

4 June 02

Description of Workplace: The steam pits are located all over the HAFB facility. A general description of these spaces is, that they are of cement construction. Large enough to stand up in, all spaces are covered with a steel manhole cover of approximately in 30” diameter, or a steel plate that covers the entire enclosure. Most pits are somewhat square in shape, housing isolating valves and in some cases, condensate return pumps or liquid movers. Spaces vary in size from approximately 6’x6’ 6’ deep to approximately 20’x20’ 12 deep. See attachment 1 for locations.

1. **Tasks/Operations to be performed:** Processes include cleaning, repacking valves, replacing or repairing piping, valves and pumps.
2. **Chemicals used:** None
3. **Technical Data Required** This Confined Space Master Entry Plan, AFOSHSTD 91-25, AFOSHSTD 91-10, AFI 32-1064 and The National Electric Code (NEC).
4. **Prevention of Unauthorized Entry:** Pit manholes have heavy large steel covers that require two people and special tools to remove. The work area will be roped off to limit entry and “Danger-Permit –Required Confine Space, Do Not Enter” signs will be posted.
5. **Potential Hazards:**

Potential Hazard Description: Excessive heat, possible burns and limited entry. The condensate return water that is returning to the boiler plant contains the chemical Cyclohexylamine.

- 6.2. **Control of Hazards:** Lock out tag out of affected steam distribution lines. Entry will only be permissible when pits have been opened, ample ventilation and testing procedures have been accomplished and paragraph 7.1 and 7.2 have been complied with.
 - 6.2.1. **Entry Permit:** Entry Permit Required
 - 6.2.1.1 **Permit:** Confined Space Entry Permit AF Form 1024.
 - 6.2.1.2. **Permit Requirements:** A confined space entry permit is required upon determination by the supervisor that there is a need to enter the confined space to perform maintenance.
 - 6.2.2. **Confined Space Reclassification:** None
7. **Entry Procedures:**

- 7.1 **Confined Space Isolation Methods/Lockout Tag-out:** Lockout tag-out procedures will be utilized to lock out all utilities being worked on, which would be steam valves, condensate return valves, and in some cases electrical fuse panels.
- 7.2. **7.2. Acceptable Entry Conditions:** Lockout tag out requirements listed in paragraph 7.1. must be completed. The manhole confined space will be tested with the MSA Passport. Oxygen levels will be tested first and must be between 19.5% and 23.5%. It will then be tested for the following items and readings must be within the following limits:
Flammability <10% LEL.

8. **Authorization**

- 8.1. **Confined Space Entry Team:** Will consist of trained and authorized personnel from the 75 CES/CEOH
- 8.2. **Confined Space Entry Team Responsibility:** A typical entry team consists of four or five people: the entry supervisor, the attendant, a runner, and up to two entrants.
- 8.2.1. **Entry Supervisor:** Responsible for the isolation of the area, the assigning of tasks, and the briefing of the personnel doing the tasks The entry supervisor insures all lockout tagout and acceptable entry conditions listed in paragraph 7.1. and 7.2. are complied with. Authorizes the confined space entry permit, makes sure the entry permit is complete, dated, and signed prior to the entry and cancels the permit if conditions are no longer acceptable. Entry Supervisor will act in accordance with all other duties outlined in AFOSH Std 91-25, par 2.13.
- 8.2.2. **Attendant:** Is responsible for maintaining an accurate count of entrants (who and number) in the permit space and keeping track of the entrant(s) and handing any needed equipment in or out of the manhole. He/she is to remain outside, on the upwind side of the manhole, in verbal contact with the entrant. Has authority to order entrants to exit the confined space at the first indication of a non-permitted condition, an unexpected hazard, indication of a toxic reaction (e.g., unusual conduct by the entrants), or if a situation occurs outside the space that could pose a hazard to the entrant(s). Keep unauthorized persons from entering the permit space. Know the procedure and have the means to summon immediate emergency assistance if needed. Remain at the attendant's post and not leave for any reason (except self-preservation) unless replaced by an equally qualified individual. Order the entrants to exit the space if the attendant must leave and there is no replacement. Attendant must not attempt rescue-involving entry. Make rescue efforts by means of the lifeline until assistance arrives.
- 8.2.3. **Entrants:** Reviews the permit before entry, complying with entry procedures, wears PPE (eye and face protection, hearing protection, and steel toe boots), full body harness with retrieval line, notifies entry supervisor of illness or medication being taken, alerts the attendant to any changes or conditions in the confined space and responds immediately to the attendants evacuation orders.

