



NAVFAC MIDLANT CLEAN AIR ACT COMPLIANCE GUIDE FOR HAMPTON ROADS

DECEMBER 2010

This guide provides procedures to ensure operation of equipment and processes at installations in the Hampton Roads area of Virginia meet State, Federal, and Navy Clean Air Act requirements. **It is very important to notify your Air Manager before beginning any new process or ordering any new or replacement equipment that may produce air emissions.** For questions regarding this guide please contact the NAVFAC MIDLANT Air Manager listed below

Facility	Air Manager
Naval Station (NAVSTA) Norfolk Naval Security Activity (NSA) Norfolk, including Lafayette River Annex NSA NNSY Annexes (St Juliens, Southgate, Scotts Center) Craney Island Fuel Terminal	757-341-0387
Naval Air Station (NAS) Oceana, including Dam Neck and NALF Fentress NSA Norfolk Northwest Annex Dare County Range Joint Expeditionary Base (JEB) Little Creek and Fort Story Wallops Island	757-341-0398
Naval Weapons Station (NWS) Yorktown and Cheatham Annex Yorktown Fuel Depot New Kent ROTHF	757-341-0384

Operations onboard Naval Medical Center Portsmouth and Norfolk Naval Shipyard are not covered by this guidance. Contact the Environmental office at those facilities for guidance.

All reports required must be submitted **by the 5th of each month** for the previous month's work. Negative replies (zero usage) are required. If the 5th falls on a weekend or holiday, submit the next business day. For questions on report submissions or to obtain electronic versions of forms:

PHONE 757-341-0446 FAX 757-341-0399 or 757-341-0499

This guide is available electronically on the NAVFAC MIDLANT PORTAL:
https://portal.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_navfacmidlant_pp/midlant_ps/environmental_norfolk/tab3987837

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PREPARED BY: NAVFAC MIDLANT

ENVIRONMENTAL AIR MANAGERS

APPROVED BY: EQMB

REV. NO.	EFFECTIVE DATE	DESCRIPTION OF REVISION	APPROVAL	
			SIGNATURE	DATE
A	Jan 2006	Original Issue		
B	Jan 2007	Updated POCs		
C	Dec 2010	Updated POCs, deleted asphalt paving, and added requirements for: building demolition and state asbestos notifications; A/C&R leak rate calculations; fuel fired internal combustion equipment; release reporting; Little Creek ship painting.	<i>N. L. Coward</i>	<i>12/27/2010</i>

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ABBREVIATIONS

A/C&R	Air Conditioning and Refrigeration
CAA	Clean Air Act
CFR	Code of Federal Regulations
DoD	Department of Defense
DOLI	Department of Labor and Industry
DoN	Department of the Navy
DPG	Differential Pressure Gage
EPA	Environmental Protection Agency
ESD	Environmental Services Division
FISC	Fleet Industrial Supply Center
HAP	Hazardous Air Pollutant
GHG	Greenhouse Gas
ICE	Internal Combustion Engine
ODS	Ozone Depleting Substances
PM	Particulate Matter
VDEQ	Virginia Department of Environmental Quality
VE	Visible Evaluation
VEE	Visible Emission Evaluation (Method 9)
VOC	Volatile Organic Compound

MEASUREMENTS

CuFt or Ft ³	Cubic Feet
SF or Ft ²	square feet
g/l	grams per liter
lb/gal	pounds per gallon
LF	linear feet
mm Hg	millimeters of mercury
psi	pounds per square inch

CONVERSIONS

1 kilowatt	=0.7456 horsepower
1 gallon	= 128 ounces = 8 pints = 4 quarts
1 quart	= 2 pints = 32 ounces
1 pint	= 16 ounces

SECTION I - GENERAL INFORMATION

Regulatory background - Operations and processes that have a potential to emit to the outdoor air are regulated by the Environmental Protection Agency (EPA) under the Clean Air Act (CAA). The federal regulations are found in the Code of Federal Regulations (CFR). The Virginia Department of Environmental Quality (VDEQ) regulations incorporate EPA regulations and can add additional requirements. Since regulations are typically written to pertain to specific industrial processes, this guide is organized by process.

Applicability of many EPA regulations depends on the size of the facility where the operation occurs. For example, ship painting at NWS Yorktown will not have the same requirements as ship painting at NAVSTA Norfolk. This guide provides basic information on air compliance. Your air manager and installation environmental staff will work with you to ensure you are aware of your particular requirements.

New, Replacement, and/or Modified Equipment or Processes - may require VDEQ air permitting BEFORE equipment is installed. Therefore, any plan to install, modify, or replace equipment or processes that may result in air emissions must be reported to your air manager at least 6 months prior to the planned installation or modification so that any necessary air permits can be secured. Failure to do so will result in work stoppage while the air permit is secured, and may result in enforcement action by the regulator. Only the air manager is authorized to secure air permits for air emission sources being installed at our installations.

Installation of internal combustion engines (ICE) such as generators, fire pumps, and compressors also requires manufacturer certification that the unit meets EPA emission standards. It is important to ensure any ICE installed meets this requirement. Copies of the EPA certification must be submitted to your air manager.

Typical Air Emissions governed by EPA and VDEQ are listed below.

- **Ozone Depleting Substances (ODS)** harm the ozone layer that provides protection from the sun. ODS compounds include refrigerant used in air conditioning and refrigeration (A/C&R) systems, Halon used in fire fighting, and some cleaning solvents. Most of the ODS cleaning solvents have been phased out of the supply system since there are effective environmentally preferred alternatives readily available.
- **Volatile Organic Compounds (VOC)** at ground level form smog (ground level ozone). Common sources of VOC are paint, paint thinner, cleaning solvents, and gasoline.
- **Greenhouse Gases (GHG)** are formed by many processes, including fuel combustion. GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).
- **Sulfur Dioxide (SO₂), Nitrogen Oxide (NO_x), and Carbon Monoxide (CO)** are formed by fuel combustion.
- **Particulate Matter (PM)** results from processes such as abrasive blasting, concrete crushing, construction activities, firing ranges, paint chipping and sanding, spray painting, and woodworking. Dust is a form of PM.

SECTION II - TYPICAL AIR PERMIT REQUIREMENTS

Condition Assessments of control equipment such as filters, baghouses, and cyclones are required to reduce risk of excess air emissions. Such equipment is commonly found on blast booths, paint booths, and woodworking equipment. The two parts of a condition assessment are: (1) checking the physical condition of the equipment prior to operation and (2) checking the pressure drop across the filter systems during operation. See section III for instructions on how to perform these assessments. ***Do not operate without properly functioning control equipment. Secure operation until repairs are made and document all corrective actions.***

Proper Operation & Maintenance (O&M) of air emission units and control equipment is required to reduce risk of excess air emissions. Maintain the following records to document proper O&M:

1. Written standard operating procedures (SOPs) based on manufacturer recommendations
2. Maintenance records for scheduled and unscheduled maintenance and/or repairs
3. Operator training to show familiarization with SOPs (records must include date of training, nature of training, employee name, and who performed training). See next page for sample training log.
4. Inventory of spare parts needed to avoid excess air emissions (e.g. extra paint booth filters)

Records availability and retention- All records specified in this guide are required by Federal, State, DoD, and/or DoN regulation. The following applies:

1. Records must be maintained on-site at the operation for at least (5) five years.
2. Records must be available for announced and unannounced inspection by Navy, VDEQ, and EPA
3. Electronic records must be available for review during unannounced inspections either via personnel on-site accessing the system or having a sample printed record available for review.
4. Typical records include: gallons paint used; gallons fuel burned; results of condition assessments, visible emission (VE) checks, and Visible Emission Evaluation (VEE) Method 9 results.

Reports - are due by the 5th of each month for the previous month's work. Reports are also required to document "zero" usage. Any form presented in this guideline is available electronically upon request. Alternate forms may be used provided they contain all required information.

