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NAVSUPPACT NAPLES INST 5100.13
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NAVSUPPACT NAPLES INSTRUCTION 5100.13

From: Commanding Officer, U.S. Naval Support Activity, Naples, Italy

Subj: U.S. NAVAL SUPPORT ACTIVITY NAPLES CONFINED SPACE ENTRY PROGRAM (NON-MARITIME)

Ref: (a) OPNAVINST 5100.23 (series)
(b) OSHA Standard (29 CFR Part 1910)

Encl: (1) Inventory of Non-Permit Required Confined Spaces
(2) Inventory of Permit Required Confined Spaces
(3) Rescue Procedures for Confined Spaces Emergency
(4) Confined Space Entry Permit (U.S. Version)
(5) Confined Space Entry Permit (IT Version)
(6) Non-Permit Required Confined Space Entry Procedure Check List (U.S. Version)
(7) Non-Permit Required Confined Space Entry Procedure Check List (IT Version)

1. Scope. This instruction applies to DOD personnel under the authority of Naval Support Activity, Naples, Italy including satellite stations, and tenants.

2. Purpose. The purpose of this instruction is to provide mandatory guidelines to personnel engaged in confined space entry activities, and to prevent injury/illness or death to themselves and others.

3. Discussion. All personnel are prohibited from entering or working on or in, or performing hot work adjacent to any compartment, tank, void or other confined space until such time as the space has been tested, inspected and certified safe by the Confined Space Program Manager (CSPM) or the Assistant Confined Space Program Manager (ACSPM). Additionally, it is the policy of the Naval Support Activity that all employees who are or may be assigned to work in or around confined spaces are adequately trained and protected from any and all hazards that may be encountered during such work. All confined spaces are to be

considered dangerous until tested, inspected, and certified safe by qualified personnel. The need for an effective confined space entry program is essential since the environment within closed, confined or restricted spaces may be dangerous to personnel for any of the following reasons:

a. Oxygen deficiency or enrichment.

b. Presence of flammable or combustible and explosive gases/vapors.

c. Presence of specific/toxic hazards.

d. Existence of general safety/health problems, i.e., slip, trip, or fall hazards, electrical hazards, burn or extreme physiological stress hazards, and toxicity. The severity of these dangerous conditions may be increased whenever hot work is performed in, on, or near such spaces. OPNAVINST 5100.23 (series) provides general guidelines for administering a confined space entry program.

4. Definitions.

a. Acceptable entry conditions means the conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

b. Attendant means an individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant's duties assigned in the employer's permit space program.

c. Authorized entrant means an employee who is authorized by the employer to enter a permit space.

d. Blanking or blinding means the absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

e. Confined space means a space that:

(1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and

(2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and

(3) Is not designed for continuous employee occupancy.

f. Double block and bleed means the closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

g. Emergency means any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

h. Engulfment means the surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

i. Entry means the action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

j. Entry permit (permit) means the written or printed document that is provided by the employer to allow and control entry into a permit space.

k. Entry supervisor means the person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this section.

**NOTE:** An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

1. Hazardous atmosphere means an atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

(1) Flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit (LFL);

(2) Airborne combustible dust at a concentration that meets or exceeds its LFL;

**NOTE:** This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.

(3) Atmospheric oxygen concentration below 20 percent or above 22 percent;

(4) Atmospheric concentration of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control, or in Subpart Z, Toxic and Hazardous Substances, of this Part and which could result in employee exposure in excess of its dose or permissible exposure limit;

**NOTE:** An atmospheric concentration of any substance that is not capable of causing death, incapacitation, and impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

(5) Any other atmospheric condition that is immediately dangerous to life or health.

**NOTE:** For air contaminants for which OSHA has not determined a

dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets that comply with the Hazard Communication Standard, section 1910.1200 of this Part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

m. Hot work permit means the employer's written authorization to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.

n. Immediately dangerous to life or health (IDLH) means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

**NOTE:** Some materials -- hydrogen fluoride gas and cadmium vapor, for example -- may produce immediate transient effects that, even if severe, may pass without medical attention, but are followed by sudden, possibly fatal collapse 12-72 hours after exposure. The victim "feels normal" from recovery from transient effects until collapse. Such materials in hazardous quantities are considered to be "immediately" dangerous to life or health.

o. Inert means the displacement of the atmosphere in a permit space by a noncombustible gas (such as nitrogen) to such an extent that the resulting atmosphere is noncombustible.

**NOTE:** This procedure produces an IDLH oxygen-deficient atmosphere.

p. Isolation means the process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

q. Line breaking means the intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive,

or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

r. Non-permit confined space means a confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

s. Oxygen deficient atmosphere means an atmosphere containing less than 20 percent oxygen by volume.

t. Oxygen enriched atmosphere means an atmosphere containing more than 22 percent oxygen by volume.

u. Permit-required confined space (permit space) means a confined space that has one or more of the following characteristics:

(1) Contains or has a potential to contain a hazardous atmosphere;

(2) Contains a material that has the potential for engulfing an entrant;

(3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or

(4) Contains any other recognized serious safety or health hazard.

v. Permit-required confined space program (permit space program) means the employer's overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating employee entry into permit spaces.

w. Permit system means the employer's written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

x. Prohibited condition means any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

y. Rescue service means the personnel designated to rescue employees from permit spaces.

z. Retrieval system means the equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

aa. Testing means the process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

NOTE: Testing enables employers both to devise and implement adequate control measures for the protection of authorized entrants and to determine if acceptable entry conditions are present immediately prior to, and during, entry.

