

## **DEGREASING SOLVENT**

1. Version, Date. 3, 07 Sep 2014 (EMS)

2. Purpose. This Environmental Standard Operating Procedure (ESOP) establishes general use procedures for solvent-based parts washers as required by Marine Corps Base, Quantico's (MCBQ's) Title V Operating Permit to prevent the emission of volatile organic compounds (VOCs) and release of solvents at the Base. Compliance with these Title V Operating Permit requirements is mandatory and will assist with the management of solvent-based parts washers at MCBQ in accordance with the Base's air operating permit and the Base's management of hazardous waste (HW).

3. Applicability

a. Audience. This procedure applies to all personnel who manage or operate solvent-based parts washers.

b. Scope. This procedure applies to the routine operation of all solvent-based parts washers at MCBQ. Related procedures are provided as separate ESOPs.

4. Definitions

a. Immersion Parts Washing Machine. An immersion parts washing machine is a parts washer in which the parts are immersed in the solution during cleaning.

b. Parts Washer. Parts washers are equipment used to clean parts and components as part of a manufacturing or maintenance operation. Parts washers include cold cleaning units, vapor degreasers and conveyORIZED degreasers. Parts washer cleaning solutions can be solvents or aqueous cleaners. This ESOP covers solvent-based parts washers.

c. Personal Protective Equipment (PPE). PPE is equipment provided to shield or isolate a person from chemical, physical, and thermal hazards encountered with or around hazardous materials.

d. Remote Reservoir Parts Washing Machine. A remote reservoir parts washing machine is a parts washer with liquid solvent that is pumped to a sink-like work area and immediately drains back into an enclosed container while parts are being cleaned, allowing no solvent to pool in the work area.

e. Safety Data Sheet (SDS). SDSs are manufacturer generated form to provide workers and emergency personnel with proper information and procedures for handling or working with a particular product. These

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forms generally contain data related to physical and chemical characteristics, toxicity, health effects, first aid, reactivity, storage, disposal, protective equipment, and spill/leak procedures.

f. Solvents. Solvents are petroleum-based products such as mineral spirits, Stoddard solvent, and petroleum naphtha, and organic products such as trichloroethane, trichloroethylene, benzene, and xylenes.

g. Volatile Organic Compounds (VOCs). VOCs are organic compounds that are a component in significant atmospheric photochemical reactions as designated by the U.S. Environmental Protection Agency (EPA). VOCs react in sunlight to form ground level ozone, a major component of smog.

5. Responsible Parties. The following parties are responsible for activities described in this ESOP:

a. Parts Washer Operators

b. Shop Supervisors in which solvent-based parts washers are present

c. Natural Resources and Environmental Affairs (NREA) Branch Air Program Manager (APM)

d. NREA Branch Hazardous Waste Program Manager (HWPM)

e. NREA Branch Environmental Compliance Section

6. Procedures

a. Operating Solvent-Based Parts Washers (Instructions for Operational Control)

(1) Immersion and remote reservoir parts washing machines shall:

(a) Have a permanent, conspicuous label summarizing the operating requirements as shown in Good Operating Procedures for Cold Parts Washers (Attachment 7-1).

(b) Be equipped with a cover that shall be closed at all times except during cleaning of parts or the addition or removal of solvent.

(2) Solvent-based Parts Washer Operators shall:

(a) Post the Good Operating Procedures for Cold Parts Washers (Attachment 7-1) at each solvent-based parts washer station.

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(b) Refer to the applicable SDS based upon the solvent used and wear appropriate PPE (e.g., solvent impermeable gloves, goggles, apron, face shield).

(c) Keep the solvent-based parts washer cover closed whenever not adding or removing parts to be cleaned.

(d) Do not place solvent-based parts washers over or immediately next to floor drains.

(3) Solvent-based parts washing machines shall be operated in accordance with the following guidelines:

(a) Cleaned parts shall be drained at least 15 seconds or until dripping ceases, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while the part is draining. During the draining, tipping or rotating, the parts shall be positioned so that solvent drains directly back to the machine.

