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**John C. Stennis Space Center**  
**Health Physics Program**  
**(Ionizing and Nonionizing Radiation)**

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	<i>Number</i>	<i>Rev.</i>
	Effective Date: August 15, 2019	
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Responsible Office: RA02/Center Operations Directorate		
SUBJECT: SSC Health Physics Program		

### Approval/Concurrence

*Signature on File*

August 15, 2019

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Date

### Document History Log

Revision	Change Date	Originator/Phone	Description
Basic	02/01/2008	John Lindsay x82557	Initial release
Rev. 1	08/01/2009	John Lindsay x82557	5.1 – Added STOP WORK authority for RSC, and requirement to report all significant changes to permits, licenses, inventories, or programs to the RSC.
Rev. 2	01/24/2014	John Lindsay x82557	Completely revised the document to reflect NPR 1800.1. Detailed information for ionizing and nonionizing radiation is included in two separate SCWIs. They are SCWI 8700-0004 and SCWI 8700-0005 respectively.
Rev.3	10/30/2015	John Lindsay x82557	Updated Training Requirements; added emergency contact information; added Use Authorization Form information, added disposal and clearance requirements; and added SSC Reproductive and Developmental Health information.
Rev.4	04/12/2016	K. Wright, x 8-3263	Replaced FOISC with SOC throughout the document
Rev. 5	8/15/2019	M. Pannell 8-2555	Clarify programmatic requirements.

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## 1.0 PURPOSE

This Work Instruction sets forth requirements for the Stennis Space Center (SSC) Health Physics Programs (ionizing and nonionizing radiation). The Ionizing Radiation Program is described in SCWI 8700-0004 and the Nonionizing Radiation Program is described in SCWI 8700-0005. The Programs are designed to maintain and preserve the health of the workforce by eliminating unnecessary and accidental exposures and minimizing necessary exposures to radiation.

Personnel exposures shall be kept As Low As Reasonably Achievable (ALARA). The Program's objectives shall be achieved by the use of strict management controls, safe operating procedures, appropriate equipment, a comprehensive maintenance and surveillance program, adequate shielding, and limiting personnel exposure.

The SSC Health Physics Program functions through the NASA Health Physics Program Manager (HPPM) and the Stennis Operating Contract (SOC) Health Physicist.

## 2.0 APPLICABILITY

This Work Instruction is directly applicable to all NASA/SSC organizations including civil service and support contractors and is applicable to other NASA tenants of the John C. Stennis Space Center to the extent formal agreement is reached between NASA and the tenant.

## 3.0 REFERENCES

- a. NASA Procedural Requirement, NPR 1800.1 NASA Occupational Health Program Procedures
- b. SCWI 8700-0004, Ionizing Radiation Program
- c. SCWI 8700-0005, Nonionizing Radiation Program

## 4.0 RESPONSIBILITIES

### 4.1 NASA Health Physics Program Manager (HPPM):

The NASA Health Physics Program Manager (HPPM) is responsible for:

- a. Providing oversight of the SOC Health Physicist;
- b. The overall responsibility of this Instruction;
- c. Approving/disapproving Radiation Source Purchase Requests (SSC Form 889); and

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d. Approving/disapproving Radiation Source Use Authorizations (SSC Form 918)

The NASA Health Physics Program Manager has Stop Work Authority over all Health Physics activities at Stennis Space Center (SSC).

#### **4.2 SOC Health Physicist (HP)**

The SOC Health Physicist is responsible for administering this Work Instruction in accordance with applicable directives and regulations.

4.2.1 The SOC Health Physicist (HP) shall:

a. Complete annual audits to determine the effectiveness of the Health Physics Programs (Ionizing and Nonionizing Radiation);

b. Provide oversight for Area Radiation Safety Officers (ARSOs), Area Laser Safety Officers (ALSOs), and custodian/supervisors;

c. Conduct radiological assessments of the SSC tenant organizations dependent upon the risk as determined by the Health Physics Committee, but at least annually;

d. Review each contractor's training material;

e. Provide a copy of all licenses/permits and user qualifications to the HPPM;

f. Recommend Approval/disapproval of Radiation Source Purchase Requests (SSC Form 889); and

g. Recommend Approval/disapproval of Radiation Source Use Authorizations (SSC Form 918)

The SOC HP has Stop Work Authority over all Health Physics activities at Stennis Space Center (SSC).

#### **4.3 Area Radiation Safety Officer (ARSO) – Ionizing Radiation**

Each Area Radiation Safety Officer is responsible for the implementation of this Work Instruction and SCWI-8700-0004 (Ionizing Radiation Program) in accordance with their licenses, registrations, permits, and procedures.

#### **4.4 Area Laser Safety Officer (ALSO) – Nonionizing Radiation Lasers**

Each Area Laser Safety Officer (ALSO) is responsible for the implementation of this Work Instruction and SCWI-8700-0005 in accordance with their licenses, permits, and procedures.