5. Confined Space Hazards.

a. Oxygen Deficient Atmosphere - Is not an acceptable entry condition if measured below 20% by volume; cannot be entered without approved supplied air equipment.

b. Oxygen Enriched Atmosphere - Is not an acceptable entry condition if measured above 22% by volume; must not be entered under any condition until purged and re-sampled.

c. Toxic Atmosphere - Exists when there is a concentration of airborne contaminants in excess of the Permissible Exposure Limit (PEL). The PEL is defined by OSHA as the maximum concentration of contaminate that a worker may be exposed to in eight hours. PEL is equivalent to the Threshold Limit Value (TLV). Use of Time Weighted Average (TWA) is also strongly suggested when a PEL cannot be determined. Most substances (liquids, vapor, gases, mists, solid materials, and dusts) should be considered hazardous in a confined space. Toxic substances can come from a product used or stored in the space, the work

being performed in the space or from areas adjacent to the confined space. Examples of dangerous contaminants which can be found in a confined space are:

(a) Fuel gases, such as natural gas (methane) or liquid petroleum gases.

(b) Vapor from liquid fuels and solvents, such as gasoline, methyl chloroform, freon, and other hydrocarbons.

(c) Gases from the breakdown of organic matter, such as methane, carbon dioxide, hydrogen sulfide, and mixtures of these or other gases.

(d) Products of combustion, such as carbon monoxide or carbon dioxide.

(e) Gases and volatile substances in industrial waste or drainage.

d. Flammable Vapor Atmosphere - Exists when a flammable vapor or gas is present in a concentration in excess of 10% of the Lower Flammable Limit (LFL). The LFL is the minimum concentration of vapor or gas in air that will ignite upon contact with an ignition source. The LFL was formerly identified as the Lower Explosive Limit (LEL).

(a) Two elements make an atmosphere flammable: the oxygen in the air; and a flammable gas, vapor, or dust in the proper mixture. If an ignition source (hot work spark, or an electrical tool) is introduced into a space containing a flammable atmosphere, an explosion can/will result.

(b) A secondary concern in relation to flammable vapor is: They are also toxic. BOTH CONDITIONS MUST BE EVALUATED with equal concern before entering a confined space.

e. Electrical Shock - Any equipment or fixtures electrically energized shall be isolated and properly locked and tagged before entry can take place.

f. Fall Hazard - Fall protection must be utilized by entrants when the distance is Over 5 ft (approx. 1.5 meters).

g. Head Protection - Entrants must wear approved head protection from possible fallen objects within the space as well as through overhead entranceways.

h. Engulfment - Entrants can be injured or killed by encroachment of foreign matter such as water, fluids, and solid material that can flow or readily shift.

**NOTE:** The terms "entrant" or "entrants" in the text above is assumed to be "authorized entrant."

6. Non-Permit Required Confined Space Procedure.

a. The entry supervisor shall initiate the process for confined space entry. Non-permit required confined spaces have been pre-determined to be normally free of atmospheric hazards capable of causing death or serious injury, however, Non-Permit Required Entry is not authorized until the CSPM or ACSPM has confirmed that Acceptable Entry Conditions have been attained.

b. The confined space must meet acceptable entry conditions before entry is allowed:

ACCEPTABLE ENTRY CONDITIONS - NON-PERMIT REQUIRED SPACES

(1) Normal Oxygen content - approximately 21%

(2) LFL at 0.0% by volume

(3) No Toxin above its respective PEL, TWA, or Action Level (lowest value)

(4) Corrosives: none present, either liquid, solid, or vapor

(5) Temperature: not to exceed 37 degrees Celsius (100 degrees Fahrenheit)

(6) Electrical Energy isolated (locked, tagged, and tried)

(7) All inlet/outlet lines disconnected or "blanked" (excludes continuous running pipe with no flanges or valves that carry only treated or untreated "clean" water)

(8) Ventilation at 35 cubic meters per minute (100 cubic ft/min) of clean air

(9) Adequate lighting to perform task safely and to exit the space quickly in an emergency, 12 volt electrical system

(10) Entry way barrier installed to protect from intrusion by pedestrians and vehicles

(11) Adequate egress ladder(s) where applicable

(12) No water accumulation other than dampness or minor accumulations on floors

**NOTE:** Double block and bleed can be substituted for #7 above

c. The CSPM or ACSPM shall conduct a gas test with a currently calibrated NIOSH Approved direct reading gas detector. He/She shall test for oxygen first, then LFL, then for toxicity. Persons who are to enter the confined space have the "right" to observe the testing of the atmosphere prior to entering.

d. There shall be forced air ventilation provided into the space during the entire entry process. The air shall be maintained clean from any contaminating sources.

e. Once it has been confirmed that the atmosphere is acceptable for entry, the entry supervisor shall complete the Non-Permit Required Confined Space Entry Procedure & Check List (Enclosures 6 and 7), and the confined space may be entered.

f. Periodic testing of the atmosphere shall be conducted by the CSPM or ACSPM as needed and determined by the CSPM or ACSPM. Entrants shall evacuate the space immediately should a hazard or contaminant be detected.