Release Reporting -VDEQ requires notification for incidents of "excess air emissions" that last one hour or more. Your air manager is responsible for making this notification within 4 business hours of occurrence, with written follow-up 14 days later. **If you have an air release, immediately secure the operation and notify your air manager.** Include details on the duration of the incident, cause, and corrective action. Your air manager will determine if the release qualifies as a reportable "excess air emission". Releases can include:

1. ANY visible emissions from blast booths, woodworking shops, paint booths, concrete crushing, outdoor blasting, outdoor painting, or other similar operations. These operations should be controlled so that **NO EMISSIONS ARE VISIBLE**.
2. Visible emissions (smoke or opacity) above permitted limits at combustion sources (boilers or generators), as determined by an EPA Method 9 certified smoke reader.
3. Non-visible emissions such as VOC resulting from open parts washers, open paint or solvent cans, or damaged gasoline vapor recovery systems, piping, or vent pipes.
4. Refrigerant or halon releases- as described in the pertinent sections of this guide, you must keep records of all accidental refrigerant or halon releases. Intentional releases are prohibited.
5. Ammonia releases at Naval Station's ammonia refrigeration plant (CEP-156) must **IMMEDIATELY** be reported to the ECC due to the safety issues associated with ammonia.

SECTION III – HOW TO PERFORM ASSESSMENTS AND MONITORING

A. How to check filters, dust collection systems and Differential Pressure Gages (DPGs):

1. BEFORE system is operated, perform the following VISUAL INSPECTIONS:
 - a) Dust collection systems (e.g. cyclones, baghouses) - ensure waste container lids are secure.
 - b) All ductwork- ensure systems are intact and there are no holes, gaps, or rips
 - c) Area around collection equipment- ensure no particulate matter such as blast media or woodworking debris are present (indicates a problem with the dust collection equipment).
 - d) Filter systems- ensure there are no holes, gaps between filters/frames, rips in filters, or other issues that would affect filter performance.
 - e) Manometer/DPG- ensure it has fluid and is zeroed before equipment is started, and is marked with manufacturer recommended range of operation (low and high limits).
2. Start equipment and observe DPG reading. If outside manufacturer recommendations (either too high or too low) this indicates a problem with the system that must be corrected prior to continuing work.
3. Document all findings and corrective actions.
4. Document all maintenance such as filter changes.
5. Do not operate without properly functioning control equipment! Secure the operation until repairs are made and document all corrective actions.

B. How to check Visible Emissions (VEs): there should be NO VISIBLE EMISSIONS at blast booths, woodworking shops, paint booths, concrete crushing, outdoor blasting or painting, or similar operations.

1. Conduct reading while the operation is active.
2. Evaluate the equipment stack exit while located 1-2 stack heights away from the stack.
3. Note whether there are ANY visible emissions (dust/blast media/exhaust).
4. If there are NO visible emissions, document as such with date, time, and your name (VE is complete).
5. If there ARE visible emissions, immediately shut down* equipment and correct/repair the problem to eliminate the emissions. Repeat the VE check and document results.
6. If corrective action fails to eliminate visible emissions, immediately cease operations and shut down* the unit. Document steps taken to eliminate visible emissions, call your equipment vendor or maintenance point of contact, and notify your Air Manager.
7. Do not operate equipment in excess of air permit opacity limits! Secure the operation until repairs are made and document all corrective actions.

**Shutdown not required for boilers or generators IF Method 9 evaluator documents compliance with the permit opacity limit.*

C. How to check opacity (Visible Emissions Evaluation-VEE) in accordance with EPA Method 9:

1. Personnel must hold current certification in EPA Method 9 Opacity testing.
2. Conduct reading while the operation is active.
3. Observe stack for 6 minutes, taking readings in **5%** increments at **15 second** intervals.
4. If 6 minute average is equal to or less than **½ the permit limit**, the test is complete.
5. If 6 minute average is more than **½ the limit**, continue for 12 more minutes.
6. If the 18 minute average exceeds the opacity limit, immediately secure the operation and take corrective action. Document the corrective action and repeat the VEE.
7. If corrective action fails to lower emissions below the permit limit, document corrective action, call your equipment vendor or maintenance point of contact, and notify your Air Manager.
8. Do not operate equipment in excess of air permit opacity limits! Secure the operation until repairs are made and document all corrective actions.

SECTION IV - GUIDANCE BY OPERATION TYPE

A. Air Conditioning and Refrigeration (A/C&R)

1. Refrigerant is an Ozone Depleting Substance (ODS). Intentional release of refrigerant is PROHIBITED under ALL circumstances in ALL operations. This includes refrigerant substitutes.
2. Requirements in this guidance apply to ALL refrigerant related service, including topping off (charging) systems and use of refrigerant substitutes. The only exceptions are for the following applications (note intentional venting is always prohibited).
 - i. Does not include R-134a in any application
 - ii. Does not include use onboard Naval Vessels or Aircraft
 - iii. Only includes personal motor vehicles if repairs are made for compensation
3. Keep records of all accidental releases including release date and cause, and amount and type of refrigerant released.
4. Class I ODS (R-11, 12, 113, 114, 115, 500, 502) is restricted to use in mission critical systems.
5. Technicians performing maintenance, repair and/or disposal of A/C&R equipment must be certified through an EPA-approved program. Copies of technician certifications must be kept at the facility (base) where the work occurs.
6. Technicians must use refrigerant recycling/recovery equipment manufactured on/after 11/15/93 that meets EPA standards and must operate the equipment in accordance with manufacturer instructions.
7. Each location where refrigerant recovery or recycling devices are in use must have submitted an EPA "Recovery or Recycling Device Acquisition Certification" via the Air Manager and maintain the certification on file. Your Air Manager will coordinate submission of this document.
8. Those responsible for maintenance or repair of facility A/C&R units must maintain an inventory of all units under their area of responsibility, to include refrigerant type (HCFC-22 etc), equipment description including location (building/room #/asset #), and normal pounds (lbs) charge.
9. Keep records of ALL A/C&R service and repair, to include:
 - a. Technician name
 - b. Service/repair date and description of work
 - c. Refrigerant type (HCFC-22 etc) and amount of refrigerant added and/or recovered.
 - d. Equipment description including location (building/room #), asset #, and normal pounds charge.
10. For A/C&R equipment with normal charge of 50 pounds or more refrigerant:
 - a. Repair leaks within 30 days of discovery. Contact your air manager if leak cannot be repaired within 30 days. The air manager is required to notify EPA and work with the equipment owner/operator to construct a one-year retrofit plan.
 - b. Perform "initial leak verification test" prior to replacement of full charge but before unit returns to normal operating conditions.
 - c. Perform "follow-up leak verification test" within 30 days of unit returning to normal operating condition if it was evacuated or as soon as it returns to normal if it was not evacuated.
 - d. Keep records of all leak repairs on equipment normally containing > 50 lbs charge, including:
 - i. date leak was discovered and date leak was repaired

- ii. refrigerant type and amount (lbs) leaked
- iii. cause of leak and description of repair
- iv. dates/results of leak repair verification tests (initial and follow up)
- v. leak rate calculations to document that units do not leak more than 15% per year for comfort cooling or 35% per year for industrial processes or refrigeration systems

$$\text{leak rate(\%)} = 100 * \frac{\text{pounds added}}{\text{pounds full charge}}$$

