

Environmental Standard Operating Procedure			
Originating Office: MCAS Yuma Environmental Department	Revision: Final Supersedes: n/a	Prepared By: EM-Assist, Inc. Kyle R. Petlock	Approved By: Christian Kost
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Title: Fuel Storage-Containers (Tactical Use)

1.0 PURPOSE

The purpose of this Environmental Standard Operating Procedure (ESOP) is to provide environmental guidelines for fuel storage containers during tactical operations.

2.0 APPLICATION

This guidance applies to those individuals who use fuel storage containers during tactical operations.

3.0 PROCEDURE

3.1 Discussion:

Fuel storage containers used during tactical operations requires the field operation and maintenance of “SIXCON” portable tank assemblies and related pumps, filter units, hoses, couplings and frameworks. SIXCON is the name for the liquid fuel storage, transporting, dispensing system which has six modules to form a standard 8’x 8’ x 20’ container. Each storage module contains a 900-gallon rigid metal tank mounted in a steel frame. Five fuel storage modules along with one fuel pump can be attached together to store and pump 4,500 gallons of fuel. This container can be transported by helicopter or truck to remote areas. The SIXCON system is used to store, transport and dispense fuel from either a static site or deployed on tactical medium and heavy lift trucks.

Fuel storage container operations require the use of hazardous materials (e.g., fuels such as JP-8, diesel, etc.) and generate waste such as used fuel filters. The use of fuels in a tactical setting can impact air, soil, and water quality and therefore must be managed properly to avoid impacts to human health and the environment. All hazardous materials must be stored in approved containers.

3.2 Operational Controls:

The following procedures apply:

1. Ensure that Material Safety Data Sheets (MSDSs) for all materials associated with this practice are current and available for inspection.
2. Ensure operation manuals are in designated locations and available at all times to appropriate personnel.

3. Ensure records of training and certifications are current and available for inspection.
4. Wear appropriate personal protective equipment (PPE), including splash proof goggles, cranials, steel-toed boots, respirators, coveralls and hearing protection, as necessary.
5. Ensure that turnover folder information or desktop procedures are kept for this practice and available for inspection.
6. Maintain a fully-stocked spill kit and fire extinguishers nearby in designated locations or in vehicles.
7. Ensure that all required permits are current, available for inspection and all applicable conditions followed (e.g., air, health, highway fuel transfer, etc.).
8. Ensure that tank frames for SIXCONs are properly stacked and interlocked.
9. Post grounding wire in the ground before using SIXCONs to ensure proper grounding during refueling operations.
10. Maintain all SIXCON tanks within secondary containment when not in transportation.
11. Limit the use of each container part to one type of fuel.
12. Keep hoses out of direct sun light if mission requirements allow or during storage, and minimize dragging hoses on the ground.
13. Maintain pump engines in the “off” position except when pumping fuel to limit air emissions.
14. Attach a red plastic cap on the end of all couplings (quick connects) and blow or wipe out any dust or sand before connecting.
15. Do not splash-fill SIXCON units. Place the hose near the bottom of the tank when filling begins and pump at a slow rate, thus reducing turbulence. When the hose end is submerged, loading can proceed at the full flow rate. Top loading should be done only if there is no other way.
16. Check “go/no-go” indicator before turning pump on. Ensure indicator is in the green or early yellow range.
17. Monitor the filter/separator ball level and drain water when the level is too high.
18. Keep fuel tank manhole covers on the SIXCON units closed except when fuel is added or removed, or for cleaning.

