

Document Number: GLP-QS-8715.1-17

Revision: D

Effective Date: 7/17/2024

Expiration Date: 7/17/2029

## Glenn Safety Manual – Chapter 17

# Construction Safety and Health

*Approved by: QS/Chief, Safety and Health Division*

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Cleveland, OH 44135**

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### Change History

Rev.	Effective Date	Expiration Date	GRC25, Change Request #	Description
B	12/19/2012	12/19/2017	13	Bi-annual review/revision
Change 1	4/14/2014	12/19/2017	N/A	Administrative change to add front cover and change history log to comply with NPR 1400.1. Deleted “Authority for the procedures, responsibilities, and requirements in this chapter are derived from the following” and inserted “The GRC shall follow the requirements of the following” in Section 4.0 Policy.
Change 2	9/30/2015	12/19/2017	N/A	Administrative change to remove hyperlinks.
Change 3	6/29/2017	12/19/2018	N/A	Administrative change to extend the expiration date to December 19, 2018, to allow more time to address the chapter revisions; changed document number from GLM-1700.1.25 to GLP-QS-8715.1.25.
Change 4	9/18/2017	12/19/2018	N/A	Administrative change to correct NPR 8719.7: Facility System Safety Guidebook to NASA Standard NASA-STD-8719.7 and NPR 8719.11, Safety Standard for Fire Protection to NASA Standard NASA-STD-8719.11.
C	12/14/2018	12/14/2023	18-018	Five year chapter review and update.
Change 1	5/12/2021	12/14/2023	N/A	Administrative changes to update NPR and Neil A. Armstrong Test Facility
Change 2	12/14/2023	06/14/2024	N/A	Extended expiration date to complete substantive changes per GLPR 1410.1
D	7/17/2024	7/17/2029	6	Administrative change to update Building Managers to Facility Operations Specialist (FOS) and to change SHeTrak to STAR.. Added Section 6.1 Site Specific Health (HASP) Policy Updated HASP review timelines in Responsibility and Requirement sections. Updated flow chart for HASP review process and created a new flow chart for a rush HASP submittal.

*\*\*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.*

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## Chapter 17—Construction Safety and Health

*NOTE: The current version of this chapter is maintained and approved by the Safety and Health Division (SHeD). The last revision date of this chapter was July, 2024. The current version is maintained on the Glenn Research Center (GRC) BMS Library. Approved by Chief of Safety and Health Division.*

### 1.0 PURPOSE

This chapter describes policies and minimal safety and health requirements for all construction activities at the NASA Glenn Research Center (GRC) at Lewis Field (LF) and Neil A. Armstrong Test Facility (GRC-ATF)). Persons engaged in construction activities shall perform work carefully and safely; meet or exceed the minimum safety and health requirements defined herein; and comply with Federal, State, and local codes and standards where required, including NASA Agency and Center policies and procedures.

### 2.0 APPLICABILITY

- a. The responsibilities and requirements in this chapter apply to all GRC civil servant and contractor employees, other Government agency employees, visitors, and other organizations who perform construction activities within the confines of GRC. This chapter also applies to supply contracts for construction services.
- b. In this chapter, all mandatory actions (i.e., requirements) are denoted by statements containing the term “shall.” The term “may” denotes a discretionary privilege or permission, “can” denotes statements of possibility or capability, “should” denotes a good practice and is recommended, but not required, “will” denotes expected outcome, and “are/is” denotes descriptive material.

### 3.0 BACKGROUND

Construction work includes many inherently hazardous tasks and conditions, such as work at height, excavations, exposure to dust and noise, power tools and equipment, confined spaces, and electricity. Construction workers make up about 8 percent of U.S. workers, but 22 percent of the fatalities—the largest number of fatalities reported for any industry sector. The policies set forth in this chapter were developed to help reduce the level of risk for construction workers.

### 4.0 POLICY

This document describes the responsibilities and requirements for construction activities at GRC. Compliance with the responsibilities and requirements of this chapter are measured and verified through the use of programmatic self-assessments, regulatory, and Agency audits and internal field inspections. The contractor shall follow the requirements of the following:

- a. Title 29 Code of Federal Regulations (CFR) 1926: Safety and Health Regulations for Construction
- b. NASA Policy Directive (NPD) 8820.2, Design and Construction of Facilities
- c. NASA Procedural Requirements (NPR) 1800.1, NASA Occupational Health Program Procedures
- d. NPR 8715.1, NASA Safety and Health Programs
- e. NPR 8719.11, Safety Standard for Fire Protection
- f. NPR 8820.2, Facility Project Requirements
- g. ANSI A10 – Construction Safety Series

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## **5.0 RESPONSIBILITIES**

### **5.1 Contracting Officer**

The Contracting Officer shall be responsible for the following:

- a. Enforcing contractor compliance with all Federal, State, and local codes and regulations, and compliance with all NASA Agency and Center policies
- b. Enforcing requirement for qualified personnel to review all proposed NASA-owned, controlled, or operated facility configuration changes and construction work change orders that have a potential to impact fire protection, safety, or health.
- c. Ensuring that contractors submit a site-specific health and safety plan (HASP) and provide a copy to SHED for concurrence; and ensuring that the plan is reviewed and concurred with prior to scheduling contractors to come on site (issuance of Notice to Proceed)
- d. Allow for five business days to review initial HASP submittal and two business days for each resubmittal.
- e. Ensuring that all construction contracts contain appropriate safety clauses; see Appendix D
- f. Coordinating matters regarding proposed safety requirement deviations with the SHED construction technical lead
- g. Establishing safety performance elements to be evaluated in contracts where appropriate.
- h. Consulting with SHED to determine the level of safety professional oversight that shall be required in the construction contract.

