to working at C-A facilities. In most cases BNL Plant Engineering will be responsible for training contractors. When C-A is directly responsible for contractor training and qualification, the TM shall coordinate the specification of training and qualification requirements with the responsible C-A supervisor, C-A ESHQ Division (including, as applicable, waste management, environmental, regulatory, pollution prevention, worker safety, conduct of operations, radiation safety, etc.). These requirements shall be specified on Intra-Laboratory Requisitions (ILR) and/or purchase requisitions. Specifications written for contractors shall meet the requirements of [BNL ESH Standard 1.3.1](#), Construction Safety. This standard describes in detail the training and qualification requirements for contractors. Assistance in writing specifications may be obtained from BNL Plant Engineering, BNL Procurement and Property Management or the C-A Department Administrative Group. Long-term contractors typically complete C-A Access or User Training as part of the requirements for unescorted access to the C-A Complex. On a case-by-case basis, however, a briefing may be used as

the appropriate level of training in lieu of access training for short-term contractors. This briefing shall be documented and approved using Attachment [C-A-OPM-ATT 1.12.c](#).

- 5.13 Challenge examinations/tests may be administered for BNL training courses (e.g., Radiological Worker I, GERT, Electrical Safety, LOTO, etc.) in compliance with the requirements of the BNL Training and Qualification Office. Challenge examinations/tests may be administered for C-A training courses (e.g., Access Training, User Training, etc.) with the concurrence of the ESHQ Associate Chair, ESHQ Division Head, or TM.
- 5.14 Contractors, visitors and guests, shall be escorted, and their training waived as per the requirements of [C-A-OPM 2.16](#) and [C-A-OPM-ATT-2.16.a](#), unless they satisfy the C-A requirements for unescorted access. [ESH Training for Conference Attendees](#) provides orientation and contact information for visitors at BNL conferences. The Access Training shall be documented on the [BTMS](#).
- 5.15 Each C-A course shall be periodically evaluated by a member of the C-A Department at the request of the TM. The evaluator may be one of the following individuals: a course trainee, C-A Training and Procedure Manager, C-A ESHQ Associate Chair, C-A Group Leader, C-A Technical Supervisor, or a BNL Manager. Evaluations shall be documented and maintained with the course records. Corrective actions or improvements resulting from the evaluation shall be implemented by the TM.

6. **Documentation**

- 6.1 The Training Manager is responsible to maintain auditable records of training and qualification requirements, lesson plans and/or course outlines, attendance, initial test and challenge test results, training or qualification extension waivers, instructor qualifications, course evaluations, read and acknowledgements, etc., for the minimum retention periods specified by the BNL Training and Qualification Office or legal/contractual requirements.
- 6.2 Retention periods for hard copies of records shall be five years (unless course records relate to the handling of hazardous, toxic, radioactive materials, radiation safety or other area that relates to chronic exposure in which case the retention period is 75 years).

7. **References**

- 7.1 [C-A-OPM 1.1, "Authorization"](#).
- 7.2 [C-A-OPM 1.2, "C-A Documents"](#).

- 7.3 [C-A-OPM 2.16](#), “Procedure to Escort Personnel in C-A Primary Areas, Controlled Areas, Radiological Areas, and ODH Areas”.
- 7.4 [C-A-OPM-ATT 2.16.a](#), “Briefing Outline and Training Waiver for Persons Under Escort”.
- 7.5 DOE-HDBK-1078-94, DOE Training Program Handbook: A Systematic Approach to Training.
- 7.6 [C-A ESHQ Web Training Page](#).
- 7.7 [ESH Training for Conference Attendees](#).

8. Attachments

- 8.1 [C-A-OPM-ATT 1.12.b](#), “Instructors Qualified by Department Position or Authority”.
- 8.2 [C-A-OPM-ATT 1.12.c](#), “C-A Facility-Specific Briefing for Unescorted Contractors”.