7. Permit Required Confined Space Procedure.

a. The entry supervisor shall initiate the process for confined space entry. For permit required confined space entries it is strongly suggested the entry supervisor hold a pre-entry safety planning meeting with the major participants to ensure a smooth and complete operation.

b. The entry supervisor may enlist the advice of the Confined Space Program Manager (CSPM) or the Assistant Confined Space Program Manager prior to the entry (ACSPM).

c. The entry supervisor shall assemble all required equipment for the entry process including summoning the Fire Department for rescue standby. The Entry Supervisor shall ensure the confined space is purged, rinsed, ventilated, or prepared as required and then call for the pre-entry gas free test from the CSPM or ACSPM.

d. The confined space must meet acceptable entry conditions before the permit is issued:

ACCEPTABLE ENTRY CONDITIONS (without utilizing Class A, B, C, or D protection).

(1) Oxygen Content between 20.0% and 22.0% by volume.

(2) LFL at 10.0% or less by volume.

(3) Toxicity of any kind less than the PEL (use TLV if no PEL is available).

(4) Corrosives: none present, either liquid, solid, or vapor.

(5) Temperature: not to exceed 37 degrees Celsius (100 degrees Fahrenheit).

(6) Electrical Energy isolated (locked, tagged, and tried).

(7) All inlet/outlet lines disconnected or "blanked"

(excludes continuous running pipe with no flanges or valves that carry only treated and untreated "clean" water)

(8) Ventilation at 3531 cubic meters per minute (100 cubic ft/min) of clean air.

(9) Adequate lighting to perform task safely and to exit the space quickly in an emergency, 12 volt electrical system.

(10) Entry way barrier installed to protect from intrusion by pedestrians and vehicles.

(11) Adequate egress ladder(s) where applicable.

(12) Uncontaminated water level less than 30 centimeters (approximately 1 ft)

**NOTE:** Double block and bleed may be substituted for #7 above.

e. The CSPM or ACSPM shall conduct a gas test with a currently calibrated NIOSH Approved direct reading gas detector. CSPM/ACSPM shall test for oxygen first, then LFL, then for toxicity (with the ventilation system off). The entry supervisor may witness the readings. All entrants also have the right to request witnessing the test. Entrants may request a re-test any time during the entry process.

f. The permit shall be completed and signed by the entry supervisor. The CSPM or ACSPM, and the crew foreman or work leader will then read and sign the permit. In instances where only one person or two persons shall be entering the space, and no foreman or leader is present, one of the entrants shall sign the permit. It shall be posted as close to the entryway as is possible in a prominent position. (See Enclosures 4 and 5 for the permit example) All entrants shall review the signed permit and acknowledge to the entry supervisor that they fully understand and agree to abide by entry requirements listed on the permit.

Entrants shall then don an approved full body harness and shall be attached to a lifeline for entries deeper than 1.5 meters (5ft).

**NOTE:** The entry supervisor with the consent of the CSPM or ACSPM may waive the lifeline requirement, if the lifeline creates a greater danger to the entrants than not wearing one. Also the lifeline requirement may be waived in large open pit entries because rescue access is not considered to be difficult. The reason for the waiver shall be noted on the permit. A fall protection/retrieval device shall be used for vertical entries when the Fire Department is not utilized for on-site rescue stand-by. If the confined space is so configured that entrants will not be within direct line of sight with the attendant, radios shall be provided to the entrants as well as the attendant. The entry supervisor shall ensure that participants using radios are adequately familiar with them.

g. When applicable the entrants shall be provided approved Personal Protective Equipment. It may be minimum protection such as gloves and coveralls or more extensive protection such as fully encapsulated suits. The Safety Department and the Industrial Hygiene Department shall be consulted by the Entry Supervisor to determine the appropriate PPE where PELs and/or TWAs could be exceeded.

h. When supplied air is required the attendant may be required to utilize supplied air also. In such instances a rescue team on stand-by is mandatory with SCBAs.

i. Once the entry has begun, the attendant shall assume full duty responsibility.

j. As entry time progresses the entry supervisor shall ensure that all facets of this policy/instruction are followed. If the confined space is abandoned temporarily for example, to eat lunch, etc., the manway entrance shall be secured by barricade tape or similar device and the "Permit Required Confined Space" sign shall be posted across the opening also. Should the confined space be abandoned and unattended for 30 minutes or longer, the atmosphere shall be re-tested and documented on the permit for oxygen, LEL, and CO before re-entry occurs.

k. Upon completion of the entry process, the permit shall be taken down and prominently marked complete, and returned to the

Confined Space Program Manager for filing. The entry supervisor shall conduct an out brief with all participants to identify any problems or difficulties encountered during the process, and shall be so noted on the permit or attached to the permit. Protective guards/barriers shall be removed and the confined space entryway shall be closed. The confined space identification sign shall be re-posted.

