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Space, Missile, Command and Control

**PROCEDURES FOR OPERATIONS
INVOLVING NON-IONIZING RADIATION**

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This instruction implements and extends guidance from AFI 13-201, *Air Force Airspace Management*, dated 21 September 2001. This instruction establishes guidelines and procedures to follow when non-ionizing radiation (NIR) emissions are planned at Vandenberg Air Force Base (VAFB) or on the Western Range (WR). This instruction applies to all military and contractor agencies operating equipment which emits NIR. The source of emissions may be from radar, laser or other type of transmitter. During certain test and operations on the WR, there are requirements to emit and control NIR. This instruction delineates and prescribes responsibilities of the 30th Space Wing (30 SW) and its subordinate units for analysis, coordination and the application of procedures to ensure the safety of personnel and equipment. Refer recommended changes and questions about this instruction to 2 ROPS/DON, 1602 California Blvd, Suite 146 VAFB CA 93437-5233 using AF IMT 847, **Recommendation for Change of Publications**. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 37-123 (will convert to AFMAN 33-363), *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://afrims.amc.af.mil/>.

SUMMARY OF CHANGES

This revision incorporates the following changes: “Wing Office of Primary Responsibility (WOPR) to “Program Lead” (paragraph **1.1.**); 30 AMDS/SGPB to 30 MDOS/SGOAB and 30th Aerospace Medical Squadron to 30th Medical Operations Squadron (paragraph **1.5.**); 30 RANS to 2 ROPS (paragraph **1.6.**); 30 SFS/SFOS-M to 30 SFS/OXM (paragraph **1.8.**); Vandenberg AFB to VAFB (paragraph **2.2.**); Vandenberg AFB to VAFB (paragraph **2.3.**); 30 AMDS/SGPB to 30 MDOS/SGOAB (paragraph **2.3.1.**); 30 RANS to 2 ROPS (paragraph **2.3.1.**); function is now handled by DON; added last sentence (paragraph **2.3.3.**); process changed from “shall execute the operations directive (OD) by developing internal procedures and checklists that support the safety analysis and constraints” to “shall process, implement, and execute the operations directive (OD) using the Universal Documentation System (UDS), and develop internal procedures and checklists that support safety analysis and constraints” (paragraph **2.3.3.**); 30 SW Plans and Programs to 30 SW/XP (paragraph **3.1.**); Wing Planning Manager and WOPR to Program Lead

(paragraph 3.1.1.); remove Vandenberg AFB/ (paragraph 3.1.1.1.); Vandenberg AFB to VAFB (paragraph 3.1.1.2.); reword (paragraph 3.1.1.3.); remove Universal Documentation System (paragraph 3.1.1.5.); 30 RANS to 2 ROPS/DON (paragraph 3.2.); replace “When necessary, assign the Air Space and Off Shore Management Section (30 RANS/DOUN) as WOPR, and” with “Assign” (paragraph 3.2.1.); remove “The Operations Support Flight will” (paragraph 3.2.2.); numbering change starting at (paragraph 3.2.2.); Space Defense Operations Center (SPADOC) to 1st Space Control Squadron (1 SPCS) (paragraph 3.2.5.); remove 816 13th Street, Suite C, Vandenberg AFB CA 93437-5233 (paragraph 3.2.6.); Sentence has been revised to include the Range User (paragraph 3.2.6.1.); The Environmental Flight (30 CES/ CEV) to 30 CES/CEV (paragraph 3.3.); The Safety Office (30 SWS/SE) to 30 SW/SE (paragraph 3.4.); 30 AMDS/SGPB to 30 MDOS/SGOAB (paragraph 3.4.1.); reword (paragraph 3.4.2.); reword (paragraph 3.4.3.); SPADOC to 1 SPCS (paragraph 3.4.4.); remove “which pose potential danger” (paragraph 3.4.6.); reword (paragraph 3.4.8.); remove “to the WR” and add 30 SW/SE (paragraph 3.4.10.); remove “The Real Estate Section”, change CES/CERE to CES/CECER (paragraph 3.5.); change office name and remove address (paragraph 3.5.1.); The Bioenvironmental Engineering Flight (30 AMDS/SGPB) to 30 MDOS/SGOAB (paragraph 3.6.); remove Vandenberg AFB (paragraph 3.6.1.); Add 30 SW/SE (paragraph 3.6.3.); The Missile Operations Support Section (30 SFS/SFOS-M) to 30 SFS/SFOS-M (paragraph 3.7.); Vandenberg AFB to VAFB (paragraph 3.7.1.); and change approval authority; abbreviations, acronyms and terms have been added and removed (**Attachment 1**). A bar (|) indicates a revision from the previous edition.

