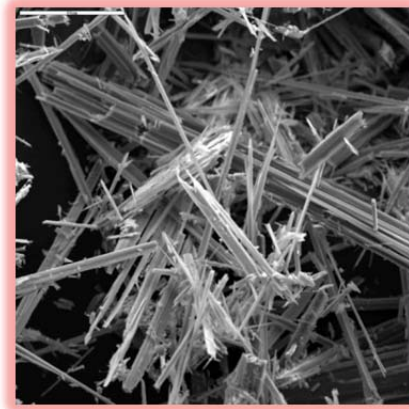




Asbestos Program Management



NAVFAC P-502

September 2017

The P-502 is available in the document library section of the NAVFAC Portal.

Please direct questions, comments, and/or recommended changes to the P-502 to:

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FOREWORD

This publication provides the NAVFAC program for inspection, maintenance, control, and abatement of asbestos containing material at NAVFAC-supported shore installations. Its purpose is to protect Navy and contractor personnel from exposure to harmful asbestos fibers and maintain compliance with applicable federal, state, and local laws, regulations, and to promote the use of standard practices.

OPNAVINST 5100.23 requires activities to develop and maintain an asbestos program. Navy policy is to eliminate asbestos hazards by substitution with asbestos free material or, where this is not feasible, through engineering, administrative controls, and respiratory protection. Asbestos is a general term that applies to a variety of naturally occurring mineral silicates, e.g., chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite asbestos or products composed of these minerals.

Asbestos is generally a fibrous material that is incombustible and possesses high tensile strength, good thermal and electrical insulation properties, and moderate to good chemical resistance, therefore its beneficial properties make it useful for many diverse applications. However, we do not remove installed asbestos containing materials, in good condition, for the sole purpose of eliminating the asbestos. Where ACM is necessarily in use, it is to be managed as described herein to preclude causing serious health risks. For if not properly managed, asbestos fibers can be harmful, potentially causing asbestosis, pleural thickening, lung cancer and mesothelioma or cancer of the gastrointestinal tract. In addition, if exposure is combined with smoking, the risk of developing lung cancer is increased dramatically.



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Assistant Commander for
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CHANGE RECORD

This page is provided for recording of future changes to this version of P-502

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1 General Overview

1.1 Introduction

This manual provides the Naval Facilities Engineering Command (NAVFAC) and installation Asbestos Program Managers (APMs) a consolidated and centralized source of asbestos information and guidance to be applied to shore facilities and personnel. The goal of this manual is to provide guidance to installation APMs for implementing standard asbestos program actions to prevent the release of asbestos fibers during maintenance, renovation, or demolition activities.

APMs are:

- Assigned in writing by their Commanding Officer (or By direction)
- Trained per paragraph 5.1.2 below (AHERA MAP Required Training)
- Survey their realm for asbestos containing material (ACM)
- Record type, location and disposition of ACM (per criteria provided herein)

This publication cancels and replaces the following NAVFAC publications:

- Asbestos Inspection/Reinspection Decision Tree NFESC Technical Memorandum (TM-2325-ENV)
- Asbestos Control Program Operations and Maintenance Plan Special Publication (SP-2027-ENV)
- Facilities Management Guide for Asbestos and Lead Technical Report (TR-2254)-asbestos portions only

The NAVFAC Asbestos Management Program is managed by the Public Works Business Line (PWBL), Facilities Management and Sustainment (FM&S) Product Line (PL). The authoritative electronic version of this manual (and electronic versions of appendices and forms) is on the NAVFAC PW, FM&S Asbestos web portal.

The manual contents and procedures fulfill the requirements of Chief of Naval Operations Instruction (OPNAVINST) 5100.23 asbestos management program ashore key elements (Operations and Maintenance [O&M] program, Survey and Material Assessment, and Design and Abatement). With this NAVFAC-wide approach, Public Works Department (PWD) or installation site-specific asbestos instructions, asbestos management plans, and asbestos O&M plans need to only be developed for site specific conditions which can be documented in Appendix A.

Additional guidance and reference documents are provided herein, through previous publications, and on the NAVFAC portal.

This manual is organized and procedures are designed to be integrated into current NAVFAC performance and execution of facilities maintenance and sustainment work, thereby fulfilling the elements of an Operations and Maintenance (O&M) work control permit system. Included is a description of how authoritative systems, including the Internet Naval Facilities Asset Data Store (iNFADS) and Maximo, are used to manage asbestos data and to guide the decision making process as it relates to asbestos management. Also included are a description of the PWD work flow process and a discussion of how APMs should insert themselves into each step of that process.

The objective of this manual is to assist APMs in the management of the asbestos program at their installation. The manual focuses on nine asbestos program elements that are essential for managing asbestos at installations, regardless of size, geographic location, or complexity:

1. Staffing and Program Management
2. Training and Experience
3. Asbestos Inventories and Baseline Surveys
4. Worker/Occupant Protection
5. Project Work Type Evaluations (i.e. Planned/Scheduled Maintenance Activities – including Preventive Maintenance Plans and in-the-field Infrastructure Condition Assessment Program (ICAP) assessments)
6. Emergency/Urgent/Routine (E/U/R) Work Type Evaluations (i.e. Unplanned/Unscheduled Maintenance Activities)
7. Abatement
8. Waste Management
9. Recordkeeping and Data Management

The manual presents the procedures for day-to-day management of asbestos at installations. The manual will help APMs to:

- Maintain compliance with Navy policies, federal and state regulations, and local government asbestos requirements
- Maintain life cycle asbestos building records and inventories
- Implement and follow the NAVFAC Public Works O&M program, including the work control permit system
- Abate ACM
- Support the Environmental (EV) Business Line in the handling of ACM waste
- Develop an asbestos emergency response system
- Train staff
- Create and maintain necessary records

Each of the sections herein outline the minimum required standing operating procedures or documentation that must be developed and implemented at PWDs. The appendices provide examples/templates for procedures, forms, or references that can be used to develop site-specific items. The APM can make additional recommendations for site specific procedures or forms for the PWD, but they must be approved at FEC level. Documentation is to be maintained by the APM regarding these local decisions.

The status of PWD level program implementation will be reviewed and measured by the FEC. Reviews will be based on the effectiveness of documentation of program element requirements and processes.

Appendix A incorporates the requirements of OPNAVINST 5100.23_ and when so annotated and augmented by installation documentation, coupled with this P502, will serve as the installation's Asbestos Operations and Maintenance Program. As circumstances change over time Appendix A must be so revised. In addition, Appendix A contains a summary of local-level regulations and guidance documents as they serve the needs of the installation. APMs shall retain the P502 along with its updated and annotated Appendix A to support asbestos inspections, and to serve as a ready locator for any asbestos surveys extant or ongoing.

1.2 Purpose and Scope

This publication is applicable to the Naval Facilities Engineering Command (NAVFAC). Where Marine Corps, Naval Air and/or Naval Sea Systems Commands' directives address asbestos management, their management directives take precedence within their commands.

This manual provides an overview, including associated roles and responsibilities, for the Naval Facilities Engineering Command's (NAVFAC's) implementation of the requirements specified by OPNAVINST 5100.23 *Navy Safety and Occupational Health Program Manual Asbestos Management Program Ashore*. The asbestos program is an adjunct to the Environmental Safety & Occupational Health (ESOH) program(s) requiring a multi-disciplinary approach; however, the asbestos program is centrally managed and executed by the Public Works Business Line (PWBL) Facilities Management and Sustainment (FM&S) Product Line to ensure the program is integrated with facilities maintenance execution procedures and processes. The NAVFAC Environmental Restoration Program Frequently Asked Questions publication clarifies Environmental (EV) and PWBL responsibilities. Additionally, CERCLA and non-CERCLA releases are covered by the National Emission Standard for Hazardous Air Pollutants (NESHAP) (EPA Memorandum *U.S. Environmental Protection Agency's Notification of Rules and Regulations Regarding the Demolition of Asbestos-Containing Structures* dated June 8, 2012 provides additional clarification). PWBL assumes program ownership and primary responsibility for a majority of the program's responsibilities. Other business lines, support lines and functional areas execute a limited number of the primary responsibilities and other supporting responsibilities. Additional ancillary or supplemental responsibilities are also described herein.

NAVFAC executes the program ashore on behalf of Commander, Navy Installations Command (CNIC) per CNICINST 5100.1 and the Commander, Navy Reserve Force. NAVFAC may also provide asbestos related execution support as a service provider to the Marine Corps or other customer agencies; however, these retain asbestos management for their facilities (real property assets).

This manual is applicable to facilities-related asbestos operations. Whether these operations are conducted by government or contractor personnel, the Navy as building owner (or CNIC's Installation Commanding Officers (ICO)) are in the eyes of the law "responsible corporate officers." Navy policy is to maintain building environments free of airborne asbestos contamination and preventing personnel exposure to asbestos fibers including during typical maintenance activities in buildings where asbestos materials are located and encountered as well as during asbestos abatement activities.

1.3 Safety Commitment

The NAVFAC goal is to have zero asbestos accidents, mishaps, or exposure to ACM on the job. Personnel have a right to work in a safe work environment.

Building surveys are a critical component of the program, ensuring a safe living and working environment for facility occupants and maintenance personnel.

In addition, Operational Risk Management (ORM) supports asbestos safety by providing concepts paramount in safely and effectively managing the asbestos program.

1.4 Asbestos Containing Material (ACM)

Asbestos includes a number of naturally occurring fibrous minerals possessing high tensile strength, the ability to be woven, and a resistance to heat and most chemicals. Because of these properties, asbestos fibers have been widely used in a variety of manufactured goods, including, but not limited to, roofing shingles, ceiling and floor tiles, paper and cement products, textiles, and coating and friction products, such as automobile clutches and brakes. Asbestos is

known to be in more than 3,000 different products. Building materials that contain asbestos are used for insulation purposes (fire, heat, cold, and/or sound).

There are six known types of asbestos fibers: chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite. Chrysotile asbestos accounts for 90 percent (%) of all asbestos in buildings, while amosite and crocidolite each account for 5% of all asbestos found in buildings in the United States. The United States Environmental Protection Agency (EPA) defines asbestos-containing material (ACM) as any material containing more than 1% asbestos.

1.4.1 Health Concerns Associated with Asbestos Exposure

Exposure to asbestos increases the risk of developing lung disease. In general, the greater the exposure to asbestos the greater the chance of incurring harmful health effects. And asbestos diseases have latency periods. The time between asbestos exposure and when negative health symptoms get diagnosed can be between 10 and 40 years.

Exposure to airborne asbestos fibers can be highly detrimental to health, and continued exposure can increase that risk. In this regard, the EPA advises there is no safe level of exposure to asbestos.

The health effects associated with asbestos exposures include:

- **Asbestosis:** Asbestosis is a serious, progressive, long-term, non-cancerous disease of the lungs. It is caused by inhaling asbestos fibers that irritate lung tissues and scar the tissues. The scarring on the lung obstructs oxygen from entering the blood. Asbestosis is dose-related. The higher the exposure, the greater the risk of getting asbestosis. Symptoms of asbestosis include shortness of breath and a dry, crackling sound in the lungs when inhaling.
- **Lung Cancer:** People who work in mining, milling, and manufacturing of asbestos, and those who use asbestos and its products, are more likely to develop lung cancer than the general population. The most common symptoms of lung cancer are coughing and a change in breathing. Other symptoms include shortness of breath, persistent chest pains, hoarseness, and anemia.
- **Mesothelioma:** Mesothelioma is a rare form of cancer that is found in the thin lining (membrane) of the lung, chest, abdomen, and heart. Mesothelioma is a “marker disease.” That is, if someone has mesothelioma, it can be directly linked to exposure to asbestos. This disease may not present symptoms until 30 to 40 years after asbestos exposure.
- **Other Cancers:** Many other cases of cancer have been discovered in asbestos workers, and the frequency has been deemed higher than with people who do not work with asbestos. These cancers include cancers of the digestive system, including the mouth, esophagus, stomach, and lower intestines.

1.4.2 Means of Exposure

When asbestos is crushed or abraded (hand or power tools) it breaks into fibers too small to see. And, though ACM is not generally harmful unless its fibers get airborne and inhaled or ingested. Many of the fibers can become trapped in mucous membranes of the nose and throat, where they may pass into the lungs; or if swallowed, into the digestive tract. Once trapped in the body, the fibers will affect health.

Asbestos is most hazardous when friable, meaning when dry it can be crumbled, pulverized, or reduced to powder merely by “hand pressure.” Non-friable ACM in good condition will not release fibers as well unless disturbed or damaged.

Deterioration over time, water damage, continued vibration and physical impacts during maintenance activities - drilling, grinding, buffing, cutting, sawing, or hammering will break the materials down, making fiber release more likely.

Lack of proper personal protective equipment (PPE) such as respirators while working with ACM, increases the health risk. Potential exposure should be monitored as part of the installations' medical surveillance program.

1.5 Asbestos Hazards

This section provides an overview of asbestos properties in building materials with its associated health hazards.

Asbestos has exceptional heat resistance properties and possesses high tensile strength. This makes it ideal for certain building products and unique applications. Asbestos over time has been used in a myriad of products and experienced widespread use, being plentiful, readily available, and low cost. Its unique properties make it well suited for construction materials such as:

- Steam pipe, boiler, and furnace duct insulation
- Resilient floor tiles (vinyl asbestos and asphalt), the backing on vinyl sheet flooring, and adhesives (mastics) used for installing floor tile
- Cement sheet, millboard, and piping
- Cement water pipes and facility drinking water systems
- Soundproofing or decorative material sprayed or troweled on walls and ceilings
- Patching and joint compounds for walls and ceilings
- Asbestos cement roofing, shingles and siding
- Sprayed on fireproofing insulation
- Blow-in insulation
- Electrical wiring insulation and panel partitions

There is a common misconception that asbestos was banned completely in the '70s and '80, the Environmental Protection Agency (EPA) banned only certain asbestos products within the U.S. by the Clean Air Act (NESHAP) in the 1970's, and the Ban and Phase out Rule, in 1989. A portion of the Ban and Phase out Rule was repealed in 1991, though "remanded" in a U. S. Fifth Circuit Court of Appeals ruling, leaving asbestos in use for many applications. A summary of EPA's bans on asbestos material is included in Table 1. Some of the material yet in use, not banned, is included in Table 2.

Table 1 - Ban Status for Asbestos Containing Materials

Clean Air Act NESHAP Asbestos Bans	
Spray-applied fireproofing – 1973	1973
Preformed-block pipe, boiler, tank, duct insulation	1975
Spray-applied decorative uses	1978
Other decorative uses	1990
USEPA Ban and Phase Out Rule	
Corrugated paper	1989

Roll board	1989
Commercial paper	1989
Specialty paper	1989
Flooring felt	1989
New uses of asbestos	1989

Table 2 - Asbestos Containing Materials NOT Banned

Asbestos cement/transite
Asphalt roofing products
Ceiling tile
Resilient flooring/tile and sheeting
Mastics
Millboard
Wallboard and joint compound
Caulking and glazing

So, it is legal, and entirely possible, for asbestos to be in use in facilities constructed after 1991. It is also possible asbestos is present even in new construction; either manufactured in the US or imported from elsewhere. In addition, many of the newer materials are not as well known by today's workforce.