- e. REPORT to your air manager all units that leak more than:
 - 15% per year (comfort cooling)
 - 35% per year (industrial or process refrigeration)
11. To dispose of refrigerant, follow the procedures in the “NAVFAC MIDLANT Hazardous Materials Minimization, Hazardous Waste Reutilization and Disposal Guide” for turn-in to the NAVFAC MIDLANT Environmental Services Department (ESD). The ESD will ensure Class I ODS is sent to the DLA ODS Reserve as required by Navy Policy.
 12. To dispose of A/C&R equipment that is usable, transfer for re-use (label as containing refrigerant) to DRMO as described in the “NAVFAC MIDLANT Hazardous Materials Minimization, Hazardous Waste Reutilization and Disposal Guide”.
 13. To dispose of A/C&R equipment that is not usable, a certified technician must remove all refrigerant and oil from the unit and record the following information:
 - i. Equipment description
 - ii. Refrigerant type, amount removed, and date refrigerant was removed
 - iii. Technician name, work address, and signature to document that all refrigerant that had not leaked was recovered i.a.w. 40 CFR 82.
 14. For disposal of A/C&R small appliances (household refrigerators, dehumidifiers, vending machines, water coolers, and other equipment with normal charge of less than 5 lbs), a certified technician must remove all refrigerant and oil from the unit and ensure a certification of refrigerant removal is attached to the unit prior to it being placed in a scrap metal dumpster. The certification must be weather-proof and must contain the following information:
 - i. Equipment description (window unit, refrigerators, etc)
 - ii. Refrigerant type, amount removed, and date refrigerant was removed
 - iii. Technician name, work address, and signature
 - iv. A statement that all refrigerant that had not leaked was recovered i.a.w. 40 CFR 82.
 15. Use the forms on the following pages to record:
 - Refrigerant used in service of equipment normally containing under 50 pounds (lbs) charge
 - Refrigerant used in service of equipment normally containing 50 pounds (lbs) or more charge
 - Refrigerant removal prior to small appliance disposal.
 16. Maintain all records for 5 years.

B. Asbestos Containing Material (ACM)

See also OSHA and Virginia Department of Labor and Industry (VADOLI) regulations and the *NAVFAC MIDLANT Hazardous Materials Minimization, Hazardous Waste Reutilization and Disposal Guide*.

- Friable: when dry CAN be crumbled, pulverized, or reduced to powder by hand pressure.
 - Non-friable: when dry CANNOT be crumbled, pulverized, or reduced to powder by hand pressure.
 - Category 1 non-friable: >1% asbestos packing, gaskets, resilient floor covering, asphalt roofing.
 - Category 2 non-friable: any other non-friable >1% asbestos.
 - Regulated ACM (RACM): either friable or category 1 or 2 non-friable that has become friable or will be sanded, cut, or abraded.
1. Inspect facilities for ACM prior to demolition or renovation.
 - a) Remove all RACM prior to facility demolition or renovation unless: category I non-friable; encased in concrete; not accessible for testing; not discovered until after work started; not safely removable; or non-friable with low probability of becoming friable.
 - b) VADOLI requires presumption of asbestos until testing proves otherwise for the following items: thermal system insulation, sprayed or troweled surfacing material, and asphalt or vinyl flooring material installed no later than 1980.
 2. Provide notifications to EPA and Virginia Department of Labor and Industry (DOLI) as required by regulation (see procedure on next page) with copy to the Environmental office. Note that notification of building demolition is required whether building contains asbestos or not.
 3. Required workpractices include but are not limited to:
 - a. All personnel who perform renovation and/or removal involving ACM must be licensed and trained. Do not strip, remove, handle, or disturb ACM unless at least one on-site representative is trained in 40 CFR 61 subpart M every two years and training documentation is posted at work site.
 - b. Follow all EPA and OSHA air cleaning requirements.
 - c. Keep RACM adequately wet unless written prior approval of alternate method is obtained from EPA via your air manager due to safety hazard or equipment damage from wetting
 - d. Use glove bags or containments, along with negative pressure enclosures, and a high efficiency particulate air (HEPA) filtered vacuum or ventilation system.
 - e. Do not drop, throw, slide, or damage RACM while handling.
 - f. Use leak-tight chutes/containers if more than 50 ft above ground.
 - g. Label containers or wrapped materials using warning labels as specified by OSHA
 - h. If wetting operations are suspended due to temperatures <32° F, record the temperature at the beginning, middle, and end of each workday.
 - i. For large components, ACM is not required to be stripped if component is removed, transported, stored, disposed of, or reused without disturbing or damaging the ACM and it is encased in leak-tight wrapping and properly labeled during loading, unloading, and storage.
 - j. Do not release asbestos controlled areas for unrestricted access until the area has first been thoroughly cleaned, inspected, and air sampling results are acceptable.
 - k. Mark transport vehicles with visible signs and readable legends i.a.w. regulatory requirements.
 - l. Deposit RACM as soon as practical at a waste disposal site operated in accordance with 40 CFR 61.154 or an EPA approved site that converts RACM into asbestos free material in accordance with 40 CFR 61.155.
 - m. Maintain and provide copies of waste shipment manifests to disposal sites.
 - n. Contact transporter/disposal site if signed shipment record is not received in 35 days, and report to air manager if not received in 45 days so required notification to EPA can be made by the air manager.

ASBESTOS NOTIFICATION REPORTING PROCEDURE

Regulatory notifications are required for ALL building demolition projects and SOME renovation projects involving asbestos abatement. Since reporting requirements vary from agency to agency, ensure environmental compliance by following this procedure.

Notification to Virginia Department of Labor and Industry (VADOLI) is required for:

- **All building demolition** regardless of whether asbestos is present in the structure.
- Any asbestos abatement where **removed asbestos totals AT LEAST 10 LF or 10 ft²**

Thermal system insulation, sprayed or troweled surfacing material, and asphalt or vinyl flooring material installed no later than 1980 are assumed to contain asbestos until testing proves otherwise.

The VADOLI notification form is available at:

<http://www.doli.virginia.gov/leadasbestos/pdfs/Asbestos%20Permit%20fillable.pdf>

Submit (postmark) no later than **20 calendar** days before work begins. Submit to:

Asbestos Program, Powers-Taylor Building
13 South Thirteenth Street
Richmond, VA 23219

Notification to Environmental Protection Agency (EPA) is required for:

- **All building demolition** regardless of whether asbestos is present in the structure.
- **Any renovation** where Regulated Asbestos Containing Material (RACM) will be disturbed or removed in the value of at least **260 LF, 160 ft², or 35 ft³**.
- To determine totals, consider all renovation projects for the Jan – Dec calendar year.

The EPA notification form is available at:

http://www.epa.gov/region10/pdf/asbestos/demolition-renovation-notification-form_fillable.pdf

Submit (postmark) no later than **10 working days** before beginning work. Working day means M-F and includes holidays that fall on M-F. Provide updated notifications where asbestos amount changes by at least 20% or when start date changes. Submit to:

EPA Region 3
Mail Code 3LC62
1650 Arch Street
Philadelphia, PA 19103

FAX copies of notifications to 757-341-0499 for work onboard all Hampton Roads installations other than Norfolk Naval Shipyard and NAVMEDCEN Portsmouth. Contact the environmental offices at those facilities for their notification requirements.