### **5.2 Project Manager**

The Project Manager shall be responsible for the following:

- a. Coordinating with SHED development of safety requirements and objectives for efforts to be contracted and advising the Contracting Officer of specific contract performance safety concerns or issues.
- b. Ensuring that the Authority Having Jurisdiction (AHJ) and SHED review all proposed NASA-owned, controlled, or operated facility configuration changes and construction work change orders that have potential life safety, fire protection or safety impacts.
- c. Including a safety representative in inspections and reviews throughout the facility life cycle (i.e., requirements development, planning, design, construction, activation, operation, and disposal).
- d. Ensuring that NASA Procedural Requirements are incorporated in all project designs and implemented.
- e. Developing safety requirements and objectives that are clearly delineated in the specifications; and providing specific tasks to the contracting officer for incorporation in the contract, as required.
- f. Ensuring that all construction contracts contain appropriate safety clauses: see Appendix D
- g. Participating in the final safety inspection of the work prior to contract completion and occupancy by personnel

### **5.3 Contracting Officer's Representative (COR)**

The COR shall be responsible for the following:

- a. Providing oversight for construction activities and ensuring that construction contractors comply with all safety and health requirements.
- b. Participating in the design process

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- c. Ensuring that a preconstruction conference is scheduled, conducted, and that the results are documented.
- d. Conducting regular construction meetings.
- e. Providing SHeD with a copy of each contractor's written, site-specific HASP for acceptance prior to issuance of Notice to Proceed.
- f. Ensuring the projects Statement of Work is provided with the site-specific HASP.
- g. Coordinating with NASA operations personnel all activities involving hazardous work area access, mechanical and electrical equipment shutdowns, and certification or operational testing.
- h. Enlisting the support of SHeD to ensure compliance with the Glenn Hazard Communication Program throughout the performance of the contract.
- i. Coordinating and participating in contractor construction site inspections.
- j. Ensuring that final inspections include a SHeD representative.
- k. Providing, upon request, a copy of the contractor's daily inspection report to SheD.
- l. Ensuring that SHeD reviews proposed significant changes to contracts where facility safety is impacted.
- m. Exercising stop work authority when required.
- n. Provide a list of active construction projects to SHeD on a weekly basis.

#### **5.4 Construction Manager/Construction Inspector (CM/CI), Facilities Division**

The CM/CI technicians provide oversight and verification that the contractor is adhering to the concurred task specific health and safety plan at the construction site, and monitors changes in site conditions to verify compliance with NASA and GRC safety requirements.

#### **5.5 SHeD Construction Technical Team**

The SHeD construction technical team provides construction safety compliance oversight for all construction activities planned or performed including the following:

- a. Participating in onsite visits and pre-bid conferences to ensure that potential bidders understand safety provisions.
- b. Assisting the Contracting Officer in evaluating prospective contractors' performance and safety records
- c. Conducting reviews and providing technical guidance throughout the design process, beginning with project planning and design including preparation of drawings and specifications
- d. Assisting the contracting officer in evaluating performance and safety record
- e. Assisting the Contracting Officer as appropriate to apply any special safety provisions to grants or cooperative agreements.
- f. Providing technical advice on matters involving construction safety
- g. Performing safety, health, and environmental compliance inspections on active construction projects

#### **5.6 Waste Management**

Waste Management is responsible for providing technical guidance and oversight on waste management, recycling, and waste reduction, including preparing waste manifests.

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## 5.7 Authority Having Jurisdiction (AHJ)

The AHJ is responsible for formally monitoring fire protection compliance efforts during the various phases of the projects. Following a review and acceptance of fire/life-safety documentation applicable for a given facility, the AHJ issues each occupancy permit.

## 5.8 Construction Contractors, Subcontractors, Maintenance Contractors, and Prime Contractors

As per NPR 1800.1, NASA Occupational Health Program Procedures, and per NPR 8715.1, NASA Safety and Health Programs, construction contractors, subcontractors, maintenance contractors, and prime contractors engaged in construction activities shall meet or exceed the minimum safety and health requirements and shall comply with all other Federal, State, and local codes and standards where required, including NASA Agency and Center policies and/or procedures to include but are not limited to GLP-QS-1800.1 Glenn Research Center Occupational Health Programs Manual and GLP-QS-8715.1 Glenn Research Center Safety Manual. Where there is any discrepancy in the regulations, the more stringent rule shall apply.

## 5.9 Facility Operation Specialists (FOS)

The FOSs serve as the points of contact between building occupants and outside organizations by:

- Providing pertinent information related to building activities, locations of rooms and personnel, etc. that could affect occupants' work routines.
- For area clearance work, notifying building occupants of outages (electric, construction activities, water, steam, chilled water, sewer, etc.)
- Reporting any construction activities occurring without authorized, site-specific health and safety plans to SHeD.

