



UNITED STATES MARINE CORPS  
MARINE CORPS AIR STATION  
(HELICOPTER)  
NEW RIVER, JACKSONVILLE  
NORTH CAROLINA 28545

AS(H)O 5100.14  
222  
7 Sep 1984

AIR STATION (HELICOPTER) ORDER 5100.14

From: Commanding Officer  
To: Distribution List

Subj: Gas Free Engineering (GFE) Program; Implementation of

Ref: (a) NAVSEA TECH Manual S6470-AA-SAF-010 (NOTAL)

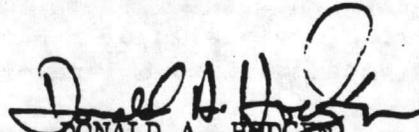
Encl: (1) Gas Free Engineering Program

1. Purpose. To provide policy and procedures for the MCAS (H), New River Gas Free Engineering Program (GFEP) in accordance with the reference.

2. Information. The GFEP insures that all personnel are protected from hazards when entering or working in any enclosed or poorly ventilated space. It is essential that the procedures outlined in the reference and the enclosure are observed.

3. Action. Addresses shall take positive action to implement this program. Addresses are requested to submit suggestions for changes or additions to this Order to the Station Ground Safety Office, extension 6518/6686.

4. Applicability. Having received the concurrence of the Commanding Officers of Marine Aircraft Group-26; Marine Aircraft Group-29; Marine Wing Support Group-27, Detachment "A"; Marine Air Traffic Control Squadron-28; and the Officer-In-Charge, Marine Wing Communication Squadron-28, Detachment "A", this Order is applicable to those commands.

  
DONALD A. HODGEN

DISTRIBUTION: A  
GrndSaf (20)

GAS FREE ENGINEERING PROGRAM

1. Purpose. To provide policy and procedures for the MCAS (H), New River GFEP in accordance with the reference.

2. Scope. This Order is applicable to entry into confined or poorly ventilated spaces and to hot work in the vicinity of such spaces.

3. Background. With any confined or poorly ventilated space, the possibility of having insufficient oxygen to support life exists due to the presence of gases or vapors which may have displaced breathable air or because of oxidative processes such as metal corrosion, or aerobic bacteria present that have consumed oxygen. There is also the possibility of having flammable and/or toxic gases, vapors, or materials present within the space.

4. Policy. It is the policy of the Marine Corps to protect its military and civilian personnel from fire, explosion, exposure to toxic substances, or suffocation associated with closed compartments or poorly ventilated spaces. This is accomplished through the GFEP which is consistent with NAVOSH Standards. No personnel shall be permitted to enter confined or poorly ventilated spaces or to perform hot work within or on the boundaries of such spaces until the Gas Free Engineer has certified that the work can be accomplished safely.

5. Definitions

a. Gas Free Engineering. Activity that includes all tests and procedures performed by qualified and designated personnel to eliminate the risk of fire, explosion, exposure to toxic substances, or asphyxiation associated with closed compartments or poorly ventilated spaces such as fuel storage tanks, and aircraft fuel cells.

b. Closed compartment or poorly ventilated space. An unventilated space in which there are structural barriers that significantly obstruct cross-ventilation or a space which has been closed for an appreciable length of time. Closed compartments or poorly ventilated spaces include unventilated fuel storage tanks, and aircraft fuel cells or other spaces which are normally occupied but which have been vacated, closed, and/or sealed.

c. Confined space. A space which, by design, has limited and restricted openings for entry and exit and a lack of natural ventilation which could contain or produce hazardous contaminants or oxygen deficiencies or enrichment. Confined spaces are not intended for normal continuous personnel occupancy. In non-maritime activities this includes spaces such as fuel storage tanks.

d. Restricted access space

(1) A space with not more than one exit.

ENCLOSURE (1)

b. Commanding officers shall ensure that there are manuals and Standard Operating Procedures distributed by cognizant Navy systems commands, (NAVALRSYCOM, AVSEA, etc.) on hand which are pertinent to their operations (such as maintenance of aircraft fuel cells, etc.), and ensure compliance. If these directives do not meet the complete GFEP requirements for preparation of the space and for performing the necessary task, then the organization performing the confined space work shall prepare additional operating instructions. Where no published directives exist for repetitive type functions (e.g., external fuel cells), organizations performing such work shall prepare their own standard gas-free operating procedures. These will be reviewed by the Gas Free Engineer, the Industrial Hygienist, and the Fire Department, where applicable.

c. GFE

(1) Establish a program which ensures a safe confined space environment with respect to:

- (a) Flammable, combustible, and explosive hazards.
- (b) Specific toxic hazards.
- (c) Oxygen deficiency and enrichment.
- (d) Any combination of (a), (b), or (c).

(2) Administer the GFEP. The GFE coordinates work through the Station Ground Safety Office and is directly responsible to the Ground Safety Manager, MCAS (H), New River in all aspects of the GFEP. The GFE shall be contacted for any information pertaining to the GFEP. Gas Free services required during other than normal duty hours will be requested 48 hours in advance through the Ground Safety Manager.