1.6 Regulatory and Policy Overview

The NAVFAC Asbestos Management Program is designed to help Public Works Departments (PWDs) implement effective asbestos management strategies. As such, the program incorporates the following aspects into the program at PWDs Navy wide:

- Compliance – Programs must be compliant with federal/host country regulations, state/local regulations, and Navy policy. A Compliance Matrix to support a PWD's level of compliance and is included at Appendix B. APMs should determine their state/local/host country regulations and place copies or citations with their Appendix As.
- Safety – Practices and policies should be incorporated to protect workers, building tenants, and other users of Navy facilities to minimize airborne exposure to asbestos fibers below the regulatory standard, and preferably keeping exposures as low as reasonably achievable.
- Consistency – Management programs should provide equal amounts of protection from PWD to PWD, but be flexible enough to meet the needs of individual PWDs and their unique circumstances.

Federal asbestos regulations focus on the following areas, as noted along with their associated regulatory and enforcement agency:

- Use, bans (EPA)
- Identification and management in place of asbestos in good condition; preventing disturbance (EPA)

- Building occupant and worker protections (OSHA)
- Renovation & demolition activities including inspection and abatement (EPA & OSHA)
- Waste handling, transportation and disposal under the (EPA, DoT)
- Prevention of asbestos in drinking water (EPA)

There can be many regulations and overseeing regulatory agencies. A list of the primary regulatory drivers is provided in Appendix C. In many cases state or local agencies enforce the Federal requirements, and may implement additional stringent requirements. It is the Installation's responsibility to be aware of and abide by the more stringent local requirements if applicable. OSHA fully applies to federal facilities and workers, both CONUS and OCONUS, as well as contractors. For the purposes of EPA regulations, Navy buildings meet the regulatory definition of public and commercial buildings. Public and commercial buildings do not include detached single-family residential homes or residential multi-dwelling buildings of fewer than 10 units. Federal EPA regulations also apply to Federal facilities; however some of the EPA requirements are different for K-12 school buildings than they are for public and commercial buildings. Family housing should be evaluated to determine if it meets the definition of residential or public and commercial. Further some state requirements will not apply to Federal facilities, depending on whether the Federal government has waived sovereign immunity in the corresponding jurisdiction. See OPNAVINST 5100.23 for more detail. In most cases, no federal employee is required to hold a state issued accreditation for an asbestos professional position (e.g. inspector or worker) if performing work strictly for their agencies on Federal facilities. In addition the management planner accreditation is not a regulatory requirement for Federal facilities; rather Navy policy requires APMs to maintain the federal-level accreditation. Activities are encouraged to consult their respective NAVFAC Office of Counsel (OoC) resources and Echelon II and III technical subject matter experts (SMEs) if they have questions about regulatory applicability or the potential for regulatory violations. Required training and accreditations are covered in further detail in Table 6.

Department of Defense (DoD) and Navy policy documents reflect regulatory requirements, industry best management practices, and the Services' commitment to safety and compliance; as well to clarify regulatory applicability to subject facilities and activities, outline organization expertise and resources, and set expectations to meet requirements while optimizing the use of limited resources. The primary Navy policy reference for asbestos is OPNAVINST 5100.23 *Navy Safety and Occupational Health Program Manual*. The OPNAVINST includes a dedicated chapter to asbestos and an appendix detailing asbestos program management ashore. The OPNAVINST 5100.23 applies to all Navy activities.

CNICINST 5100.1 specifies the implementation and resourcing of this chapter as it applies to Navy installations and facilities maintenance activities (vehicle or crane brake maintenance or aircraft maintenance, etc.) supported by NAVFAC. NAVFAC APMs may be asked to advise their commands or provide additional support on other non-facility asbestos processes within Navy-owned facilities; however this should be an irregular occurrence and APMs should only provide advice as their expertise and experience allow. Navy (or DoD) activities with significant process related asbestos responsibilities will staff their own APMs to meet those requirements. It is important to recognize that the same regulatory drivers may apply to those processes, while applicability may be very different. Local documentation such as APM appointment letters, maintenance service agreements (MSAs), or Memorandum of Agreement (MOAs) should clearly outline these local designations and clarifications of roles and responsibilities (e.g. shipboard asbestos processes are still considered 'facilities' for purposes of the asbestos NESHAP, but are managed by NAVSEA personnel and processes).

Overseas bases are subject to Foreign Governing Standards (FGS) or Overseas Environmental Baseline Guidance Document (OEBGD) that typically requires Navy installations to comply with

environmental regulations of the host country. All foreign countries with U.S. Navy installations that are subject to an FGS have banned the manufacture, import, sale, and installation of asbestos.¹ These include Singapore, Bahrain, Japan, and South Korea who implemented asbestos bans in 1989, 1996, 2004, and 2009 respectively. Spain, Italy, Greece, and Diego Garcia (a British Overseas Territory) are subject to a European Union (EU) ban implemented in 2002. For those installations, newer materials containing asbestos are less likely to become part of building systems as they are renovated, and certainly very unlikely to become part of new buildings; therefore the asbestos management programs at these facilities are likely to move, long-term (10-15 years), into a minimal maintenance mode, that can be handled as a collateral duty, perhaps at the Facilities Engineering Command (FEC) level.

¹ There is no FGS for Djibouti. Asbestos is not banned in Djibouti, and in fact Djibouti is an importer of asbestos from India.

2 Program Resourcing and Technical Governance

Commander, Navy Installations Command (CNIC) resourcing of the NAVFAC-managed Asbestos Program covers personnel and surveys. Detailed funding allocations are outlined in the CNIC O&M Operations Plan. Funding for APM personnel is provided under the facilities planning umbrella (FP), Special Interest Code per cost accounting code (CAC) 91EB. In general, baseline surveys are funded with FP funds. Construction/demolition related surveys are typically funded by the project, although exceptions can be made. Pre-demolition surveys can be resourced through sustainment funds (ST) as outlined under Special Interest Code (SIC) facilities sustainment, restoration, maintenance (FSRM). Other SICs may also apply. Resourcing for inspections and surveys is further discussed in Section 6.2.

2.1 Program Resourcing

Program resourcing is needed to support the following program areas:

- Staffing
- Baseline / Non-Destructive Building Surveys
- Destructive type surveys, abatement plans & abatement activities supporting project work types

Resourcing is provided by CNIC HQ and allocated to the Regional Commands in accordance with CNICINST 5100.1 and the corresponding CNIC fiscal year (FY) OMN/OMNR BOS & MPN Operations Plan. Resourcing is divided into four items below:

- Facilities Planning (FP) funded staffing for program management – CAC 91EB
- FP funding for Engineering Studies (baseline surveys) – CAC 91ED
- ST funding for studies, analysis and abatement – A percentage based on the Facility Sustainment Model (FSM) as well as a percentage of special project support allocations.
- Navy Working Capital Fund (NWCF) for asbestos billets within Public Works (PW) production or EV services – direct reimbursables or overhead as appropriate.

To provide regular updates to CNIC on program resourcing and execution status, it is imperative that NAVFAC use or develop and adopt corporate processes necessary to consistently track expenditures of funds related to asbestos.

2.2 Program Technical Governance

Most procedures and data tracking outlined in the manual are streamlined and consistent across the organization. A basic template is provided for procedures where site-specific deviations are either required or allowed.

The NAVFAC asbestos program implementation tools and procedures are organized along the following program elements:

Staffing and Program Management

Training and Experience

Asbestos Inventories and Baseline Surveys

Worker/Occupant Protection

Project Work Type Evaluations (i.e. Planned/Scheduled Maintenance Activities – including Preventive Maintenance Plans and in-the-field Infrastructure Condition Assessment Program (ICAP) assessments)

Emergency/Urgent/Routine (E/U/R) Work Type Evaluations (i.e. Unplanned/Unscheduled Maintenance Activities)

Abatement

Waste Management

Recordkeeping and Data Management

In addition to the Program Management Manual, the FM&S PL will use the Business Management System (BMS) as a tool for standardization of asbestos related processes enterprise-wide. This facilitates making rational enterprise-wide comparisons and incorporation of lessons learned. The following BMS processes support the program.

- B-15.19 Asbestos Program Management (replaced F-12.21.1 Asbestos Control Governing Standards and F-12.21.2 Third Party Monitoring)
- B-16.4 Notice of Violation (NOV) Reporting. This is an EV BMS supporting the documentation, reporting and corrective actions of BMS. Environmental agency related NOV's, must follow this process including the use of the automated tool EPR Portal / NOVWeb. OSHA related violations follow a separate manual reporting and tracking process outlined in OPNAVINST 5100.23.
- B-9.6.7 Lead-Based Paint and Asbestos. This is an EV BMS outlining applicability and subsequent action related to environmental restoration / clean-up activities and funding.

The FM&S/Asbestos team will develop additional processes as needed and will continue to recommend updates to existing processes to provide and support continuous process improvement.

2.3 Environmental Management System

The Environmental Management System (EMS) is an International Organization for Standardization (ISO) 14001 compliant program that helps an organization reach compliance objectives through consistent review, evaluation, and improvement of environmental programs. The EMS program has been universally adopted at all Navy shore installations. EMS is a method used by the Navy to audit PWD asbestos management programs as a component of air quality compliance. EMS takes federal/host country, state, and local regulations as well as Navy policy into account when auditing an asbestos management program.

2.4 Other Environmental Liabilities

The Other Environmental Liabilities (OEL) program determines the environmental financial liability associated with Navy assets not included in the Defense Environment Remediation Program (DERP). These data are included in a module of iNFADS. The OEL program includes liabilities posed by asbestos. During the annual sustainment effort, a representative from the OEL program (usually at the FEC level) will interface with the APM to request data from demolition, abatement, and survey activities that have occurred in the previous fiscal year, or any of these activities that are planned for the future. The OEL program representative may also request the APM to review assets currently listed in iNFADS to determine whether it is likely that the asset would require an asbestos survey prior to demolition at the time of decommissioning. Note that this information is for cost estimating and financial analysis purposes only, and although the APM should work with the OEL Program Representative to provide the information requested, the information provided by the APM is not binding on the APM.

2.5 Tools

NAVFAC utilizes numerous electronic tools to manage data and facilities. These tools must be integrated and used as part of an asbestos management program.

2.5.1 NAVFAC Portal

The NAVFAC online portal can be used to post and provide information.

2.5.2 iNFADS

iNFADS is the data repository for data pertaining to Navy real property assets (such as building records). Many property records contain renovation data and asbestos survey reports and abatement records.

2.5.3 Maximo

Maximo is used to issue work orders and track maintenance work performed by the PWD. Types of work are categorized, and the Office of the Secretary of Defense sets mandatory time frames for work to be completed on the basis of the work category. Work orders for in-house asbestos sampling and abatement teams and some BOS contractors are issued through Maximo for E/U/R work. Results for that work are submitted back into Maximo by the shop. Maximo is linked to iNFADS property records.

2.5.4 GeoReadiness

GeoReadiness (GRX) is a geographic information system (GIS)-based tool that displays spatial data for Navy real property. GRX is directly linked to both Maximo and iNFADS.

2.5.5 Enterprise Safety Application Management System (ESAMS)

The Enterprise Safety Application Management System (ESAMS) is an online management system that provides and tracks Navy personnel needing medical surveillance. Currently, ESAMS offers some asbestos training.

2.5.6 Environmental Portal (EPR)

The Navy's Environmental Portal (EPR) tracks environmental data and hosts two important data storage tools that are important to asbestos management.

- EMS Web – EMS Web tracks EMS audit findings for all audits performed since the EMS program was stood up. EMS Web can be queried specifically for asbestos and can display the results by FEC or by PWD.
- NOV Web – NOV Web tracks regulatory Notice of Violations (NOV) and their results. If an installation receives an NOV from a regulator, it is Navy policy to enter it into NOV Web.

2.5.7 ECATTS

The Environmental Compliance Assessment, Training, and Tracking System (ECATTS) is an EV-funded and contractor-hosted system that tracks environmental regulations, DoD policy, and other requirements by locations. ECATTS also provides non-AHERA training that is job specific.

2.5.8 WBDG

The Whole Building Design Guide (WBDG) is a program of the National Institute of Building Sciences (NIBS). WBDG focuses on training Navy Planners with the NAVFAC Design-Build process. A copy of the Model Guide Specifications for Asbestos Abatement and Management in Buildings may be found on the WBDG website on the NAVFAC portal.

2.6 Emergency Response/Fiber Release Episodes

The following are recommended actions to be implemented upon discovery that an ACM has been disturbed or damaged:

- Immediately notify the installation health and safety department and installation Asbestos Program Manager (call 911 or the installation emergency response telephone number if the situation presents an immediate/chronic danger to human or public health or property).
- Isolate the area of concern where the ACM has been damaged (if possible).
- Turn off any heating, ventilation, and air conditioning (HVAC) equipment and/or discontinue any activity that may cause additional disturbance or could result in spreading the potential contamination.
- Determine when the accident occurred, how the material was damaged, and who may have come in contact with the material.
- Conduct environmental air sampling in the local vicinity to determine asbestos fiber concentrations to determine if a permissible exposure limit (PEL) was exceeded.
- Determine the type (friable/non-friable ACM), amount, and condition of the damaged material.
- Depending on the quantity of material requiring repair and clean-up, conduct OSHA Class I, II, III activity using trained personnel using appropriate methods of compliance (engineering controls, work practices, and waste handling and disposal procedures).
- Conduct final air sampling after cleanup activities have been completed.
- Notification – The Clean Air Act NESHAP for asbestos, as codified in 40 CFR 61 Subpart M states that an *emergency renovation operation* is a renovation operation that was not planned but results from a sudden, unexpected event that, if not immediately attended to, presents a safety or public health hazard, is necessary to protect equipment from damage, or is necessary to avoid imposing an unreasonable financial burden. This term includes operations necessitated by non-routine failures of equipment. For emergency renovations (as defined in Section 61.141), where work must begin immediately to avoid safety or public health hazards, equipment damage, or unreasonable financial burden, the notification must be postmarked or delivered to the EPA as soon as possible, but no later than the following work day. Again, notification is triggered only if over 160 square feet, 260 linear feet, or 35 cubic feet of regulated asbestos-containing material (RACM) is removed.
- Document all findings.
- If required, notify regulatory agencies.

Some activities are more likely to create a significant concentration of asbestos fibers in the air, and therefore, add to the risk if suitable precautions are not in place; for example:

- Use of power tools (to drill, cut, etc.) on ACMs
- Work that leads to physical disturbance (knocking, breaking, smashing) of an ACM that should be handled only by a trained worker (e.g., sprayed coating, lagging, asbestos insulating board)
- Manual cutting or drilling of ACM (transite)
- Work involving aggressive physical disturbance of ACM (jack hammers)

Employees or personnel who believe they may have been exposed to asbestos may be understandably anxious and concerned about the possible effects on their health. Many cases

of inadvertent, short-term exposure to asbestos will most likely have led to minimal exposure to asbestos fibers, with little likelihood of any long-term ill health effects.