C. Boilers and Furnaces

1. Utilize approved fuel as outlined in air permit.
2. Meet maximum % sulfur (%S) content of fuel oil burned as specified by air permit
3. Maintain documentation for each fuel oil delivery: date, gallons, location, oil type, %S. Also:
 - a. Each #2 oil delivery must also state compliance with either ASTM standard D396 or D975.
 - b. Each #4 oil delivery to Yorktown Bldg 457 must also include sample results showing %S, method of determination, and location of oil when sample was taken;
4. Maintain equipment in accordance with manufacturer recommendations. Keep records to document proper Operation & Maintenance (O&M) as described in Section II, and summarized below.
 - a. Written standard operating procedures (SOPs) based on manufacturer recommendations
 - b. Maintenance records for scheduled and unscheduled maintenance and/or repairs
 - c. Operator training to show familiarization with SOPs (records must include date of training, nature of training, employee name, and who performed training)
 - d. Inventory of spare parts needed to avoid excess air emissions
5. Record and report monthly fuel oil and natural gas use. Some permits also require daily records of fuel oil and natural gas use. Follow guidance provided by your air manager.
6. Conduct monthly Visible Emissions (VE) monitoring for units below using form on next page. If any emissions are visible, perform an EPA Method 9 Visible Emissions Evaluation (VEE) to demonstrate compliance with permit opacity limits. If there are no Method 9 certified personnel on-site, contact your air manager for assistance.
 - a. NAVSTA Norfolk P1 steam plant boilers (20% opacity limit)
 - b. JEB Little Creek steam plant boilers (10% opacity limit)
7. How to perform a Visible Emissions (VE) check:
 - a. Conduct reading while the operation is active.
 - b. Evaluate the equipment stack exit while located 1-2 stack heights away from the stack.
 - c. Note whether there is ANY indication of visible emissions (dust/blast media/exhaust).
 - d. If there are NO visible emissions then document as such along with the date, time, and your name. The VE is complete.
 - e. If there ARE visible emissions, immediately shut down equipment and correct/repair the problem to eliminate the emissions. Repeat the VE check and document results. Shutdown is not required EPA Method 9 certified evaluator documents compliance with the permit opacity limit.
 - f. If corrective action fails to eliminate visible emissions, immediately cease operations and shut down the unit. Document steps taken to eliminate visible emissions, call your equipment vendor or maintenance point of contact, and notify your Air Manager.
8. Report any incidents of visible emissions above permitted opacity levels as a release to your Air Manager as described in Section II. Include details on the duration of the incident, cause, and corrective action. Your air manager will determine if the release qualifies as a reportable “excess emission”, will notify VDEQ if excess air emissions last one hour or more, and will provide written follow-up as required by air permits.

D. Cleaning Solvents and Chemical Strippers

1. Purchase all solvents and strippers through the local Fleet Industrial Supply Center (FISC). Only purchase items that are listed on your Authorized Use List (AUL).

2. Ozone Depleting Substances (ODS) are prohibited except for cleaning oxygen systems or gyroscopes:

CAS #	NAME AND SYNONYMS
76-13-1	CFC-113 (1,1,2-Trichloro-1,2,2-trifluoroethane)
74-83-9	Methyl bromide (Bromomethane) (Monobromomethane)
71-55-6	Methyl chloroform (1,1,1 Trichloroethane)
56-23-5	Carbon tetrachloride (Tetrachloromethane) (Carbon chloride) (Freon 10) (Halon 104)

3. Halogenated solvents and are prohibited from use in ANY parts washer or degreaser:

CAS #	NAME AND SYNONYMS
75-09-02	Methylene chloride (Methylene dichloride) (Dichloromethane)
127-18-4	Perchloroethylene (Perchloroethylene) (Tetrachlor(o)ethylene)
79-01-6	Trichloroethylene (Ethylene trichloride) (Trichloroethene) (Trilene)
67-66-3	Chloroform (Methane trichloride) (Trichloromethane)
71-55-6	Methyl chloroform (1,1,1 Trichloroethane)
56-23-5	Carbon tetrachloride (Tetrachloromethane) (Carbon chloride) (Freon 10) (Halon 104).

4. Environmentally safe and/or friendly solvents may still be regulated under the air regulations. In general, only water-based detergents are exempt from air regulations. If in doubt, contact your air manager for a determination of requirements for your particular cleaning compound.

5. Minimize Volatile Organic Compound (VOC) emissions by taking the following actions when using, storing, or handling solvents, cleaners, and strippers:

- Minimize spills: maintain systems and containers in good order with minimal rusting or dents and no openings or leaks; use funnels or other practices when transferring material or waste;
- Immediately clean up spills and repack containers as needed to prevent reoccurrence.
- Put solvent laden rags in tightly closed bags immediately after use and keep bags closed unless adding or removing items.
- Keep all containers closed unless adding or removing material or waste.
- Empty flush cleaning solvent into enclosed container that is kept closed when not in use.
- Be aware of disposal requirements for cleaning solvents. Many solvents require special disposal. Refer to the "NAVFAC MIDLANT Hazardous Materials Minimization, Hazardous Waste Reutilization and Disposal Guide".

6. Paint gun cleaning: see painting section.

7. Solvent parts washers

- Maintain units per manufacturer recommendations
- Post MSDS at unit
- Follow and post at each unit these requirements:
 - Store fresh and waste solvent in closed containers that remain closed except during handling
 - Close degreaser/cleaner cover when not in use
 - Drain parts at least 15 seconds or until dripping stops
 - Ensure solvent spray is solid/fluid stream (no excessive splashing)
- Record and report solvent disposal (change-outs) using the form on the next page.

E. Concrete Crushing and other Dust Control

1. Notify air manager prior to bringing concrete crushing equipment onboard installations so that air manager can confirm the equipment owner has applied for and obtained an air permit from the VDEQ for their concrete crusher.
2. Control dust with water during concrete crushing, demolition, construction, road grading, land clearing, stockpiling of materials, and other similar operations. To ensure compliance with stormwater regulations during water suppression:
 - a) Ensure no creation of runoff into the stormwater system
 - b) Select, install, and maintain appropriate erosion and sediment control or stormwater practices to prevent runoff from becoming a pollutant source.
 - c) Install devices at drop and curb inlets to prevent pollutants from entering the waterways.
 - d) If activity requires registration for coverage under the VSMP Construction General Permit, the project specific Stormwater Pollution Prevention Plan (SWPPP) must identify and require the implementation of appropriate control measures to be used to minimize pollutants in discharges from dust control activities.
 - e) Contact your Environmental Water Manager for further information on stormwater regulations.
3. Pave and maintain roadways in a clean condition. Promptly remove spilled or tracked dirt or materials from paved streets; promptly remove dried sediment resulting from soil erosion.
4. Use cover when transporting material that is likely to create dust during transport.
5. Any visible emissions from concrete crushing, demolition, or other similar operations must be controlled so that **NO EMISSIONS ARE VISIBLE**.
6. Report any incidents of visible emissions as a release to your air manager as described in Section II. Include details on the duration of the incident (how many minutes it lasted), cause, and corrective action. Incidents which occur for more than 1 hour will be reported to VDEQ by the air manager and followed up with written explanation.
7. See “Surface Preparation” section for dust control requirements related to abrasive blasting, chipping, and hand and mechanical sanding.
8. See “Woodworking” section for dust control requirements related to woodworking operations.

F. Fiberglass sanding and sawing (NAVSTA Norfolk CEP-209)

1. Conduct a condition assessment of the dust collection (cyclone) system prior to EACH use. Visually inspect and ensure integrity of:
 - a) Dust collection systems (e.g. cyclones, baghouses) - ensure waste container lids are secure.
 - b) All ductwork- ensure systems are intact and there are no holes, gaps, or rips
 - c) Area around collection equipment- ensure no particulate matter or fiberglass debris are present
 - d) Document all filter changes, even routine or scheduled changes.
2. Record and report monthly Visible Emissions (VE) monitoring as described in Section III using form provided by your air manager.
3. Record and report monthly amount of fiberglass material used.