**NOTE:** In cases of multiple entrants, where contractors enter the confined space in conjunction with DOD personnel, the contractor shall issue his own separate permit. Pre-entry findings shall be shared/compared between both parties. The contracting office shall inform the contractor that the contractor retains legal obligation for the safety of contractor personnel. In all cases involving contractor operations, the contracting officer must ensure that the contractor's confined space entry personnel are adequately qualified. In addition, the contractor shall conduct all operations per the statutory and regulatory requirements applicable to Navy personnel, ships, and facilities that may also be at risk. The contracting officer shall inform the contractor of any and all hazards and potential hazards associated with the confined space entry on the written contract or in writing during the first communication in relation to the project.

**NOTE:** The contractor shall be responsible for providing any and all equipment, gas detectors, PPE, etc. required for his own personnel. The Department of the Navy shall not issue or loan any confined space related equipment or instruments to contractors due to liabilities and DON Regulations.

l. Excavations deeper than 5 feet constitute a confined space and shall be treated accordingly.

8. Program Management.

a. The NAVSUPPACT Commanding Officer shall appoint in writing a qualified Confined Space Program Manager. The CSPM shall be responsible for the implementation of the confined space entry program consistent with the requirements of OPNAVINST 5100.23 (Series)

9. Permit System.

a. A written permit is required for all permit required confined space entries. The form (see appendix C) shall be completed in its entirety in triplicate by the entry supervisor. Any blanks on the form that need not be addressed or don't apply shall be marked: N/A. The names of all authorized entrants shall be listed on the permit. Permits shall be consecutively numbered on printed automatically duplicating paper. Numbering shall reflect the year and progressive consecutive numbers during the calendar year. The original shall be returned to the CSPM once the entry process is completed, the second copy shall be retained by the entry supervisor, and the third shall be retained by the CSPM to be later attached to the returned original and retained for 3 years. The CSPM shall review the cancelled permits on an annual basis to conduct and document a self assessment of the Confined Space Program, and implement necessary changes to the program when deficiencies are discovered. All three copies shall be different colors: Original - white, Second - blue, and Third - yellow.

10. Emergency Evacuation Procedures.

a. The attendant shall be responsible for ordering the entrants to evacuate the confined space when necessary. This can become necessary due to conditions either inside or outside the space. The announcement can be verbal, audible (horn, whistle, voice) or by radio communication. The specific noise and space configuration shall dictate the communication mode. The attendant shall be trained to recognize various situations that require abandoning a confined space.

11. Emergency Rescue Procedures.

a. Rescue notification and stand-by alert is not required for Non-Permit Required confined space entries. For Permit Required Confined Spaces, two alternatives shall be available depending on the risk factors of the entry: (1) Self-rescue and (2) Rescue Team.

(1) Under the self-rescue plan, there shall be a retrieval device assembled and in place at the manway entrance prior to entry. It shall be approved by NIOSH for confined space entry personnel retrieval activities. The manufacturers'

requirements shall be met in relation to maintenance and periodic testing. Rescue equipment shall not be used for anything other than emergency personnel rescue. Records shall be maintained by the equipment owner to document testing and maintenance. Confined space rescue equipment shall be maintained in good operating condition and free of corrosion and contaminants. Potential operators shall be adequately trained to set up and operate the equipment. Retrieval equipment may also be utilized as fall arresting equipment as necessary, assuming it is designed for it.

(2) The Rescue Team shall consist of NSA Fire Department Members. They may be required to be on "Stand-by Alert" at the station or at the entry site, depending on the risk of the entry. When stand-by alert is in effect the authorized attendant shall have direct radio contact with the fire station dispatcher during the entry process. Team members shall be trained in all facets of confined space rescue by certified instructors and institutions, shall have in place a pre-plan for each permit required confined space, shall conduct at least one annual drill, and document the critique and corrections as a result of drill findings.

12. Training

a. Training levels and frequency shall be as follows:

(1) CSPM and ACSPM - As required by OPNAVINST 5100.23, latest edition

(2) Entry Supervisor - 4 hour initial, 2 hours annual refresher thereafter (by CSPM/ACSPM)

(3) Authorized Entrant - 2 hours initial, 2 hours annual refresher (by CSPM/ACSPM)

(4) Authorized Attendant - 4 hours initial, 2 hours annual refresher (by CSPM/ACSPM)

(5) Emergency Rescue Personnel - as required by current approved schools/institutions to meet and maintain current certification

13. Duties and Responsibilities.

a. Commanding Officer. The CO is responsible for establishing, conducting, and evaluating the program; appointing in writing the CSPM and ACSPM; and issuing local instructions defining the CSE program procedures and responsibilities.

b. CSPM (and ACSPM) - Is responsible for implementing and managing the program, and training.

c. Line Manager - Is responsible for ensuring that applicable provisions and procedures of this instruction within department are fully complied with, and notifying the CSPM or ACSPM of any new confined spaces or old ones not previously identified.

d. Entry Supervisor shall:

(1) Be familiar with the 5100.23 latest edition Chapter on Confined Spaces as it relates to their personnel and operations.

(2) Act positively to eliminate any potential CS hazards under the Entry Supervisor control.

(3) Ensure that all employees under their control are aware of associated CS hazards.

(4) Strictly enforce safety and health requirements on CS entry permits.

(5) Promptly report to proper authorities any unsafe conditions and terminate any operations deemed to be unacceptable to the health and safety of CS entry participants (until corrected).

(6) Prohibit unauthorized entry into confined spaces under their control.