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#### **4.5 Custodian/Supervisor – Nonionizing Radiation UV and Radiofrequency/Microwave**

Each custodian/supervisor is responsible for implementation of this Work Instruction and SCWI-8700-0005 in accordance with their licenses, permits, and procedures.

#### **4.6 Employees**

Each employee/worker is responsible for satisfying training requirements in addition to working in a safe manner in accordance to this Work Instruction.

#### **4.7 Users of Generally-Licensed Devices**

Each user of a generally-licensed device (e.g. smoke detectors) is responsible for following the manufacturer's instructions and requirements established for the general license and for following applicable procedures for the device. Potential risks associated with generally-licensed devices shall be discussed annually in a Health Physic Meeting and also shall be identified as an annual topic for the weekly safety topic published by SOC Safety personnel.

#### **4.8 SSC Medical Clinic**

SSC Occupational Medicine Clinic personnel are responsible for providing medical surveillance and post-exposure evaluation, as well as follow-up actions, in accordance with NASA Procedural Requirements (NPR) 1800.1 and this Work Instruction. Records from such examinations/evaluations are to be retained for at least 30 years. Results of the examinations are to be discussed with employees as deemed necessary.

#### **4.9 Health Physics Committee**

At least one representative from each residential and contracting agency who has at least one ionizing and/or nonionizing source shall be a member of the Health Physics Committee.

##### **4.9.1 The Committee shall:**

- a. Meet quarterly
- b. Identify concerns and determine how to eliminate or minimize them;
- c. Communicate any lessons learned and corrective actions implemented during the previous quarter; and
- d. Provide notification of any upcoming initiatives or operations that affect the SSC Health Physics Program.

### **5.0 REQUIREMENTS**

#### **5.1 General Requirements**

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5.1.1 Medical examinations shall be conducted in accordance with the requirements established in NPR 1800.1D, Appendix C.

5.1.2 A comprehensive inventory of all hazardous ionizing and nonionizing sources shall be maintained and periodically verified. Each Area RSO and LSO shall conduct the inventory and submit them to the SOC HP quarterly.

5.1.3 The Use Authorization Approval Process, based on hazard analyses, shall be implemented prior to the authorization of any source of hazardous ionizing and nonionizing radiation.

5.1.4 Work activities shall be conducted in accordance with applicable licenses and permits.

5.1.5 To the maximum extent practical, hazards to personnel shall be eliminated by engineering design.

5.1.6 Exposures to ionizing and nonionizing radiation in excess of the applicable regulatory limits shall be reported to the HPPM, the SOC HP, and appropriate regulatory authorities.

5.1.7 Written operating, maintenance, service, and emergency procedures shall be provided and maintained with the ionizing or nonionizing radiation source for easily accessible reference. These procedures shall be commensurate with the hazards, activity, and the education, training, and skills of the individuals who are exposed to the hazards.

5.1.8 Records shall be maintained to document compliance with Chapter 4 of NPR 1800.1, applicable regulations and standards, and with the provisions of Center radiation protection programs. Unless otherwise specified in Chapter 4 of NPR 1800.1, records shall be retained until final disposition is authorized by NASA per NPR 1441.1D, NASA Record Retention Schedules.

5.1.9 Prior to ceasing activities associated with ionizing and nonionizing radiation, the user organization shall notify the SOC HP and the HPPM to coordinate final clearance of the facilities.

5.1.10 Licensed, registered, and permitted radioactive material and radiation-generating equipment shall remain in the possession of the licensee until the material or equipment is disposed of, transferred, or sold in accordance with the requirements of Title 15: Mississippi State Department of Health, Part 21: Division of Radiological Health, Subpart 78: Radiological Health, Chapter 1 (Regulations for Control of Radiation in Mississippi) or licensee's regulating authority.

5.1.11 In the event of an emergency, SSC emergency personnel shall be contacted immediately. Call 911 from an SSC landline or (228)688-3636 from a cell phone.

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## 5.2 Control of Ionizing and Nonionizing Radiation

All sources of ionizing and nonionizing radiation, whether in use or in storage, shall be controlled and secured from unauthorized access or removal according to the criteria established in the SSC Ionizing Radiation Program (SCWI-8700-0005) and the Non-Ionizing Radiation Program (SCWI-8700-0004).

## 5.3 Monitoring and Surveillance

Surveillance and monitoring shall be conducted at a frequency based on applicable regulatory requirements, license conditions, and that is commensurate with the potential for changes in the radiation fields and the potential magnitude of the changes. Specific monitoring and surveillance requirements for Ionizing and Nonionizing radiation can be found in SCWI-8700-0004 and SCWI-8700-0005, respectively.

## 5.4 Training

Specific training requirements for Ionizing and Nonionizing radiation can be found in SCWI-8700-0004 and SCWI-8700-0005 respectively.

## 6.0 ACRONYMS

ALARA	As Low As Reasonably Achievable
ALSO	Area Laser Safety Officer
ARSO	Area Radiation Safety Officers
HP	Health Physicist
HPPM	Health Physics Program Manager
mrem	millirem
NPR	NASA Procedural Requirement
SOC	Stennis Operating Contract
SSC	Stennis Space Center