If workers are concerned about possible exposure to asbestos from accidental activities, they should consult with the installation Industrial Hygienist or medical professional for proper actions to be taken regarding their job location. The employee may also wish to have a note made in his/her personal record about possible exposure, including date(s), duration, type of asbestos, and likely exposure levels (if known).

2.7 Performance Reviews

The PWD asbestos management program is subject to audits to ensure compliance with asbestos regulations and Navy policy. The asbestos management program is audited through the following methods:

- Environmental Quality Assessments
- Annual ESAMS Assessments
- Naval Safety Center Office of the Chief of Naval Operations Instruction (OPNAVINST) 5100.23 Checklists
- Inspector General (IG) assessable units (AUs)

2.8 Internal Audits

Internal PWD self-assessments are performed on a regular basis. The assessment form is typically stored on the PWD site on the NAVFAC portal.

2.9 Environmental External Audits

The EV Business Line performs formal EMS audits which may include the asbestos program. Results of these audits are entered into EMS Web.

2.10 Public Works Readiness Evaluation Process

The Public Works Readiness Evaluation Process (PREP) is performed by the PW business Line and includes an evaluation of the asbestos program. The PREP checklist can be downloaded from the NAVFAC Portal. The PREP self-assessment and readiness evaluations may be utilized for a formal asbestos program audit utilizing the asbestos audit checklist, which is downloadable from the NAVFAC portal.

3 Roles and Responsibilities

The primary ownership and responsibilities of the asbestos management program falls under the cognizance of the Public Works Business Line, and specifically the Facilities Management & Sustainment (FM&S) Product Line. Supporting responsibilities are required of other business lines, support lines and functional areas to provide maximum efficiency of program execution. Supplemental or ancillary responsibilities are also included herein.

All asbestos program roles and responsibilities covered in this section originate from regulatory and policy documents and are assigned to the appropriate NAVFAC business or support line as to best integrate with facilities management and sustainment business processes and to align to the NAVFAC Concept of Operations (CONOPS). All readers/users of this document must also be familiar with and align to the NAVFAC CONOPS. This section provides the overarching responsibilities of each business line and applicable support lines. The responsible parties and responsibilities are organized to clearly define differences at the Echelon II/III, IV and PWD.

Non-NAVFAC organizations are also critical to the successful compliance and execution of the asbestos program, the primary one being the Navy Bureau of Medicine and Surgery (BUMED). It is imperative for NAVFAC personnel to understand the roles of these organizations, the support provided to NAVFAC and guidelines for coordinating with those organizations. Section 3.13 provides an overview of the responsibilities for asbestos stakeholders, including non-NAVFAC organizations, any applicable policy or guidance that defines those responsibilities, and guidelines or processes to be followed for coordinating with or receiving services from these organizations.

NAVFAC acknowledges that contractors play a significant role in the execution of several elements of this program, and generate records on behalf of the Government necessary to demonstrate building life cycle compliance. No contractor role is considered outside the oversight or cognizance of a government representative, including both Base Operating Service (BOS) contractors and contractors acquired for stand-alone contracts, whether acquired by purchase card or through the FEAD. Further, it is imperative that all contractor activities be tracked consistently and in sufficient detail as to provide real-time asbestos program cost impacts to command leadership and the CNIC resource sponsor. Particular clarification is made in the roles and responsibilities in Sections 3 and 4 regarding contractor submittals and contractor communication to or interactions with regulatory agencies. Further, there have been many questions about the level of training and/or accreditation required of government personnel with respect to review of deliverables prepared by trained and accredited contractor professionals. Chief of Naval Operations (CNO) provided clarification to NAVFAC on this issue in 1997 which was distributed throughout the command.

Section 4 provides complete detail about the day-to-day responsibilities of the APM at the PWDs and Indoor Air Quality / APM at the Echelon IV FECs; while this section covers a broad overview of the PW responsibilities and explains responsibilities of other business and support lines. The primary and supporting program responsibilities as presented in sections 3.1 through 3.6, along with 3.13.1 & 3.14.11 (BUMED), are summarized in Table 3. Supplemental/ancillary responsibilities for the program are further delineated in sections 3.7 through 3.14.

3.1 Public Works Business Line

The Public Works Business Line has complete and comprehensive ownership of the NAVFAC asbestos program as detailed in the following sub-sections.

3.1.1 Public Works Business Line Leader Echelon II

The primary role of the Echelon II will be to ensure that NAVFAC personnel are provided a safe work environment by ensuring that funding and capability for the following activities are provided.

- Asbestos Program Management staffing commensurate with requirements
- Building re-surveys as commensurate with CNIC priorities and risk acceptance
- Corporate management of building asbestos survey/sampling and abatement data in order to meet regulatory requirements and to better identify potential hazards
- Corporate management of asbestos work and cost tracking

The PW Echelon II will also provide all coordination across business lines necessary to finalize and implement NAVFAC policy and procedures as indicated by this and other referenced publications.

3.1.2 Public Works Business Line, Facilities Management & Sustainment (FM&S) Product Line (PL): Echelon II and III NAVFAC Atlantic (LANT) and NAVFAC Pacific (PAC)

FM&S Product Line is responsible for the overall compliance with all applicable asbestos regulations and policy. FM&S Product Line will provide asbestos program technical oversight, direction and standardization, and program support including process analysis and continuous improvement. Functions include

- Preparation, vetting and dissemination of program policy and guidance including any necessary coordination with other business lines, support lines or functional areas.
- Development of resource requirements, resource requests to program sponsors and resource managers, and implementation of resource investments (including planning & execution tracking). This includes required staffing models and other program cost estimating.
- Development and dissemination of PWD and FEC APM Community Management Requirements in the Public Works Community Management Plan
- Oversight of overall program performance, development of all program related goals, metrics and status updates to command leadership and resource sponsors.

3.1.3 FM&S PL: Echelon IV (Product Line Coordinator [PLC])

PLCs will ensure that their core staff includes an Indoor Air Quality / Asbestos Program Manager. If that position is full time, PLCs should utilize the standard PD. NAVFAC Atlantic is available to help FECs develop PDs for FEC Core and/or PWD Indoor Air Quality / Asbestos Program Manager positions which are part-time/collateral duty positions. PLCs, as the PL community managers, are also responsible for supporting staffing, hiring actions, and training of all PWD APMs in their AOR. PLCs are responsible for ensuring that the successful execution of assignments by the indoor air quality/asbestos program manager is balanced with the sustainment and pursuit of future core competencies. The development of core competencies is achieved through varying combinations of assignments/training. PLCs are responsible for addressing workforce shaping, employee development and training, mentoring, accessions, recruitment, succession planning, and retention for their entire community. For more information, refer to NAVFAC PWBL Community Management Plan.

The Echelon IV PLC will program for building baseline survey projects (engineering studies) in accordance with the prioritization protocol controlled by Echelon III. If studies are funded, Echelon IV will execute these studies in accordance with all governing instructions and

processes, and provide study results to Echelon III for incorporation into or adjustment of the standard protocol.

PLCs shall track allocations and execution of all CNIC provided funding as listed in Section 2.1.

Asbestos waste shipment records document preparation and asbestos waste management, including packaging, labeling, transportation, and storage of the asbestos waste, shall be the responsibility of PWBL. In some locations waste asbestos waste shipment records may be signed by a contractor. If this is applicable, it should be clearly outlined in the facility solid waste and hazardous waste management plans, accordingly.

3.1.4 Facilities Management Division

- Requirements Branch
 - Work input/control and support to Work Induction Board (WIB)

PWDs shall maintain asbestos containing material (ACM) and presumed asbestos containing material (PACM) in good condition. Should the ACM or PACM be damaged, the APM must ensure proper response action such as clean-up of asbestos fibers, prevent further release and limit access to the ACM/PACM. PW must remain vigilant and monitor the condition of the ACM/PACM materials. The Facilities Management Division (FMD) shall provide long-term maintenance to ensure that ACM/PACM are kept in good condition and limit exposure. The FMD, or designated representative, shall visually survey ACM /PACM every 6/12 months or as often as required to detect changes in ACM/PACM. Any damage or deterioration to ACM/PACM must be reported as indicated in the management plan to ensure appropriate response by the installation APM and Facility designated FMS. The FMD (or the FEAD during contracted construction) shall inform building occupants of potential hazards in the work area.

The PWD APM will be the primary SME and execution agent for day-to-day activities at the installation level in the areas described below (3.1.5-3.1.6) and will be part of the FM&S community, within the FMD direct reporting to the Requirements Branch Head.

3.1.5 Production Division

- FS Branch
 - Facilities maintenance
 - E/U/R, Recurring PM, Projects
- Utilities and Energy Management (UEM) Branch
 - Utilities operations and maintenance
 - Utilities budget
- Transportation (Trans) Branch
 - Ensure vehicle and rail maintenance operations that may involve asbestos are carried out safely, that all exposure assessments are completed and that work is properly evaluated.
 - Ensure waste transport is completed in accordance with all requirements
- Seabees and Self-Help
 - Self –help program
 - Construction Battalion Maintenance Unit (CBMU) coordination and support

- Naval Mobile Construction Battalions (NMCB) Detachment coordination and support

Production Division Shops are the most likely to encounter and disturb ACM. Production Division Leadership should work with the APM to ensure that work and workers are properly evaluated for OSHA work classes and other regulatory requirements, including appropriate training, Personal Protective Equipment (PPE), and medical surveillance as needed.

3.1.6 UEM Product Line

- Funding asbestos related to utility assets
- Asbestos in cement drinking water distribution systems and associated testing in drinking water as required by OPNAV M-5090.1 Chapter 21

3.2 Capital Improvements Business Line

3.2.1 Echelon II, III

- Ensure specifications and/or other criteria related to asbestos are properly coordinated with the PWBL, and updated and maintained accordingly.
- Ensure Echelon IV maintains compliance with this guidance document
- Include, as appropriate, asbestos training and accreditation in the Capital Improvements (CI) Community Management Plan

3.2.2 Echelon IV (Core & IPTs)

If asbestos is suspected in an area of CI or Military Construction (MILCON) projects or special projects, FEC CI will first conduct tests to verify whether asbestos is present or not. CI will contact the APM and ensure sampling is conducted prior to disturbance of any PACM. If the presence of asbestos is confirmed, CI will execute a project using encapsulation, enclosure or long-term maintenance to manage asbestos to ensure proper clean-up of asbestos fibers and prevent further release of asbestos fibers. Projects shall be developed using Unified Facilities Guide Specifications (UFGS) 02 82 16.00 20 and designed by an EPA accredited project designer. National Emission Standards for Hazardous Air Pollutants (NESHAPS) notification must be made 10 working days prior to the beginning of a renovation or demolition activity. Work affecting ACM must be performed by trained state certified individuals assuring proper work practices are used when ACM is disturbed. Adequate engineering controls must be in place prior to disturbance of ACM.

3.2.3 Echelon IV PWD/Facilities Engineering and Acquisition Division

- Project Management and Engineering Branch
 - Ensure designs (drawings and specifications) are completed and reviewed by the APM prior to award of the construction contract.
 - Ensure only accredited Asbestos Project Designers edit abatement UFGS and develop asbestos abatement drawings, as required, during the design phase.

- Ensure APMs have access to review in-house and contractor deliverables and construction phase contractor activities – and do not obstruct authority of APM to shut down an active job if safety violations are observed.
- Acquisition Branch
 - Administrative Contracting Officer (ACO) functions for award and administration of asbestos contracts.
 - Procuring Contracting Officer (PCO) functions for local awards for award and administration of asbestos contracts.
- FSC Branch
 - Ensure asbestos evaluation, maintenance activities, and abatement activities are adequately addressed in applicable BOS contracts.
 - Ensure asbestos wastes are addressed for environmental/waste related BOS contracts
 - Ensure that Performance Assessment Representatives (PARs) are trained, as needed, to review contractor performance of asbestos work. Normally the quality assurance of contracts working around and with ACM and PACM will be conducted by the Project Management and Engineering Branch (PMEB), however at times the PARs may also be involved.
 - Execute Project Development for Category III/IV projects which may include scope involving asbestos removal
- PMEB
 - Ensure that project managers and inspectors are trained to review contractor performance of asbestos work.

3.3 Environmental Business Line

Although many of the regulatory drivers of the asbestos program fall under the enforcement authority of federal and state environmental agencies, it is important to emphasize, that Public Works Business Line is responsible for the overall compliance and operation of the asbestos program, including asbestos permitting and notification. EV will be responsible to provide a supporting role on some of the program elements as detailed below.

EV will support utilities as needed with asbestos in cement drinking water distribution systems and associated testing in drinking water as required by OPNAV M-5090.1 Chapter 21.

EV personnel will provide assistance to PW on identification and interpretation of Federal, State and local applicable environmental requirements, which are identified in many sources, including Federal, State, and local environmental laws and instructions, DoD directives, and FGS or OEBGD.

EV personnel may be identified as part of local asbestos-related emergency response efforts, however these responsibilities will need to be clearly outlined in the installation asbestos Emergency Response Plan and Procedures (as required in the PWO & APM responsibilities herein).

EV may maintain in-house laboratory services for asbestos bulk material analysis and/or NIOSH air sample analysis. Capabilities and rates should be made available to the PWBL for consideration in services acquired.

EV may maintain existing asbestos training and/or asbestos accreditations to support reimbursable work, but they are not expected to acquire new training or accreditations to provide this support. The one exception to this is the production shop within the EV services at MIDLANT Hampton Roads Integrated Product Team (IPT), which maintains a shop of asbestos workers (insulators), using the Navy Working Capital Fund (NWCF). The other shops within NAVFAC that fulfill this function fall under the Public Works Business Line and these shops will be required to track work orders in Maximo using updated procedures.

All levels of the EV business line will maintain awareness of any changes in asbestos laws, regulations, or FGS and will notify the PWBL FM&S PL who will incorporate any applicable changes into program documentation and procedures as well as determine associated changes to required resources. Primary responsibility for asbestos regulatory forecasting will rest with the PWBL.

It is also important to note that for installations subject to Clean Air Act Title V, installation permits may include the asbestos NESHAP in their general conditions. This may make the installation subject to self-reporting.

Asbestos not located in facilities or utility distribution systems (e.g. buried in the ground/soil at a facility, CERCLA sites, etc.) will be managed by the EV business line. EV will keep the APM informed of the status of these asbestos sites and if any violations or concerns arise.

3.3.1 Echelon II, III

Echelon II and III EVBL will inform the Echelon II and III PWBL APM of the planned schedule for conducting 3-year external integrated compliance and Environmental Management Systems (EMS) inspections, such that the PWBL APM can develop a plan and schedule to supply PWBL personnel to execute the asbestos portion of the audits as desired.

EV will continue to report on asbestos liabilities using parametric values for OEL portion of the financial statement. EV will provide requested OEL asbestos data via the OEL PM at NAVFAC Headquarters.

3.3.2 Echelon IV (PWD/Environmental Division)

Echelon IV will be responsible for ensuring that asbestos waste shipment records are ultimately signed by the disposal facility and are returned to the Environmental Business Line (EVBL). EVBL will prepare Exception Reports in situations where asbestos waste shipment records are not appropriately returned to EVBL by the disposal facility. EVBL will also make inquiries, as needed, to ensure the documentation is received by the EVBL.

