

LESC 1.0

Guidelines and R2A2s for the Laboratory Electrical Safety Committee



Prepared by: _____

John F. DiNicola
Chair of LESG

Approved by: _____

Michael Bebon
Deputy Director for Operations

Date: _____

1 Purpose and Scope

- 1.1 This guideline provides instructions for the LESC to carry out the review of electrical safety issues defined in Section 3.0.

2 Membership

- 2.1 Appointed by: Deputy Director for Operations (DDO).
- 2.2 Term: Members have a three year renewable term. On a two year cycle, the Committee will self-appoint a Chairperson and Secretary.
- 2.3 The charge of the Committee and the current membership are located in the Laboratory's Committee Handbook at [Committee Handbook - Laboratory Electrical Safety Committee](#)
- 2.4 LESC Qualifications – The BNL Laboratory Electrical Safety Committee is modeled after the NEC Electrical Board concept as described in Article 80.15 of the 2005 National Electrical Code, NFPA 70. The LESC is appointed by the Deputy Director of Operations and does not rely on the experience of a single person, but as described in Article 80.15 relies on the collective experiences and knowledge of staff with varying education, jobs and experiences all related to electrical work.
 - 2.4.1 Collectively the LESC should have:
 - Electrical engineers, some with advanced degrees
 - Licensed Professional Engineers
 - Certified Electrical Inspectors
 - Journeyman Electricians some with supervisory experience

NOTE

Given the importance of the proceedings of this Committee to safe Laboratory operations, Departments/Divisions should make every effort to let appointed committee members attend LESC meetings. This may require line management to adjust schedule/work assignments accordingly. Committee members should advise line management if a conflict exists in work schedule.

3 Roles, Responsibilities, Accountabilities and Authorities

3.1 Roles

- 3.1.1 Act as the principal advisory committee to the Brookhaven National Laboratory (BNL) Directorate, the Safety and Health Services Division, and to individual operating organizations on safety matters relative to electrical systems, equipment, and components. The primary vehicle for dissemination of this information is the Electrical Safety Subject Area located in SBMS.

- 3.1.2 Act as the technical body which will recommend approval to the Deputy Director for Operations for significant electrical safety issues and with responsibilities as designated below.
- 3.1.3 Act as manager of Electrical Equipment Inspector (EEI) program which was established to approve legacy and new electrical equipment per requirements of NEC. This includes approval of applicants to be EEI's, provide training guidance for Inspectors and maintaining the list of EEI's.
- 3.1.4 Act as approving authority for LESO function as Authority Having Jurisdiction in the field. The LESO brings to the committee electrical Code questions requiring interpretation and variance requests from the field.

3.2 Responsibilities

- 3.2.1 Advise individual organizations and the Directorate, as appropriate, about items relating to electrical safety which are brought to the committee's attention by a member of the committee, an operating organization, the Safety & Health Services Division (SHS) or the Director's Office.
- 3.2.2 Review at least biennially and recommend for approval changes, as necessary, to the BNL Electrical Safety Subject Area.
- 3.2.3 Approve in conjunction with the Central Training Office the objectives, content and target audiences of training programs related to electrical safety.
- 3.2.4 Review internal and external electrical accident and incident reports for applicable "lessons learned."
- 3.2.5 Act as Subject Matter Experts providing interpretation and when authorized by the standard act as the "Authority Having Jurisdiction" for:
 - 3.2.5.1 NFPA 70 NEC Code
 - 3.2.5.2 NFPA 70B Recommended Practice for Electrical Equipment Maintenance
 - 3.2.5.3 NFPA 70E Standards for Electrical Safety in the Workplace
 - 3.2.5.4 NFPA 79 Electrical Standard for Industrial Machinery
 - 3.2.5.5 OSHA 1910 Subpart S - Electrical.
 - 3.2.5.6 OSHA 1910.147 Control of Hazardous Energy (lockout/tagout)
 - 3.2.5.7 OSHA 1910.269 Electrical Power Generation, Transmission, and Distribution
 - 3.2.5.8 OSHA 1926 Subpart K – Electrical

