

GRINDING AND POLISHING

1. Version, Date. 2, 14 May 2013

2. Purpose. This Environmental Standard Operating Procedure (ESOP) summarizes the procedures for grinding and polishing activities (i.e., sandblasting) at Marine Corps Base, Quantico (MCBQ).

3. Applicability

a. Audience. This ESOP is directed towards individuals who perform any of the operations described herein. All personnel aboard MCBQ shall take responsibility to follow the procedures contained within this ESOP.

b. Scope. This ESOP addresses activities such as abrasive blasting, grinding, and sandblasting. Procedures are provided as separate ESOPs for: Hazardous Material Storage Area - Hazardous Material Management (ESOP #3) and Hazardous Waste - Satellite Accumulation Areas (ESOP #28).

4. Definitions. The following definitions are provided to support this procedure:

a. Abrasive blasting. Directing a stream of abrasive material, under high pressure, at an object. This activity is performed to make a material smoother, remove surface contaminants, or to roughen a surface.

b. Baghouse. An air-cleaning system that ventilates air from dust.

c. Grinding. To wear, smooth, or sharpen by abrasion or friction.

d. Polishing. Includes abrasive blasting and/or chemical application.

e. Sanding. To smooth or polish with sand or sandpaper, or some other abrasive.

5. Responsible Parties. The following parties are responsible for grinding and polishing activities at MCBQ:

a. Any shop conducting grinding, polishing, or abrasive cleaning activities aboard MCBQ, including sanding, abrasive blasting, or grinding of metal parts.

Grinding and Polishing ESOP

b. G-5, Natural Resources and Environmental Affairs (NREA) Branch, Environmental Compliance Section.

6. Procedures for Grinding and Polishing Activities (Instructions for Operational Control). There are numerous types of grinding and abrasive cleaning activities that have an impact to the environment. The action of grinding or polishing often creates particulate matter that has a potential of being inhaled, and therefore these activities generally should not be conducted outside or without the use of a blast booth or baghouse to collect the particulate emissions. Grinding and polishing can involve activities such as prepping parts prior to painting, woodworking activities that may involve sanding, abrasive blasting of metals parts, or grinding metal parts. In addition, depending on the substrate involved in the process, a hazardous waste may be generated through grinding, sanding, or abrasive blasting. In order to protect human health and the environment while conducting grinding or abrasive blasting operations, the following activities are required:

a. Polishing/Abrasive Blasting Requirements.

(1) Ensure all abrasive blasting activities are within an abrasive blast booth.

(2) Replace blast media according to manufacturer's recommendations.

(3) Discard spent blast media in accordance with the MCBQ Hazardous Waste Management Plan (HWMP).

(4) Clean the part of all residual dust and particulates before removal from the blast booth.

(5) For abrasive blasting operations occurring inside a walk-in booth, wear proper Personal Protective Equipment (PPE).

(6) All abrasive blasting must be conducted indoors inside of blast cabinets. Conducting abrasive blasting that may vent to the outside may require a permit and is therefore prohibited. .

b. Grinding Requirements.

(1) Conduct all grinding operations inside.

(2) Ensure that proper surface preparation (e.g., paint removal) is conducted prior to grinding operations.

(3) Do not conduct grinding operations on any surface coated with Chemical Agent Resistant Coating (CARC) paint.

(4) Collect all grinding debris after each activity and discard as outlined in the MCBQ HWMP.

Grinding and Polishing ESOP

(5) All personnel conducting grinding operations must wear appropriate PPE including eye protection and a dust mask.

c. Sanding operations.

(1) Conduct all sanding operations indoors with proper ventilations.

(2) Vacuum or collect all sanding debris at the conclusion of sanding operations.

(3) All personnel conducting sanding operations must wear appropriate PPE including eye protection and a dust mask.

7. Inspections and Corrective Actions. Abrasive blast booths and grinding operations commonly have satellite accumulation areas associated with the practice, as hazardous waste may be generated depending on the surface being grinded or sanded. Satellite accumulation areas must be inspected using the checklist provided in the MCBQ HWMP. In addition, the abrasive blast media must be periodically inspected to ensure it does not need to be replaced.

8. Internal Communication. In the event of a malfunction of any abrasive blasting, grinding, or sanding equipment, immediately notify the NREA Branch at (703) 784-4030.

9. Training/Awareness. Hazard Communication (HAZCOM) training provides workers training in hazard communication relevant to the properties and potential health and safety hazards associated with the materials they are exposed to in the workplace. All individuals working with aerosol paint as part of their normal duties should receive appropriate HAZCOM training.

10. Emergency Preparedness and Response. The likelihood of a release of fugitive dust is minimal if operations are conducted indoors within a blast booth; if operations are conducted outside of a booth designed to contain fugitive dust, then proper PPE including a dust mask or respirator must be worn and fugitive dust should be collected with a vacuum as soon as possible. Following the procedures listed in Section 6 above should serve to minimize the potential for a release.

11. References and Related Documents. The following references are relevant to this procedure:

- a. MCBQ Hazardous Waste Management Plan.
- b. ESOP #3, Hazardous Material Storage Area - Hazardous Material Management.
- c. ESOP #28, Hazardous Waste - Satellite Accumulation Areas
- b. MCO 4450.12, Storage and Handling of Hazardous Materials.

Grinding and Polishing ESOP

c. MCO P5090.2A, Environmental Compliance and Protection Manual.

d. MCBO 6280.1B, Handling, Transfer, and Disposal of Hazardous Materials and Hazardous Waste.

e. MCBO 6280.4, Hazardous Material Management Program.

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

Revision Number	Date	Revision Made By	Section	Page	Summary of Change and Reason	Signature
2	5/13	AM & JDG	Air and EMS	All	Updated Air Prg. Req. & Grammar	JDG

13. Document Owner. This document has been reviewed and approved by the practice owners. Should the practice change, resulting in a need to modify this ESOP, practice owners will notify the NREA Branch, EMS Coordinator at (703)432-0525.

a. Document Owner. NREA Branch, Environmental Compliance Section.

b. Document Approval. Chair, E²MS Implementation Team