Echelon IV will be the official repository of asbestos waste disposal documentation, and EVBL will provide a copy of disposal documentation to PWBL. This documentation will include copies of asbestos waste shipment records asbestos waste shipment records and any Exception Reports.

Echelon IV, or PWD EV designee, will prepare and disseminate the Facility Solid Waste Management and Hazardous Waste Management Plans to the PWD APM.

Echelon IV, or PWD EV designee, will sign asbestos waste shipment record as required by 40 CFR 61.

The Installation Environmental Program Director (IEPD) is the ICO's staff member responsible for EV regulatory and policy compliance. With the PWBL assuming ownership of the asbestos program, it is important for the APM to maintain close coordination and communication with the IEPD.

All environmental agency NOV's related to asbestos must be promptly reported to the IEPD. The IEPD will ensure that the NOV information, including the corrective actions as determined by the Public Works Business Line, are entered into the Navy's NOV Web and reported up the designated chain of command. PWBL will correct all deficiencies. EVBL will provide support to the PWBL as the PWBL corrects noted deficiencies. For inspections and NOV's only, EVBL will be the primary interface with environmental regulators, and PWBL will participate. For inspections and NOV's only, EVBL (again with PWBL support), will prepare all written responses to regulators. PWBL will be responsible for routine correspondence with environmental regulators, including NESHAPS notifications.

The IEPD will work with the PWD APM to ensure that asbestos concerns are evaluated as part of the installation EMS. This includes ensuring that asbestos contamination is considered an environmental aspect, and that it is incorporated into objectives and targets if ranked as a significant aspect, as well as ensuring proper disposal of asbestos waste.

The IEPD will work with the PWD APM to ensure proper coordination and/or consultation as required with any asbestos issues as related to historical structures.

3.4 Asset Management Business Line

3.4.1 Echelon II, III

Asset Management (AM) business line will assist with implementation of asbestos data management planning as it pertains to Internet Navy Facilities Asset Data Storage (iNFADS) capabilities and/or data exchanges.

The AMBL will provide the asbestos program for family housing residential facilities, or other facilities as applicable. Where Public Private Venture (PPV) agreements or lease agreements are in-place, AMBL is responsible to ensure agreements are operated in compliance with all applicable regulatory and policy requirements.

3.4.2 Echelon IV (Core & IPTs)

3.4.3 Echelon IV PWD/Facilities Management Division

- Asset Management Branch will:
 - Assist with iNFADS user account for APMs
 - Assist with bulk asbestos document uploads into the iNFADS document manager
 - Ensure Real Property Accountable Officer (RPAO) updates iNFADS with recapitalization information in accordance with Unified Facilities Criteria (UFC) 2-000-05N (including post Beneficial Occupancy Date [BOD] changes from all CI managed projects).
 - Ensure asbestos survey or hazard abatement projects are incorporated into the Installation Integrated Priority List (IPL), including non-typical IPL projects such as renovation projects that require asbestos survey and/or abatement.
 - Ensure that asbestos review has been included into 1391s for MILCONs and special projects. Coordinate with the APM if abatement is needed.

- If desired, may begin to work on GIS layer management in advance of the corporate initiative, but must do so in accordance with Spatial Data Standards for Facilities, Infrastructure, and Environment (SDSFIE) data model compliance and must coordinate these activities with the appropriate FEC and Echelon II AM GIS leads.

3.5 Safety Support Line

3.5.1 Echelon II, III & IV

Provide updates and maintain ESAMS in support of procedures required by the Asbestos Program Management Manual. Additionally, ensure APMs and other applicable users have required access to ESAMS.

3.5.2 PWD Site Safety Managers

PWD Site Safety Managers are responsible for NAVFAC employee Navy occupational safety and health compliance related to asbestos work. PWD Site Safety Managers, working in coordination with Navy Industrial Hygiene professionals, shall take all necessary steps to prevent NAVFAC worker asbestos exposure issues, including validation of personal or area air sampling for friable asbestos. The APM and PWD Site Safety Managers shall coordinate with Installation Safety Managers and OSH program managers to ensure safety, occupational health and industrial hygiene (IH) requirements are incorporated into the asbestos management plan and executed accordingly.

Per OPNAVINST 5100.23, Chapter 11, Section 1104 i and j, if there is an OSH agency citation/violation, the notice is forwarded to CNO, Navy Safety Center and up the chain of command. Then, the violation would be treated as an in house inspection and deficiency and entered in ESAMS. Site Safety Managers shall ensure that PWD APMs have required access and permissions to ESAMS to support the program. Site Safety Managers will ensure APM is copies on any asbestos related correspondence and chain of command notifications of violations.

Worker Protection:

PWD Site Safety Managers are assigned overall responsibility for Navy NAVFAC asbestos worker protection involving all regulatory issues on asbestos worker exposure under federal regulatory requirements specified in OPNAV 5100.23, for listed toxic and hazardous substances in general industry (29CFR 1910.1001), construction (29 CFR 1926.1101) and state and local requirements. This includes ensuring Navy personnel are monitored for asbestos exposure, enrolled in medical surveillance, provided with personal protective equipment and respiratory protection and trained in accordance with requirements for asbestos work.

Respiratory Protection:

PWD Site Safety Managers will work closely with the designated Respiratory Protection Program Manager to ensure Navy asbestos abatement/ response teams are properly trained and fit tested for the respiratory protection appropriate for the asbestos work to be conducted.

3.6 Operations Department Support Line

3.6.1 Public Works Officer (PWO)

The PWO is a warranted CEC officer who is accountable for life-cycle management of NAVFAC/CNIC real property (land and facilities), product and service delivery, Supported Command interface, project execution, and Performance Assessments (PAs). The PWO develops and prioritizes installation requirements in coordination with the FEC ARE and Supported Commanders. The PWO works with the Assistant Operations Officer (AOPS) to coordinate and prioritize work execution. The PWO has responsibility and accountability over all work and NAVFAC PWD personnel at the Installation.

With implementation of the integrated ashore environmental compliance program, the PWO is accountable for environmental compliance, maintaining permits, and monitoring performance through metrics (e.g., EMS implementation) for the Installation. The PWO is responsible for communicating all environmental issues, such as any potential NOV, to the ICO, the FEC Commanding Officer (CO), Operations (OPS), and EV Business Line Coordinator (BLC). To ensure responsible environmental compliance, stewardship and regulatory interface, PWO relies heavily upon the IEPD, who is the EV Division Director of the PWD. ICOs are authorized direct access to the IEPD on environmental issues which pose a risk affecting compliance. This does not change the organizational relationship of the environmental program. The IEPD reports directly to the PWO.

Ensure a representative from each building completes and maintains documentation of completion of asbestos awareness training as provided by the PWD APM. The APM also should maintain this list.

The PWO will ensure asbestos fiber releases are addressed in either a separate Emergency Response Plan or as integrated into another appropriate facility response plan. The APM can provide assistance in drafting procedures, but usually ICO staff members are the supporting staff who implement these plans (i.e. fire department, etc.).

3.6.2 Deputy PWOs (DPWO) / Assistant Public Works Officers (APWO)

The DPWO is the senior civilian in the PWD with the responsibility of operational execution of the Public Works mission and serving as the first line supervisor of the Facilities Management, Facilities Engineering and Acquisition, and Production Divisions within the PWD. Per the NAVFAC CONOPS, the DPWO/APWO is the party primarily responsible for Navy Occupational Safety and Health (NAVOSH) and Contract safety.

Table 3 – Asbestos Program Primary and Supporting Responsibilities Summary Matrix

KEY							
P: Primary Responsibility				S: Safety (NAVFAC)			
X: Supporting responsibility				IH: BUMED			
Responsibility (by Program Element)	PW	CI	EV	AM	S	Ops	IH
1. Program Management & Staffing	P						
Ensure compliance with all Federal, State and local regulations regarding asbestos.	P		x				x
Emergency Response Planning	P				x	x	
Emergency Response	P				x	x	
Environmental Management System (EMS) - review practices and identify significant environmental aspects and impacts.	x		P				
Receive, respond to, and resolve NOV's.	x		P				

KEY							
P: Primary Responsibility				S: Safety (NAVFAC)			
X: Supporting responsibility				IH: BUMED			
Responsibility (by Program Element)	PW	CI	EV	AM	S	Ops	IH
EV to perform administration and regulatory interface; PW, CI and their contractor develop and perform corrective action.							
2. Training & Experience	P						x
Maintain Accredited Asbestos Personnel	P	x					
Maintain Accredited Project Designers	P	x					
3. Baseline Surveys	P						
Utilize existing or develop and maintain needed acquisition tools to acquire sampling needed before renovation and demolition work proceeds.	P	x					
Support facility survey prioritization by reviewing iNFADS real property records and other relevant data sets.	P			x			
4. Worker / Building Occupant Protection	P				x		x
Awareness Training and notifications for building occupants	P				x		
Medical surveillance	x				x		x*
Personal protective equipment	x				P		x
Personal exposure monitoring	x				x		P
5. Project Work Evaluation	P						
Ensure hazardous material assessments (including asbestos) are completed per applicable FC for Environmental Engineering and ECB 2007-01.	x	x		P			
Ensure UFGS specifications, abatement drawings, or other asbestos abatement designs are completed by an accredited asbestos abatement designer prior to construction contract award.	x	P					
6. E/U/R Work Evaluation	P						
Ensure all in-house production shop personnel are properly evaluated for all OSHA asbestos work classes.	P					x	
Ensure BOS contracts (or other non-in-house methods of execution) work is properly evaluated for all OSHA asbestos work classes, and that any BOS contractor generated records are made available to the government APM.	P	x					
7. Abatement	P						
Program for Hazard Abatement (HA) funds for abatement not associated with renovation or demolition.	x				P		
Ensure contractor completed abatement activities are conducted in accordance with applicable UFGS.	x	P					
8. Waste	P						
Ensure waste disposal facility is properly permitted to accept asbestos waste	P		x				

KEY							
P: Primary Responsibility				S: Safety (NAVFAC)			
X: Supporting responsibility				IH: BUMED			
Responsibility (by Program Element)	PW	CI	EV	AM	S	Ops	IH
Prepare and inspect shipment for transport and retain copy of waste shipment record.	P		x				
Sign waste shipment records, prepare exception reports, and maintain disposal-related records (copy to PW APM)	x	x	P				
9. Recordkeeping & Document Management	P						
Ensure asbestos records generated are by non-PW entities are obtained and made part of the building permanent records.	P						
Ensure copies of asbestos records generated are submitted to the PWD APM. APM should coordinate with local BUMED IH for appropriate record access, and records are to be kept as directed in appropriate administrative instructions.		x	x	x	x		x

*See paragraphs 3.14 and 7.2.1 for more details on responsibilities and personnel covered.

3.7 Business Director (BD) Support Line

Support execution of asbestos Process Driven Training (PDT) sessions and assist with development, execution and tracking of required corporate training in TWMS and/or ESAMS.

3.8 Inspector General Support Line

Ensure asbestos is audited as part of the PWBL FM&S PL IG Accessible Unit (AU). Ensure comprehensive and concurrent auditing of the EV and OSHA program requirements so the complete health and status of the entire asbestos program is evaluated, and not one piece of the program at one time.

3.9 Acquisition Support Line

Utilize existing or support development and maintenance of needed acquisition tools to acquire sampling needed before renovation and demolition work proceeds.

Ensure contractors with a history of violations are excluded from future awards as allowable by the FAR.

3.10 Command Information Office Support Line

- NITC system support
 - Maintenance
 - Development

3.11 Office of Counsel Support Line

- Interpretation of regulatory violations, investigations, etc.
 - Sovereign immunity waivers for state specific requirements at Federal facilities
 - Legal agreements regarding NOV's

3.12 NAVFAC Engineering and Expeditionary Warfare Center

- Participation in PL work groups
 - Support with Maximo and iNFADS
 - Reimbursable technical support as requested

3.13 Non-NAVFAC Entities

3.13.1 BUMED

BUMED provides industrial hygienists and certified Industrial Hygienists to support various aspects of the program as outlined in OPNAVINST 5100.23 as they pertain to the protection of government personnel. This includes performing exposure assessments, medical surveillance and air monitoring support, and clearance sampling for government personnel during abatement activities.

Certain medical surveillance records are only maintained and accessible by BUMED personnel. PWD APMs should be aware of which personnel are in a medical surveillance program and will have a general understanding of the types of records maintained by BUMED so as to coordinate for any needed OSHA or other inspections or audits.

BUMED can also be resourced by CI or other elements of NAVFAC to support contract efforts.

For the categories in Table 3, BUMED generally will not be involved with asbestos unless work is being performed by civil service or military staff.

3.13.2 Naval Safety Center

The Naval Safety Center's Environmental Training (NAVSAFEENVTRACEN) provides free Asbestos Hazard Emergency Response Act (AHERA)-accredited training to Navy personnel, for the following asbestos categories:

- Inspector
- Management Planner
- Contractor/Supervisor

NAVSAFENVTRACEN EPA accreditations are issued by the states of Virginia and Hawaii. The training is provided at a limited number of locations, although activities can provide funding to NAVSAFENVTRACEN for instructor travel and transport of materials to support course offerings at non-standard locations. Activities should work with their FEC and appropriate Echelon III to schedule such training. This training is available for all Navy personnel, and is not specific to NAVFAC facilities or the NAVFAC management strategy.

3.13.3 DoDEA

DoDEA manages the asbestos program for K-12 schools. NAVFAC must follow all DoDEA procedures for work performed in these facilities.

3.13.4 Tenant Commands

Tenant commands should appoint Building Managers (BM) per each installation commanding officer's policy and procedures. BMs are to receive asbestos awareness training provided by the PWD APM and maintain documentation of completed awareness training. Building managers may have access to ESAMS or ECATTS to support this requirement.

The BM will be notified of any known asbestos materials in buildings under their cognizance and shall work to prevent disturbance of known/confirmed or suspect materials.

Some tenant commands also appoint an APM in accordance with OPNAVINST 5100.23. In some cases, the ICO may provide appointment letters to both the NAVFAC APM and the tenant APM. Most often those APMs are appointed for production related asbestos operations (e.g. ship repair) that are also subject to the ashore based requirements. It is rare that these APMs will also be responsible for facilities (i.e. buildings) asbestos requirements. Appointment letters and other written agreements, such as maintenance service agreements (MSAs) or Memorandum of Understanding (MOUs) should be clear as to the differences in these APMs roles so as not to duplicate effort or to leave any required gaps in regulatory compliance or personnel exposure.

3.14 Asbestos Stakeholders

3.14.1 PWD Production Shops

At well more than half of all Navy installations, PWD maintenance/production shops perform the bulk of the day-to-day E/U/R work for the PWD. PWD maintenance shops also perform project work. Typical PWD maintenance shop workers do not receive asbestos worker training, and therefore do not perform asbestos abatement work. However, because of the nature of their work, PWD maintenance personnel are the employees most likely to encounter and potentially impact unidentified asbestos.

To protect these workers, an Asbestos Awareness Program shall be established to warn workers to stop work when they encounter potential ACM. As part of the awareness program, establish procedures for workers when they encounter potential ACM to stop work, notify PWD maintenance supervisors, and in turn notify the APM, who will make a decision about how to address the material (resume or modify planned work, sample, abate, etc.)

