

Document Number: GLM-QS-1700.1.1B

Revision: Basic

Effective Date: 5/28/2014

Expiration Date: 5/28/2019

Glenn Safety Manual – Chapter 1B

Area Safety Committees w/Change 2 (4/25/16)

Approved by: QS/Chief, Safety and Health Division

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Glenn Research Center Glenn Safety Manual	Title: Area Safety Committees	
	Document No.: GLM-QS-1700.1.1B	Rev.: Basic

Change Record

Rev.	Effective Date	Expiration Date	C-25, Change Request #	Description
Basic	5/28/2014	5/28/2019	14-004	New Safety Manual Chapter
Change 1	9/30/15	5/28/2019	N/A	Administrative change to remove hyperlinks.
Change 2	4/25/2016	5/28/2019	N/A	Administrative change to change the delegation from the Center Director to the Safety and Mission Assurance Director in the process of appointing safety members and chairs.

***Include all information for each revision. Do not remove old revision data. Add new rows to table when space runs out by pressing the tab key in the last row, far right column.*

Glenn Research Center Glenn Safety Manual	Title: Area Safety Committees	
	Document No.: GLM-QS-1700.1.1B	Rev.: Basic

Contents

1.0	PURPOSE.....	4
2.0	APPLICABILITY	4
3.0	BACKGROUND	4
4.0	POLICY.....	4
5.0	RESPONSIBILITIES	4
5.1	Safety, Health, and Environmental Board (SHEB)	4
5.2	Safety and Mission Assurance Directorate (SMAD).....	4
5.3	Safety and Health Division (SHeD).....	4
5.5	Center Director	5
5.6	Committee Responsibilities	5
5.7	Safety Committees—General	5
5.8	Aviation Safety Committee (ASC).....	5
5.8.1	ASC Responsibilities.....	6
5.9	Electrical Applications Safety Committee (EASC).....	6
5.9.1	Additional EASC Responsibilities	6
5.10	Process Systems Safety Committee (PSSC).....	7
5.10.1	Additional PSSC Responsibilities	7
5.11	Laser Safety Committee (LSC)	7
5.11.1	Additional LSC Responsibilities	7
6.0	REQUIREMENTS	7
6.1	Membership.....	7
6.2	Training	8
7.0	RECORDS.....	8
8.0	REFERENCES	8
	Appendix A—DEFINITIONS AND ACRONYMS.....	9

Glenn Research Center Glenn Safety Manual	Title: Area Safety Committees	
	Document No.: GLM-QS-1700.1.1B	Rev.: Basic

Chapter 11—Area Safety Committees

NOTE: The current version of this chapter is maintained and approved by the Safety and Health Division (SHeD). The creation date of this chapter was May 2014. The current version is located on the Glenn Research Center (GRC) intranet within the BMS Library. Approved by: Chief of Safety and Health Division.

1.0 PURPOSE

The purpose of this chapter is to define the requirements in how Glenn Research Center (GRC) Area Safety Committees assist GRC in maintaining compliance with Glenn Safety and Health Program requirements. This chapter will outline roles and responsibilities and provide direction on member and chair selection and training.

2.0 APPLICABILITY

The provisions of this chapter apply to all NASA employees and contractors who wish to become and/or assigned to be a member of an Area Safety Committee that support GRC operations and activities at both Lewis Field and Plum Brook Station.

3.0 BACKGROUND

Area Safety Committees were created to assist in the implementation of the Glenn Safety and Health Program. The NASA General Safety Program Requirements in NPR 8715.3C allow each Center Director to establish “ad hoc committees to provide safety oversight review of programs, projects, and other activities.” Committees conduct independent reviews of proposed operations in their assigned areas to ensure that the proposed operations are consistent with sound engineering principals and applicable safety and health requirements and standards. Each Area Safety Committee chair, with the support of committee members, will confirm that risks are identified, assessed, and sufficiently mitigated. Upon completion of that Area Safety Committee assessment, the specific Area Safety Committee Chair may issue a safety permit.

4.0 POLICY

Glenn personnel shall manage and conduct operations in a manner that minimizes or eliminates risk to the workforce, property, the environment, and the community.