3.2.5.9 OSHA 1926 Subpart V – Power Transmission and Distribution

3.2.5.10 DOE Electrical Safety Handbook

3.2.6 Notify the Laboratory Price-Anderson Amendments Act (PAAA) Coordinator of any issue discovered that represents a noncompliance with the 10 CFR 851, Worker Safety and Health Rule or referenced standard, and has a significant or potentially significant impact on worker safety & health. In addition, the committee notifies the Price-Anderson Amendments Act Coordinator if it has knowledge of any recurring/repetitive lower level Worker Safety and Health noncompliance that is, in the opinion of the committee, the result of a deficiency in a Laboratory Safety and Health program or Subject Area.

3.2.7 When requested by the S&HS Division or the BNL Directorate:

3.2.7.1 Review proposed changes or modifications to existing facilities or new construction which significantly affect electrical safety.

3.2.7.2 Advise as to Conformance-to-Standards of departmental/divisional Electrical-Safe-Work rules and procedures (construction, maintenance and operation of electrical devices and interlock systems).

3.2.7.3 Review proposed or established Hazard Assessments.

3.3 Accountabilities

3.3.1 The LESC is accountable to the Deputy Director of Operations

3.3.2 The LESC is accountable to Deputy Directors, ALDs, Department Chairs and Division Managers who call upon the Committee to provide technical review of electrical safety issues.

3.3.3 The LESC is accountable to the science and support communities to assist them to achieve BSA and organizational electrical safety expectations in the design and operation of their facilities.

3.4 Authorities

3.4.1 The LESC, acting as AHJ, reviews and approves “engineered systems” which provide equivalence to the intent of codes and standards.

3.4.2 The LESC, acting as AHJ, interprets and clarifies electrical safety codes and standards. These interpretations and clarifications are then provided to the Safety & Health Services Manager for distribution to ES&H Coordinators and published on the LESC Website. Also, if necessary, the BNL Electrical Safety Subject area will be updated.

4 Review Procedure

- 4.1 The LESC Chairperson shall schedule meetings, at a minimum quarterly, and convene the LESC when appropriate.
- 4.2 The Chairperson shall decide if the members participating in the review comprise the appropriate technical core for the matter to be deliberated. The Chair has the authority to appoint a subcommittee when specialized expertise is required.
- 4.3 Associate/Assistant Laboratory Directors, Department Chairs or Division Managers can make requests for LESC reviews via the Laboratory Electrical Safety Officer (LESO) or by written request to the Chair.

5 Document Submittals

- 5.1 All documents for review shall be submitted to the LESC Secretary with a copy to the Chair, preferably 2 weeks prior to the date of the meeting.
- 5.2 The LESC Chair shall ensure that adequate time is allocated for Committee review.

6 Decision Making Process

- 6.1 A quorum shall consist of at least 5 members.
- 6.2 Decisions can be made using an email voting system.
- 6.3 A decision shall consist of a simple majority vote of the Committee members in attendance or voting by Email.
- 6.4 Committee members shall abstain from voting if there is a real or apparent conflict of interest.
- 6.5 If there are any dissenting votes, then a minority statement may be recorded by the LESC Secretary along with the decision.

7 Documentation

- 7.1 The LESC Secretary or designate shall prepare meeting minutes and publish them as a minutes to be formally approved by Committee vote.
- 7.2 The written minutes and materials used during the presentations shall be kept in a dedicated file under the control of the LESC Chair. Copies may be kept on the internet.
- 7.3 Formal interpretations and guidance shall be published on the LESC web site.
- 7.4 Recommendations by the LESC that require response by BNL management or staff shall be defined as sequentially numbered Action Items in the meeting minutes.
- 7.5 The master list of Action Items and status shall be kept in a dedicated file under the control of the LESC Secretary or in ATS.

7.6 The LESC Secretary shall forward the closure documentation to the Committee members for their information.