(7) Ensure that all entrants are medically fit to enter and conduct the stated activity.

e. Attendants shall:

(1) Not assume any collateral duties other than "man watching" until the entry is terminated.

(2) Not enter the confined space to rescue anyone unless properly relieved, equipped, and trained to do so.

(3) Only allow persons into the confined space authorized by the entry supervisor.

(4) Remain at his post until the entry is terminated or is relieved by another authorized attendant.

(5) Evacuate all entrants should any applicable hazards or dangers become existent.

(6) Maintain constant visual or verbal communication with those inside.

(7) Know how and have the capability to summons emergency rescue personnel.

(8) Know what hazards entrants will face during entry, be aware of possible behavioral effects of hazard exposure, continuously maintain a count of entrants, and monitor activities inside and outside the space.

(9) Warn unauthorized personnel to stay away from the permitted space, order the evacuation of any unauthorized entrants from within the space.

(10) Prevent any unauthorized persons from attempting rescue.

f. Entrants shall:

(1) Properly use all required protective and other equipment.

(2) Read the permit prior to entry, comply with all requirements.

(3) Maintain constant communication with the authorized attendant.

(4) Alert the attendant whenever a warning sign or symptom of exposure to a dangerous situation is recognized or if a prohibited situation is detected within the space.

(5) Exit from the permitted space as quickly as possible when:

(a) The order to evacuate is given by the authorized attendant.

(b) A warning sign or symptom occurs, or a prohibited condition necessitating evacuation occurs.

(c) An evacuation alarm is heard or an emergency alarm is heard.

(d) It becomes apparent that the attendant is not at his post or communication is broken.

g. Safety, Occupational Health, Industrial Hygiene, and Fire Protection Managers shall coordinate their respective programs with the CSPM/ACSPM and provide assistance in the evaluation and control of confined space hazards.

14. Record Keeping.

a. The CSPM shall maintain confined space entry records and documents for a minimum of 3 years. All others specified in this instruction shall maintain records for at least 2 years.

15. Sewer System Entries.

a. Sewer system entries differ in three vital respects from other permit required entries:

(1) There rarely exists any way to completely isolate the space (A section of a continuous system) to be entered.

(2) Because isolation is not complete, the atmosphere may

suddenly and unpredictably become lethally hazardous (toxic, flammable or explosive) from causes beyond the control of the entrant or employer.

(3) Experienced sewer workers are especially knowledgeable in entry procedures as their line of work requires frequent entry into permit required confined spaces. Unlike other employers, where permit space entry is a rare and exceptional event, sewer worker's usual work environment is a permit required confined space.

b. Adherence to procedure - Entry will be permitted to only those employees who are thoroughly trained in the command sewer entry procedures and who have demonstrated that they follow these entry procedures exactly as prescribed.

c. Atmospheric Monitoring - Entrants should be trained in the use of, and be equipped with atmospheric monitoring equipment which sounds an audible alarm. In addition to its visual readout, the alarm settings must be set to alarm whenever one of the following conditions is encountered: Oxygen concentration less than 20% or greater than 22% by volume; Flammable gas or vapor at 10% of LFL; H2S at or greater than 10 PPM; CO at or greater than 35 PPM.

(1) Atmospheric Monitoring equipment shall be calibrated according to the manufacturer's instructions. The oxygen/broad range sensor is best suited for initial use in situations where the actual or potential contaminants have not been identified, because broad range sensors, unlike substance-specific sensors, enable employers to obtain an overall reading of the hydrocarbons (flammables) present in the space. Such sensors, however, only indicate that a hazardous threshold of a class of chemicals has been exceeded. They do not measure the levels of contamination of specific substances. Therefore, substance-specific devices, which measure the actual levels of specific substances, are best suited for use where actual and potential contaminants have been identified. The measurements obtained with substance-specific devices are of vital importance to the command when decisions are made concerning the measures necessary to protect its employees (such as ventilation of personal protective equipment) and the setting and attainment of appropriate entry conditions. Since

the sewer environment may suddenly and unpredictably change, the substance-specific devices may not detect the potentially lethal atmospheric hazards which may enter the sewer environment.

(a) Although OSHA considers the information and guidance provided above to be appropriate and useful in most sewer entry situations, the command emphasizes that each supervisor must consider the unique circumstances. The Supervisor should include the unpredictability of the atmosphere of sewer permit spaces in the preparation/planning process. Only the supervisor can decide, based upon their knowledge and experience with permit spaces in sewer systems, what the best type of testing instrument may be for any specific entry operation.

(b) The selected testing instrument should be carried and used by the entrant in sewer line work to monitor the atmosphere in the entrant's environment. This will warn the entrant of any deterioration in atmospheric conditions. Where several entrants are working together in the same immediate location, one instrument used by the lead entrant is acceptable.

(2) Surge Flow and Flooding - Sewer crews should develop and maintain liaison, to the maximum extent possible, with the local weather bureau and fire and emergency services in their area. Sewer work shall be delayed or interrupted and entrants withdrawn whenever:

(a) Sewer lines might be suddenly flooded by rain or fire suppression activities.

(b) Industrial or transportation accidents occur.

(c) Flammable or other hazardous materials are released into sewers during emergencies.

(3) Special Equipment - Entry into large bore sewers may require the use of special equipment. Such equipment will include (but is not limited to):

(a) Atmospheric monitoring devices with automatic audible alarms.

