



## Procedures and Guidelines

**DIRECTIVE NO.** 800-PG-8715.0.4

**EFFECTIVE DATE:** June 12, 2006

**EXPIRATION DATE:** June 12, 2011

**APPROVED BY Signature:** Original Signed by

**NAME:** John H. Campbell

**TITLE:** Director of Suborbital and Special Orbital Projects

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### COMPLIANCE IS MANDATORY

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**Responsible Office:** Code 803/Safety Office

**Title:** Certification Procedures for Operations Safety Supervisor at Wallops Flight Facility (WFF)

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## PREFACE

### P.1 PURPOSE

Operations conducted at Goddard Space Flight Center's WFF that involve handling of ordnance devices, pressure systems, chemical systems, lifting devices, and cryogenics require supervision by a certified Operations Safety Supervisor (OSS). These devices and systems are hazardous if handled improperly. This procedure outlines the requirements and process used to certify personnel to supervise hazardous operations in support of projects managed by, or conducted with Code 800 resources.

### P.2 APPLICABILITY

This procedure is applicable to all personnel required to supervise hazardous operations in execution of their work duties at WFF or at off-site locations while supporting the Code 800's Suborbital and Special Orbital Projects Directorate's (SSOPD) programs, projects, missions, and reimbursable activities.

### P.3 AUTHORITY

NPR 8715.3, NASA Safety Manual  
GPD 8715.1, Goddard Space Flight Center Safety Policy

### P.4 REFERENCES

Range Safety Manual (RSM-2002) for GSFC/WFF  
803-FORM-0002, Request for Operations Safety Supervisor Certification

### P.5 CANCELLATION

N/A

### P.6 SAFETY

See Procedures Section

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## P.7 TRAINING

The OSS shall be properly trained in hazardous operations safety practices. WFF or Agency training on ordnance handling, lifting devices, pressure systems, chemical safety, laser safety, cryogenics, lock out/tag out, confined space, and electrostatic discharge is required.

The WFF Safety Office also conducts an Operations Safety Supervisors training and certification class.

Non WFF personnel supervising hazardous operations shall take the OSS class or provide satisfactory evidence of the required skills and knowledge.

## P.8 RECORDS

<b>Record Title</b>	<b>Record Custodian</b>	<b>Retention</b>
Request for Operations Safety Supervisor Certification (803-FORM-0002)	WFF Safety Office	NRRS 3/33 H1 Destroy on transfer or separation of employee, or when 5 years old, whichever is sooner.
Applicant's supervision of operations data and exam test results	WFF Safety Office	NRRS 3/33 H1
90-day Certification Renewal Notice	WFF Safety Office	NRRS 3/33 H1

\* *NRRS – NASA Records Retention Schedule ([NPR 1441.1](#))*

## P.9 METRICS

N/A

## P.10 DEFINITIONS

N/A

## PROCEDURES

In this document, a requirement is identified by “shall,” a good practice by “should,” permission by “may” or “can,” expectation by “will,” and descriptive material by “is.”

The Ground Safety Group (GSG) shall be responsible for technical direction of the OSS certification process (including approval of OSS certification training programs) and for recommending certification of applicants to the Chief, Safety Office. The GSG shall evaluate and approve/reject applicants applying for OSS certification.

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The Chief, Safety Office, shall be responsible for certifying applicants based on GSG recommendations and other OSS knowledge that he/she may possess.

The immediate supervisor of the applicant shall be responsible for certifying the accuracy of the data provided in the application for the OSS certification.

The WFF Safety Office shall be responsible for maintaining records for each individual certified to supervise hazardous operations. The WFF Safety Office shall also be responsible for advising the supervisor of the OSS when certification is about to expire with a 90, 60 and 30 day certification renewal notice.

### **1. Certification Categories:**

OSS certification shall include, as a minimum, a WFF GSG approved formal training program and/or a demonstration of the applicant's proficiency in supervising hazardous operations in a safe and reliable manner. GSG certification levels are:

- a. **Category I – Sounding Rockets**  
The Category I OSS shall have a minimum of three years' varied experience in both launch vehicle and payload systems involving sounding rockets. The OSS shall be familiar with the processes involved in hazardous operations. These operations include launch vehicle support consisting of performing operational flight project-related checkout and tests of flight systems during payload integration, testing, and launch activities for systems such as rocket motor ignitions, launch vehicle guidance, payload separation, thrust termination, and payload recovery.
- b. **Category II – Balloons**  
The Category II OSS shall be restricted to specific operations and/or systems dealing with balloons. They shall be fully knowledgeable in balloon systems, balloon related technologies, methods, and procedures. The OSS shall provide supervision of support to the balloon research and development efforts aimed at providing an understanding of the performance, limitations, and failure mechanisms of balloons.
- c. **Category III – Unmanned Aerial Vehicle (UAV)**  
The Category III OSS shall be restricted to specific operations and/or systems dealing with UAVs. They shall be knowledgeable on engines, airframe, maintenance, destruction sequence, launch, landing, and contingencies for UAVs. These specific operations will be defined on the authorized certification.