1. Responsibilities:

- 1.1. The Commander, 30th Space Wing (30 SW/CC), will designate a single manager as the Program Lead and assign overall responsibility for this program IAW 30 SWI 10-1201, Program Lead Responsibilities for Government and Commercial Programs, paragraph 1.4.2.
- 1.2. The 30 SW Chief of Safety (30 SW/SE) is responsible for analyzing and evaluating all systems and procedures to ensure safety criteria are met.
- 1.3. The Plans and Requirements Office (30 SW/XPR) is responsible for the overall planning of a program in the exploratory/introductory phase.
- 1.4. The Commander, 30th Operations Group (30 OG/CC), is responsible for execution of prescribed procedures for operations on the WR and VAFB.
- 1.5. The 30th Medical Operations Squadron (30 MDOS/SGOAB) is responsible for all radiation safety issues on VAFB.
- 1.6. The Commander, 2d Range Operations Squadron (2 ROPS/CC), is responsible for documentation and WR support activities.
- 1.7. The Commander, 30th Civil Engineer Squadron (30 CES/CC), is responsible for guidance and assistance in following the Environmental Impact Analysis Process.
- 1.8. The Security Forces Launch Operations Support NCOIC (30 SFS/OXM) is responsible for clearing and isolating areas during hazardous NIR emission operations.

2. Program Introduction Procedures:

2.1. Programs desiring to use VAFB or the WR for tests and operations involving NIR shall make contact with the 30 SW/XPR for initial coordination and evaluation. This initial contact will include a program introduction (PI).

2.2. 30 SW/XPR, with the assistance of any other base agency required, shall analyze the program and determine the feasibility of supporting it from VAFB and the WR. If this support is possible, 30 SW/XPR will issue a statement of capability (SC).

2.3. If the program selects VAFB and/or the WR for operations and tests, 30 SW/XPR will coordinate the assistance of required agencies to complete all initial coordination and arrangements. This includes cost estimates, safety analysis, environmental analysis, expected range support and any other requirements.

2.3.1. A safety analysis will be conducted jointly between 30 MDOS/SGOAB and 30 SW/SE in coordination with 2 ROPS to ensure constraints or procedures are within the capabilities of the WR.

2.3.2. When health, safety, environmental and financial issues are coordinated and initial planning completed, the 30 SW/XPR will coordinate with 30 OG/CC for transfer of the program.

2.3.3. The Airspace and Offshore Management Flight (2 ROPS/DON) shall process, implement, and execute the operations directive (OD) using the Universal Documentation System (UDS) and shall develop internal procedures and checklists that support safety analysis and constraints. 2 ROPS/DON, through coordination with the Range Technical Service Contractor (RTSC), shall ensure that these processes and procedures are accomplished. Hazard analysis and operational procedures shall be submitted for review and approval to 30 SW/SE and 30 MDOS/SGOAB.

3. Operational Procedures:

3.1. 30 SW/XP will:

3.1.1. Assign a Program Lead for all new programs that involve NIR. When necessary, request a Program Lead appointment from 30 OG/CC. The Program Lead will be responsible for performing normal support functions. Specific support shall include, but not be limited to, the following:

3.1.1.1. Provide a focal point for overall project management of operations/tests involving NIR on the WR.

3.1.1.2. Advise affected VAFB organizations of programs requiring support as soon as possible.

3.1.1.3. Obtain test objectives, operational requirements, and data, which pertain to the program from the user.

3.1.1.4. Ensure the user is aware of required environmental analysis; assist in the completion of AF Form 813, **Request for Environmental Impact Analysis**.

3.1.1.5. Ensure the user is aware of the documentation requirements for conducting operations/tests on the WR; these requirements are normally satisfied by the UDS.

3.2. 2 ROPS/DON will:

3.2.1. Assign a Program Support Manager (PSM) for NIR test programs.

3.2.2. Notify all affected VAFB organizations of NIR operations and required support at the earliest practical time.

3.2.3. Coordinate with the RTSC to provide clearance and surveillance of land, sea, and air areas affected by the Radiation Danger Zone (RDZ).

3.2.4. Develop and execute the required documentation to ensure all required base support.

3.2.5. Coordinate the test plan with the 1st Space Control Squadron (1 SPCS), CMOC/J3CS, Cheyenne Mountain AFS CO 80914-6020, to provide predictive avoidance support for NIR emissions into space that are a potential threat to space resident objects.

3.2.6. Coordinate with the mission Aeronautical Operations Control Officer (AOCO) to ensure the AOCO is the focal point for all direct interfaces with the user during any operation.

3.2.6.1. Ensure the RDZ provided by the Range User and approved by 30 SW/SE is clear during the operation (land, sea, and air).

3.2.6.2. The AOCO terminates the operation whenever safety parameters are exceeded or an imminently dangerous situation is observed.