The authority for Area Safety Committees at GRC comes from the following:

- NASA Procedural Requirement (NPR) 8715.3, NASA General Safety Program Requirements
- Occupational Safety and Health Administration (OSHA), 29 CFR 1960 – Basic Program Elements for Federal Employees

5.0 RESPONSIBILITIES

5.1 Safety, Health, and Environmental Board (SHEB)

The SHEB serves as an appeal board for unresolved safety, health, and environmental issues concerning safety permit reviews, GRC operations, and other activities supported by Area Safety committees.

5.2 Safety and Mission Assurance Directorate (SMAD)

The SMAD provides technical support to ensure that safety committees meet their mission. The SMAD coordinates all member and chair appointments with the Center Director; facilitates committee staffing; and coordinates with other directors to find the skilled personnel to fill committee needs.

5.3 Safety and Health Division (SHeD)

The SHeD administrates the safety permit process and maintains related chapters in the Glenn Safety Manual (GSM) and the Occupational Health Programs Manual (OHPM). The Chief of SHeD provides safety and health professional staff to support all safety committees. The Chief of SHeD also coordinates the appointment of area safety committee members and chairs. The SHeD staff will train members and chairs in their responsibilities and in

Glenn Research Center Glenn Safety Manual	Title: Area Safety Committees	
	Document No.: GLM-QS-1700.1.1B	Rev.: Basic

safety permit process implementation. SHEd staff will also provide technical support to the Area Safety Committee regarding safety and occupational health regulatory compliance.

5.4 Energy and Environmental Management Office (EEMO)

The EEMO provides technical support for environmental regulatory compliance and the Environmental Management System (EMS) implementation.

5.5 Center Safety and Mission Assurance (SMA) Director

As delegated by the Center Director, the Center SMA Director, appoints all members and chairs to safety committees as specified in Section 6.1 below.

5.6 Committee Responsibilities

All Area Safety Committee members and chairs shall perform duties in accordance with Safety and Health Management System, and GSM Chapter 1A, Glenn Safety Permit System.

Each committee chair has the responsibility to

- a. Approve and issue safety permits only for operations and activities that meet GRC safety and health requirements.
- b. Suspend a safety permit when conditions of the permit are not met.
- c. Obtain comments and receive advice from the committee members based on the review regarding recommended conditions of operations.
- d. Notify the Electrical Applications Safety Committee (EASC) or Process Systems Safety Committee (PSSC) when proposed activities are likely to impact respective electrical power or process systems safety.
- e. Submit significant concerns or unresolved questions regarding significant risk and permits to the SHEB. The Area Safety Committee Chair will submit a request to the SHEB to address the concern. The requester and the supervisor will present to the SHEB the information on the safety permit request and their recommendations to address the concern. Once the SHEB makes a decision, the requester, the supervisors and the Area Safety Committee Chair will be notified. The Area Safety Committee Chair will take appropriate action on behalf of the SHEB.

Each committee member has the responsibility to support the chair and

- a. Review safety permits requests.
- b. Provide comments and concerns and advise regarding conditions of operations of the safety permit.
- c. Ensure that he/she is up-to-date with any required training related to the Safety Permit Process.

5.7 Safety Committees—General

There are four discipline and eight area safety committees at GRC. The specific discipline committees are

- Aviation Safety Committee (ASC)
- Electrical Applications Safety Committee (EASC)
- Laser Safety Committee (LSC)
- Process Systems Safety Committee (PSSC)

The area committees are responsible for groups of buildings. Refer to GSM Chapter 1A, Appendix B, for more information.

5.8 Aviation Safety Committee (ASC)

The ASC reviews operations of and research and development modifications to aircraft operated by GRC, as well as experiments placed on these aircraft. The ASC is the sole authority for recommending the issuance of GRC aircraft

Glenn Research Center Glenn Safety Manual	Title: Area Safety Committees	
	Document No.: GLM-QS-1700.1.1B	Rev.: Basic

and flight experiment safety permits. The ASC must have expertise in aviation, electrical engineering, mechanical engineering, and fluid system engineering, plus a SHeD representative and the ex-officio Aviation Safety officer (ASO), and a Laser Safety officer (LSO), if required.