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d. Category IV - Suborbital/Orbital

The Category IV OSS shall be restricted to specific operations and/or systems for suborbital and orbital missions. Certified personnel shall be familiar with related technologies, procedures, processes, and methods specific for suborbital/orbital projects.

e. Category V – Navy

Category V personnel shall be restricted to operations and/or systems which are specific to the Navy such as BQMs or Navy drones. Personnel shall be knowledgeable in related technologies, procedures and methods specific to Navy hazardous operations as well as Navy documentation.

f. Category VI – Other Operations

The Category VI OSS shall be restricted to specific operations and/or systems for projects, which do not fall in Categories I through V. This certification will specify the project including the sponsor. The OSS shall be knowledgeable in related technologies and methods specific to the project.

1.2 The OSS shall be certified in one or more of the following six subcategories:

a. Subcategory A – Ordnance

The OSS shall establish, issue, and implement appropriate regulations, technical standards, and instructions that relate to supervision over specific ordnance operations. This includes the preparation, assembly, loading, testing, storing, handling, shipping, use, and maintenance of ordnance and pyrotechnics. The OSS shall possess knowledge of ordnance handling. As a minimum, they shall attend ordnance awareness class.

b. Subcategory B – Pressure

The OSS shall make personnel aware of the hazards presented to personnel, equipment, facilities, the public, or the environment because of inadequately designed or improperly operated pressure and vacuum systems. These include blast effects, shrapnel, fluid jets, and release of toxic or asphyxiate materials.

c. Subcategory C – Chemical

The OSS shall play a key role in chemical safety by developing and communicating safe work practices to be implemented by workers involved in chemical operations. They shall participate in developing institutional responses to external audits and provide technical review and input on proposed documentation related to chemical safety. The OSS shall possess adequate knowledge of particular chemicals (including Material Safety Data Sheets (MSDS) involved in hazardous operations.

d. Subcategory D – Lifting

The OSS shall be responsible for ensuring proper maintenance and operation of crane and lifting devices under their authority. They shall be responsible for ensuring operators and riggers have the proper training and documentation required to operate the equipment. The OSS shall possess knowledge of crane/lifting device operations. As a minimum, they shall attend lifting devices and equipment operation class.

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- e. Subcategory E – Cryogenics  
The OSS shall ensure that personnel handling cryogenics and those working nearby who may be affected by a spill or emergency are trained in safe operating techniques, emergency procedures, and the use of personal protective equipment, including respiratory protective devices.
- f. Subcategory F – Mechanical  
The OSS shall ensure that personnel handling spring loaded or other mechanically attenuated devices as well as those working nearby who may be affected by a release of potential energy are trained in safe operating techniques, emergency procedures, and the use of personal protective equipment.
- g. Subcategory G – Other Operations  
The OSS shall be responsible for ensuring specific processes, procedures and certifications are present for hazardous operations which are not included in subcategories A through F and specific to special operations.

## **2. Certification Requirements:**

To obtain OSS certification, all personnel shall:

- a. Possess a qualifying WFF badge with “SPEC HAZ” or “ALL HAZ” designation.
- b. Provide a justification why an OSS certification to supervise hazardous operations is needed in the execution of their job duties.
- c. Submit the Request for Operations Safety Supervisor Certification form (803-FORM-0002).
- d. Be properly trained in hazardous operations safety practices. The GSG shall approve and/or conduct safety training courses for new OSSs. The OSS class shall cover the following areas:
  - Roles and responsibilities of an OSS
  - Familiarization of procedures to safely supervise hazardous operations
  - Familiarization of procedures in the Range Safety Manual (RSM-2002)
- e. The GSG shall ensure that an oral exam covering the course items is conducted. Seventy percent correct is considered passing.
- f. Demonstrate through on-the-job training, direct experience, or by classroom demonstrations that they are proficient in OSS techniques. For personnel requesting recertification, direct OSS experience or refresher training shall occur within 6 months prior to request.