G. Firing Ranges

1. Conduct a condition assessment of the filter system prior to EACH use as described in Section III and summarized below:
 - a) BEFORE system is operated, perform the following visual inspections:
 - i) Filter systems- ensure there are no holes, gaps between filters/frames, rips in filters, or other issues that would affect filter performance.
 - ii) Manometer/differential pressure gage (DPG)- ensure it has fluid and is zeroed before equipment is started, and is marked with manufacturer recommended range of operation (low and high limits).
 - b) Start equipment and observe DPG reading. If outside manufacturer recommendations (either too high or too low) this indicates a problem with the system that must be corrected prior to using range.
 - c) Document all findings and corrective actions.
 - d) Document all filter changes, even routine or scheduled changes.
2. For permitted range at JEB Little Creek, conduct a monthly Visible Emission (VE) monitoring as described in Section III and summarized below, using form provided by your air manager:
 - a) Conduct reading while the operation is active.
 - b) Evaluate the equipment stack exit while located 1-2 stack heights away from the stack.
 - c) Note whether there is ANY indication of visible emissions (dust/blast media/exhaust).
 - d) If there are NO visible emissions then document as such along with the date, time, and your name. The VE is complete.
 - e) If there ARE visible emissions, immediately shut down equipment and correct/repair the problem to eliminate the emissions. Repeat the VE check and document results.
 - f) If corrective action fails to eliminate visible emissions, immediately cease operations and shut down the unit. Document steps taken to eliminate visible emissions, call your equipment vendor or maintenance point of contact, and notify your Air Manager.

H. Controlled Burning

1. Controlled burning is permitted in Virginia under certain conditions when associated with forest or agricultural practices, fire fighter training, or storm debris cleanup. Environmental Natural Resources personnel must perform controlled burning for forestry or agricultural practices. Such burning will be consistent with approved Wildland Fire Management Plans.
2. For fire fighter training, the designated fire training coordinator must notify and receive approval from the Virginia Regional Director prior to conducting training exercise (training schools with permanent facilities are exempt from this requirement). Training activities related to wildfire fighting must be coordinated with Environmental Natural Resources personnel.
3. Any burning operations for the disposal of disaster related debris must be approved by the Virginia Air Pollution Control Board and must be consistent with the approved Wildland Fire Management Plan. Controlled burning for the purpose of non-disaster related yard or pruning debris management is not allowed under any circumstances.
4. Controlled burning operations shall be conducted by trained and certified personnel only, and will at a minimum have the Base Fire Department on alert in case of emergency. Controlled burns shall be attended at all times. For clarification on requirements for any other type of controlled burning requests, contact the Environmental Natural Resources Staff.

I. Gasoline and other fuel dispensing operations

1. Maintain all hoses, nozzles, piping, and vapor recovery (VR) systems to prevent leaks.
 - a) Immediately clean up all leaks.
 - b) Immediately report any damaged gasoline or E85 vent pipes to your air manager as described in Section II. Include date and time of damage, cause, and corrective action. Damaged vent pipes could cause release of gasoline vapors that may require reporting to VDEQ.
2. Stage I Vapor Recovery (VR) – ensure the tanker truck operator collects vapors from the storage tank during the tank fueling process.
 - a) Required for gasoline and E85 tanks at least 250 gallons in size if the station has at least 10,000 gallons average monthly throughput. This is typically an exchange service station (NEX).
 - b) Maintain logs to document tanker truck operators utilize VR for each delivery made at NAVSTA Norfolk, NAS Oceana, JEB Little Creek, and NWS Yorktown (use form on next page).
3. Record and Report monthly
 - a) Gallons pumped of each fuel: gasoline, E85, diesel, and biodiesel
 - b) Gallons diesel delivered (including date, location, and amount) to boilers, furnaces, generators, and other stationary internal combustion engines.

J. Halon (fire protection)

1. Halon is an Ozone Depleting Substance (ODS). Intentional release is PROHIBITED, except for:
 - a) Testing of fire extinguishing systems where:
 - i) Alternatives are unavailable or cannot be used for technical reasons;
 - ii) Release is essential to demonstrate system function;
 - iii) System failure poses risk to human safety/environment;
 - b) During research and development of Halon alternatives;
 - c) During analytical determination of purity;
 - d) During legitimate fire extinguishing or explosion inertion
2. DoN restricts Halon use to mission critical fire protection: flight lines; ship and shore based crash, fire, and rescue vehicles; shipboard room flooding; aircraft and aircraft explosion suppression; and Landing Craft Air Cushion (LCAC) vehicles. Installation of shore-based Halon fire protection systems and non-mission critical portable Halon fire extinguishers is prohibited.
3. Technicians performing testing, maintenance, service, repair, or disposal of Halon containing equipment must:
 - a) be trained regarding Halon emissions reduction within 30 days of being hired, and
 - b) use recycling/recovery equipment manufactured on/after 11/15/93 that meets EPA standards, and
 - c) operate the equipment in accordance with manufacturer instructions.
4. Disposal of Halon containing equipment must be sent for Halon recovery to a manufacturer, fire equipment dealer, or recycler operating in accordance with National Fire Protection Association (NFPA) standards 10 and 12A.
5. Dispose of excess halon that cannot be used locally for mission critical operations, as described in the “NAVFAC MIDLANT Hazardous Materials Minimization, Hazardous Waste Reutilization and Disposal Guide” for turn-in to the NAVFAC MIDLANT Environmental Services Department (ESD). The ESD will ensure Halon is sent to the DLA ODS Reserve as required by Navy Policy.

K. Generators and other stationary internal combustion engines (ICE)

1. Applies to existing, new, and replacement stationary fuel-burning ICE such as generators, pumps, and compressors.
2. Applies to portable units that service a single location 12 months or longer.
3. Ensure new or replacement engines are certified to meet EPA emission standards and equipped with a non-resettable hour meter. Send copies of manufacturer certification to your air manager.
4. Maintain equipment in accordance with manufacturer recommendations. Keep documentation of manufacturer recommended maintenance via technical manuals or similar documents.
5. Do not change any engine settings unless specified by the manufacturer. Keep documentation of any manufacturer recommended engine settings via technical manuals or similar documents.
6. Keep records to document proper Operation & Maintenance (O&M) as described in Section II and summarized below:
 - a) Written standard operating procedures (SOPs) based on manufacturer recommendations
 - b) Maintenance records for scheduled and unscheduled maintenance and/or repairs
 - c) Operator training to show familiarization with SOPs (records must include date of training, nature of training, employee name, and who performed training)
 - d) Inventory of spare parts needed to avoid excess air emissions (e.g. air filters, belts)
7. Fuel diesel units only with Ultra Low Sulfur Diesel (ULSD), maximum 15 ppm sulfur. Keep diesel fuel delivery records to document:
 - a) supplier name
 - b) delivery date
 - c) gallons delivered
 - d) documentation that oil complies with ASTM D396 or D975
 - e) documentation of maximum sulfur (15 ppm)
8. Record operating hours and reason for each operation on form (see next page). For emergency operation a description of the emergency is also required.
9. Unless air permit is more restrictive, limit operation of each unit to 500 hours per year. No more than 100 hours of the 500 total may be used for testing, maintenance, and training. No other non-emergency use is allowed without prior approval from the Air Manager.
10. Additional requirements for non-emergency units will be supplied by the Air Manager on a case-by-case basis.
11. By 3 May 2013, institute the following requirements at diesel units and maintain appropriate records
 - a) Change oil and filter annually.
 - b) Inspect air cleaner and all hoses and belts annually and replace as necessary.
 - c) Minimize engine idle during startup and limit overall startup time to 30 minutes.