- 8.2.4. **Spotter/Runner:** Non-Entry person responsible for rescue procedures and contacting emergency personnel. Spotter will be the one to call 911 and notify Fire Department Emergency Rescue personnel of the location, victims condition, rescue procedures which are currently taking place, description of location and possible hazards that may exist. This information must be as detailed as possible.
9. **Training:** All personnel authorized to enter the confined space must be trained on confined space entry, site specific confined space training, cardiopulmonary resuscitation, respirator wear, use of PPE, retrieval/rescue equipment and atmospheric monitoring equipment. All training shall be documented on an **AF Form 55, Employee Safety and Health Record** Training records will be available for review by the CSPT during annual program evaluations or spot checks.
10. **Entry Equipment:** Hard hat, leather gloves, coveralls, eye protection and hearing protection, body harness and extraction tri-pod..
11. **Testing:** The MSA Passport detection meter will be used, the equipment has the capability to read LEL, Ooxygen levels, and Hydrogen Sulfide continuously. The testing is done prior to each entry, daily by the entry supervisor.
12. **12. Communication and Observation** The entrant and attendant will communicate verbally and maintain visual contact. All electric crews have communication by cellular phone to call emergency services. *Remember cell phone 911 calls go off base. For base rescue services call 777-1911 when using a cell phone. Base phones: Call 911 to notify base rescue service.*
13. **Rescue:** The Attendant will notify the runner to notify the Base Fire Department Emergency Rescue Service. Rescue will begin with attendant, runner and any other personnel present assisting in the extraction of the entrant out of the manhole confined space using the tripod. The attendant will perform first aid and CPR until the emergency services arrives
14. **Contractor Interface:** If a contractor is to enter a confined space listed under this MEP they must use their own equipment and permit. A copy of this master plan is given to contract management, who is responsible to inform the contractor of OSHA, AFOSH Standards, and local OI's. If the organization arranges to have a contractor perform work that involves a permit-required space entry, IAW 91-25 Ch 7 the contracting organization shall: Notify the contractor that work will be performed in a permit-required confined space and ensure the information is included in the statement of work (SOW) or equivalent contracting tool. Review emergency rescue responsibilities to determine whether the contractor supplies rescue team or if the installation fire department is expected to supply a rescue function. Ensure the fire chief coordinates on the contract and either approve or disapproves the use of the rescue team if supplied by the installation fire department. Brief the contractor on the contents of the space and known hazards that make the space permit-required. Brief the contractor on precautions and procedures that have been implemented by the organization to protect Air Force workers.

15. **Permit Routing and Control:** Permit will be kept on file in the 75 CES/CEOH shop for a period of one year after completion of work.
16. **Amendment to the MEP:** The MEP must be reviewed at least once a year. Changes to the to the MEP other than spelling and grammar must be coordinated with the entry supervisor, organizational safety office, Bio-environmental Engineering /SGPB, Fire Department /CEF and Base Safety Office /SEG. Amendments to the MEP will be brought to attention of the confined space entry team.
17. **Coordination:**

75 CES/CEOH (Forman)	Date
75 CEG/CEMS Ground Safety Manager	Date
OO-ALC/SEG Ground Safety Manager	Date
75 AMDS/SGPB Bio-environmental	Date
75 CES /CEF Fire Department	Date

ATTACHMENTS

1. Confined Space Pit Location Listing (See paragraph 1)
2. Confined Space Chemical Listing (See paragraph 3)
3. Confined Space Entry Authorization List