(b) Flushing of parts using a flexible hose or other flushing device shall be performed only within the freeboard area of the machine. The solvent spray shall be a solid fluid stream, not an atomized or shower spray.

(c) The spray nozzle shall be operated with no observable splashing of the solvent against the tank walls or the parts being cleaned.

(d) The operator shall ensure that the solvent level does not exceed the fill line.

(e) The operator shall ensure that, when the parts washing machine cover is open, it is not exposed to drafts or wind greater than 1.5 miles per hour.

(f) Work area fans shall be located and positioned so that they do not blow across the tank lip of the parts washing machine at the same elevation.

(g) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the solvent-based parts washing machine.

(h) Spills during solvent transfer and use of the cold cleaning machine shall be cleaned up immediately, and the wipe rags or other sorbent material shall be immediately stored in covered containers labeled for disposal or recycling.

(4) NREA Branch Environmental Compliance Section shall:

(a) Ensure that solvent-based parts washers used aboard MCBQ do not exceed a vapor pressure of 1.0 millimeters of mercury (mm

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Hg) at 20 degrees Centigrade (68 degrees Fahrenheit). Refer to the SDS Sheet of the solvent being used to determine the vapor pressure.

(b) Collect pertinent solvent data from manufacturers as required by Virginia Department of Environmental Quality (VDEQ) as listed below:

1. The name and address of the solvent supplier.
2. The type of solvent including the product or vendor identification number.
3. The vapor pressure of the solvent measured in mm Hg at 20 degrees Centigrade (68 degrees Fahrenheit).

(c) The NREA Branch Environmental Compliance Section will keep this data for a five year period and provide it to VDEQ upon request.

### b. Processing Waste Solvent from Solvent-Based Parts Washers (Instructions for Operational Control)

(1) Appropriately trained personnel or contractors change the spent solvent. Solvent change-out occurs on a regular basis and the waste solvent is managed as follows:

(a) Do not transfer waste solvent to another party for use or disposal.

(b) Solvent in Safety-Kleen units is managed by Safety-Kleen. For all other brands of parts washers, contact the NREA Branch Environmental Compliance Section at (703) 432-4030 for storage and disposal assistance prior to the removal of fluids.

(c) Store waste solvent only in closed and appropriately labeled containers.

(2) The NREA Branch Environmental Compliance Section maintains a shipment log for all waste solvent. They may be contacted at (703) 432-4030 for other disposal issues.

## 7. Inspection and Corrective Action

a. The NREA Branch Hazardous Waste Program is responsible for the following inspections and corrective actions:

(1) Inspect parts washers every quarter using the MCBQ Work Center Compliance Checklist, Parts Washers (Attachment 7-2).

(2) Maintain copies of the quarterly inspection records.

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(3) Identify any new parts washers and add them to MCBQ's inventory.

(4) Perform CAs needed to correct the problem(s) for all identified deficiencies.

b. The APM is responsible for updating the procedure to reflect any changes related to MCBQ solvent-based parts washers in the air operating permit.

### 8. Internal Communication

a. Report non-compliance with posted operating procedures to Parts Washer Operators and then to shop supervisors and document non-compliance on the quarterly inspection forms.

b. Discuss and review the procedure and post changes to the procedure as needed.

c. Post procedure and communicate changes to the parts washer operators, shop supervisor, and APM.

### 9. Training/Awareness

a. NREA Branch, Hazardous Waste Program will identify any personnel requiring training on general use practices of parts washers, during quarterly inspections. In between courses, the NREA Branch may provide additional guidance per request.

b. The NREA Branch Environmental Planning Section facilitates training on this ESOP to the target audience mentioned in paragraph 3.a

c. The APM provides or facilitates an annual MCBQ Title V Parts Washer class, as needed, to ensure all responsible parties are aware of air permit requirements.

### 10. Emergency Preparedness and Response

a. Parts Washer Operators immediately clean up spills that occur during operation of the parts washer or during solvent transfer using wipe rags and other absorbent material. Place wipe rags or other absorbent materials in closed and labeled containers for subsequent management.

b. Parts Washer Operators should maintain adequate spill response materials near the parts washer.

c. Report spills that cannot be cleaned up immediately to the MCBQ Fire Department (911). After notifying the MCBQ Fire Department, notify the NREA Branch (703-784-4030) of any materials that must be removed and disposed as hazardous waste.