## 5.10 Office of Protective Services

Office of Protective Services personnel ensure that NASA contractor employees, other Government agency employees, visitors, and other organizations that perform construction activities within the confines of GRC are properly badged.

## 5.11 Chief, Project Management Branch

The Chief, Project Management Branch ensures that project managers comply with policies and procedures outlined in this chapter.

# 6.0 REQUIREMENTS

Construction safety requirements have been established to protect the life, health, and physical well-being of all GRC employees, contractor employees, visitors, and other Government agency employees; to ensure the safety of the public from hazards, incidents, and/or operations from construction activities; to prevent damage of property, supplies, and equipment; and to prevent accidents that might interrupt work, thereby delaying NASA programs and/or negatively affecting NASA property.

## 6.1 Site-Specific HASP Policy

6.1.1 The intent of this Contractor Site-Specific Health and Safety Plan (HASP) Policy is to ensure SHeD has adequate time to review the Contractor's HASP submittal prior to beginning work. It is to also ensure that the HASP submitters understand and comply with the established HASP review timelines and submittal procedures for rush and emergency HASP requests.

6.1.2 The COR or the Contractor shall submit a written site-specific HASP to SHeD for acceptance. SHeD has up to five business days to review the initial HASP submittal and an additional two business days for each resubmittal.

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6.1.3 If the COR or the Contractor need to expedite a HASP review a formal rush HASP request shall be made by the COR to the SHeD Construction Safety Program Lead. The Construction Safety Program Lead will then determine if the HASP meets the criteria of a rush HASP. If the HASP is determined to be a rush, SHeD has up to two business days for review the initial rush HASP review and up to one business day for resubmittals.

*NOTE: Rush requests are defined as requiring urgency due to unforeseen circumstances that may result in an interruption or delay of mission and/or center critical testing operations.*

6.1.4 If there is a need for an emergency HASP submittal, SHeD will work real time with the Contractor or the COR for each situation.

**6.2** *NOTE: Emergency HASPs are defined as Sudden unforeseen situation requiring prompt action to avoid immediate danger to life, health, and property. Construction of Facilities (CoF) Design (NPR 8715.1 and NPR 8820.2)*

6.2.1 Project managers shall include SHeD at the beginning of project planning and design, and through the preparation of drawings and specifications processes.

6.2.2 In addition, the AHJ shall be involved when the project includes fire protection /life safety issues.

6.2.3 The SHeD involvement shall be formally documented at the following two points:

- a. Signatures of the SHeD construction technical lead on the Project Requirements and the Concept Requirement documents.
- b. Responses to SHeD comments and questions.

### **6.3 Site-Specific Health and Safety Plan (HASP) (NPR 8715.1 and NPR8820.2)**

6.3.1 A CoF project design team will not issue a Request for Proposal or an Invitation for Bid without the above referenced documentation. Site-Specific Health and Safety Plan (HASP) (NPR 8715.1 and NPR 8820.2).

#### **6.3.2 Contractor HASP Requirements**

Contractors shall perform the following:

- a. Submit a written site-specific HASP to the COR before any construction work is performed.
- b. The contractor or the COR submit the HASP and accompanying SOW to SHeD for review and acceptance.
- c. If the prime contractor is writing the HASP for a subcontractor, the subcontractor submits documentation to the Prime contractor concurrence with the HASP and ability to comply with all controls and personal protective equipment requirements specified by the prime contractor, on company letterhead.
- d. Keep this documentation at the work site and be made available for review upon request.
- e. The Notice to Proceed shall not be granted unless the HASP has been accepted.

*Note: The preferred HASP Template and the minimum requirements for a HASP are listed in Appendix B. While the requirements listed in Appendix B must be addressed, the template is as example. Strict adherence to this format and style is not mandatory.*

- f. Identify hazardous operations and chemicals related to the work to be performed in the HASP. The plan must also describe methods and procedures that will be used to ensure a safe work environment, and how the contractor intends to protect both the health and safety of GRC and contractor employees, and Government property and equipment.

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- g. Provide current safety data sheets (SDSs) for all hazardous materials and chemicals brought onsite. Hazardous Waste Operations and Emergency Response (29 CFR 1910.120) has specific requirements for HASPs. The HASP content outline in B provides further guidance on the content of site-specific HASP.
- h. Designate a site health and safety officer and/or safety manager who will ensure compliance with contract safety and health requirements for each prime contract.
- i. Include, to the extent specified in the contract, safety responsibilities in subcontracts (All prime contractors shall monitor and document their subcontractors' activities to ensure compliance with all required safety and health regulations.)
- j. Coordinate all operations that involve safe access to hazardous work areas, shutdowns of mechanical and electrical equipment, testing, and interaction between the contractor and NASA operations personnel with the COR.
- k. Provide fire extinguishers and other safety equipment as required, ensure that employees are trained in their proper use, and provide documented proof that employees have been trained upon request.