## **3. Certification Period:**

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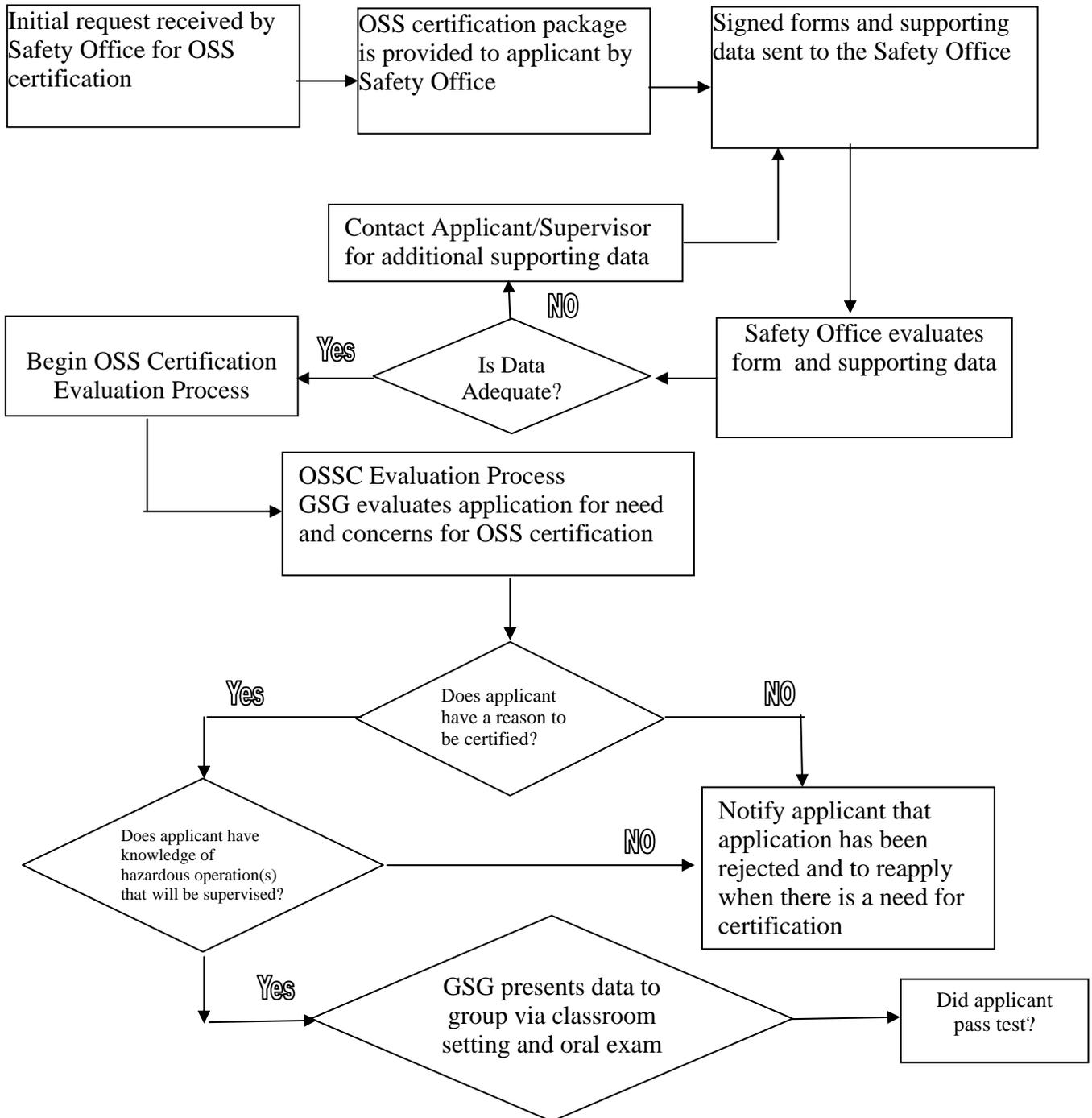
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- a. The OSS certification is valid for a period of 3 years from the date of certification.
- b. For personnel requesting recertification, direct OSS experience or NASA approved certification and training should have occurred within 6 months prior to the request.
- c. There is a remediation plan for those that do not achieve the 70% efficiency. The plan for remediation includes obtaining knowledge and experience with hazardous operations for a 6 to 12 month period at which time the candidate should resubmit their application

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**FLOW DIAGRAM OF CERTIFICATION PROCESS**

The following flow diagram depicts the process employed by the GSG to evaluate and certify personnel as OSS:



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### CHANGE HISTORY LOG

<b>Revision</b>	<b>Effective Date</b>	<b>Description of Changes</b>
Baseline	June 12, 2006	Initial Release

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