**CONFINED SPACE MASTER ENTRY PLAN
CE-003B
ATTACHMENT 1**

CONFINED SPACE PIT LISTING

Confined Spaces Boiler Blowdown Pits

Bldg./Location	Type/Equip.	Hazard Area
Boiler Plant 260 260	Blowdown Pit	Steam Pit
Boiler Plant 825 825	Blowdown Pit	Steam Pit
Boiler Plant 1590 1590	Blowdown Pit	Steam Pit
Boiler Plant 1624 1624	Blowdown Pit	Steam Pit
Boiler Plant 1703 1703	Blowdown Pit	Steam Pit
Boiler Plant 1904 1904	Blowdown Pit	Steam Pit
Boiler Plant 2025 2025	Blowdown Pit	Steam Pit
Boiler Plant 2104 2104	Blowdown Pit	Steam Pit
Boiler Plant 2203 2203	Blowdown Pit	Steam Pit

Confined Spaces Steam Distribution System Pits

Bldg./Location	Type
Boiler Plant 260 South Line South End Of Bldg. 265	Steam Pit

East Of Bldg. 269	Steam Pit
East Of Bldg. 266	Steam Pit
East Of Bldg. 276	Steam Pit
N.East Of Bldg. 510	Steam Pit
East Of Bldg. 508	Steam Pit
West Of Bldg. 576	Steam Pit
West Of Bldg. 592	Steam Pit
East Of Bldg. 594	Steam Pit
N.West Of Bldg. 590	Steam Pit
East Of Bldg. 589	Steam Pit
East Of Bldg. 596	Steam Pit

Boiler Plant 260 West Line

West Of Bldg. 230	Steam Pit
S.West Of Bldg. 230	Steam Pit
West Of Bldg. 150	Steam Pit
S.West Of Bldg. 150	Steam Pit
North Of Bldg. 150	Steam Pit
South Of Bldg. 180	Steam Pit
South Of Bldg. 133	Steam Pit

Boiler Plant 260 North Line

North Of Bldg. 260	Steam Pit
N.West Of Bldg. 227	Steam Pit
N.East Bldg. 100	Steam Pit
S.West Bldg. 100	Steam Pit
South Of Bldg. 120	Steam Pit
N.West Of Bldg. 119	Steam Pit
East Of Bldg. 36	Steam Pit
S.West Of Bldg. 39	Steam Pit
South Of Bldg. 39	Steam Pit
S.West Of Bldg. 37	Steam Pit
S.West Of Bldg. 42	Steam Pit
West Of Bldg. 236	Steam Pit
N.West Of Bldg. 236	Steam Pit
West Of Bldg. 233	Steam Pit
West Of Bldg. 206	Steam Pit
West Of Bldg. 202	Steam Pit
N.West Of Bldg. 21	Steam Pit

Boiler Plant 519

South Of Bldg. 260	Steam Pit
N.West Of Bldg. 245	Steam Pit
North Of Bldgs. 348, 349, 358	Steam Pit
Corner Of 6th And C	Steam Pit
S.West Of Bldg. 517	Steam Pit

West Of Bldg. 522	Steam Pit
East Of Bldg. 475	Steam Pit
N.East Of Bldg. 461	Steam Pit
S.East Of Bldg. 249	Steam Pit

Boiler Plant 825

S.East Of Bldg. 845	Steam Pit
East Of Bldg. 845	Steam Pit
S.West Of Bldg. 56	Steam Pit
South Of Bldg. 45	Steam Pit
South Of Bldg. 43	Steam Pit
South Of Bldg. 42	Steam Pit

Boiler Plant 1286

N.West Of Bldg. 1286	Steam Pit
N.West Of Bldg. 1239	Steam Pit
North Of Bldg. 1227	Steam Pit
East Of Bldg. 1202	Steam Pit
South Of Bldg. 1253	Steam Pit
Norrth Of Bldg. 1231	Steam Pit

Boiler Plant 1590

N.West Of Bldg. 1367	Steam Pit
Between Bldgs.981 &982	Steam Pit

Boiler Plant 1132

North Of Bldg. 1102	Steam Pit
South Of Bldg. 1124	Steam Pit
South Of Bldg. 1133	Steam Pit