(b) Escape self-contained breathing apparatus (ESCBA) with at least ten minutes of air supply (or other NIOSH approved self-rescuer breathing apparatuses).

(c) Waterproof/intrinsically safe flashlights.

(d) Optional items would include boats and rafts, radios (intrinsic) and rope stand-off for pulling around bends and corners as needed.

R. B. RABUSE

Distribution:
NAVSUPPACT NAPLES INST 5216.4X
Lists: I through IV
Electronic via NAVSUPPACT Naples Web site
https://www.cnic.navy.mil/Naples/Departments/Administration/Instructions/index.htm

**INVENTORY OF NON-PERMIT REQUIRED CONFINED SPACES**
**NSA NAPLES**

| DESCRIPTION | BLDG # | COMMAND | LOCATION |
|---|---|---|---|
| Storm Drain System Pit | 446 | NSA | Capodichino |
| Water Storage Tank #5 | 459 | NSA | Capodichino |
| Water Storage Tank #12 | 459 | NSA | Capodichino |
| West Firewater Storage Tank | 433 | NSA | Capodichino |
| East Firewater Storage Tank | 433 | NSA | Capodichino |
| Pump Valve Distribution Pit | 459 | NSA | Capodichino |
| Tunnel below Basement - C4I | 440 | NSA | Capodichino |
| Hydropneumatic Water Tank | 459 | NSA | Capodichino |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**INVENTORY OF PERMIT-REQUIRED CONFINED SPACES**
**NSA NAPLES**

| DESCRIPTION | BLDG # | COMMAND | LOCATION |
|---|---|---|---|
| Sewage Ejector Sump | 440 | Variable | C4I Bldg - Capodichino |
| Sewage Lift Station Pump Pit | 461-A | PW | East Garage Area, Capodichino |
| Sewage Sump Collection Pit | 461-A | PW | East Garage Area, Capodichino |
| Dock Lift Pits, Sub Floor (2 Each) | 412 | Supply | Air Cargo Terminal - Capodichino |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**RESCUE PROCEDURES FOR CONFINED SPACE EMERGENCY**

1. In the event an individual is rendered unconscious, incapacitated, trapped, or begins to panic while in a confined space, the following general procedures shall be used for evacuation from a confined space.

a. An emergency rescue control point shall be established at a location suitable to supply emergency rescue assistance within a reasonable period of time. The senior NAVSUPPACT Naples Fire Department person in charge of the rescue shall determine this control point as soon as possible. The location shall be clearly evaluated dependent upon the nature and conditions of the operation and the space. In some cases such as emergency entries into the spaces that are immediately dangerous to life and health (IDLH), or with complex configurations, it may be necessary to locate the rescue points immediately adjacent to the space. In other cases the NAVSUPPACT Naples fire station is considered suitable for this purpose.

b. Emergency rescue control points shall be manned with an adequate number of trained and qualified personnel to enable rescue of personnel from the confined space involved.

c. The attendant who is stationed directly outside the confined space shall alert the fire guard, who is in communication range of the attendant, that a confined space emergency has occurred. The attendant shall not enter the confined space to attempt the rescue. No rescue attempt involving entry shall be made until the rescue point has been notified and Fire Department rescue personnel have arrived. Rescue efforts by means of a lifeline (if used) shall be made until assistance has arrived.

d. If the individual working in the confined space is:

(1) Unconscious or incapacitated, the Fire Department rescuer shall put on a NIOSH/MSHA approved pressure-demand Self-Contained Breathing Apparatus (SCBA), harness, and lifeline (where possible), and any other personal protective equipment (PPE) applicable to the conditions, enter the confined

space, and immediately rescue the victim. The safety observer (rescuer) shall assist/remove the victim out of the confined space. If the victim is unconscious, grasp under the arms or around the legs and pull the victim out of the confined space, taking particular care to avoid injuring the victim's head.

(2) Trapped or begins to panic, the rescuer shall verbally attempt to calm the victim by providing words of encouragement or whatever else is called for, depending on the situation. Should the individual become violent and refuse to calm down, the hospital should administer a sedative. Once the victim is calm, the victim shall be removed from the confined space.

e. Medical services and treatment for personnel overcome or injured in a confined space incident on NSA Naples are available at the Capo Clinic and U.S. Navy Hospital Emergency Room on Gricignano Support Site.

f. The Fire Guard shall alert the:

(1) Fire Department - Phone 4911 (give the nature of the emergency and location) via Mobile phone or hand held radio (Channel to be established).

(2) Naval Hospital - Phone 4911(give the nature of the emergency and location).

(3) Their appropriate supervisor (the supervisor shall notify the Safety Department - DSN 626-5105 or 626-5776)

g. After the Fire Guard has alerted everyone, the Fire Guard shall render assistance to the attendant as needed. Any such assistance shall take place outside the confined space (such as removal of equipment).