Some PWDs elect to have some PWD maintenance personnel trained to perform limited abatement work and/or asbestos sampling. The level of asbestos training may vary significantly from PWD to PWD. PWD maintenance shop personnel that have not received asbestos training should not make decisions or perform work that has the potential to disturb ACM.

3.14.2 Base Operation and Support Contractors

At many PWDs, Base Operation and Support (BOS) contractors fill or supplement the role of the traditional PWD maintenance shop. Asbestos sampling and abatement is often included in the scope of work for BOS contractors. In many cases, the BOS contractor will subcontract asbestos sampling and abatement tasks to firms that specialize in asbestos activities.

BOS contractors are responsible for training and certifying their personnel who work with or may encounter asbestos. However, the APM should be provided with training records and should ensure that properly trained and/or certified personnel are provided by the BOS contractor, especially for asbestos sampling and abatement. Note that BOS contractor personnel may be required to obtain state or local asbestos certification, where Navy employees may require only federal-level training as long as they are performing work within the fence line of an installation.

To effectively be integrated into the asbestos management program, BOS contracts should include, at a minimum the following provisions:

- Work shall be done in accordance with state and local regulations and Navy policies
- Emergency/fast response
- Laboratory services, including negotiated pricing for multiple turnaround times (including a 24-hour or less option) (laboratory services should include polarized light microscopy (PLM), transmission electron microscopy [TEM], and point-count analyses). Laboratory services shall be asbestos accredited under the National Voluntary Laboratory Accreditation Program (NVLAP)
- Waste disposal considerations (contractor provided or PWD provided)
- APM review and approval of abatement plans and APM direct oversight and stop work authority over BOS contractor activities
- Deliverable packages (analytical reports, abatement records, etc.) provided in a consistent format determined by the APM for easy uploading/integration into Navy data management tools

Advantages of utilizing BOS contractors for asbestos abatement and sampling typically include quick, efficient work at pre-negotiated costs and a high degree of consistency. APMs largely have control over how sampling and abatement is performed at their PWDs. Deliverable formats from the BOS contractor can be custom designed by the APM to be easy to interpret and integrate into data management tools.

3.14.3 In-House Sampling and Abatement Teams

Some FECs/Integrated Product Teams (IPTs) have established regional asbestos sampling and abatement teams. These shops of Insulators (Series 3610) have training and certifications that allow them to collect asbestos samples and/or conduct asbestos abatement.

These teams are typically outfitted with equipment to support sampling and small- and medium-sized abatement jobs. The teams have quick response abilities and can support project and E/U/R work. In-house sampling and abatement teams are currently established in the San Diego, California metropolitan area (NAVFAC Southwest), the Hampton Roads, Virginia area (NAVFAC Mid-Atlantic), and on Oahu, Hawai'i (NAVFAC Hawai'i).

Advantages to utilizing in-house sampling and abatement teams are similar to those for BOS contractors. However, as mentioned, in-house teams are not available in all geographic areas. In addition, the in-house sampling/abatement teams tend to be in high demand and may not always be available for work on short notice.

3.14.4 Requirements Branch

The PWD Requirements Branch works closely with the APM on project reviews. The Requirements Branch establishes and manages the work induction review process. Through this process, projects with potential asbestos impacts are brought before the APM for review.

3.14.5 Contractors

This section addresses non-BOS contractors. Contractors are used at a variety of stages of asbestos management. Contractors are used to complete asbestos-related activities on their own and to augment Navy personnel or BOS contractors. Contractors are often used for condition inspections, surveys/sampling, abatement, and third party monitoring. Non-BOS contractors are typically obtained through Indefinite Delivery, Indefinite Quantity (IDIQ) contracts or subcontracted through a prime contractor. On occasion, contractors are obtained through competitively procured stand-alone contracts.

Contractors are responsible for providing training to their employees and providing employees with appropriate certifications for the work they are conducting. Contractors may be required to obtain state/local levels of certification (where most Navy employees doing the same work would require only the federal level of certification as long as they are only performing work within the installation fence line). APMs should require contractors to provide training records for employees doing work on their installations prior to beginning work.

When conducting asbestos abatement, contractors must submit abatement plans that detail how asbestos will be removed and/or abated, engineering controls and other containment strategies, worker protection, building occupant protection, and waste management and disposal. It is the APM's responsibility to review abatement plans prior to work starting and to ensure that the abatement plan is being followed during the execution of the work.

3.14.6 FEAD/Capital Improvements Business Line

Some NAVFAC FEADs and FEC-level IPTs have Asbestos Hazardous Emergency Response Act (AHERA) Management Planners and/or asbestos Project Designers on their staff that are qualified to write sampling and abatement scopes of work, and review abatement plans for projects led by CI business lines. Even with these types of personnel on staff, IPTs and FEADs may use the PWD-level APM as a technical resource and/or for project review and approval.

FEADs/IPTs and PWD-level APMs should work together to ensure that asbestos concerns are being properly addressed for CI projects.

3.14.7 Real Property Accountable Officer (RPAO)

The Real Property Accountable Officer (RPAO) is responsible for updating property records in the internet Naval Facilities Assets Data Store (iNFADS). The RPAO assists the APM by providing building records and supporting data as necessary. The APM supports the RPAO by providing abatement records and other pertinent data required to be entered into iNFADS and included in property record cards.

3.14.8 Environmental Business Line

The NAVFAC Environmental (EV) business line retains the disposal of asbestos waste under its purview as part of the overall installation Hazardous Waste Management Program. EV is responsible for coordinating the classification, labeling, packaging, transportation, and disposal

of asbestos waste (including both hazardous and non-hazardous waste). In some locations asbestos waste shipment records may be signed by a contractor. If this is applicable, it should be clearly outlined in the facility solid waste and hazardous waste management plans, accordingly. The installation Hazardous Waste Manager and APM should coordinate during asbestos abatement projects to ensure that waste disposal requirements are appropriately addressed, including identification of the designated person authorized to sign Waste Shipment Records (this is preferably the APM or Hazardous Waste Manager). The Hazardous Waste Manager or designated representative that disposed of the asbestos waste should provide the APM with final copies of all asbestos-related Waste Shipment Records for recordkeeping purposes.

The APM also works closely with the Air Compliance Program Manager, especially when interfacing with regulatory entities. The APM and the Air Compliance Program Manager should notify one another of air pollution control regulatory visits and inspections and may wish to accompany each other during inspections. Air Compliance Program Managers should work together in addressing and resolving notices of violation (NOVs) or other regulatory actions involving asbestos.

NAVFAC EV, in coordination with the PWD Utilities Department, is responsible for performing drinking water testing for distribution systems with asbestos concrete pipes. The EPA has set an enforceable regulation for asbestos, called a maximum contaminant level (MCL), at 7 million fibers per liter. MCLs are set as close to the health goals as possible, considering cost, benefits, and the ability of public water systems to detect and remove contaminants using suitable treatment technologies. Accordingly, Office of the Chief of Naval Operations Manual (OPNAV-M)-5090.1 (Chapter 21-3.4.b) requires drinking water testing for water distribution systems that contain asbestos concrete pipe. At a minimum, one sample must be taken during the first three years of every nine-year compliance period and must comply with the EPA's limit of 7 million fibers per liter (longer than 10 micrometers). The APM will coordinate with EV and Utilities and Energy Management (UEM) to ensure that drinking water distribution system and subsequent water quality testing requirements are enforced. In many cases, coordination with the installation's water supplier agency may also be needed. As necessary, EV, UEM, and the APM may obtain a report from the water supplier agency of the laboratory analysis results.

3.14.9 Transportation Product Line

Transportation (TRANS) provides asbestos waste transportation services at some PWDs, maintaining properly placarded, registered, and/or permitted vehicles (depending on local regulations) for transporting asbestos. The APM should ensure that TRANS is providing final and complete waste documentation to the Hazardous Waste Manager and the APM.

3.14.10 Safety

Installation Safety is responsible for implementing the installation Respiratory Protection Plan (RPP). The RPP should address asbestos and may require the input of the APM. Safety is also responsible for performing respirator fit testing and issuing PPE to Navy employees that work with asbestos, including maintaining PPE and providing training in its use (as necessary). Safety Managers may elevate identified asbestos-related safety issues to the APM for action.

3.14.11 BUMED

The Bureau of Medicine and Surgery (BUMED) is responsible for providing appropriate asbestos medical surveillance for Navy employees identified by HR as having occupational exposure and who have been sent to BUMED Occupational Health medical treatment facilities.

implementing the asbestos medical surveillance program for Navy employees that work with or have been exposed to asbestos.

As part of the program, BUMED is responsible for ensuring that employees in the program receive baseline medical assessments, exposure assessments, and periodic checkups as required by the Occupational Safety and Health Administration (OSHA). BUMED is also responsible for OSHA-required medical recordkeeping. Because medical records contain privileged personal information of employees, the APM should not maintain medical records. However, APMs should be aware of BUMED processes involving asbestos at their installations (such as where medical screening is conducted, who maintains their records, etc.). The APM should also help BUMED ensure that all qualifying personnel at the installation are included in the medical surveillance program (possibly including the APM themselves). BUMED does not perform medical monitoring for contractors, including BOS contractors and contractors filling Navy staff positions (unless specifically specified in the contract). Contractors are required to provide this service to their employees.

4 Roles and Responsibilities of the Asbestos Program Managers

The APM at the PWD is the critical element for program compliance and reducing personnel exposure risk. NAVFAC conducted an extensive study of the asbestos program in FY14, to include a determination of required program staffing and tasks. APM responsibilities were compiled by reviewing various references including OPNAVINST 5100.23, CNICINST 5100.1, NAVFAC and industry best management practices, legal agreements from previous asbestos violations, and asbestos program study gap analysis results. The final optimized and standardized task list for all PWD APMs was developed and is presented in Table 4. This task list became the basis of a staffing model used to determine the APM level of effort at each NAVFAC PWD in number of Full Time Equivalents (FTE). The model algorithm provides PWD adjustments to the FTE calculation based on installation size (iNFADS real property square footages), age, maintenance execution resources and regulatory environment. The staffing model was provided by Echelon II/III to the FEC and will be used by the FECs as a guideline to assign billets and resources to PWDs. The Echelon II/III also provided the below standardized PDs to the FECs, as classified by the NAVFAC Engineering and Expeditionary Warfare Center (NAVFAC EXWC) Classification Center of Excellence (CCOE), to support implementation of the staffing model.

- PWD Level APM Series 1640-12 full-time APM - Standard PD #PW129
- PWD Level APM Series 1640-11 full-time APM - Standard PD #PW129A
- PWD Level APM Series 1640 ½ time APM; ½ time FMS - Standard PD #(TBD)
- FEC Level APM Series 1640-13 full-time Indoor Air – Sample PD #(TBD)

Please note that there are a limited number of PWDs designated within the staffing model that do not require a designated APM. However, some limited program requirements and documentation may still be necessary and these must be performed by a designated PWD/FMD Requirements Branch employee as a collateral duty or by the FEC Core FM&S.

4.1 PWD Asbestos Program Manager

The PWD-level APM is the cornerstone of the asbestos management program. It is the responsibility of the APM to

- Account for asbestos located at the installation/PWD
- Ensure that ACM does not present a risk to facility users
- Ensure that PWD personnel who work with or encounter asbestos are properly trained
- Ensure that asbestos at the PWD is properly managed, disposed, or abated (controlling the fiber release from asbestos containing material by encapsulation, encasement, or removal)
- Interface with regulators

All PWD APMs must be assigned to the FMD / Requirements Branch using the NAVFAC standard PWD APM Position Description (PD). This organizational solution ensures close integration of the asbestos program into NAVFACs standard maintenance initiatives and work execution processes and provides a strong platform for effective APM community management. Deviation from the standardized PD may be allowed on a case-by-case basis, but requires a written request to, and subsequent written approval from the appropriate Echelon III PLM.

The ICO must appoint the APM in writing using the template and guidance in CNICINST 5100.1 to designate and clarify the area of coverage and responsibility of the APM. The appointment letter also helps to clarify limits of personal responsibility as the APM acts on behalf of the ICO as the owner or designated corporate responsible officer. APMs personal liability is limited if acting in their official capacities.

The APM is the authoritative asbestos technical resource and primary asbestos “decision maker” for the PWD. The APM serves this function by interpreting asbestos sampling and survey results and reviewing abatement and demolition plans. The APM must ensure that renovation, abatement, and demolition activities performed by PWD staff or contractors are in compliance with approved abatement/demolition plans and National Emission Standard for Hazardous Air Pollutants (NESHAP) and other regulatory requirements. This may entail a limited amount of periodic oversight of active projects, including contractor work.

The APM serves as the key holder of asbestos data for the PWD. It is the APM's responsibility to manage these data and update them as conditions change as a result of condition assessments, surveys, or abatement/removal activities.

A major role of the APM is to review projects for potential asbestos impacts. This must be done for both project and emergency/urgent/routine (E/U/R) work. For project work review, the APM participates in a work induction review, where a variety of potential impacts of upcoming projects are evaluated and discussed. Work Induction reviews vary in format from PWD to PWD. However, the APM must be an active and engaged participant in these reviews. See Section 8.1 for further information about the work induction process.

Because of its nature, E/U/R work occurs frequently and in large volume and is difficult to plan for. In addition, E/U/R work is to be completed within timeframes determined by the Office of the Secretary of Defense. As a result, it is not feasible for APMs to review all E/U/R work for potential asbestos impacts. However, if asbestos will be or potentially will be impacted, E/U/R work must be identified before the work creates an asbestos hazard. Processes are currently being developed to assist the APM in E/U/R work screening and are discussed in Section 9.

The APM must determine which facilities are the responsibility of the PWD and which are the responsibility of other parties. K-12 schools on United States Department of Defense (DoD) installations are subject to the strictest asbestos regulations, but asbestos management is the responsibility of the Department of Defense Education Administration (DoDEA). Child development centers and youth activity centers are covered under UFC 4-740-14, which does not allow materials containing asbestos in the buildings. Leased buildings and buildings occupied by other DoD and government agencies on Navy property will vary based upon the legally-binding real estate agreement(s) executed by the parties involved and are examined on a case-by-case basis.

Some PWDs have large special areas or tenant commands (such as Naval Sea Systems Command [NAVSEA] or Naval Air Systems Command [NAVAIR]) with their own facility management and/or environmental departments. Some of these tenants may have their own APMs. These APMs should work closely with the installation APM to ensure that asbestos management is comprehensive and consistent and to pool management resources. For large tenants and special areas that manage their own buildings, but do not have an APM, a

memorandum of understanding (MOU) may be needed for the installation APM to have authority to manage asbestos in those buildings.

The APM should maintain a list of points of contact (Facilities Engineering Command [FEC] Core, command, PWD, installation tenants, regulators, etc.) and keep it updated.

4.1.1 Appointment Letter

OPNAV M-5090.1 requires the installation Commanding Officer (CO) to formally designate the APM through an appointment letter. Appointment letters may be signed “by direction” of the commanding officer should the situation warrant. The appointment letter grants the APM the authority to execute his or her duties. Appendix D provides an example APM appointment letter.