### **6.3.3 SHed Requirements**

Review, concur, and comment on contractor HASPs within five days for initial submittal; two days for resubmittals; two days for rush requests. Appendix C is a flow chart that illustrates the HASP review and acceptance process.

### **6.3.4 COR Requirements**

The COR, or designee, reviews the contractor-submitted HASP and verifies that it accurately depicts the project scope of work and reviews requested resubmittals to verify that SHed comments have been addressed. The COR shall not issue the Notice to Proceed until the HASP has been concurred by both SHed and the COR.

## **6.4 Hazard Communication (29 CFR 1926)**

### **6.4.1 Contractor Requirements**

Contractors shall ensure that SDSs for each chemical stored at construction sites are located onsite and are available upon request.

### **6.4.2 SHed Requirements**

The SHed shall review and accept proposed chemicals and materials to be brought onsite by contractors and provide contractors with SDS for chemicals and materials owned by NASA at the construction work site.

### **6.4.3 COR Requirements**

The CORs, or designee, shall verify and enforce that chemicals are stored properly by onsite contractors and that the SDS are kept at the construction site.

## **6.5 Occupational Safety and Health Administration (OSHA) Competent Person Verification (29 CFR 1926)**

Contractors shall:

- a. Designate a competent person(s) for each planned operation in compliance with Occupational Safety and Health Administration (OSHA) standards and Environmental Protection Agency (EPA) regulations.
- b. Not erect, move, dismantle, or alter scaffolding except under the supervision of a trained, competent person.

## **6.6 Contractor Training Requirements (29 CFR 1926)**

Contractors are responsible for ensuring that employees meet the following training requirements as required, and to the extent specified in the contract: Developing motivation, awareness, training, and certification programs in safety matters (including regularly scheduled safety meetings for supervisors, foremen, and other employees); documenting safety-related training in accordance with 29 CFR 1926 and other requirements

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- a. Recognizing and avoiding unsafe conditions and practices.
- b. Emergency procedures, including plans, routes, assembly locations, and procedures to summon help utilizing emergency notification telephone numbers and systems hazard communications, blood-borne pathogens, chemical safety, GRC-specific hazards that may be encountered, and the procedures for employees that are required to enter confined and enclosed spaces (see the GRC Safety Manual).
- c. Proper use of fire extinguishers.
- d. Site-specific safety orientation to all new employees.
- e. Site-specific HASP requirements and signing the HASP to document training.
- f. Industry-recognized, competent person, fall protection training for employees who work at 6 feet heights or greater.

## **6.7 Inspection (NPR 8715.1 and NPD 8820.2)**

6.7.1 The contractor shall provide access to:

- a. Contractor activities and/or operations to the Contracting Officer, SHeD, Headquarters review teams, Federal compliance safety and health officers, and EPA compliance officers.
- b. SHeD and the COR for announced and unannounced reviews of contractor operations.

### **6.7.2 Contractor Inspections**

Except for maintenance projects that last one day or less, the contractor shall:

- a. Conduct and document daily safety inspections of the job site to ensure that the site and work practices are safe and done in accordance with the contractor's site-specific HASP.
- b. Maintain documentation at the job site.
- c. Close all self- and GRC-generated inspection findings in a timely manner.

6.7.3 The SHeD shall:

- a. Conduct frequent inspections of construction sites to verify site safety and compliance with applicable regulations.
- b. Document and disseminate inspections in the System for Tracking Audits/Assessments and Reviews (STAR) database.

### **6.7.4 COR and/or CM/CI Technician Inspections**

The COR and/or CM/CI technician shall conduct and document frequent inspections to verify safety and compliance with applicable regulations and verify that contractors' close findings in the STAR system in a timely manner.

## **6.8 Emergency Response Procedures**

### **6.8.1 Lewis Field**

- a. In the event of fires, explosions, chemical spills, illness, injuries, and other emergencies, dial 911 from any internal telephone. A LF dispatcher will answer your call and dispatch the appropriate personnel and/or equipment. If you do not have access to an internal telephone, call (216) 433-8888 from a cell or other external phone.
- b. If an emergency occurs, be prepared to relay the following information to the dispatcher:
  - (1) Location of the emergency
  - (2) Nature of the emergency (fire, medical, chemical, etc.)
  - (3) Number of persons injured

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- c. Remain on the line with the dispatcher until he or she releases you.
- d. For non-emergency response, dial (216) 433-2088.

#### 6.8.2 Neil A. Armstrong Test Facility

- a. In the event of fires, explosions, chemical spills, illness, injuries, and other emergencies, dial 911 from any internal telephone. A GRC-ATF dispatcher will answer your call and dispatch the appropriate personnel and/or equipment. If you do not have access to an internal telephone, call (419) 621-3222 from a cell or other external phone.
- b. If an emergency occurs, be prepared to relay the following information to the GRC-ATF dispatcher:
  - (1) Location of the emergency
  - (2) Nature of the emergency (fire, medical, chemical, etc.)
  - (3) Number of persons injured
- c. Remain on the line with the dispatcher until you are released.
- d. For non-emergency response, dial 4-3226 or (419) 621-3226

### 6.9 Mishap Investigation (*NPR 8621.1*)

#### 6.9.1 The contractor shall:

- a. Report all accidents including near misses to the COR and SheD.
- b. Report all incidents via the NASA Mishap Information System (NMIS) at <https://nmis.sma.nasa.gov/> and initiate an investigation within 24 hours.