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# CONFINED SPACE/HAZARDOUS AREA ENTRY PERMIT

**NAVSUPPACT NAPLES FORM 5100/1 (New 5-09)**

| TYPE OF ENTRY (Check One): | DATE: | |
|---|---|---|
| ☐ Pump Station Dry Well ☐ Pump Station Wet Well ☐ Manhole ☐ Other (Explain): | PERMIT# | EXPIRES AT |
| | DATE: TIME: | |

REASON FOR ENTRY:

JOB LOCATION (ADDRESS):

ENTRY SUPERVISOR:

SPECIFIC HAZARDS THAT MAY BE ENCOUNTERED: ☐ ATMOSPHERIC ☐ PHYSICAL ☐ OTHER (explain)

| AUTHORIZED ENTRANTS | TIME IN | TIME OUT |
|---|---|---|
| | | |
| | | |
| | | |
| ATTENDANT | N/A | N/A |

***CONTROL OF HAZARDS***

| PHYSICAL HAZARDS REQUIREMENTS | YES | NO |
|---|---|---|
| FALL PROTECTION EQUIPMENT | | |
| LIGHTING (EXPLOSION PROOF) | | |
| HEARING PROTECTION | | |
| LOCKOUT/TAGOUT ELECTRICAL | | |
| SECURE AREA AND MONITOR | | |
| PERSONAL SAFETY EQUIPMENT | | |
| HARD HATS | | |

| ON-SITE RESCUE EQUIPMENT REQUIRED | YES | NO |
|---|---|---|
| FIRE EXTINGUISHER | | |
| RESPIRATOR/SCBA | | |
| COMMUNICATIONS DEVICES | | |
| MECHANICAL RETRIEVAL EQUIPMENT | | |

| ATMOSPHERIC EQUIPMENT REQUIRED | YES | NO |
|---|---|---|
| GAS DETECTOR | | |
| BLOWER / PURGE / VENTILATE | | |

**ATMOSPHERIC REQUIREMENTS**

| ACCEPTABLE LIMITS FOR ENTRY | | |
|---|---|---|
| OXYGEN | 20% - 22% | ($O_2$) |
| COMBUSTIBLE GAS (LEL) | 10% MAX | ($CH_4$) |
| HYDROGEN SULFIDE | 10 PPM | ($H_2S$) |
| CARBON MONOXIDE | 35 PPM | (CO) |

| RESULTS | TIME | $O_2$ | $CH_4$ | $H_2S$ | CO |
|---|---|---|---|---|---|
| PRE-ENTRY | | | | | |
| 15 MIN | | | | | |
| 30 MIN | | | | | |
| 45 MIN | | | | | |
| 60 MIN | | | | | |
| 75 MIN | | | | | |

GAS DETECTOR INFORMATION

| UNIT# | OPERATIONAL |
|---|---|
| LAST CALIBRATED | BATTERY CHECK |

| OTHER RESCUE INFORMATION CONCERNING THIS ENTRY | OTHER PERTINENT INFORMATION CONCERNING THIS ENTRY |
|---|---|
| | |

**EMERGENCY RESCUE INFORMATION**: In the event of a life threatening emergency, DIAL 911. If a telephone is not available call "EMERGENCY!" on the mobile radio system, tell them your address and to dial 911 and ask them to dispatch the NSA Fire & Rescue Team.

I certify that I have evaluated the situation, the assigned personnel and the procedures to be followed are in compliance with the confined space procedures.

Upon completion of entry:
Original to Confined Space Program Mgr.
One Copy to Entry Supervisor
One Copy to Safety Office

SIGNED _____

**THIS PERMIT MUST REMAIN ON-SITE DURING ENTRY**

(Use Reverse if Necessary)

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# PERMESSO DI ACCESSO PER SPAZIO CONFINATO

**NAVSUPPACT NAPLES FORM 5100/1 (New 5-09)**

| | |
|---|---|
| TYPE OF ENTRY (Check One): | DATA: |
| ☐ Stazione di Pompaggio Pozzo Secco ☐ Stazione di Pompaggio Pozzo Bagnato ☐ Tombino ☐ Altro (Specificare) | N. PERMESSO SCADENZA |
| | DATA: ORA: |

MOTIVO DELL'INGRESSO

LUOGO DEL LAVORO (INDIRIZZO):

SUPERVISORE ALL'ACCESSO:

PERICOLI SPECIFICI CHE SI POSSONO TROVARE: ☐ ATMOSFERICI ☐ FISICI ☐ ALTRI (spiegazione)

| PERSONE AUTORIZZATE ALL'INGRESSO | ORA D'INGRESSO | ORA D'USCITA |
|---|---|---|
| | | |
| | | |
| | | |
| ATTENDENTE | N/A | N/A |

***CONTROLLO DEI PERICOLI***

| PROTEZIONE DAI PERICOLI FISICI | SI | NO |
|---|---|---|
| PREVENZIONE DALLE CADUTE | | |
| ILLUMINAZIONE (ANTIDEFLAGRANTE) | | |
| BLOCCO ELETTRICO | | |
| ZONA DI SICUREZZA E MONITOR | | |
| DISPOSITIVI PROTEZIONE INDIVIDUALI | | |
| ELEMETTI PROTETTIVI | | |
| | | |

| EQUIPAGGIAMENTO PRESCRITTO | SI | NO |
|---|---|---|
| ESTINTORE | | |
| AUTORESPIRATORI | | |
| SISTEMI DI COMUNICATIONE | | |
| ATTREZZATURA PER IL RECUPERO | | |