APM appointment letters must be provided to the FEC, who will then forward them to the Echelon III level command NAVFAC Atlantic/NAVFAC Pacific. Echelon III will ensure APM appointment letters are stored on the NAVFAC Headquarters Public Works (PW) Facilities Management and Sustainment (FM&S) Asbestos portal site.

4.1.2 APM Task List

Table 4 summarizes APM responsibilities and tasks for nine elements that comprise a comprehensive asbestos management program. The elements and tasks are discussed in detail in the following sections of this manual.

Table 4 – PWD APM Responsibilities and Tasks

Task	Notes	Additional Resources or References
<i>Element 1: Staffing and Program Management</i>		
Serve as the primary asbestos expert for the installation CO, PWD; recommend decisions on all asbestos-related actions.	Recommendations and actions should be commensurate with completed training and accreditation.	NAVFAC PWBL Asbestos Program Management Manual
Follow/implement the required NAVFAC asbestos program management initiatives and written procedures at the PWD.		OPNAVINST 5100.23
Understand FM&S product line work execution processes as well as Mission Dependency Index (MDI), Infrastructure Condition Assessment Program (ICAP), and preventive maintenance programs to integrate asbestos program into facilities maintenance. Cooperate and coordinate with the various business lines, organizations, and contacts involved in the 7-step work management process and understand the basic mission and funding of each.		FM&S BMSs, Process Driven Training (PDT), Basic Maximo proficiency
Coordinate with Bureau of Medicine and Surgery (BUMED), tenant Occupational Safety and Health (OSH) office, and CNIC safety on non-NAVFAC portions of program management and compliance.		OPNAVINST 5100.23
Conduct and document quarterly and annual internal program reviews/assessments using standard provided format.		
Communicate regularly with FEC-level APM or asbestos POC and provide data (and data follow-ups) quarterly and annually (or as requested). Support regular program implementation status updates.	First year may require data submissions, but subsequent year data are expected to be collected from authoritative systems (e.g., Enterprise Safety Applications Management System [ESAMS], Maximo, iNFADS). Draft procedures in progress.	
Serve as the lead contact for and provide all access and documentation necessary to facilitate all planned and unplanned asbestos site visits, audits, or inspections. Serve as the lead for correcting, and documenting corrections to, any audit or inspection findings or violations in required timeframes.	Includes IG; EMS Internal and External Audits; ESAMS/Safety Annual Assessments; Commander, Navy Region (CNR) Safety; federal, state, and local agencies.	

Task	Notes	Additional Resources or References
Track any OSHA-related agency inspections using NAVFAC template/procedure; assist Safety personnel with reporting any U.S. Occupational Safety and Health Administration (OSHA) violations to Chief of Naval Operations (CNO) per OPNAVINST 5100.23.		ESAMS
Track any EV-related agency visits or inspections using NAVFAC template procedure; provide information necessary to upload and assist/support the Installation Environmental Program Director (IEPD) with regulatory site visits and subsequent findings using Environmental Program Requirements Portal (EPR) Portal/ Environmental Management System (EMS) Web and Notice of Violation (NOV) Web as applicable.		
Utilizing the asbestos program audit checklist, Appendix B, perform program audits annually. Audit records to be maintained for 6 years (current checklist plus 5 previous).		
Participate in Navy-wide APM meetings and working groups and provide follow-up actions or requests as needed.		
<i>Element 2: Training</i>		
Review and maintain an understanding of all applicable federal, state, and local asbestos regulatory requirements.		
<p>Complete and maintain, at a minimum, the following federal-level Asbestos Hazard Emergency Response Act (AHERA) asbestos accreditations:</p> <ul style="list-style-type: none"> • Asbestos Inspector • Asbestos Management Planner • Asbestos Contractor Supervisor • Asbestos Project Designer 	State-level accreditation or licensing is rarely required for federal employees.	Naval Safety Center provides free training for three of the four courses (excluding project designer).
Review and maintain an understanding of all applicable Navy and NAVFAC policies and procedures related to asbestos.		
Maintain a working knowledge of the following programs: EV: National Environmental Policy Act (NEPA), EMS (EMS Web: Audits/List Builder/TEAM Guides) Safety: Medical Surveillance, Respiratory Protection BUMED: Medical Surveillance, National Institute of Occupational Safety and Health (NIOSH)/Air Monitoring	FEC level, not PWD level, will require training necessary to perform audits.	

Task	Notes	Additional Resources or References
Develop, plan for, and execute site-specific awareness training to targeted audiences; use NAVFAC template and track using ESAMS.	Contact NAVFAC Atlantic (LANT) for assistance in developing training using existing available examples. NAVFAC corporate template in progress.	ESAMS and Environmental Compliance Assessment, Training, and Tracking (ECATTS) have existing courses available. Other templates from various FECs and PWDs are also available.
<i>Element 3: Asbestos Inventories</i>		
Determine status of available surveys and currency (i.e., how have any subsequent maintenance actions, sampling, or abatement activities updated surveys?).		
Assist FEC level APM in developing building survey priority and schedule using NAVFAC programmatic guidance (Appendix G).		
Conduct/manage AHERA baseline surveys; ensure that reports and data follow required format. Manage AHERA-level baseline surveys and prepare reports using NAVFAC programmatic guidance.	APMs should be used only to conduct baseline surveys when performance of other duties is not encumbered AND laboratory services and other resources are readily available and cost-effective to support this approach. APMs performing bulk sampling must be in an active respirator and medical surveillance program.	
Conduct reviews of known (or assumed) asbestos locations every three years to assess conditions and update site-specific asbestos management recommendations.	This should also be coordinated with the Facilities Management Specialist (FMS) and integrated into ICAP execution.	
<i>Element 4: Worker Protection</i>		

Task	Notes	Additional Resources or References
Work with command supervisors, Safety personnel, and IH to identify government personnel performing OSHA work classes and ensure that associated safety and Industrial Hygiene (IH) requirements are followed. Ensure that contractor activities are also accurately identified and executed (work with Facility Support Contracts [FSC] Performance Assessment Representative [PARs], FEAD, etc.).		
Promote general asbestos awareness initiatives on base.		
Conduct and/or provide training for building occupants remaining in buildings for renovation/abatement activities (prior to start of activities as well as quarterly during renovation/abatement).		
<i>Element 5: Project Evaluation</i>		
Conduct site-specific awareness training for all FMSs.		
Participate in the WIB. Keep an electronic record/list of all projects reviewed along with associated decision status using provided standard NAVFAC spreadsheet/database format. Keep records of all corresponding asbestos-related documents per NAVFAC guidance.		
Ensure surveillance and evaluation of the condition of suspect material prior to project initiation.		
Review and approve all project-related test plans and survey/sampling reports and assist with subsequent project-related decisions.	Draft procedure is available; however, corporate update to Maximo sub work types is needed to proceed.	
Ensure compliance with the approved Maximo procedures for asbestos-related activities.		
<i>Element 6: E/U/R Work Evaluation</i>		
Field and respond to asbestos questions pertaining to E/U/R work.		
Develop site-specific asbestos procedures for Production Division decision-making and activities (using the NAVFAC programmatic guidance).		
Conduct site-specific awareness training for all government in-house Production Division personnel; ensure that Base Operation and Support (BOS) contractors provide awareness training for their workers and other work controls.		
Conduct periodic site visits to Production Division work sites to ensure compliance with all procedures and regulatory requirements.		

Task	Notes	Additional Resources or References
Routinely review work tickets and Maximo data and conduct personnel interviews to evaluate effectiveness of procedures and compliance status.		
<i>Element 7: Abatement</i>		
Train FEAD personnel for oversight of contracts that include asbestos work or encounter unexpected asbestos.	Some FEAD personnel may require contractor/supervisor level AHERA training.	CNO to NAVFAC Clarification of Asbestos Training Requirements, 30 June 1997
Ensure that asbestos requirements are included in contract specifications as required.		
Maintain a record of all asbestos-related abatement actions not requiring notification to regulatory authorities.		
Complete all notifications to regulatory agencies for government/in-house abatement activities. Review all notifications/permit applications for contractor abatement activities prior to submittal to regulatory agencies. Maintain copies of all notifications. Maintain records of all asbestos-related fees paid to regulatory agencies.		
Participate in abatement project-related meetings (e.g., pre-construction, Activity Hazard Analysis Kickoff).		
Review and approve all abatement plans and designs. Document the review and outcomes using standard format provided. Keep copies of all the records – upload to authoritative data management systems as required.		
Review abatement activities to ensure compliance. Document non-compliance; stop work as necessary; and provide corrective action. Conduct periodic site visits to active abatement jobs to ensure compliance with plans and all regulatory requirements. Coordinate site visits with Safety and FEAD personnel as appropriate. Promptly and thoroughly document all instances of non-compliance; stop work as necessary; and provide chain of command reporting and corrective action to ensure non-compliance is addressed and reported as necessary.		
Review and approve abatement reports. Maintain copies of abatement records.		
<i>Element 8: Waste Management</i>		
Be familiar with the installation EV Solid Waste Management and Hazardous Waste Management Plans and associated requirements for asbestos.		
Ensure that abatement activities are compliant with waste requirements, including installation EV solid waste management and hazardous waste management plans.		

Task	Notes	Additional Resources or References
Provide assistance as needed with completion of waste Shipment Records. Review all manifests prior to shipment. Maintain copies of all Waste Shipment Records and final disposal location records.		
<i>Element 9: Recordkeeping and Management</i>		
Maintain a desktop turnover following NAVFAC programmatic guidance.		EV Other Environmental Liabilities (OEL) Business Management System (BMS)
Upload and maintain required asbestos documents and data into iNFADS.		
Provide annual OEL data collection support: review OEL-Exempt iNFADS Asset list and provide any available pre-demo surveys.		
Ensure that PWD follows all required Maximo business procedures for tracking asbestos-related activities; support Maximo data entry for asbestos sampling and abatement activities and records as needed.	Draft procedure available.	

AHERA = Asbestos Hazardous Emergency Response Act; BMS = Business Management System; BOS = Base Operations Support;
 BUMED = Bureau of Medicine and Surgery; ECATTS = Environmental Compliance Assessment, Training, and Tracking System;
 EMS = Environmental Management System; EPR = Environmental Portal; ESAMS = Enterprise Safety Application Management System;
 EV = NAVFAC Environmental; ICAP = Infrastructure Condition Assessment Program; IG = Inspector General; IH = Industrial Hygiene;
 iNFADS = internet Naval Facilities Assets Data Store; MDI = Mission Dependency Index; OEL = Other Environmental Liabilities;
 OPNAVINST = Office of the Chief of Naval Operations Instruction; OSHA = Occupational Safety and Health Administration;
 NOV = Notice of Violation; WIB = Work Induction Board

4.1.3 Legal Liability

Because of the prevalence of asbestos-related litigation in the media and the potential legal implications connected with asbestos work, some APMs have raised concerns regarding their personal legal liability associated with making asbestos decisions. Potential liability related to asbestos could be civil, criminal, tort, or a combination of all three. The Navy Office of General Council has provided the following guidance regarding the personal liability of Navy employees.

- Civil Liability – Navy employees are not personally held responsible for civil fines and penalties that occur through the performance of their official duties and/or within the scope of their employment. In these cases, civil liability is transferred to the agency in which they are employed (i.e., the Navy). However, APMs may be held personally responsible for violations that are committed outside of the scope of their employment.

Examples of this include falsifying documents and intentionally providing false statements to regulators.

- Criminal Liability – Navy employees are not immune from criminal liability. To be held personally responsible for criminally liability, a Navy employee must intentionally, knowingly, and voluntarily commit a violation or intentionally fail to prevent a violation from occurring. Criminal liability arises from an intentional act, not from ignorance or accident. Results of criminal liability may include fines, jail time, probation, and/or community service. In addition, the employee's legal fees may not be reimbursed by the Navy and the Navy may seek to remove the employee.
- Tort Liability –Tort liability arises from a legal harm to another's person or property. Tort liability can be classified as intentional tort and negligent tort. Intentional torts arises from purposeful acts and include assault, battery, false imprisonment, slander, intentional infliction of emotional distress, misrepresentation, interference with economic opportunity, false arrest, malicious prosecution, abuse of process, libel, deceit, and interference with contract rights. Navy employees are not immune from personal responsibility for intentional tort liability. Negligent tort is liability that arises from non-intentional actions. The Federal Tort Claims Act holds federal employees acting within the scope of their employment immune from negligent tort claims. Instead, plaintiffs must make their claim involving the employee against the federal government.

APMs and activities are encouraged to consult their respective NAVFAC or CNIC OOC resources and Echelon II and III technical subject matter experts (SMEs) with questions about regulatory applicability or potential regulatory violations.

4.1.4 Work Management

The APM supports the PWD that supports installation command and CNIC priorities. The Requirements Branch uses MEP/MAP/LRMP programs and the Mission Dependency Index (MDI) to plan and execute planned maintenance in the current and upcoming budget years to establish these priorities. Asset Management and CI support Military Construction (MILCONS) and special projects in addition to the Maintenance Execution Plan (MEP)/Maintenance Action Plan (MAP)/ Long-Range Maintenance Plan (LRMP). The APM is responsible for understanding the general NAVFAC work management processes for these programs, and inserting himself/herself into the process to support execution of these projects. More details can be found in Chapter 8.

4.2 FEC FM&S Responsibilities

The FM&S Product Line (PL) has responsibility for the NAVFAC Asbestos Management Program. FM&S personnel at the Echelon IV FEC level are responsible for providing reachback and resources to the PWD-level APMs and for overseeing the PWD programs to ensure their quality, efficiency, and consistency.

4.2.1 Product Line Coordinator

The PWBL FM&S PL Coordinator is responsible for appointing the core Asbestos Program Coordinator and helping to obtain resources as necessary.

4.2.2 Core Asbestos Program Coordinator

One Asbestos Program Coordinator is appointed to each FEC. The role of the asbestos program coordinator is to assist installation PWDs and APM with APM selection, regulatory interpretation, and resource coordination from across the FEC. The asbestos program coordinator aligns the efforts of APMs within the region that work under the same or similar regulatory environments. The asbestos program coordinator may, or may not be a full time position, but the FEC must carry out this role.

The asbestos program coordinator assists PWD-level APMs with obtaining reach back support from other Navy technical resources such as Echelon II & III commands and NAVFAC EXWC as necessary. They can also help APMs manage the asbestos program at remote sites such as installation special areas and/or Navy Operational Support Centers (NOSCs). A primary objective of the asbestos coordinator is to ensure effective and consistent asbestos management programs.

FEC APM responsibilities are outlined in Table 5. Although the PWD APM area of responsibility (AOR) may include special areas (SAs) or Naval Reserve Command Naval Operations Support Facilities (NOSCs); these areas may be outside of the normal commuting distance for the PWD APM. Therefore execution of the program management of these facilities may need to be considered for execution by the FEC APM, to include building surveys, Operations and Maintenance (O&M) and project support. In some cases, NOSC facility implementation may be more cost effective if executed by a service provider other than NAVFAC (e.g. a NOSC geographically located adjacent to or near an Army or Air Force installation or service provider).

FEC responsibilities may also cover overflow duties that cannot be completed by the PWD APM.