3.3. 30 CES/CEV will:

3.3.1. Provide guidance and assistance to the range user on environmental requirements and procedures.

3.3.2. Assess the potential environmental impacts of the proposed program.

3.3.3. Determine, as early as possible, the appropriate level of review necessary pursuant to the Environmental Impact Analysis Process.

3.4. 30 SW/SE will:

3.4.1. Determine jointly with 30 MDOS/SGOAB the need for a hazard analysis of the NIR emissions program based on the test objectives/operational directives and potential hazards. This analysis is intended to determine how likely the operation will occur within predicted parameters and provide a more definitive probability of risk.

3.4.2. Evaluate all systems and operational procedures against appropriate safety/design requirements to ensure safety of personnel or equipment.

3.4.3. Evaluate and determine if Range User submitted safety criteria and operation control plans, including requirements for personnel, equipment protection, evacuation, and surveillance of the RDZ.

3.4.4. Ensure the PSM coordinates the operation with the 1 SPCS to determine the potential hazard to space resident objects.

3.4.5. Determine requirements for the closure of any on-base/off-base land areas or oil platforms.

3.4.6. Determine parameters and identify the airspace and surface hazard areas (RDZ).

3.4.7. Initiate the issuance of the appropriate notices when it is determined that the operation creates a potential hazard to mariners and/or aircraft.

3.4.8. Ensure Range User/Equipment Operator emergency procedures are adequate to respond to an accident involving NIR.

3.4.9. Assist the response to emergency requirements based on advisory inputs from other base agencies.

3.4.10. Provide personnel to act as a focal point for all safety coordination during an operation. 30 SW/SE has full authority to delay or terminate the operation through the AOCO whenever a dangerous situation is detected.

3.5. The 30 CES/CECBBR will:

3.5.1. Provide 2 ROPS/DON with information concerning leased land tracts affected by the RDZ so that evacuation notices to clear personnel or livestock can be issued. Information will include:

3.5.1.1. Point of contact, address, and lease number for the land tracts affected.

3.5.1.2. Provisions of the lease agreement, which allow 30 SW to require clearance.

3.6. 30 MDOS/SGOAB will:

3.6.1. Provide radiological-health support for hazardous NIR operations on the WR.

3.6.2. Identify and evaluate the operational hazards associated with all NIR systems.

3.6.3. Determine jointly with 30 SW/SE the need for a probabilistic hazard analysis of the emission program based on the test objectives and known hazards.

3.6.4. Determine which control measures are required to ensure safety and minimize any possible hazard.

3.6.5. Assist in identification of acceptable areas for test operations involving hazardous NIR consistent with the test objectives, WR support capabilities, and ability to control hazards.

3.6.6. Issue any approvals required by other regulations to conduct hazardous NIR emission operations (lasers, high energy radars, or other directed energy systems).

3.7. 30 SFS/SFOS-M will:

3.7.1. Provide personnel to ensure areas on VAFB that are identified as RDZ are cleared and isolated during hazardous NIR emission operations.

3.7.2. Advise the AOCO when the area cannot be cleared or the status has changed.

4. Adopted Forms:

4.1. AF Form 813, **Request for Environmental Impact Analysis**

4.2. AF IMT 847, **Recommendation for Change of Publications**

JACK WEINSTEIN, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI 13-201, *Air Force Airspace Management*

AFOOSH Standard 48-9, *Health Hazards Control for Laser Radiation*

Eastern and Western Range 127-1, *Range Safety Requirements*

American National Standards Institute, Z136.1, *The National Standard for Safe Use of Lasers*

Range Operations Manual Section 5.2, *Hazardous Emissions*

Abbreviations and Acronyms

1 SPCS—First Space Control Squadron

AOCO—Aeronautical Operations Control Officer

NIR—Non-Ionizing Radiation

OD—Operations Directive

PI—Program Introduction

PSM—Program Support Manager

RDZ—Radiation Danger Zone

RSO—Radiation Safety Officer

RTSC—Range Technical Services Contractor (WROCI)

SC—Statement of Capability

UDS—Universal Documentation System

WR—Western Range

Terms

Base Radiation Safety Officer (Base RSO)—Responsible for all radiation safety issues on Vandenberg AFB (30 MDOS/SGOAB).

Hazardous Radiation—The emission of non-ionizing radiation (NIR) at levels that are harmful to personnel or equipment.

Program Lead—An individual designated by the 30 SW/CC as the single manager having overall responsibility for a program, including direct cost reimbursement. The Program Lead is the single point of contact for the 30 SW and the user.

Program Support Manager (PSM)—An individual from the 2 ROPS assigned by the 2 ROPS/CC to act as single point of contact for all WR activities (radar, telemetry, data processing, data transfer, and other range instrumentation) documented in the Universal Documentation System.

Radiation Danger Zone (RDZ)—Designated area, established/defined by 30 SW/SEY, where the probability of exposure to NIR is greater than that determined to be safe for personnel or equipment.