6.9.2 A Mishap is an unplanned event caused by GRC operations or GRC-funded development and research projects that result in at least one of the following:

- a. Injury to non-NASA personnel.
- b. Damage to public, private, or foreign property.
- c. Occupational injury or illness to NASA personnel.
- d. NASA mission failure prior to scheduled completion of the planned primary mission.
- e. Destruction of, or damage to, NASA property, except for a malfunction or failure of component parts or systems that fail before their fixed useful life has been met, provided the following are true: (1) preventative maintenance was adequate and (2) the sole action is to replace or repair the component.

6.9.3 A Close Call is an event that has a potential to cause a mishap, results in no injury or minor injury requiring first aid only, and less than \$20,000 in equipment and property damage.

6.9.4 Report safety data on mishaps, close calls, and lessons learned as required by the contract, in NPR 8621.1, NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Recordkeeping, and in accordance with GRC and OSHA requirements. Contractor mishap investigations will be conducted in accordance with procedures as specified in the contractor's safety plan. NASA may conduct an independent mishap investigation based on the severity and requirements in NPR 8621.1. The Contracting Officer or the COR will evaluate and verify implementation of corrective actions.

### 6.10 Signs, Signals and Barricades (*29 CFR 1926*)

The contractor shall:

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- a. Ensure that all construction signs are clearly displayed while construction is underway and contain company name, subcontractor names, and contractor emergency contacts.
- b. Remove signs promptly when the project is completed. (Green construction signs shall contain the company name, subcontractor name, and the NASA COR with phone number).
- c. Ensure that all construction sites are barricaded as required in Glenn Safety Manual, Chapter 16, Regulatory Permit Requirements.

## **6.11 Final Inspection (NPR 8715.1)**

6.11.1 Inspections including operational readiness, operational readiness review, test readiness review, pre-final, and final inspections shall include a safety and/or health representative.

6.11.2 All safety and health issues will be documented, resolved, or adequately controlled prior to acceptance, activation, and operation.

## **7.0 RECORDS**

The following records are generated:

- d. SHED inspection documentation in the STAR database.

List all records/documents/forms created to carry out the requirements of the GLPD. Identify the responsible person.

## **8.0 REFERENCES**

<b>Document number</b>	<b>Document name</b>
ANSI A 10	Construction Safety Services
29 CFR 1926	Safety and Health Regulations for Construction
NPD 8820.2	Design and Construction of Facilities
NPR 1800.1	NASA Occupational Health Program Procedures
NPR 8621.1	NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping
NPR 8715.1	NASA Safety and Health Programs
NPR 8820.2	Facility Project Requirements
NASA-STD-8719.11	Safety Standard for Fire Protection

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## APPENDIX A—DEFINITIONS

**Authority Having Jurisdiction.** Individual(s) at GRC responsible for implementing the fire safety provisions of NPR 8715.3, and having the authority to approve and/or concur with associated installations, procedures, and equipment. The AHJ is appointed by the Center Director.

**Construction.** Any activity that results in new buildings, structures, and facilities, or modifications to existing buildings, structures, and facilities, such as alterations and repairs; routine institutional maintenance; work on utility systems, process piping, facility equipment, and research hardware; painting or decorating

**Contracting Officer.** Authorized representative for administering contracts

**Contracting Officer's Technical Representative.** Individual designated by the contracting officer to act as his or her authorized representative in administering a contract

**Hot work.** Any operation requiring the use of a flame-producing device, an electrically heated tool, or a mechanical tool that can produce sparks or heat to provide an initiation stimulus (see Chapter 16 the of the Glenn Safety Manual, Regulatory Permit Requirements)

**Site-specific HASP.** A plan developed to identify and ameliorate safety and health hazards at a specific location such as a construction site; the plan describes hazards that are likely to be encountered and develops procedures to either eliminate or control the hazards (see attached sample template).

**Work stoppage authority.** Authority to immediately stop all work being performed at a job site; usually invoked when a situation of imminent danger exists that could result in serious injury to workers and/or personnel.

## APPENDIX B

### APPENDIX B—MINIMUM CONTENT FOR SITE-SPECIFIC HEALTH AND SAFETY PLANS

The following are the minimum requirements for a Site Specific Health and Safety Plan (HASP). Each plan shall be job specific and shall also address any unusual or unique aspects of the project or activity for which it is written. The HASP shall reflect the employer's corporate safety and health program.