Roles will continue to be developed and refined as the program execution data is evaluated and the program evolves through process improvements.

Table 5 - FEC Indoor Air Quality / Asbestos Program Manager Tasks

Program Element	Task
Staffing/General Management	Serve as the primary asbestos expert for FEC; recommending decisions on all asbestos related actions. Coordinate with BUMED and CNIC safety on non-NAVFAC portions of program management and compliance.
	Serve on the chartered PW Asbestos Program Team
	Perform EMS external audits as requested, or designate a PWD APM to perform the audit at a separate PWD.
	Develop building survey priority listing and schedule using NAVFAC programmatic guidance (Appendix G).
Training & Experience	Review and maintain an understanding of all applicable federal, state and local asbestos regulatory requirements.
	Review and maintain an understanding of all applicable Navy and NAVFAC policy and procedures related to asbestos.
	Complete and maintain, at a minimum, the following Federal level AHERA asbestos accreditations (including initial & annual refreshers): -Asbestos Inspector -Asbestos Management Planner -Asbestos Contractor Supervisor -Asbestos Project Designer
Abatement	Contract support
Recordkeeping & Data Management	Maintain a desktop turnover following NAVFAC programmatic guidance.
	Ensure PWD follows all required Maximo business procedures for tracking asbestos related activities; support Maximo data entry for asbestos sampling and abatement activities and records as needed.
	Upload required asbestos documents and data into iNFADS.
Program Review	Utilizing the asbestos program audit checklist, Appendix B, perform PWD level program audits every three years. This audit can be performed in conjunction with the PREP Readiness Evaluation. Audit records to be maintained for 6 years (current checklist plus previous).

5 Training

5.1 Training Requirements

This section summarizes training requirements for personnel that work with, may potentially work with, manage, or make decisions regarding asbestos.

Navy personnel are required to obtain accreditation in accordance with the AHERA Model Accreditation Plan (AHERA MAP). Navy policy follows the AHERA MAP (described further in Section 5.1.2). Navy personnel overseeing contractors doing asbestos work are required to be trained at the same level (in accordance with the AHERA MAP) as the contractor performing the work. Training requirements for Navy personnel are summarized in the OPNAV Letter to NAVFAC: Clarification of Navy Asbestos Training Requirements provided in Table 6.

In general, Navy personnel are not required to obtain state or local level licensing as long as all work is performed on Navy property in the execution of official duties. Navy personnel overseeing contractors are similarly not required to obtain state/local licensing, but are required to have sufficient training according to AHERA MAP, as discussed above.

Contractors (including BOS contractors) performing work on a Navy installation must have any required state/local licensing to perform asbestos work.

In addition to AHERA MAP certification, Navy policy may require additional training. For example, FEC-level Asbestos Program Coordinators require Civil Engineer Corps Officer School (CECOS) training to support EV EMS audits. APMs require Defense Acquisition Workforce Improvement Act (DAWIA) training if they will be authorized to perform acquisitions.

The training requirements for individuals who may remove or come into contact with ACM or Presumed Asbestos-Containing Material (PACM) are shown in Table 7. The general overall requirements are listed below. Refer to AHERA 40 CFR Part 763 Subpart E for the complete listing of training requirements.

Abatement workers will receive the following training:

- All persons seeking accreditation as asbestos abatement workers will complete at least a 4-day (32-hour) training course.

The 4-day worker training course will include lectures, demonstrations, at least 14 hours of hands-on training, individual respirator fit testing, a course review, and an examination. Hands-on training must permit workers to have actual experience performing tasks associated with asbestos abatement. A person who is otherwise accredited as a contractor/supervisor may perform in the role of a worker without possessing separate accreditation as a worker.

The training course will adequately address the following topics: (1) physical characteristics of asbestos, (2) potential health effects related to asbestos exposure, (3) employee personal protective equipment, (4) state-of-the-art work practices, (5) personal hygiene, (6) additional safety hazards, (7) medical monitoring, (8) air monitoring, (9) relevant federal, state, and local regulatory requirements, procedures, and standards, (10) establishment of respiratory protection programs, and (11) a course review.

Abatement contractor/supervisors will receive the following training:

- All persons seeking accreditation as asbestos abatement contractor/supervisors will complete at least a 5-day (40-hour) training course.

The training course must include lectures, demonstrations, at least 14 hours of hands-on training, individual respirator fit testing, a course review, and a written examination. Hands-on training must permit supervisors to have actual experience performing tasks associated with asbestos abatement.

The contractor/supervisor training course will adequately address the following topics: (1) physical characteristics of asbestos and asbestos-containing materials, (2) potential health effects related to asbestos exposure, including the nature of asbestos-related diseases, routes of exposure, dose-response relationships and the lack of a safe exposure level, synergism between cigarette smoking and asbestos exposure, and latency period for diseases, (3) employee personal protective equipment, (4) state-of-the-art work practices, (5) personal hygiene, (6) additional safety hazards, (7) medical monitoring, (8) air monitoring, (9) relevant federal, state, and local regulatory requirements, procedures, and standards, (10) respiratory protection programs and medical monitoring programs, (11) insurance and liability issues, (12) recordkeeping for asbestos abatement, projects, (13) supervisory techniques for asbestos abatement activities, (14) contract specifications, including discussions of key elements that are included in contract specifications, and (15) a course review.

Table 6 – Training Requirements

Job Description	Asbestos Related Capabilities	Prohibitions	Training Requirements
Asbestos Abatement Worker (worker who removes ACM)	<ul style="list-style-type: none"> • Can perform OSHA Class I, II, III, or IV activity • Perform asbestos hazard abatement 	<ul style="list-style-type: none"> • Nearly all other activities, including supervising, bulk sampling, air sampling 	<ul style="list-style-type: none"> • 4-day training course (32 hours) • 29 CFR 1915.1001(k)(9) • 29 CFR 1926.1101(k)(9) • * 40 CFR 763.92 • 1-day annual training refresher class required
Asbestos Contractor/Supervisor (supervises the removal of ACM)	<ul style="list-style-type: none"> • Can perform OSHA Class I, II, II, or IV activity • Supervise and coordinate asbestos hazard abatement activities • Oversee asbestos hazard abatement activities • Perform asbestos hazard abatement activities • Describe project activities limited to location, quantity, type of material • Perform personal air sampling 	<ul style="list-style-type: none"> • Conduct surveys • ACM determination from bulk sampling • Assess ACM condition and potential for disturbance • Determine response actions and prepare management plans • Perform environmental or final air sampling • Determine abatement work scope, work sequence for abatement projects • Perform air sampling (only if IH experienced in sampling). 	<ul style="list-style-type: none"> • 5-day training course (40 hours) • 29 CFR 1915.1001(o)(4)(i) • 29 CFR 1926.1101(o)(4)(i) • *40 CFR 763.92 • 1-day annual training refresher class required

Job Description	Asbestos Related Capabilities	Prohibitions	Training Requirements
<p>O&M (maintenance workers who may need to disturb ACM)</p>	<ul style="list-style-type: none"> • Can perform OSHA Class III or IV activity only • Perform minor removal of ACM required to complete another maintenance activity (amount of ACM debris that can be contained in a single glove bag such as an SSSD activity defined under AHERA) • Replace an asbestos-containing gasket on a valve • Install or remove a small section of asbestos containing drywall • Install electrical conduits through or proximate to ACMs • Make minor repairs to damaged TSI that do not require removal 	<ul style="list-style-type: none"> • Nearly all other activities, including supervising, bulk sampling, abatement, air sampling 	<ul style="list-style-type: none"> • 2-day training course (16 hours) • 29 CFR 1915.1001(o)(4)(ii) • 29 CFR 1926.1101(o)(4)(ii) • Annual training refresher class required (length not specified)
<p>Custodial Staff (workers who come into close proximity of ACM but do not disturb the material)</p>	<ul style="list-style-type: none"> • Class IV activity only • Clean up debris 	<ul style="list-style-type: none"> • Any OSHA Class I, II, or III activity • Do not clean within ACM (roped off) exposure area. 	<ul style="list-style-type: none"> • 2-hour general awareness course • 29 CFR 1926.1101(k)(9) • No annual refresher class specified

* Applies to public and commercial buildings

5.1.1 OSHA Work Classes

29 Code of Federal Regulations (CFR) 1926.1101 (the OSHA Construction Standard for Asbestos) classifies asbestos work into four classes. Training requirements for workers that are performing work that will, or could potentially, impact asbestos generally depend on what class of work the worker will be performing.

- OSHA Class I – This work includes activities involving the removal of Thermal System Insulation (TSI) and surfacing ACM, including picking up and bagging asbestos dust and debris generated by Class I work.
- OSHA Class II – This work includes activities involving the removal of ACM, other than TSI and surfacing material, including picking up and bagging asbestos dust and debris generated by Class II work.
- OSHA Class III – This work includes repair and maintenance operations, where ACM (i.e., TSI, surfacing, or miscellaneous material) is likely to be disturbed, including picking up and bagging asbestos dust and debris generated by Class III work. To be considered Class III work, the amount of ACM impacted cannot exceed the containment of one glove or waste bag (60 inches by 60 inches).
- OSHA Class IV – This work includes maintenance and custodial activities, where ACM (i.e., TSI, surfacing, or miscellaneous material) will be contacted by the employee, but not disturbed. Class IV activities also include cleanup work from minor fiber release episodes or work that takes place in an area after a Class I, II, or III job and the associated cleanup and waste removal has been completed.

5.1.2 AHERA MAP Required Training

The FEC-level asbestos program coordinator and PWD-level APM must complete AHERA-accredited Building Inspector, Asbestos Management Planner, Contractor/Supervisor, and Project Designer courses and complete annual refresher training of each course.

Personnel that will be required to collect bulk asbestos samples (such as in-house asbestos sampling teams) are required to complete an AHERA Building Inspector course and annual refresher training.

Personnel that will be conducting OSHA Class I and/or OSHA Class II work (such as certain insulator shop personnel/in-house asbestos abatement teams) must complete an AHERA Asbestos Worker course and annual refresher training. Personnel that supervise OSHA Class I and Class II work must complete an AHERA Contractor/Supervisor course and annual refresher.

Personnel that write, review, or approve asbestos abatement plans (such as certain CI personnel) must complete an AHERA Project Designer course and annual refresher training.

Personnel that will be conducting OSHA Class III work (such as certain FM&S production shop personnel) must complete an AHERA Operations and Maintenance (O&M) course and annual refresher training.

Personnel that will be conducting OSHA Class IV work (such as janitorial staff) must complete an AHERA asbestos awareness course and annual refresher training.

5.1.3 Training Summary

Table 7 describes the minimum asbestos training requirements for Navy personnel that work with asbestos. Note that contractors are responsible for providing training to their employees. This includes BOS contractors, even when contractor employees are filling a position as part of a staffing contract.

5.2 Resourcing

The Business Line Community Management Plan stipulates how most training is acquired and funded. The plan can be found on the Public Works Business Line (PWBL) site on the NAVFAC portal.

5.2.1 Funding

NAVFAC funds training for FEC-level APMs, FM&S personnel, and CI (FEAD/IPT) personnel. Training is funded by the NAVFAC general fund. CNIC and customers do not fund training for these personnel. The Navy working capital fund may fund training for other shop-level personnel as needed.

EV personnel should not require formal asbestos accreditation unless funded by reimbursable customers to support in-house work.

Note that APMs may need to support cost estimation for training plan rate updates.

5.2.2 Approvals and Tracking

Each PWD must create a training plan (which includes asbestos training). ESAMS can be utilized to assist in the creation of this plan. The plan should be submitted to Echelon III and Echelon II commands for recordkeeping.

Travel for training should be carefully considered and only utilized when it is the optimal training option. Travel for training must be approved through the Total Workforce Management System (TWMS).

5.3 NAVFAC Provided APM Awareness Training

It is prudent to provide basic asbestos awareness to installation personnel. This training is not intended to be at the detail of formal AHERA Asbestos Awareness training. Rather, it is intended to educate base personnel in what asbestos is, what are the associated hazards, where asbestos is typically found, and what procedures to follow if suspected ACM has been found and/or damaged (i.e., notify supervisor/building manager/APM).

NAVFAC has created an asbestos fact sheet for general distribution (provided in Appendix J). APMs may wish to custom design this training and tailor it to their specific installations. Examples can be found on the NAVFAC portal.

5.4 Training Providers

There are a variety of means for Navy personnel to acquire training. Sections 5.4.1 through 5.4.4 provide sources of training.

5.4.1 ESAMS

ESAMS is an online management system that provides and tracks training for Navy employees and offers some asbestos training.

5.4.2 Naval Safety Center

The Navy Safety Center Environmental Training Center offers periodic classroom training at several locales (including overseas) every year. The Naval Safety Center is an accredited trainer in the states of Virginia and Hawaii. This training is valuable, as it is Navy specific and is conducted in person with asbestos experts. The Naval Safety Center lists current course offerings and class schedules. The training is not NAVFAC specific, and other Navy commands utilize the resource. Travel funding and authorization may need to be obtained for employees to travel to the course location.

5.4.3 Outside Vendors

If Navy-provided training is not available, commercial training providers may be utilized for training. Courses and schedules vary by location. Note that course instructors must be approved by the applicable state or local agency. Commercial vendor training sessions are often valuable for learning about local regulatory nuances and updates within the industry.

Many commercial training providers offer online, self-directed training. Online training must be compliant with AHERA. Online training vendors offer some initial training courses and most refresher courses. It is preferable to obtain training from vendors approved in the state in which the PWD resides.

Regardless of the method obtained, all training of NAVFAC personnel should be entered and tracked in ESAMS by the site Safety Manager with assistance as required from the APM.

If outside vendors are to be utilized, it may be valuable to coordinate with the FEC-level asbestos program coordinator, as there may be other personnel at other PWDs who may require training, and cost savings may be possible with a larger group.

5.4.4 ECATTS

As mentioned in Section 2, ECATTS is an EV-funded and contractor-hosted system that complies with federal, state, local, and host country regulations and offers location- and job-specific training. ECATTS typically supports FEAD and personnel working on CI projects. Personnel that are not registered in ESAMS can access training courses through ECATTS.

Not all courses are available at all locations through ECATTS. Currently, asbestos courses in ECATTS available at all locations include Asbestos for Contractors (Electrical), Asbestos for Contractors (Mechanical), Asbestos for Contractors (Painting), and Asbestos for Contractors (Site Work).