| ATTREZZATURA MISURAZIONE ARIA | SI | NO |
|---|---|---|
| RILEVATORE DI GAS | | |
| VENTILATORE/ASPIRATORE | | |

| CONTROLLI ATMOSFERICI | | |
|---|---|---|
| **LIMITI ACCETTABILI** | | |
| OSSIGENO | 20% - 22% | ($O_2$) |
| GAS COMBUSTIBILI (LEL) | 10% MAX | ($CH_4$) |
| IDROGENO SOLFOROSO | 10 PPM | ($H_2S$) |
| MONOSSIDO DI CARBONIO | 35 PPM | (CO) |

| RISULTATI | ORA | $O_2$ | $CH_4$ | $H_2S$ | CO |
|---|---|---|---|---|---|
| PRE INGRESSO | | | | | |
| 15 MIN | | | | | |
| 30 MIN | | | | | |
| 45 MIN | | | | | |
| 60 MIN | | | | | |
| 75 MIN | | | | | |

| INFORMAZIONI INERENTI L'ATTREZZATURA | |
|---|---|
| UNIT# | OPERATIVITA' |
| DATA CALIBRATURA | CONTROLLO BATTERIE |

| ALTRE INFORMAZIONI NERENTI IL SOCCORSO | ALTRE INFORMAZIONI INERENTI L'ACCESSO |
|---|---|
| | |

**INFORMAZIONI PER IL SALVATAGGIO**: In caso di pericolo chamare il 911. Se non vi e' un telefono disponibile, dichiarare l'EMERGENZA via radio, indicando il luogo e di chiamare il 911 e chiedere di notificare il reparto dei Vigili del Fuoco.

Certifico che ho valutato la situazione e che il personale da me incaricato, e le procedure da adottare sono in conformita con le direttive inerenti l'accesso agli spazi confinati.

Una volta completato :
Originale al CSPM
Una Copia al Supervisore all'accesso
Una Copia all'ufficio Antinfortunistica

FIRMATO _____

**QUESTO PERMESSO DEVE ESSERE ESPOSTO SUL POSTO**

(Usare il retro di questo modulo se necessario)

Enclosure (5)

**NON-PERMIT REQUIRED CONFINED SPACE**
**ENTRY PROCEDURE & CHECK LIST**

LOCATION: _____
DATE: _____

YES NO

1. Is fan, if present, running?
[ ] [ ]

2. Is fan air intake and exhaust clear of obstruction or debris?
[ ] [ ]

3. Has atmosphere been tested?
[ ] [ ]

TEST RESULTS

| % OF OXYGEN 20 - 22 % | LOWER FLAMMABLE LIMIT (<10 %) | CARBON MONOXIDE (35 PPM)* | HYDROGEN SULFIDE (10 PPM)* |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

***8 Hour Time Weighted Average.**
**Employee can work in area for 8 hours.**

4. Were all tests results within acceptable limits without any additional actions being taken?
[ ] [ ]

YES NO

5. (A) Has interior of space been surveyed for potential hazards prior to entry?
[ ] [ ]

(B) Is interior of space clear of all potential hazards?
[ ] [ ]

6. (A) Has area surrounding space been surveyed for any potential hazards which may affect the safety of the space during unattended entry?
[ ] [ ]

(B) Is area around the space clear of all potential hazards?
[ ] [ ]

**IF THE ANSWER TO ANY OF THE ABOVE QUESTIONS IS "NO", THIS SPACE CANNOT BE ENTERED UNTIL ALL CONFINED SPACE REQUIREMENTS ARE MET.**

_____
Entry Supervisor

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**PROCEDURA D'ACCESSO E LISTA DI CONTROLLO PER GLI SPAZI CONFINATI NON DISCIPLINATI DA PERMESSO D'ACCESSO**

LOCALITA': _____

DATA: _____

SI NO

1. Il ventialtore, se presente, funziona?
[ ] [ ]

2. Il tubo di scarico e carico del ventilatore non e' ostruito?
[ ] [ ]

3. Sono state effettuate misurazioni dell'aria
[ ] [ ]

RISULATI DELLE MISURAZIONI

| % DI OSSIGENO 20 - 22 % | LIMITE MINIMO INFIAMMAB (<10 %) | MONOSSIDO DI CARBONIO (35 PPM)* | IDROGENO SOLFOROSO (10 PPM)* |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

***8 Ore di Tempo Ponderato**
**I lavoratori possono lavorare in zona 8 ore**

4. I risultati delle misurazioni erano nei limiti senza dover adottare nessun'altra precauzione?
[ ] [ ]

YES NO

5. (A) l'interno dello spazio confinato e' stato controllato per eventuali pericoli prima dell'accesso?
[ ] [ ]

(B) L'interno dello spazio confinato e' libero da eventuali pericoli?
[ ] [ ]

6. (A) Gli spazi confinati sono stati ispezionati per escludere la presenza d'eventuali pericoli che possono compromettere le operazioni d'ingresso?
[ ] [ ]

(B) La zona circostante e' libera da ogni eventuale pericolo?
[ ] [ ]

**SE UNA DELLE RISPOSTE E' NO ALLORA L'INGRESSO E' VIETATO FINO A QUANDO TUTTI I REQUISITI PER UN INGRESSO SICURO NON SIANO SODDISFATTI**

_____
Supervisore all'accesso

Enclosure (7)