1. Signature Sheet. Title, signature and phone number of the following:
  - a. Plan Preparer
  - b. NASA Representative: Review HASP to verify that scope of work is complete.
  - c. NASA Safety and Health Designee: Review document for compliance with OSHA. Review for impacts on adjacent NASA occupants.
2. Contractor Information
  - a. Prime Contractor
  - b. Contract or task number
  - c. Project Name
  - d. Accurate project description and location
3. Statement of Safety and Health Policy. Provide a copy of the current corporate/company Safety and Health Policy statement.
4. Responsibilities and lines of Authorities
  - a. Identification and accountability of personnel responsible for safety.
  - b. Competent persons
5. Subcontractors. Provide the following:
  - a. Identification of subcontractors
6. Training (Records available upon request)
  - a. List mandatory training and certificates that are applicable to this project (ex. Confined space, crane operator, respiratory protection, etc.) and any requirements for periodic retraining/recertification.
7. Safety and Health Inspections. Provide details on the following (Records available upon request):
  - a. Who will conduct safety inspections (ex. Project Manager, safety professional, supervisors), inspector's training/qualifications, frequency of inspections, process to record inspections, deficiency tracking system, follow-up procedures, etc.
  - b. Any external inspection/certifications that may be required.
8. Plans, Programs and Procedures
  - a. Emergency Response Plans
    - i. Procedures and posting of emergency phone numbers
  - b. Spill plans
  - c. Hazard Communication Program. Provide location of SDS', records of employee training and inventory of hazardous materials (including approximate quantities and a site map) that will be brought onto Government property by Contractor and subcontractors.
9. Hazards Analysis and Controls
  - a. Listing of hazards identified for the task(s)

**NOTE: A template for a HASP is included below. This is to offer the contractor a starting block of what GRC safety will require inputted for review. It is not a complete document covering all safety requirements that should be addressed in all circumstances.**

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**GRC**

## Site Specific Health and Safety Plan

**Contractor Name:**

**Project Name:**

**Work Location:**

**Lewis Field** ☐

**ATF** ☐

**Start Date:** Click or tap to enter a date.

**Date Submitted:**

**Prepared By:**

**Phone:**

**INTRODUCTION:** The purpose of this HASP is to set forth, in an orderly and logical fashion, appropriate health and safety procedures to be followed during onsite construction activities at the Glenn Research Center. During the performance of the task to be performed, this HASP identifies potential hazards which **COMPANY NAME** personnel may be exposed to. **COMPANY NAME** personnel shall not participate in this Task without having read this plan in its entirety. This plan has been developed to be as complete as possible, however, should conditions dictate revisions or additions to this plan, amendments shall be drafted, added, and distributed to all persons involved with this plan. This plan works in concert with the **COMPANY NAME** Corporate "Safety and Health Plan", the GRC Safety Manual, the GRC Occupational Health Manual, the GRC Environmental Programs Manual, OSHA standards CFR 1926, Environmental Protection Agency regulations, National Fire Protection Association Codes, and any other applicable codes stated in the NASA contract. It shall be the prime contractor's responsibility to ensure that all of its subcontractors comply with the provisions set forth in this plan.

A. DESCRIPTION OF WORK
<i>Brief description of project</i>

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## IN CASE OF AN EMERGENCY

### CALL 911 on a NASA Phone\*

**From a PAYPHONE or cell phone, dial (216) 433-8888. (Lewis Field)**

**From a PAYPHONE or cell phone, dial (419) 621-3222. (ATF)**

**\*Dialing 911 from the NASA GRC phone system will connect to NASA emergency assistance.**

### Lewis Field EMERGENCY CONTACTS

<u>Emergency</u>	<u>Responder</u>	<u>Location</u>	<u>Phone</u>
Fire:	Lewis Field Dispatch	Building 14	911
Police:	Lewis Field Security	Building 14	911
Ambulance:	Lewis Field Dispatch	Building 14	911
Hospital:	Southwest General Hospital	18697 Bagley Rd.	(440) 816-8888

**Directions to Hospital:** Brookpark Road east to Grayton Road, north to I-480, east to I-71, south to Bagley Road, right on Bagley Road

### ATF EMERGENCY CONTACTS

<u>Emergency</u>	<u>Responder</u>	<u>Location</u>	<u>Phone</u>
Fire	NASA ATF Dispatch	Building 7235	911
Police	NASA ATF Security	Building 7235	911
Ambulance	NASA ATF Dispatch	Building 7235	911
Hospital	Firelands Regional Medical Center	1101 Decatur St.	(419) 557-7455

**Directions to Hospital:** Main Gate to Taylor Rd., left from Taylor Rd. to North on Columbus Ave. to Left onto Perkins Ave., and then Right (North) on Hayes Ave. to Decatur St., Left on Decatur St., Hospital on Left.

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### DAYS ONLY

Field Contractor's Contact:

Telephone:

NASA's Representative

Telephone:

**COMPANY NAME** Representative:

Telephone:

**COMPANY NAME** Safety Representative:

Telephone:

### NASA NON-EMERGENCY CONTACTS

Lewis Field Dispatch:

(216) 433-8888

ATF Dispatch:

(419) 621-3226

Safety and Health Division:

(216) 433-6407

**On Site phone dial 7 to obtain an outside line.**

### Muster Location

<b>B. SUBCONTRACTOR(S)</b>	
<i>List all subcontractors working on this task and the activities they will perform</i>	
Subcontractor Company Name	Activities Performing in Task

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## E. POTENTIAL HAZARDS

*Identify those hazards that relate to the work activities noted above. Use numbers next to the hazard and correspond with the PROPOSED CONTROLS table below.*