L. Painting

1. Purchase all paints for use ashore through the local Fleet Industrial Supply Center (FISC). Only purchase items that are listed on your Authorized Use List (AUL).
2. Minimize Volatile Organic Compound (VOC) emissions during painting operations by taking the following actions:
 - a) Minimize spills
 - i) Maintain systems and containers in good order with minimal rusting or dents and no openings or leaks;
 - ii) Use funnels or other practices when transferring material or waste;
 - iii) Immediately clean up spills and repackage containers as needed to prevent reoccurrence; and
 - iv) Plan jobs carefully to minimize leftover paint.
 - b) Keep all containers closed unless adding or removing material or waste:
 - i) Keep bags of solvent rags closed unless adding or removing rags;
 - ii) Only air dry paint containers for disposal when both of the following are met:
 - (1) All liquid possible has been transferred to an appropriate waste container; AND
 - (2) No more than 1 inch paint (no solvent/stripper) residue remains.
 - iii) When using aerosol paint can puncturing devices, ensure liquid paint drains to a container which is kept closed.
 - c) Do not air dry brushes, rags, or rollers used with solvent or non-latex paint. Remove all excess liquid (containerize as appropriate) and place wet items in closed container or bag for waste disposal.
 - d) Items used with latex paint may be air dried prior to disposal as normal trash.
3. Paint gun cleaning
 - a) Paint gun cleaning should be performed in a paint gun washer if possible.
 - b) For manual cleaning, keep solvent container (such as bucket) covered at all times, including while gun soaks.
 - c) Do not spray solvent through gun unless required for line cleaning, in which case:
 - i) Ensure solvent spray is solid/fluid stream with no excessive splashing;
 - ii) Direct solvent spray into a container which is labeled as "used solvent for line cleaning";
 - iii) Keep solvent container closed when not in use.
 - d) If paint gun washer is used to clean paint guns used to apply paint to aircraft, a monthly leak inspection is required on the paint gun washer. Use paint gun washer inspection form and:
 - i) Repair all leaks within 15 days. If unable to repair in 15 days, empty washer and document.
 - ii) Document all inspections, leaks, and repairs made.
 - iii) Deploying squadrons shall perform an inspection prior to deployment and remove all solvent from the gun washer, noting the deployment date and date gun washer is filled upon return.
4. Outdoor painting operations are only authorized where it is technically infeasible to perform the operation in a booth or other enclosed area. In order to minimize overspray, follow these storm-water best management practices to keep overspray out of the air AND the water.
 - a) Control emissions using shrouds, tarps, or other similar containment;
 - b) Inspect containment prior to each use to ensure maximum effectiveness;
 - c) Stop work in windy conditions or when containment is ineffective;

5. Paint Booths

- a) Conduct a condition assessment of the filter system prior to each use as described in section III and summarized below. BEFORE system is operated, perform the following VISUAL INSPECTIONS:
 - i) All ductwork- ensure systems are intact and there are no holes, gaps, or rips
 - ii) Filter systems- ensure there are no holes, gaps between filters/frames, rips in filters, or other issues that would affect filter performance.
 - iii) Manometer/DPG- ensure it has fluid and is zeroed before equipment is started, and is marked with manufacturer recommended range of operation (low and high limits).
 - iv) Start equipment and observe DPG reading. If outside manufacturer recommendations (either too high or too low) this indicates a problem with the system that must be corrected prior to continuing work.
 - v) Document all findings and corrective actions.
 - vi) Document all maintenance such as filter changes.
 - vii) Do not operate without properly functioning control equipment! Secure the operation until repairs are made and document all corrective actions.
- b) Record and report monthly gallons paint and solvent using form on next page.

6. Additional requirements for painting aircraft and aircraft parts at NAVSTA Norfolk and NAS Oceana:

- a) Hand-wipe cleaning of aircraft surfaces
 - i) Use only cleaners identified in the 509 manual with vapor pressure at or below 45 mmHg at 68°F (20°C), such as isopropyl alcohol, aliphatic naphtha, type I poly thinner, and toluene.
 - ii) Do not use methyl ethyl ketone (MEK), denatured alcohol or type II epoxy thinner. These have a high vapor pressure and can only be used for the following cleaning operations: surface preparation prior to adhesive bonding; breathing oxygen systems, electronic parts and assemblies; aircraft fluid systems; fuel cells; fuel tanks; textiles; or glass substrates.
 - iii) Immediately place solvent laden rags in closed containers after use.
- b) Aircraft paint application
 - i) Limit painting to "touch-up" as defined in the 509 manual, painting only to restore areas damaged during corrosion repair procedures. Painting solely for cosmetic reasons is prohibited. Limit paint reservoirs to eight ounces (COMNAVIAIRLANT INST 4750.D).
 - ii) Apply paint using High Volume Low Pressure (HVLP) paint spray guns with maximum 10 psig exit pressure, sempen, jet pack, aerosol, or brush and roll. The use of conventional paint spray guns is prohibited.
 - iii) Utilize appropriate MILSPEC coatings as outlined in the 509 manual.
 - (1) Do not use any primer with VOC content over 350 g/l (2.9 lb/gal).
 - (2) Do not use any topcoat or self-priming topcoat with VOC over 420 g/l (3.5 lb/gal).
 - iv) Do not thin coatings. Thinning increases the coating VOC content beyond the regulatory limit. Manage coatings and solvents through paint issue lockers and post "no-thinning" signs.
- c) Alodine application – aircraft rinsing/washing after alodine application is strictly regulated. Do not discharge to the sanitary sewer system. All washwater related to metal finishing processes (alodining) must be collected, tested, and coordinated for turn-in to the NAVFAC MIDLANT Environmental Services Department (ESD) for disposal. Contact your water or hazardous waste manager for further information.

- d) Chemical strippers - minimize use of chemical strippers by using hand or mechanical sanders or abrasive-blast units whenever possible.
 - e) Record and report monthly paint gun washer inspections using form on next page.
7. Additional requirements for painting ships and ship parts at NAVSTA Norfolk, JEB Little Creek, and Southgate Annex:
- a) Applies also to barges, target buoys, floating cranes, subcamels, LCAC, and small craft (i.e. anything that goes in the water).
 - b) Use appropriate MILSPEC paint as outlined by technical publications. Refer to the website "<http://www.nstcenter.com/CoatingsApproval.aspx>" for approved Navy coatings. Each coating applied must meet the VOC limit for the category of work that occurs (see page 19). For example, general use coatings are limited to 340 g/l VOC.
 - c) Only use coatings that have been procured through your local FISC. FISC is responsible for obtaining appropriate documentation of batch by batch VOC certification as required by EPA ship painting regulations.
 - d) Do not thin coatings. Thinning increases the coating VOC content beyond the regulatory limit. Manage coatings and solvents through paint issue lockers and post "no-thinning" signs.
 - e) Record and report all paint used on marine coating form on next page. Make sure to include the batch number from the paint can so that the air manager can verify FISC has the corresponding VOC batch certificate for the product.
 - i) Batch numbers are generally stamped on the top or bottom of 1-gal cans and printed on the label of 5-gal cans. Contact your air manager or the paint manufacturer if you cannot determine the batch number of your paint.
 - ii) Ships forces painting vessels that are not in an overhaul status are not required to record paint usage. ALL OTHER REQUIREMENTS APPLY.
 - f) Inspect your work area daily and certify by signature on your daily marine paint usage form that all work practices have been followed to minimize VOC from painting operations. Note any work practice discrepancies along with corrective actions on separate sheet if necessary. Required work practices, as listed on the daily marine coating form are:

"no thinning occurs; paint/solvent containers/systems are maintained in good order with minimal rusting/dents, no openings or leaks; containers are kept closed unless contents are being transferred; funnels or other such devices/practices are used to minimize spills; spills are cleaned up immediately, properly containerized, and containers repackaged as necessary to prevent reoccurrence; containers are not air dried for disposal unless all liquid possible has been transferred to appropriate waste container AND no more than 1 inch paint residue remains; paint brushes/rags/rollers used with any solvent or hazardous paint are disposed as hazardous waste/not air dried. For paint lines cleaned with solvent, spray is solid/fluid stream (no excessive splashing), directed into a container labeled as "used solvent for line cleaning" and kept closed when not in use."

VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR MARINE COATINGS

	Type	g/l	lb/gl	Definition
G1	General Use	340	2.84	Any coating that is not one of the specialty coatings listed below.
S1	Air Flask	340	2.84	Any special composition coating applied to high pressure breathing air flask interior surfaces to provide corrosion resistance, certified safe for breathing air.
S2	Antenna	530	4.42	Applied to equipment, through which electromagnetic signals must pass for reception or transmission.
S3	Antifoulant	400	3.34	Applied to vessel underwater portion to prevent/reduce biological organism attachment that is an EPA registered FIFRA pesticide.
S4	Heat Resistant	420	3.50	During normal use must withstand temp of at least 204 °C (400 °F).
S5	High Gloss	420	3.50	Achieves at least 85 % reflectance on a 60° meter when tested by ASTM D523
S6	High Temp	500	4.17	During normal use must withstand a temperature of at least 426 °C (800 °F).
S7	Inorganic zinc high-build	340	2.84	Applied to steel for galvanic corrosion resistance, with 960 g/l (8 lb/gl) or more elemental zinc incorporated in inorganic silicate binder.
S8	Military Exterior CARC	340	2.84	Exterior topcoat applied to military or Coast Guard vessels subject to specific chemical, biological, and radiological washdown requirements.
S9	Mist Coat	610	5.09	Any low viscosity thin film epoxy coating applied to an inorganic zinc primer that allows escape of occluded air through the paint film prior to curing.
S10	Navigational Aid	550	4.59	Any coating applied to Coast Guard buoys or waterway markers when recoated aboard ship at usage site and immediately returned to the water.
S11	Non-skid	340	2.84	Any coating applied to marine vessel horizontal surfaces for the specific purpose of providing slip resistance for personnel, vehicles, or aircraft.
S12	Nuclear	420	3.50	Any protective coating used to seal porous surfaces that otherwise would be subject to radioactive material intrusion.
S13	Organic Zinc	360	3.00	Any coating derived from zinc dust incorporated into organic binder containing > 960 g/l (8 lb/gal) elemental zinc, used for corrosion protection.
S14	Pretreatment Wash Primer	780	6.51	Any coating that contains a minimum of 0.5 % acid by mass applied only to bare metal to etch the surface & enhance subsequent coating adhesion.
S15	Thermoplastic Repair	550	4.59	Any vinyl, chlorinated rubber, or bituminous resin coating applied over the same type of existing coating to perform partial recoating of in-use vessel.
S16	Rubber Camo	340	2.84	Specially formulated epoxy used as camouflage topcoat for exterior submarine hulls and sonar domes.
S17	Thermal Spray Sealant	610	5.09	Any epoxy coating applied to thermal spray aluminum surfaces at a maximum thickness of 1 dry mil.
S18	Special Marking	490	4.09	Any coating that is used for safety or identification applications, such as markings on flight decks and ships' numbers.
S19	Specialty Interior	340	2.84	Any coating used on U.S. military vessel interior surfaces pursuant to a specification requiring fire retardant and low toxicity.
S20	Tack Coat	610	5.09	Any thin film epoxy applied at max 2 dry mils to prepare epoxy coating that has dried beyond time limit specified by manufacturer for application of next coat.
S21	Undersea Weapons	340	2.84	Applied to any weapons system component intended to launch or fire under sea.
S22	Weld-thru Primer	650	5.42	Provides corrosion protection for steel during inventory; does not require removal < welding; temp resistant/weld burn back <1.25 cm); does not normally require removal before applying film-building coatings.

M. Surface preparation (blasting, chipping, sanding)

1. Operations contained within a building or structure that DO NOT VENT outside are not covered.
2. Abrasive blast gloveboxes that DO VENT outside must be operated to ensure no particulate matter (dust or debris) escapes the exhaust. No other requirements apply.
3. Water blasting is not covered by the air program. Contact your water and hazardous waste managers prior to conducting these operations to obtain guidance.
4. Outdoor operations are only authorized where it is technically infeasible to perform the operation in a booth or other enclosed area. In order to minimize airborne particulate matter (dust and/or debris), follow storm-water best management practices to keep debris out of the air AND the water:
 - a) Control emissions using shrouds, tarps, or other similar containment
 - b) Inspect containment prior to each use to ensure maximum effectiveness
 - c) Stop work in windy conditions or when containment is ineffective
 - d) Collect debris and manage as discussed in the “NAVFAC Hazardous Materials Hazardous Waste Minimization Reutilization & Disposal Guide”.
5. Abrasive blast booths that vent outside
 - a) Maintain equipment in accordance with manufacturer recommendations. Keep records to document proper Operation & Maintenance (O&M) as described in section II, including SOPs, maintenance records, operator training records, and spare parts inventory.
 - b) Conduct condition assessments of the dust collection (cyclone and/or filter) system prior to EACH use as described in Section III and summarized below. Document results on use form, next page.
 - i) Ensure waste container lids are secure.
 - ii) Ensure all ductwork systems are intact and there are no holes, gaps, or rips
 - iii) Ensure no particulate matter such as blast media is present around collection equipment (indicates a problem with the dust collection equipment).
 - iv) Ensure there are no holes, gaps between filters/frames, rips in filters, or other issues that would affect filter performance.
 - v) Ensure manometer/DPG has fluid, is zeroed before equipment is started, and is marked with manufacturer recommended range of operation (low and high limits).
 - vi) Start equipment and observe DPG reading. If outside manufacturer recommendations (either too high or too low) this indicates a problem with the system that must be corrected prior to continuing work. Log DPG reading on usage form, next page.
 - vii) Document all findings and corrective actions.
 - viii) Document all maintenance such as filter changes.
 - ix) Do not operate without properly functioning control equipment! Secure the operation until repairs are made and document all corrective actions.
 - c) Ensure there are NO VISIBLE EMISSIONS. Conduct a monthly visible emissions (VE) evaluation for units at JEB Little Creek, NAS Oceana, and NAVSTA Norfolk as described in Section III and summarized below. Document results at bottom of usage form, next page.
 - i) Conduct reading while the operation is active.
 - ii) Evaluate the equipment stack exit while located 1-2 stack heights away from the stack.
 - iii) Note whether there are ANY visible emissions (dust/blast media/exhaust).
 - iv) If there are NO visible emissions, document date, time, and your name (VE is complete).
 - v) If there ARE visible emissions, immediately shut down equipment and correct/repair the problem to eliminate the emissions. Repeat the VE check and document results.

- vi) If corrective action fails to eliminate visible emissions, immediately cease operations and shut down the unit. Document steps taken to eliminate visible emissions, call your equipment vendor or maintenance point of contact, and notify your Air Manager.
- vii) Do not operate equipment in excess of air permit opacity limits! Secure the operation until repairs are made and document all corrective actions.

d) Record and report monthly pounds abrasive blast used on form, next page.

6. Report any incidents of visible emissions as a release to your air manager as described in Section II. Include details on the duration of the incident (how many minutes it lasted), cause, and corrective action. Incidents which occur for more than 1 hour will be reported to VDEQ by the air manager and followed up with written explanation.

N. WOODWORKING

1. Woodworking shops that vent outside:
 - a. Maintain equipment in accordance with manufacturer recommendations.
 - b. Conduct condition assessments of the dust collection (cyclone and/or filter) system prior to EACH use as described in Section III and summarized below.
 - i. Ensure waste container lids are secure.
 - ii. All ductwork- ensure systems are intact and there are no holes, gaps, or rips
 - iii. Area around collection equipment- ensure no particulate matter such as woodworking debris are present (indicates problem with dust collection equipment).
 - iv. Filter systems- ensure there are no holes, gaps between filters/frames, rips in filters, or other issues that would affect filter performance.
 - v. Document all findings and corrective actions.
 - vi. Document all maintenance such as filter changes.
 - vii. Do not operate without properly functioning control equipment! Secure the operation until repairs are made and document all corrective actions.
2. Report any incidents of visible emissions as a release to your air manager as described in Section II. Include details on the duration of the incident (how many minutes it lasted), cause, and corrective action. Incidents which occur for more than 1 hour will be reported to VDEQ by the air manager and followed up with written explanation.
3. When using finish materials and/or adhesives during construction of wood furniture or products at NAVSTA Norfolk, NAS Oceana, JEB Little Creek, or Southgate Annex (regardless of whether or not the process vents outside the building), record and report finish material and adhesive used to construct wood products using form on next page.
 - i) Finish material includes basecoat, washcoat, topcoat, enamel, sealer, varnish, paint, stain
 - ii) Adhesive includes any glue (even wood glue or white glue)
 - iii) Wood product examples: furniture, workbenches, lockers, bookcases, cabinets, display cases, podiums, shelves, desks, tables.
 - iv) Do not report material used for facility maintenance (e.g. trim or wainscoting), existing furniture repair/refinishing, or packing/shipping (e.g. pallets, braces).