The ASO must be notified when the chair exercises their shutdown authority.

5.8.1 ASC Responsibilities

The ASC has the responsibility to

- a. The ASC Chair has been delegated the responsibility from the Center Director for the airworthiness of all the center aircraft and for flight projects involving aircraft. While not a requirement, preference for this position should be given to an individual that has a background in either aircraft operations or aircraft maintenance whenever feasible.
- b. Approve safety permits for experiments or programs that meet Glenn safety and health requirements. The chair is responsible for approval of safety permit requests. They also may approve changes or modifications to an existing safety permit or flight-test plan if there is no safety impact to the experiment, program, or operation.
- c. Maintain technical surveillance and remain cognizant of activities involving aircraft operations and Hangar activities.
- d. Obtain comments and advice from the ASO, the Airworthiness Review Panel, the SHeD, and the EEMO concerning matters that may affect the Aviation Safety Program.

5.9 Electrical Applications Safety Committee (EASC)

The Electrical Applications Safety Committee (EASC) reviews tasks in all major electrical power systems (e.g. Substations, 10X10 and 8X6 Drives, Central Air Equipment Building). This committee is primarily responsible for high-voltage electrical power systems; however, it also, upon request, reviews new additional or modified electrical applications and advises Area Safety Committees concerning electrical systems safety. The Committee also provides technical oversight to the GRC Arc Flash protection program. The EASC issues operating safety permits for the GRC Lewis Field and Plum Brook Station high-voltage electric power distribution systems and for the high-voltage variable frequency electric power system in building 23. This Committee reviews and permits any construction, maintenance, or repair activity that will modify a permitted system's one-line diagram or that will require a crew to work in the vicinity of high-voltage lines or equipment, both inside and outside of electric supply stations, on the GRC Lewis Field or Plum Brook Station premises. When the chair exercises their shutdown authority, they must also notify the appropriate Area Safety Committee chair, SHeD, EEMO and Facilities Division.

The EASC must have a minimum of four people including two individuals with electrical engineering and operational expertise and representatives from Facilities Division, SHeD and EEMO.

5.9.1 Additional EASC Responsibilities

- a. Reviews proposals for the design, construction, alteration, or removal of electrical power systems or special electrical applications, and approves and issues a safety permit for proposals that meet GRC's safety requirements.
- b. Recommends, subject to review and approval of the SHEB, minimum acceptable safety standards within the scope of its responsibilities.
- c. Advises Area Safety Committees, the PSSC, and other interested parties on the safety aspects of proposals that involve electrical applications.
- d. Maintains technical surveillance and keeps informed of activities, anticipates problems, and minimizes safety-related conflicts between operational and maintenance activities.
- e. Submits significant concerns or unresolved questions regarding granting of permits and the assessment of significant risk assessments to the SHEB.

Glenn Research Center Glenn Safety Manual	Title: Area Safety Committees	
	Document No.: GLM-QS-1700.1.1B	Rev.: Basic

5.10 Process Systems Safety Committee (PSSC)

The PSSC ensures that central service systems are designed and operated in a safe manner. Committee membership includes individuals with process systems engineering and operational expertise and representatives from SHeD and EEMO.

Central service systems include equipment that conveys, supplies, generates, removes, distributes, or processes liquids and gases for each process system leading to and terminating at the test cell or research area setup.

Note: The following specific systems are included: central air and exhaust systems, fire and domestic water, carbon dioxide, steam, natural gas, heating plants, cooling tower water, cooling towers, wet and dry coolers, industrial waste basins and the lines leading to them, general purpose and mobile cryogenic equipment, and pressure vessels and related systems that are not under the control of the Pressure Systems manager. When the chair exercises his/her shutdown authority, he/she must also notify the appropriate Area Safety committee chair, Facilities Division, EEMO and SHeD.

