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C-A OPERATIONS PROCEDURES MANUAL

1.9 Fire Safety Program

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Hand Processed Changes

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Approved: _____ *Signature on File* _____
Collider-Accelerator Department Chairman Date

R. Karol

1.9 Fire Safety Program

1. Purpose

The fire safety program shall be maintained to minimize fire risks to C-A employees, equipment, and property, and to maintain continuity of C-A operations.

1.1 The C-A fire safety program for existing facilities and the plans and specifications for new or modified facilities programs, experiments, and projects shall comply with NFPA 101 (Life Safety Code), DOE order 5480.7 and [BNL Standards Based Management Systems \(SBMS\)](#). The program shall:

1.1.1 Provide means of egress to minimize threats to life and health.

1.1.2 Provide fire protection systems to limit equipment and property damage and minimize program delays.

1.1.3 Provide local fire alarms to alert building occupants and to transmit signals to the Fire/Rescue Group and other BNL Emergency systems.

2. Responsibilities

2.1 The Department Chairman shall appoint the C-A ESHQ Division Head, or designee, as responsible individual for remaining aware of the status of the fire protection program.

2.2 Supervisors shall inform management of all problems with the program which are not immediately corrected.

3. Prerequisites

3.1 Variances or exemptions from BNL DOE fire safety standards require review and approval as required in [ESH standard 4.0.0](#).

3.2 Impairment of fire protection equipment shall be reviewed and implemented in accordance with [ESH Standard 4.2.0](#).

3.3 Flammable gas systems shall be reviewed and approved by the C-A Department before they are purchased or constructed.

4. Precautions

4.1 Whenever fire protection systems are impaired, control measures consistent with [ESH Standard 4.2.0](#) shall be implemented.

- 4.2 Supervisors shall inform BNL Fire/Rescue Group of the location and hazards of all experimental and temporary flammable gas systems.
- 4.3 Supervisors shall inform the C-A ESH Coordinator and the Fire Captain of the location, hazards, and precautions required in areas that contain or may contain flammable atmospheres .

5. Procedures

5.1 Means of Egress or Exits

- 5.1.1 Exits from facilities shall be adequate in number, unobstructed, and shall have appropriate marking and illumination. Travel distances shall be in accordance with [ESH Standard 4.1.2](#).
- 5.1.2 Each building LEC shall prepare and post a diagram of the means of egress for their building.
- 5.1.3 Any alterations affecting means of egress shall be reviewed with the Safety Health Services to ensure adherence to the NFPA 101 Life Safety Code and [ESH Standard 4.1.2](#).

5.2 Impairment of Fire Protection Systems

- 5.2.1 Only Plant Engineering Department personnel shall impair fire protection systems and tag same.
- 5.2.2 Report any system which is impaired but not tagged to the Fire Captain of Fire/Rescue immediately.
- 5.2.3 Supervisors shall implement control measures when fire systems have been impaired, as directed by the C-A ES&H Coordinator.

5.3 Experimental and Temporary Flammable Gas Systems

- 5.3.1 Supervisors shall ensure that systems are constructed and used in accordance with [ESH Standard 4.11.0](#) and [C-A-OPM 9.2.7](#).
- 5.3.2 Supervisors shall maintain drawings, specifications, and operating procedures for all systems under their purview.
- 5.3.3 Supervisors shall train all system users in proper operations and maintain training records.

5.3.4 Use of flammable gas shall always be kept to a minimum. Spare tanks shall be stored outside, as far away from the building as practical. Only one spare tank (connected or unconnected) is permitted in the work area.

5.3.5 Storage and use of flammable gasses shall be in accordance with the Compressed Gas Association Guide P-1.

5.4 Locations Containing Flammable Atmospheres

5.4.1 Supervisors shall determine locations where flammable atmospheres are or may be present (classified locations) in accordance with [ESH Standard 4.12.0](#) and the National Electrical Code.

5.4.2 Supervisors shall assure, in consultation with the Fire Rescue Group, that location are appropriately classified, that boundaries of classified locations are clearly delineated, and that ignition sources are not introduced.

5.4.3 Supervisors shall assure that all C-A personnel who may work in classified locations are trained in accordance with [ESH Standard 4.12.0](#).

5.5 Cutting and Welding

5.5.1 Supervisors shall designate safe areas for routine cutting and welding by obtaining a cutting/welding permit from the Fire Rescue Group. Any deviation from the permit requires a review by the Fire Rescue Group.

5.5.2 Supervisors shall ensure that all personnel engaged in cutting and welding are trained on the hazards, safe techniques, and necessary safety precautions.

5.6 Flammable Liquids

5.6.1 Supervisors shall ensure that flammable liquids are dispensed, transferred, used, and stored in accordance with ESH Standards.

5.6.2 Supervisors shall ensure that employees are trained in the safe use, storage, and handling of flammable liquids they use.

6. **Documentation**

6.1 Diagram of building means of egress.

6.2 Flammable Gas System drawings, specifications, operating procedures, and training records.

7. References

- 7.1 [ESH Standards 4.0.0](#)
- 7.2 [ESH Standard 4.1.2](#)
- 7.3 [ESH Standard 4.2.0](#)
- 7.4 [ESH Standard 4.4.0](#)
- 7.5 [ESH Standard 4.11.0](#)
- 7.6 [ESH Standard 4.12.0](#)
- 7.7 NFPA 101 (Life Safety Code).
- 7.8 National Electrical Code.
- 7.9 DOE Order 5480.7.

8. Attachments

None