___ Chemicals or flammables	___ Eye, face, or Head Hazards (PPE)	___ Egress
___ Scaffolding	___ Hand/Power Tools	___ Road Blockage
___ Traffic Control	___ Falls (Heights > 4') <input type="checkbox"/> C-979 Fall Prevention Plan	___ Utility Service Interruption (Area Clearance Required)
___ Spills or Leaks	___ Falls (Heights > 6') <input type="checkbox"/> C-979 Fall Prevention Plan	___ High Pressure Systems
___ Ladders	___ Respiratory Hazards	___ Hot Work (Permit Required) <input type="checkbox"/> C-7 Hot Works Permit
___ Barricading <input type="checkbox"/> C-136 Barricading Request	___ Excavation <input type="checkbox"/> C-927 Excavation Permit	___ Cryogenic Spills or Burns
___ Hazardous Energy (LO/TO Required)	___ Radiation (Contact Health Physics @ 3-6520)	___ Confined Space Entry <input type="checkbox"/> C-199 Confined Space Permit
___ Demolition	___ Noise	___ Special Hazards – ACM, LCM, Cadmium, Mercury
___ Rigging/Cranes <input type="checkbox"/> C-185 Temporary Crane Request	___ Biological	___ Other Stainless-Steel Welding, carbon steel welding.
___ Aerial/Scissor Lifts <input type="checkbox"/> C-979 Fall Prevention Plan	___ Mobile Equipment	___ Thermal Stress – Temperatures above 80° or below 25° F

## F. PROPOSED CONTROLS

*Work practices, personal protective equipment, training, and/or emergency procedures that will be used to ensure the safety of workers, and on-site personnel, against the hazards identified above.*

[illegible]

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### G. COMPETENT PERSONS

*Identify the Field Contractor's Competent Person(s) responsible for oversight of the particular hazards identified above. The Competent Person is required to conduct daily, documented site inspections.*

Field Contractor Company Name	Competent Person Name	Field Contact Number

### H. SUPPORT DOCUMENTATION

*Provide as needed. Ensure all checked items below are signed, approved, and placed on jobsite. To check a box, Double Click the box and select "Checked" under Default Value on the popup window.*

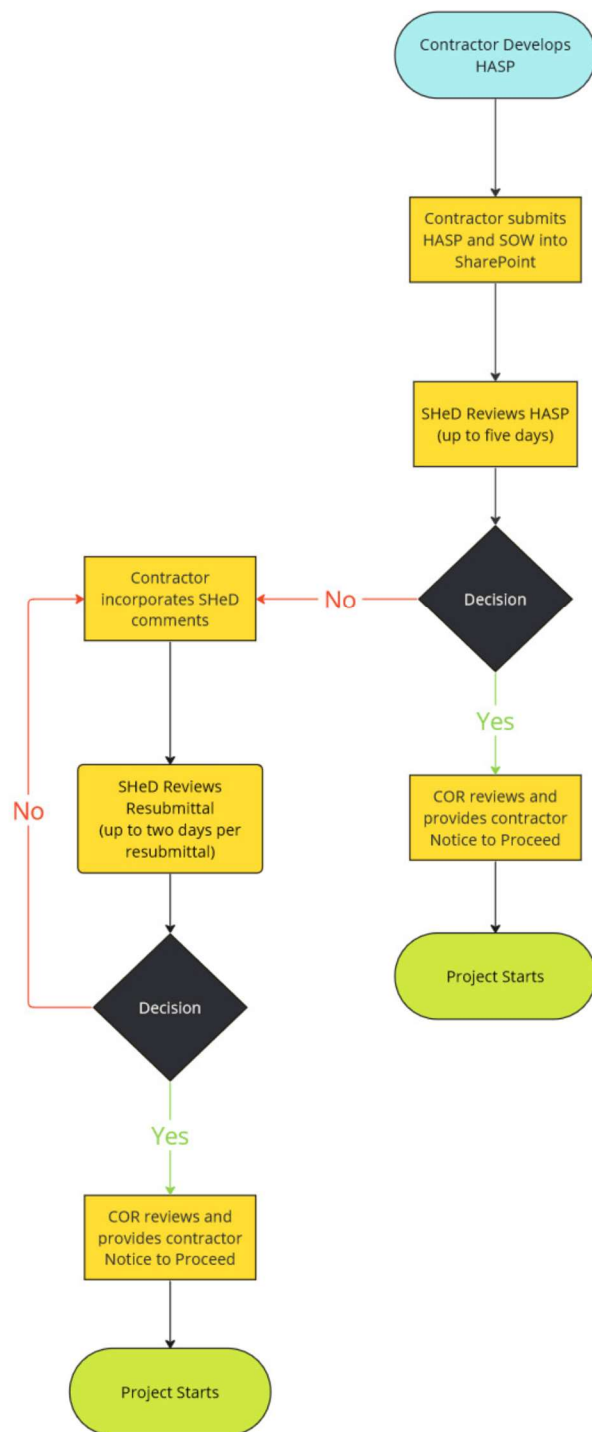
#### **Check all that apply and attach to approved HASP:**

Attach SDSs (Not old MSDS forms)