5.10.1 Additional PSSC Responsibilities

- a. Reviews specific proposals for modifications or additions to facilities, equipment, or operations involving process systems and ensure they meet applicable safety standards.
- b. Approves and issues safety permits for those proposals that meet GRC safety requirements.
- c. Supplies the affected Area Safety committee chair with copies of the safety permits issued by the PSSC, calling attention to approved modes or levels of operation of the central systems so that Area Safety committees do not approve operations that are under the responsibility of another Safety Committee.
- d. Recommends, subject to the review and approval of the SHEB, minimum acceptable safety and health standards within the scope of its responsibilities.
- e. Advises Area Safety committees and other organizational elements, upon request, about the safety and health aspects of specific proposals involving process systems.
- f. Maintains technical surveillance and keeps informed of current activities, in assigned area of responsibility, to anticipate problems and minimize safety-related conflicts between operational and maintenance activities.

5.11 Laser Safety Committee (LSC)

The LSC conducts independent reviews for all operations that use lasers. The committee ensures that all proposed installations and operations are consistent with sound engineering judgment and acceptable health and safety standards.

Committee membership includes researchers, laser specialists, SHeD representative and the LSO.

5.11.1 Additional LSC Responsibilities

- a. Reviews specific proposals for all research operations that will require the use of lasers as a standalone unit or as part of another permitted operation.
- b. Maintains technical surveillance and keeps informed of current activities of laser operations in order to anticipate problems and minimize safety-related conflicts between operational and maintenance activities.
- c. Obtains comments and advice from advisory panels, the SHeD, and the EEMO concerning matters that fall within the area of laser operations.

6.0 REQUIREMENTS

6.1 Membership

As needs arise for new members each committee chair will determine the skills and expertise needed and convey the request to the Chief of SHeD. The Chief of SHeD will coordinate with the Center management to identify suitable

Glenn Research Center Glenn Safety Manual	Title: Area Safety Committees	
	Document No.: GLM-QS-1700.1.1B	Rev.: Basic

candidates to fill the vacancy. Once an individual is selected and has concurrence from his/her supervisor, an appointment letter is generated and sent to the Center SMA Director for signature.

The same process is used to appoint a safety committee chair. The main difference is that chairs should be a supervisor, when possible (Branch Chiefs or higher), or an experienced safety committee member (at least five years of experience). The chair still has the skills/expertise required to address the hazards and risk for the area appointed.

6.2 Training

All safety committee members and chairs shall receive training in the following areas:

- Safety committee roles and responsibilities (members and chairs)
- The Safety Permit Process
- Web Based Safety Permit Process for Non-Supervisors (GRC-4R1825)
- Web Based Safety Permit Process for Supervisors (GRC-4R1826)
- Hazard Analysis

7.0 RECORDS

The administrative staff of the SHED will keep copies of the appointment letters for safety committee chairs and members. Committee members' training records will be kept within SATERN.

8.0 REFERENCES

Document number	Document name
29 CFR 1960	Basic Program Elements for Federal Employees OSHA
NPR 8715.3C	General Safety Program Requirements
GLC-SMC-SHEB-8700.1C	Charter, Safety, Health, and Environmental Board (SHEB)
GLPD 1702.1J	Glenn Safety and Health Program
GLPR 8553.1	Glenn Research Center Environmental Management System
GLM-QS-1700.1	Glenn Safety Manual
GLM-QS-1800.1	Occupational Health Programs Manual

Glenn Research Center Glenn Safety Manual	Title: Area Safety Committees	
	Document No.: GLM-QS-1700.1.1B	Rev.: Basic

Appendix A—DEFINITIONS AND ACRONYMS

Aviation Safety Committee (ASC)

Aviation Safety officer (ASO)

Electrical Applications Safety Committee (EASC)

Energy and Environmental Management Office (EEMO)

Environmental Management System (EMS)

Glenn Research Center (GRC)—Lewis Field and Plum Brook Station

Glenn Safety Manual (GSM)

Laser Safety Committee (BSC)

Laser Safety officer (LSO)

NASA Policy Directive (NPD)

NASA Procedural Requirement (NPR)

Occupational Health Programs Manual (OHPM)

Process Systems Safety Committee (PSSC)

Safety, Health, and Environmental Board (SHEB)

Safety and Health Division SHeD)

Safety and Mission Assurance Directorate (SMAD)