19. Ensure manhole cover on the SIXCON units are closed, properly secured and wired for transport before transporting tank. Limit driving speed at start up to minimize bumping of tanks and to minimize dust during transport.
20. Operate transport vehicles on primary, secondary, or tertiary roads only to minimize impacts to delicate desert soils.
21. Run all equipment through periodic pressure tests.
22. Inspect SIXCON tanks, secondary containment, and all valves, couplings and hoses to ensure they are free of leaks and in the fully closed position before and after each use. Maintain inspection records for the life of the equipment.
23. Roll out and inspect hoses weekly. Look for “sweating” (wet spots) on all hoses and seals. Replace compromised hoses as soon as possible.
24. Absorbent pads/material used within the secondary containment area which is contaminated with fuels must be managed in accordance with the “Checklist for Shop Towels and Rags” (StaO 6280.3G, Appendix L).
25. Clean all spills, as soon as they are identified and follow procedures in StaO 6280.3G, Chapter 4, Section 4002 (3)(a)(b), and report the incident to your supervisor. Additionally record all spills in a log book detailing the date, time, product spilled, quantity, location, cleanup actions taken, and the name of the person reporting the spill. As directed in StaO 6280.3G, ensure that a report containing this information is submitted to the Environmental Department.
26. Ensure that warning signs such as “No Smoking” and “Flammable Materials” “Hearing Protection Required” are clearly visible and legible from a distance of 25 feet in any direction.
27. If there are any specific situations or other concerns not addressed by this procedure, contact the Environmental Department.

3.3 Documentation and Record Keeping:

The following records must be maintained:

1. MSDSs for all materials associated with this practice
2. Training records and certifications for personnel
3. Hazardous materials inventory (must match Authorized Usage List)
4. Spill log book
5. Scheduled maintenance log book
6. Required permits

3.4 Training:

All personnel must be trained in this ESOP, to include the following, as applicable:

1. 40-hour Hazardous Waste Operations and Emergency Response Training (initial and annual)
2. Military Occupational Specialty School
3. Marine Corps Order training (Safety/Hazmat)
4. Preventative maintenance training
5. On-the-job training

3.5 Emergency Preparedness and Response Procedures:

Refer to Marine Corps Order (MCO) P5090.2A, Subject: Marine Corps Environmental Compliance and Protection Manual, Oil/Hazardous Substance Spills (OHSS) and Spill Prevention, Control and Countermeasures (SPCC) Plan for MCAS Yuma.

3.6 Inspection and Corrective Action:

The Environmental Compliance Coordinator (ECC) shall perform or designate personnel to perform inspections. The ECC shall ensure deficiencies noted during the inspections are corrected immediately. Actions taken to correct each deficiency shall be recorded on the inspection sheet.

4.0 REFERENCES

- 29 Code of Federal Regulations (CFR) 1910 (Occupation Safety and Health Standards)
- 40 CFR 262 (Standards Applicable to Generators of Hazardous Waste)
- AAC-R18-2 (Arizona Administrative Code)
- MCAS Yuma StaO 6280.3G Environmental Compliance and Protection Standard Operating Procedure.
- MCO P4790.2C (Marine Corps Integrated Maintenance Management System Field Procedures Manual), as applicable
- MCO P5090.2A (Marine Corps Environmental Compliance and Protection Manual)
- MCO P5100.8F (Marine Corps Occupational Safety and Health Program Manual)
- TM 3835-OIA (Marine Corps Technical Manual, Installation and Operation Marine Corps Tactical Fuel Systems, June 2005)
- OHSS/SPCC Plan

Fuel Storage-Containers (Tactical Use)– Inspection Checklist

Date:	Time:
Installation:	Work Center:
Inspector’s Name:	Signature:

Inspection Items	Yes	No	Comments
1. Are MSDSs current and available for inspection? <i>(29 CFR 1910, MCO P5100.8F)</i>			
2. Are operation manuals available and in a designated location and in vehicles? <i>(MCO P5090.2A)</i>			
3. Are required training records and certifications current and available for inspection? <i>(MCO P5090.2A)</i>			
4. Is appropriate PPE worn, as necessary? <i>(29 CFR 1910, MCO P5100.8F)</i>			
5. Are desktop procedures or turnover folder information kept for this practice and available for inspection? <i>(MCO P4790.2C)</i>			
6. Is a fully-stocked spill kit and fire extinguisher kept nearby in a designated location? <i>(29 CFR 1910, MCO P5100.8F)</i>			
7. Are all required permits current and available, and all applicable conditions followed? <i>(MCO P5090.2A, AAC-R18-2)</i>			
8. Are the SIXCON tank frames properly stacked and interlocked? <i>(29 CFR 1910, MCO P5090.2A, MCO P5100.8F)</i>			
9. Is the grounding wire posted in the ground before using SIXCONs during refueling operations? <i>(29 CFR 1910, MCO P5100.8F, MCO P5090.2A)</i>			
10. Are all SIXCON tanks maintained within secondary containment? <i>(29 CFR 1910, MCO P5090.2A, MCO P5100.8F)</i>			
11. Is each container limited to one type of fuel? <i>(MCO P5090.2A)</i>			
12. Are hoses kept out of direct sun light? Is dragging of hoses on the ground minimized? <i>(MCO P5090.2A)</i>			
13. Are pump engines maintained in the “off” position except when pumping fuel? <i>(MCO P5090.2A, AAC-R18-2)</i>			
14. Are red plastic caps on the end of all couplings (quick connects) attached and dust/sand removed before connecting?			

Inspection Items	Yes	No	Comments
<i>(MCO P5090.2A)</i>			
15. Is the hose placed near the bottom of the tank when filling begins and is pumping at a slow rate to reducing turbulence? <i>(TM 3835-OIA)</i>			
16. Is “go/no-go” indicator checked before turning pump on, to ensure indicator is in the green or early yellow range? <i>(MCO P5090.2A)</i>			
17. Is filter/separator ball level monitored and water drained when the level is too high? <i>(MCO P5090.2A)</i>			
18. Are SIXCON tank manhole covers kept closed except when fuel is added or removed, or for cleaning? <i>(40 CFR 262)</i>			
19. Are SIXCON manholes covers closed, properly secured and wired for transport before transporting tank? Is driving speed limited to minimize bumping of tanks and creation of dust during transport? <i>(MCO P5090.2A)</i>			
20. Are transport vehicles operated on primary, secondary, or tertiary roads only to minimize impacts to delicate desert soils? <i>(MCO P5090.2A, AAC-R18-2)</i>			
21. Is all equipment run through periodic pressure test? <i>(MCO P5090.2A)</i>			
22. Are SIXCON tanks, secondary containment, and all valves, couplings and hoses inspected to ensure they are free of leaks and in the fully closed position before and after each use? Are inspection records maintained for the life of the equipment? <i>(MCO P5090.2A)</i>			
23. Are seals and hoses rolled out and inspected weekly for “sweating” (wet spots)? Are compromised hoses/seals replaced as soon as possible? <i>(MCO P5090.2A)</i>			
24. Are absorbent pads/material used within the secondary containment area double bagged for disposal and taken to the SAA when contaminated with fuel? <i>(40 CFR 262)</i>			
25. Are inspection records current and available for examination for up to three years? Are monthly and yearly inspection records maintained for the life of the equipment?			

Inspection Items	Yes	No	Comments
<i>(MCO P5090.2A)</i>			
<p>26. Are spills cleaned, as soon as they are identified, and reported to the supervisor and the Environmental Dept? Are all spills recorded in a log book detailing the date, time, product spilled, quantity, location, cleanup actions taken, and the name of the person reporting the spill? Is a report containing this information submitted to the Environmental Dept? <i>(StaO 6280.3G, Section 4002(3)(a)(b))</i></p>			
<p>27. Are warning signs, such as “No Smoking”, “Flammable Materials” and “Hearing Protection Required”, clearly visible and legible from a distance of 25 feet in any direction? <i>(40 CFR 265)</i></p>			

ADDITIONAL COMMENTS:

CORRECTIVE ACTION TAKEN:

Environmental Compliance Coordinator

Name: _____

Signature: _____

Date: _____