- ☐ C-787 LO/TO Form
- ☐ C-979 Fall Prevention Form
- ☐ C-199 Confined Space Permit
- ☐ C-7 Hot Work Permit
- ☐ C-927 Excavation Permit
- ☐ C-260a Waste Removal Form
- ☐ C-136 Barricading Request
- ☐ Support Drawings
- ☐ Other: \_\_\_\_\_

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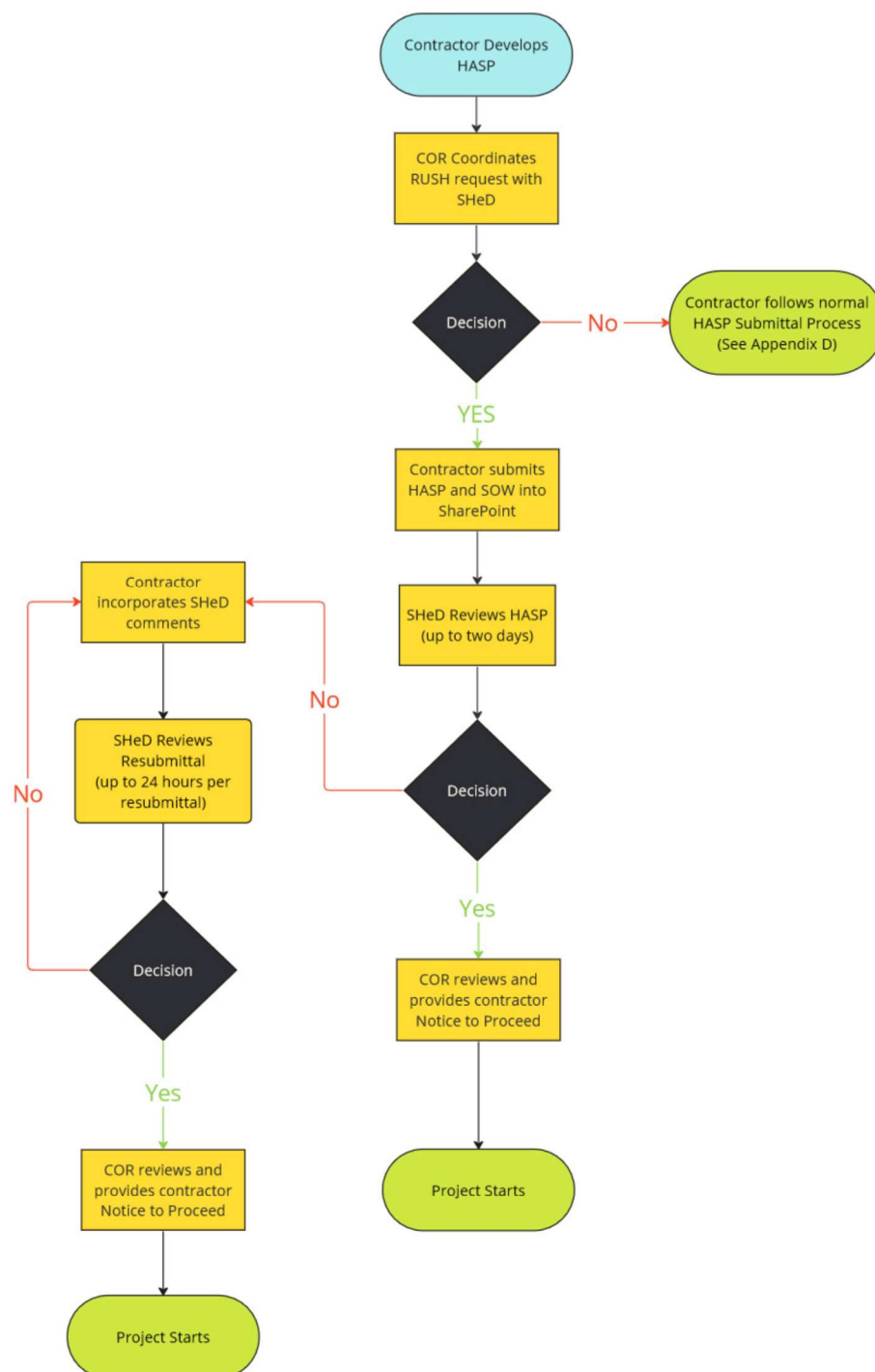
## APPENDIX C. HEALTH AND SAFETY PLAN (HASP) SUBMITTAL PROCESS FLOWCHART



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## APPENDIX D. HEALTH AND SAFETY PLAN (HASP) RUSH SUBMITTAL PROCESS FLOWCHART



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## Appendix E. Acronyms

AHJ	Authority Having Jurisdiction
ANSI	American National Standards Institute
CFR	Code of Federal Regulations
CM/CI	Construction Management/Construction Inspector
CoF	Construction of Facilities
COR	Contracting Officer's Representative
EPA	Environmental Protection Agency
GRC	Glenn Research Center
GRC-ATF	Glenn Research Center Neil A. Armstrong Facility
HASP	Health and Safety Plan
NMIS	NASA Mishap Information System
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
OSHA	Occupational Safety and Health Administration
Shed	Safety and Health Division
STAR	System for Tracking Audits/Assessments and Reviews

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