

Environmental Standard Operating Procedure			
Originating Office: MCAS Miramar Environmental Management Department	Revision: Original	Prepared By: Environmental Management Department	Approved By: William Moog
File Name: GRI-ESOP	Effective Date: 17 Sep 2007	Document Owner: EMD	

Title: Grinding/Polishing Operations

1.0 PURPOSE

The purpose of this Environmental Standard Operating Procedure (ESOP) is to provide environmental guidelines for performing grinding and polishing activities.

2.0 APPLICATION

This guidance applies to those individuals who perform daily grinding and polishing operations onboard Marine Corps Air Station (MCAS) Miramar.

3.0 REFERENCES

- 29 CFR 1910, 1926 (Code of Federal Regulations)
- MCO P4790.2C (Marine Corps Order)
- MCO P5090.2A (USMC Environmental Compliance and Protection Manual)
- OPNAV 5090 (Office of the Chief of Naval Operations Instruction)
- Station Order 6280.1A

4.0 PROCEDURE

4.1 Discussion:

Grinding and polishing operations require the use of hazardous materials such as argon, oxygen, acetylene and nitrogen gases. Proper ventilation and personnel protective equipment (PPE) must be utilized to protect personnel from toxic fumes and vapors generated by grinding and polishing operations. All hazardous materials must be stored in approved containers, and must be managed properly to minimize impacts to human health and the environment. Units are equipped with approved compressed gas storage tanks and aboveground storage tanks (ASTs), as necessary. Units should contact the Environmental Management Department (EMD) for replacement of or to request additional containers.

4.2 Operational Controls:

The following procedures apply:

1. Ensure that Material Safety Data Sheets (MSDS) for argon, oxygen, acetylene, nitrogen and all materials associated with this practice are current and available for inspection.
2. Ensure that the operation manual for each piece of equipment is available and is in a designated location known to all personnel.
3. Ensure that records of all required training and certifications are current and available for inspection.
4. Ensure turnover folder information is kept for this practice.
5. Wear appropriate PPE including but not limited to eye protection, welding face shields, gloves, hearing protection, aprons, coveralls and steel-toed boots.
6. Ensure that fire extinguishers are nearby in designated locations known to all personnel.
7. Obtain a Base Fire Permit before conducting grinding/polishing operations outside of work shop.
8. Use only argon, acetylene, oxygen and/or nitrogen from approved compressed gas storage tanks for grinding/polishing operations.
9. Conduct periodic equipment maintenance as recommended by manufacturer.
10. Ensure ventilation carries vapors and fumes away from the point of operation and into an area where they do not cause a health concern to other personnel.
11. Maintain two-thousand (2,000) cubic feet per minute (CFM) through the exhaust system.
12. Grinding and polishing on Chemical Agent Resistant Coating (CARC) vehicles and equipment are prohibited.
13. Ensure that proper surface preparation (e.g. paint removal) is conducted prior to grinding and polishing operations.
14. Ensure that oxygen and acetylene tanks are segregated and secured with caps attached when stored and during transportation with a rope or chain.
15. Never cut or pierce containers that have held combustibles, potentially flammable materials, or pressurized cylinders, pipes or vessels.
16. Never conduct grinding and polishing operations in areas containing explosive dust or vapors.
17. Document periodic inspections of storage areas.
18. Sweep up any grinding debris after each use of grinding equipment.
19. Cover sanded or grinded items to be left outdoors with a water proof cover.

20. Ensure that warning signs reading "Grinding/Polishing in Process" are clearly visible and legible from a distance of 25 feet in any direction.
21. Ensure that barricades are in place, sectioning off the area during grinding/polishing operations.
22. Maintain personnel who are observing grinding and polishing operations at safe distance from and shielded from the welding arc.
23. If there are any specific situations or other concerns not addressed by this procedure, contact the EMD.

4.3 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. Operation manuals for all grinding and polishing equipment.
4. Hazardous materials inventory (must match Authorized Usage List).
5. Inspection records.

4.4 Training:

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

1. Hazard Communication (HazCom) training.
2. Respiratory Protection course.
3. On-the-job training.

4.5 Emergency Preparedness and Response Procedures:

Refer to: Marine Corps Order (MCO) P5090.2A, Environmental Compliance and Protection Manual; Chapter 7; Emergency Planning and Response.

4.6 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.

Grinding/Polishing Operations – Inspection Checklist	
Date:	Time:
Installation:	Work Center:
Inspector’s Name:	Signature:

Inspection Items	Yes	No	Comments
1. Are MSDSs for all materials associated with this practice current and available for inspection? <i>(29 CFR 1910)</i>			
2. Are the operation manuals for each piece of equipment available and in a designated location known to all personnel? <i>(MCO P5090.2A)</i>			
3. Are required current training and certifications maintained for all personnel? <i>(MCO P5090.2A)</i>			
4. Is turnover folder information kept for this practice? <i>(MCO P4790.2C)</i>			
5. Is appropriate PPE worn as needed? <i>(29 CFR 1910)</i>			
6. Are fire extinguishers maintained nearby in designated locations known to all personnel? <i>(29 CFR 1910, MCO P5090.2A)</i>			
7. Is a Base Fire Permit obtained before conducting welding operations outside of work shop? <i>(29 CFR 1926, Station Order 6280.1A)</i>			
8. Are only argon, acetylene, oxygen and/or nitrogen from approved compressed gas storage tanks used for grinding/polishing operations? <i>(29 CFR 1926, MCO P5090.2A)</i>			
9. Is periodic equipment maintenance conducted as recommended by the manufacturer(s)? <i>(MCO P5090.2A)</i>			
10. Does ventilation carry vapors and fumes away from the point of operation and into an area where they do not cause a health concern to other personnel? <i>(29 CFR 1910)</i>			
11. Is 2,000 CFM maintained through the exhaust system? <i>(29 CFR 1910)</i>			
12. Is grinding and polishing on CARC coated vehicles and equipment avoided?			

(MCO P5090.2A)			
13. Is proper surface preparation accomplished prior to grinding and polishing operations? (29 CFR 1926))			
14. Are observers kept a safe distance from grinding and polishing operations and shielded from the grinding arc? (29 CFR 1926)			
15. Are oxygen and acetylene tanks segregated and secured with caps attached when stored and transported? (29 CFR 1910)			
16. Is cutting containers with potentially flammable, combustible, or pressurized materials prohibited? (MCO P5090.2A)			
17. Are grinding/polishing operations halted in areas containing explosive dust or vapors? (MCO P5090.2A)			
18. Are warning signs reading “Grinding/Polishing in Process” clearly visible and legible from a distance of 25 feet in any direction? (29 CFR 1910, MCO P5090.2A, OPNAV 5090)			
19. Are barricades in place, sectioning off the area during grinding/polishing operations? (29 CFR 1910, MCO P5090.2A, OPNAV 5090)			

ADDITIONAL COMMENTS:

CORRECTIVE ACTION TAKEN:

Environmental Compliance Coordinator

Name: _____

Signature: _____

Date: _____