Boiler Plant 1624

North Of Bldg. 1601	Steam Pit
South Of Bldg. 1608	Steam Pit
West Of Bldg. 1622	Steam Pit
East Of Bldg. 1623	Steam Pit
West Of Bldg. 1624	Steam Pit
East Of Bldg. 1624	Steam Pit
East Of Bldg. 1626	Steam Pit
East Of Bldg. 1642	Steam Pit

Boiler Plant 1703

West Of Bldg. 1703	Steam Pit
S.East Of Bldg. 1711	Steam Pit

Boiler Plant 1904

North Of Bldg. 1904	Steam Pit
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N.East Of Bldg. 1902	Steam Pit
North Of Bldg. 1910	Steam Pit
North Of Bldg. 1913	Steam Pit
N.East Of Bldg.1914	Steam Pit
North Of Bldg. 1915	Steam Pit
N.East Of Bldg. 1917	Steam Pit
Center Of Bldg. 1917	Steam Pit
S.East Of Bldg. 1917	Steam Pit
N.West Of Bldg. 1917	Steam Pit
North Of Bldg. 1919	Steam Pit
South Of Bldg. 1932	Steam Pit
North Of Bldg. 1941	Steam Pit
South Of Bldg. 1946	

Boiler Plant 2025

N.East Of Bldg. 2014	Steam Pit
East Of Bldg. 2014	Steam Pit
South Of Bldg. 2007	Steam Pit
North Of Bldg. 2008	Steam Pit
South Of Bldg. 2202	Steam Pit
East Of Bldg.2025	Steam Pit

Boiler Plant 2104

East Of Bldg.2101	Steam Pit
East Of Bldg. 2103	Steam Pit
East Of Bldg. 2104	Steam Pit
North Of Bldg. 2113	Steam Pit

Boiler Plant 2104

East Of Bldg. 2113	Steam Pit
S.East Of Bldg. 2113	Steam Pit
S.East Of Bldg. 2114	Steam Pit
East Of Bldg. 2112	Steam Pit
East Of Bldg. 2111	Steam Pit
South Of Bldg. 2135	Steam Pit
South Of Bldg.2148	Steam Pit
N.East Of Bldg. 2141	Steam Pit
West Of Bldg. 2142	Steam Pit

Boiler Plant 2203

East Of Bldg. 2201	Steam Pit
East Of Bldg. 2203	Steam Pit
East Of Bldg. 2214	Steam Pit
N.East Of Bldg. 2213	Steam Pit
Center Of Bldg. 2213	Steam Pit
South Of Bldg. 2213	Steam Pit

East Of Bldg. 2212
East Of Bldg. 2211
East Of Bldg. 2227
N.East Of Bldg. 2235
N.East Of Bldg. 2241
South Of Bldg. 2237
South Of Bldg. 2248

Steam Pit
Steam Pit
Steam Pit
Steam Pit
Steam Pit
Steam Pit
Steam Pit

Boiler Plant 825

South Of Bldg. 915
North Of Bldg. 845
N.East Of Bldg. 845

Steam Pit
Steam Pit
Steam Pit

**CONFINED SPACE MASTER ENTRY PLAN
CE-003B
ATTACHMENT 2**

CONFINED SPACE CHEMICAL LISTING

The following is a list of chemicals authorized for use during the confined space entry.

<u>Chemical</u>	<u>Quantities Authorized for Use</u>	<u>Expected Exposure Level</u>
None	N/A	N/A

**CONFINED SPACE MASTER ENTRY PLAN
CE-003B
ATTACHMENT 3**

CONFINED SPACE ENTRY AUTHORIZATION

The following personnel assigned to 75 CES/CEOH (Heat Plant) are authorized to approve and sign confined space entry

NAME	OFFICE SYMBOL	Primary/Alternate
Daniel Bybee	75 CES/CEOH	Primary
Steven Phillips	75 CES/CEOH	Alternate
William Whitney	75 CES/CEOH	Alternate
Randy Thompsen	75 CES/CEOH	Alternate
Boyd Wright	75 CES/CEOH	Alternate
Authur Parr	75 CES/CEOH	Alternate