SECTION V – OTHER USEFUL INFORMATION

A. ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS)

1. Know the environmental policy, which is communicated through the acronym “CARE”.
C - Comply with all rules
A - Always improve
R – Reduce waste
E – Eliminate pollution
2. Know how your job duties can impact the environment. For example, painting and/or blasting can impact air and water quality, generate waste, and impact land use management.
3. Know and comply with environmental procedures that apply to your job.
4. Know what significant environmental aspects relate to your work. Significant aspects include hazardous waste accumulation, polluted storm water discharges, and spills/leaks.
5. Know what to do in the event of an environmental emergency (i.e. spill, natural disaster).

B. ENVIRONMENTAL TRAINING

The program *Environmental Compliance, Assessment, Training and Tracking System (ECATTS)* is intended for use by contractors, civilians, and military personnel to provide basic environmental awareness training as well as some in depth training and certification. ECATTS includes numerous short training modules on a variety of environmental topics, including air emissions. Your air manager is also available to provide on-site training upon request. The website for ECATTS is <http://navfac.ecatts.com>. For questions on ECATTS, contact 341-0448.

C. OTHER USEFUL ENVIRONMENTAL CONTACTS

Processes which have air requirements will also likely impact other environmental programs such as storm-water, hazardous waste, and storage tanks. Your air manager can assist you in finding the right person to help you with your environmental issues. Your Installation Environmental Staff can help you with your day to day environmental program. Some useful contacts are below and on the next page.

Regional Storm-Water (Construction Projects): 341-0382

Regional Natural Resources (Controlled Burning): 341- 0493, 0494, 0495, 0496

Facilities	Pollution Prevention	Tanks	Waste	Water/Wastewater
NAVSTA & NSA Norfolk	341-0402	341-0235	341-0405	341-0431
Portsmouth Sites (except NNSY, NAVMEDCEN)	341-0364	341-0384	341-0403	341-0432
NAS Oceana, Dam Neck, Fentress, Northwest, Dare County	341-0364	341-0381	341-0404	341-0421
JEB Little Creek and Fort Story, Wallops Island	341-0364	341-0381	341-0403	341-0426
NWS Yorktown, Cheatham, New Kent	341-0402	341-0381	341-0380	341-0423
Supervisors	341-0400	341-0424	341-0400	341-0420

INSTALLATION ENVIRONMENTAL STAFF

JEB Little Creek/Fort Story, Environmental Office Bldg. 3165

462-8564 x392	Environmental Director
462-8564 x384	Environmental Protection Specialists (EPS), Team Lead
462-8564 x388 and 389	Little Creek
462-8564 x388	Fort Story
462-4444	<i>Spills - Emergency Communications Center (ECC) – Little Creek</i>
422-7141	<i>Spills - Emergency Communications Center (ECC) – Ft Story</i>

NWS Yorktown, Environmental Office Bldg. 16

887-4086	Environmental Director
887-4881	Environmental Protection Specialists (EPS), Team Lead
887-4095	Yorktown
887-4958	Cheatham Annex
887-4958	Yorktown Fuels
887-4881	New Kent
887-4911	<i>Spills - Emergency Communications Center (ECC)</i>

NAS Oceana, Environmental Office Bldg. 820

433-3437	Environmental Director
433-3435	Environmental Protection Specialists (EPS), Team Lead
433-2131	Oceana VACAPES, Squadrons, Fuels, Fuel Farms
433-3439	Oceana FRC, NEX, MWR, NAVFAC MIDLANT
433-3434	Dam Neck, MACS-24, NASO SPECWAR
421-8114	Northwest, Dare County, Fentress
433-9111	<i>Spills - Emergency Communications Center (ECC) Oceana</i>
911	<i>Spills - Emergency Communications Center (ECC) Northwest</i>

NAVSTA/NSA Norfolk, Environmental Office Bldg. Z-140

341-0523	Environmental Director
341-0516	Environmental Protection Specialists (EPS), Team Lead
341-0516	Craney
341-0511	NAVSTA AIMD/FRC
341-0511	NAVSTA Fixed wing squadrons
341-0515	NAVSTA Helicopter squadrons
341-0517	NAVSTA Piers
341-0514	NSA Compound
444-3333	<i>Spills - Emergency Communications Center (ECC)</i>

NSA Portsmouth Annexes (St Juliens Creek, Southgate, Scott Center)

396-8270	Environmental Director , Bldg. 1500, Norfolk Naval Shipyard
341-0520	Environmental Protection Specialists (EPS)

SECTION VI – CHECKLIST FOR FEAD OFFICE

Project Name: _____
 Contract #: _____
 Project Location: _____
 Project Contact: _____
 Date/Time: _____



ENVIRONMENTAL AIR PROGRAM REPORT

Expected Activities Asbestos Removal Concrete Crushing Equipment Installation*
 Building Demolition General Construction Painting and/or depainting

**Installation of stationary equipment may require pre-construction air permits. Contact your environmental air manager at least 6 months prior to construction of fuel fired boilers, furnaces, generators, pumps, compressors; paint booths, blast booths, woodworking shops or gas stations.*

	REQUIREMENT	Yes	No	N/A	Notes
1	ASBESTOS REMOVAL- will notifications be provided? • To EPA at least 10 working days before start if asbestos totals at least 260 LF, 160 ft², or 35 ft³ • To VADOLI at least 20 calendar days before start if asbestos totals at least 10 LF or 10 f² • Copies to MIDLANT Environmental (fax 757-341-0499) Have procedures been implemented to ensure all EPA and VADOLI requirements will be met, such as: preventing airborne emissions via wetting asbestos prior to removal; using glove bags or containment; using HEPA filtered vacuum/ventilation systems; restricting access to asbestos control areas until thoroughly cleaned/inspected and acceptable air-samples received?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	BUILDING DEMOLITION- has building been surveyed for asbestos? Will asbestos be removed as required by regulation prior to building demolition? Will notifications be provided (required <i>even if building DOES NOT contain asbestos</i>) to EPA, VADOLI, and MIDLANT Environmental?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	CONCRETE CRUSHING- has owner/operator secured an air permit from VADEQ and provided a copy to MIDLANT Environmental Air Manager at least 30 working days prior to bringing crusher on-site? See also dust control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	GENERAL CONSTRUCTION AND DUST CONTROL- have procedures been implemented to control dust e.g. using water during concrete crushing or similar operations, covering open material conveyance equipment, promptly removing spills, tracked dirt, etc. from paved streets, removing dried sediments from soil erosion?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	EQUIPMENT INSTALLATION* – has MIDLANT Environmental Air Manager been given at least 6 months prior notice to ensure any necessary air permits are secured? Are fuel fired stationary internal combustion engines (generators, compressors, pumps) equipped with non-resettable hour meters? Has EPA emission certification been submitted to MIDLANT Environmental Air Manager?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	PAINTING- have procedures been implemented to: contain drips and overspray? control air emissions via keeping cans covered when not in use and air drying cans for disposal only if liquid residue is less than 1 inch ?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	DE-PAINTING- have procedures been implemented to contain dust and/or debris?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Print and Sign that you have read and understand the above items must be accomplished BEFORE any work begins for this site.

 Name (print)

 Name (signature)

 Date