(3) Issue and sign certificates for initial entry, hot work in, on, or adjacent to entry into, all spaces which contain hazardous concentrations of toxics or flammables. Copies of certificates shall be retained for 12 months. Gas Free Certificates shall be distributed as follows:

- (a) One copy shall be posted at the main entrance or most commonly used access to the space.
- (b) One copy shall be posted at all other access areas which are open and readily accessible to personnel.
- (c) One copy shall be retained for the GFE's file.
- (d) One copy shall be provided to the department requesting the Gas Free services.
- (e) Other copies shall be distributed as may be required.

Enclosure (1)

(4) Ensure jobs involving hot work are not performed until the GFE has posted the certificate at the entrance of the space or on pipelines involved indicating "SAFE FOR PERSONNEL-SAFE FOR HOT WORK."

(5) Ensure emergency and rescue procedures are consistent with the nature of the operations and conditions within the confined or enclosed space.

(6) Not allow employees to work on or in a space for which the certificate has expired.

f. Employees

(1) Understand and comply with the limitations of the Gas Free Certificate.

(2) Use tools and equipment required by the GFE.

(3) Follow all instructions, written or verbal, given by the GFE.

(4) Be aware of the hazards of working on or in poorly ventilated spaces.

7. Contractor Operations. Contractor operations which involve confined or enclosed space entry or work are governed by 29 CFR 1910 or 29 CFR 1926 for non-maritime operation, and should be guided by the National Institute for Occupational Safety and Health (NIOSH) Criteria Documents for Confined Spaces for Non-Maritime Operations. Where contractors are performing work aboard Marine Corps activities, the following provisions shall be observed:

a. The contractor, when performing nonmaritime operations, shall provide a qualified person as defined in 29 CFR 1926 and the NIOSH Criteria Document for Confined Spaces.

b. Current laws and regulations make no provision for Marine Corps Gas Free Engineering Personnel to perform Gas Free Engineering services for contractor operations. Performance of such functions may involve assumption of liability by the Marine Corps in the event of a mishap. Therefore, Marine Corps Gas Free Engineering Personnel shall not certify spaces for contractor operations except where failure to do so would create an extreme emergency and endanger personnel and property and therefore, create even greater potential liability. All such cases must be authorized by the Commanding Officer and shall be personally conducted or supervised by the GFE.

c. Where Marine Corps and contractor personnel are to occupy the same space for a given task or operation, the space in question shall be gas freed and certified by both the Marine Corps and contractor GFE.

d. In all cases involving contractor operations aboard Marine Corps activities, the GFE shall ensure that the contractor's Gas Free Engineering personnel are adequately qualified since Marine Corps personnel and facilities may also be at risk.

Enclosure (1)

CERTIFICATE EXPIRES

MO \_\_\_\_\_  
MO \_\_\_\_\_

TESTER'S SIGNATURE \_\_\_\_\_

TEST DATE TIME \_\_\_\_\_ DATE \_\_\_\_\_ EXPIRES \_\_\_\_\_

ENGINEER'S SIGNATURE \_\_\_\_\_

TEST LOCATE TIME \_\_\_\_\_ DATE \_\_\_\_\_ EXPIRES \_\_\_\_\_

TEST PERSONNEL SIGNATURE \_\_\_\_\_

TEST ACTIVITIES \_\_\_\_\_

TEST COMMENTS SPACE \_\_\_\_\_

TYPE OF OPERATION TO BE CONDUCTED \_\_\_\_\_

TEST RESULTS \_\_\_\_\_

THIS CERTIFICATE INDICATES THE CONDITIONS THAT EXIST AT THE TIME TESTS WERE CONDUCTED

- NOT SAFE FOR PERSONNEL — NOT SAFE FOR HOT WORK
- NOT SAFE FOR PERSONNEL WITHOUT PROTECTION — NOT SAFE FOR HOT WORK
- SAFE FOR PERSONNEL — NOT SAFE FOR HOT WORK
- SAFE FOR PERSONNEL — SAFE FOR HOT WORK
- DANGER — NOT SAFE FOR PERSONNEL INSIDE — SAFE FOR PERSONNEL AND HOT WORK OUTSIDE

REMARKS \_\_\_\_\_

GAS DETECTION TAG

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SAFE FOR MEN  
NOT SAFE FOR  
HOT WORK

DATE OF TEST	TIME
TEST IS VOID (DATE)	
TESTER	BADGE NO.

3 - YELLOW BACKGROUND  
-BLACK LETTERING

GAS DETECTION TAG

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COMPARTMENT GAS FREE  
SAFE FOR MEN  
SAFE FOR HOT WORK  
EXCEPT ON

1  
2

DATE OF TEST	TIME
TEST IS VOID AFTER	
TESTER	BADGE NO.

4 - GREEN BACKGROUND  
BLACK LETTERING

7 Sep 1984

REQUEST FOR GAS FREE SERVICE

1. UNIT/ACTIVITY: \_\_\_\_\_

2. CONTACT/PHONE: \_\_\_\_\_

3. TYPE OF OPERATION  
TO BE CONDUCTED: \_\_\_\_\_

A. DATE/TIME NEEDED: \_\_\_\_\_

B. LOCATION: \_\_\_\_\_

C. ITEM/COMPT./  
SPACE REQUIRING  
GAS FREE SERVICE: \_\_\_\_\_

D. HOT WORK (TYPE): \_\_\_\_\_

E. CHEMICALS INVOLVED  
(Past/Present i.e., JP-5  
Solvents, etc.)  
\_\_\_\_\_

F. EST. DURATION OF WORK: \_\_\_\_\_

G. REMARKS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