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11. References and Related Documents

- a. Virginia Air Pollution Control Regulations (9 VAC 5-40-6840A)
- b. MCBQ ISMP
- c. Good Operating Procedures for Cold Parts Washers (Attachment 7-1)
- d. MCBQ Work Center Compliance Checklist, Parts Washers (Attachment 7-2)
- e. MCBQ ESOP #2 - HW Storage Area

12. Document Revision History. The following provides a history of revisions of this ESOP:

Revision Number	Revision Date	Revision Made By	Organization or Section	Paragraph	Summary of Change & Reason	Signature
1	7/2008	Patti Greek	Compliance	All	Grammar and technical revisions	P. Greek
2	11/2012	Andrew McClelland	Compliance	3	Comment about SPM	A. McClelland
3	03/07/14	Dave Grose	Environmental Planning	All	Grammar and technical revisions	D. Grose

13. Document Owner. This document has been reviewed and approved by the document owner. Any revisions or future updates to the procedure will be completed by the document owner as needed.

- a. Document Owner. Environmental Protection Specialist, Hazardous Waste Program, NREA Branch.
- b. Document Approval. Chair, E<sup>2</sup>MS Implementation Team.

# GOOD OPERATING PROCEDURES FOR COLD PARTS WASHERS

Virginia's air pollution control regulations (9 VAC 5-40-6840) require the following good operating procedures to minimize emissions of VOCs:

- The parts washer must remain closed except when in use.
- Store waste solvent only in closed containers.
- Cleaned parts should drain for at least 15 seconds or until dripping ceases. Tip and rotate the part so that solvent drains directly back into the parts washer.
- If used, the solvent spray should be a solid, fluid stream (not a fine, atomized or shower type spray) inside the parts washer. Pump-agitated baths must be operated with no observable splashing.\*  
\* Air-agitated baths may not be used.
- Do not operate the parts washer near a draft greater than 40 meters/minute (132 feet per minute or 1.5 miles per hour).\*\*  
\*\* as measured between 1 and 2 meters (3.3 and 6.6 feet) upwind at the same elevation as the tank lip.
- Do not clean absorbent materials (such as sponges, fabric, wood, leather, and paper) in the parts washer.
- Clean up solvent spills immediately, and store wipe rags in a closed container for disposal or recycling.
- Position fans so that they do not blow across the parts washer opening.
- The solvent level must not exceed the fill line of the parts washer.
- The solvent vapor pressure must not exceed 1.0 mm Hg at 20°C (68°F).

If you have questions regarding the parts washer, contact Andrew McClelland 432-0529.

**MCBQ WORK CENTER COMPLIANCE CHECKLIST**

**PARTS WASHERS**

<b>Equipment:</b>		<b>Process Equipment Requirements - (emission unit ID#PW) - Parts Washers</b>					
		<b>Virginia Title V Air Permit Maintenance Inspection</b>					
<b>Unit:</b>		<b>Building No:</b>		<b>Location:</b>			
<b>Parts Washer Operator/Phone:</b>		<b>Date of Inspection:</b>		<b>Inspector:</b>			
<b>Limitations</b>					<b>Yes</b>	<b>No</b>	<b>Comments</b>
1	Is the "Good Operating Procedures for Cold Parts Washers" sign placed in a visible location near the parts washer?						
2	Is the degreaser cover kept closed when not handling parts in the washer? For machines where solvent drains directly into a remote reservoir, a perforated drain < 6 inches in diameter is an acceptable cover.						
3	If the washer is equipped with a lid as a cover, is the lid easy to operate with one hand?						
4	Does the solvent level not exceed the fill line?						
5	If waste solvent is stored on site, is it kept in closed containers?						
6	When spraying solvent, is the spray a solid, fluid stream that does not cause excessive splashing?						
7	If cleaning pads are used, are they stored in a closed container outside of the parts washer?						
<b>Please describe any degreaser servicing and equipment changes here:</b>							