Table 7 – Asbestos Training Summary

Personnel	Training Courses	General Awareness Training	Site-Specific Asbestos Awareness (2-hour)	Building Inspector (3-day)	Management Planner (2-day)	Project Designer (3-day)	Asbestos Abatement Contractor/ Supervisor (40-hour)	Worker Training (32-hour)	Class III/ O&M Training (16-hour)	Class II – Limited Task (8-hour)
	Refresher Time		Annually 2-hour	Annually 4-hour	Annually 4-hour	Annually 8-hour	Annually 8-hour	Annually 8-hour	Annually 4-hour	Annually 4-hour
FEC-Level PW Core Asbestos Coordinator				●	●	●	●			
Installation APM				●	●	●	●			
Insulator Production Shop (Sampling/Abatement Teams) Workers (as needed)				●				●		
Insulator Production Shop (Sampling/ Abatement Teams) Supervisor (as needed)				●			●			
Production Shop Personnel			●				APMs must work with shops to evaluate and determine potential OSHA work classes			
Facility Management Specialist (FMS)			●	●						
TRANS			●							
FEC-Level CI Core Project Manager/Project Designer						●				
IPT Project Manager/ Project Designer						●				

Personnel	Training Courses	General Awareness Training	Site-Specific Asbestos Awareness (2-hour)	Building Inspector (3-day)	Management Planner (2-day)	Project Designer (3-day)	Asbestos Abatement Contractor/ Supervisor (40-hour)	Worker Training (32-hour)	Class III/ O&M Training (16-hour)	Class II – Limited Task (8-hour)
	Refresher Time		Annually 2-hour	Annually 4-hour	Annually 4-hour	Annually 8-hour	Annually 8-hour	Annually 8-hour	Annually 4-hour	Annually 4-hour
FEAD Construction Manager and Engineering Technician							● ²			
Site Safety Manager			●							
Abatement Worker								●		● ¹
Abatement Supervisor							●			● ¹
Other Contractors – Non Asbestos Related Worker			●							● ¹
Custodian			●							
Building Monitor			●							
Building Occupants		●								

Note:

1. Whenever employees are required to perform OSHA Class II work outside the use of critical barriers and/or negative pressure enclosures, such as removing flooring, roofing materials, etc.
2. As needed (for example 1 Construction Manager (CM) and 1 Engineering Technician (ET) may be appropriate at a PWD, while others may require more)

APM= Asbestos Program Manager; TRANS = Transportation; CI= Capital Improvements; CIH=Certified Industrial Hygienist; FEAD= Facilities Engineering and Acquisitions Division; FEC = Facilities Engineering Command; FMS=Facilities Management Specialist; IPT= Integrated Product Team; OSHA = Occupational Safety and Health Administration;

6 Asbestos Inventories

This section discusses building asbestos inspections or surveys and procedures for maintaining the results (e.g., asbestos inventory records). Maintaining accurate inventory records is vital for an efficient work evaluation/induction process and for effective worker/occupant protection. Asbestos inventories are intended to track known asbestos containing materials that will be left in place until a renovation or demolition action requires their removal, and therefore require management. It is not necessary to undertake large efforts to identify any and all asbestos containing materials that could possibly exist in a building if they are not already known (such as hidden materials) to have a complete inventory. Rather, inventories should include accessible materials that can be identified and managed.

In constructing asbestos inventories, the definition of an “asbestos containing material” should be carefully considered, as this definition may change from location to location. The following terms should be considered for applicability for inclusion in an asbestos inventory.

- Asbestos Containing Material (ACM) – Defined as any material containing more than 1% asbestos. Japan and Korea, define ACM as more than 0.1% asbestos. At a minimum, asbestos inventories should contain records for identified ACM.
- Asbestos Containing Building Material (ACBM) – Defined as ACM in or on interior structural members or other structural components. Includes covered walkways, porticos and exterior HVAC Thermal System Insulation (TSI).
- Presumed Asbestos Containing Material (PACM) – Defined as thermal system insulation and surfacing material found in buildings constructed no later than 1980.
- Regulated Asbestos-Containing Material (RACM) – Any materials subject to asbestos NESHAP regulations.
- Asbestos Containing Construction Material (ACCM) – A term used only in certain jurisdictions (i.e., California). Defined as any manufactured construction material which contains more than 1/10th of 1% asbestos by weight. Where applicable, these materials must be managed and treated as ACM. However, once the ACCM is removed, disposal requirements may be less stringent than those for ACM.

The four federal Acts or Regulations enforced by agencies that govern building asbestos surveys are as follows:

- Asbestos Hazardous Emergency Response Act (AHERA) 15 U.S.C. § 2641-2656
- National Emission Standard for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61
- Construction and General Industry Standards for Asbestos (as codified by OSHA) 29 CFR Part 1926.1101
- Asbestos School Hazard Abatement Reauthorization Act (ASHARA) OPTS-62048E; FRL-3269-8

In addition, there are several guidance documents that require that periodic inspection of Navy installations be performed as needed:

- Office of the Chief of Naval Operations Manual (OPNAV M) M-5090.1,
- Office of the Chief of Naval Operations Instruction (OPNAVINST) 5100.23

- Commander, Navy Installation Command Instruction (CNICINST) 5100.1

Per 40 CFR Part 763.85 Subpart E of AHERA, any K-12 educational building must be inspected for the presence of ACM. Although AHERA as implemented by the EPA primarily pertains to the assessment and management of ACMs in non-profit schools from kindergarten through 12th grade, it also includes DoD elementary and secondary schools, because they meet the definition of “Schools.” DoD elementary and secondary schools located overseas must also comply with the applicable requirements of AHERA.

In addition to AHERA requirements, the need to perform asbestos surveys for all other facilities not considered to be used for “school” purposes is mandated by one or more of the remaining federal regulations (as well as per CNICINST 5100.1). ASHARA does not extend asbestos inspection requirements stipulated for schools under AHERA to commercial and public buildings. However, ASHARA states that if inspections are to be conducted at the buildings, they must be performed in accordance with AHERA. Under NESHAP 40 CFR Part 61, building owners are also required to inspect buildings prior to renovation or demolition activities (refer to Section 61.145 of NESHAP 40 CFR Part 61). In addition, under OSHA building owners and employers are also required to notify employees the presence, location, and quantity of ACM or presumed asbestos-containing material (PACM).

The Navy conducted baseline surveys (see definition in Section 6.1) at most installations during the mid-1990s. NAVFAC’s tools and strategies to manage asbestos data include incorporating asbestos into iNFADS and Maximo, with migration to GRX. Geospatial data in GRX is to include the ability to readily “flag” facilities with asbestos in iNFADS, and then conduct reach-down searches into buildings mapped in GRX, to select type and location of asbestos, referenced to actual asbestos surveys. Databases to serve both the APM, installation personnel, and the greater Navy (at NAVFAC and CNIC headquarters) for system analysis.

The regulatory need to conduct building inspections and scope is summarized in Table 8.

Table 8 - Summary of Regulations Requiring Performance of Building Surveys

SCOPE	AHERA (40 CFR Part 763)	OSHA (29 CFR 1910.1001) General Industry	OSHA (29 CFR 1926.1101) Construction	NESHAP (40 CFR Part 61)
Covered Facilities	<ul style="list-style-type: none"> All DoD Schools (K-12) Excludes training schools for military or civilian personnel 	<ul style="list-style-type: none"> All buildings where employees work Exception – construction workers 	<ul style="list-style-type: none"> All areas where employees are located and will perform construction activities 	<ul style="list-style-type: none"> All structures (including concealed areas)
Area of Facility Covered	<ul style="list-style-type: none"> Building wide Interior areas only Accessible areas 	<ul style="list-style-type: none"> Employee areas Accessible areas 	<ul style="list-style-type: none"> Employee areas Accessible and inaccessible areas 	<ul style="list-style-type: none"> Affected areas of facility Accessible and inaccessible areas
Survey Inspection Detection Methodology	<ul style="list-style-type: none"> AHERA protocol or presumed ACM Non-destructive sampling 	<ul style="list-style-type: none"> AHERA protocol or presumed ACM Non-destructive sampling 	<ul style="list-style-type: none"> AHERA protocol or presumed ACM Destructive sampling (if concealed area is to be disturbed) 	<ul style="list-style-type: none"> AHERA protocol or presumed ACM Destructive sampling of concealed areas
Parameters Assessed	<ul style="list-style-type: none"> Location Condition Potential for disturbance Quantity of material 	<ul style="list-style-type: none"> Location Quantity of material 	<ul style="list-style-type: none"> Location Condition Potential for disturbance Quantity of material 	<ul style="list-style-type: none"> Location Condition Potential for disturbance Quantity of material

6.1 Types of Asbestos Surveys

Three types of asbestos surveys are conducted at Navy facilities and are defined below per American Society for Testing Materials International (ASTM) E2356. Each type of survey serves a specific purpose and meets a specific need. It is important that APMs understand the differences between survey types and ensure that the correct types of surveys are being

conducted at their installations. Unified Facilities Criteria (UFC) 3-810-10N has been updated to provide clarification and is an available reference.

- Baseline Asbestos Survey – A Baseline Asbestos Survey is also called an “AHERA survey.” Building materials that are accessible by employees, building tenants, and/or maintenance personnel are sampled throughout the building. The purpose of baseline surveys is to determine the presence and location of ACM throughout the facility so it may be managed in place and used to identify hazards to help with abatement. The survey may include limited sampling of concealed materials (such as vinyl tile beneath carpet) but does not include destruction of building components to access concealed materials or concrete coring. Baseline surveys are the primary means of collecting data to establish an asbestos inventory for a building.
- Project Design Survey – A Project Design Survey is more focused than a Baseline Survey and is used to provide information to the Project Designer for preparing abatement plans and specifications. The locations inspected are limited to the areas that will be affected by the abatement project. If the project is being done prior to renovation or demolition, the construction plans or at least a clear statement of the scope of the renovation or demolition work are required for a proper Project Design Survey. Destructive testing is often required for a Project Design Survey. The presence of asbestos in suspect materials is always confirmed in a Project Design Survey rather than being assumed or presumed. Other information required for the Project Design is collected during the survey.
- Pre-Construction Survey – A Pre-Construction Survey is performed in anticipation of renovation or demolition where a Baseline Survey has not been conducted and there is no information, or insufficient information, as to the existence of asbestos-containing materials within the planned limits of construction. The Pre-Construction Survey requires destructive testing if concealed spaces are to be breached during construction. If asbestos-containing materials are found, a Project Design Survey may also be conducted to provide information for preparing the plans and specifications. The Pre-Construction Survey satisfies the EPA NESHAP requirements for renovation or demolition to “thoroughly inspect the affected facility” or the requirements of governmental agencies for issuance of a building permit.

6.2 Resourcing

Methods for accessing and resourcing sampling and abatement personnel may include using in-house personnel (certified to perform such work), Base Operation Support (BOS) contractors, Indefinite Deliverable-Indefinite Quantity (IDIQ) contracts, or government credit card purchases. The optimal method to obtain these services varies from PWD to PWD. Appendixes G-I provides a procedure for the APM to obtain and document these services.

CNIC, as the installation owner and responsible corporate entity, is responsible for funding surveys for real property assets (with maintenance fund source) with a CNIC maintenance responsibility title (maintenance fund source A). Where NAVFAC is the maintenance responsibility Unit Identification Code (UIC), NAVFAC Navy Working Capital Fund (NWCFF) must be used for surveys. These can be located on the property record card for the facility in iNFADS. Other maintenance fund sources shall be used as appropriate for other facilities (Defense Logistics Agency [DLA], BUMED, etc.).

Non-appropriated fund operation must be determined on a case by case basis. Review Department of Defense Instruction (DODINST) 1015.8. DODINST authorizes certain agencies

(Defense Commissary Agency [DECA], Moral, Welfare, and Recreation [MWR]) to call on parent service to fund certain operations.

6.3 Planning Asbestos Surveys

The first step in a survey is to determine the purpose of the inspection and the type of survey to be performed. As stated above, a number of reasons may exist for conducting a survey. The type of survey to be conducted is based on how the results of the survey are to be utilized. As shown in Table 8, the purpose of the inspection determines how comprehensive the inspection will need to be. The inspection may require assessment of the condition and potential for disturbance of ACM rather than just the location and quantity present.

Asbestos surveys must be conducted by personnel who have satisfactorily completed an EPA- or state-accredited Asbestos Building Inspector course. The usual sequence of steps to follow includes:

- Obtaining a complete listing and physical description of all buildings and structures within the facility
- Obtaining copies of all reports or databases pertaining to previous asbestos surveys or abatement projects for the building
- Obtaining mechanical and construction drawings for building
- Performing site inspections of each building or structure
- Collecting and analyzing bulk samples for asbestos
- Preparing an Asbestos Survey Report

These steps are further described below. Note that it is the responsibility of the inspector performing the survey to complete these tasks, and not the APM. However, the inspector may require assistance from the APM in accomplishing certain tasks (such as obtaining building floor plans and previous surveys). Input and assistance from the APM, when possible, generally lead to a higher quality and more useful survey.

6.3.1 Components of an Asbestos Survey

Before commencing the actual site inspections, it is important to obtain a physical description of each building or structure to be included in the survey. Additional information, such as construction date, building size (in square feet), present use, and future plans, are useful survey data. As-built drawings or even a reduced footprint of the building are extremely useful in the field when preparing drawings of the locations of ACM. Original construction specifications, when available, are notoriously unreliable as sources concerning the presence of ACM. Construction specifications may specify an asbestos-containing product, but the phrase or equivalent is not frequently included, so that there is no guarantee that the material is actually an ACM (or vice versa; i.e., the material does not contain asbestos). The only truly reliable approach is to sample and analyze the suspect material. The last and final step is to document the findings in a written Asbestos Survey Report that meets AHERA protocols and state reporting requirements. The steps of an asbestos survey include the following:

- Review Existing Facility ACM Data – Review any previous surveys for the building. Previous surveys should be evaluated for completeness, potential data gaps, and

whether the data is currently relevant. If the survey is at least somewhat relevant, it may be possible to build upon it to bring it up to date and/or use it as a starting point.

- Conducting Site Inspection – Perform a thorough walk-through survey of each building. Each building manager should be contacted beforehand to arrange for access to locked spaces. The inspection normally begins in the boiler room and expands to include other functional spaces in the same building. Lagged vertical riser pipes commonly run through closets, store rooms, or other out-of-the-way places. If it is known that the building is to be demolished, it would be prudent, whenever practicable, to break into chases, or walls and ceilings to determine whether ACM is present. Crawl spaces and attics should be checked carefully. For structures built upon a concrete slab, asbestos lagged pipe may be present in below-slab trenches. Building maintenance personnel are often a valuable source of information regarding the details of construction and the locations of potential ACM. It is important to remember that if a situation is encountered that presents an immediate health hazard, the inspector should promptly notify the APM.
- Collection of Bulk Samples – Collect a sufficient number of representative samples of the various types of ACM. These bulk samples should be carefully selected from each type of suspect construction material from locations throughout the functional space using AHERA sampling protocols.

6.3.1.1 Data to be Included in a Survey Report

Asbestos surveys should be conducted according to procedures described in ASTM International (ASTM) standard E2356, Standard Practice for Comprehensive Building Asbestos Surveys. At a minimum, survey reports should include the following:

- A narrative discussion of the findings
- Tabulations of inspection
- Sampling and analysis results
- Graphical depiction of the areas inspected
- Results of the assessment

Data should be compiled into a flat file for easy integration into data management tools.

6.3.2 Baseline Surveys

APMs should develop a list of buildings requiring baseline surveys and rank these buildings according to priority. This section provides guidance that installation APMs can use to prioritize buildings requiring surveys to establish asbestos inventories. This information is provided as guidance only, and does not take into account factors such as abatement activities, which may have removed all ACM from a building or structure, planned projects, or emergency O&M repair situations (see Section 7). The following criteria are recommended for consideration (listed in order of priority):

- (1) Is there a current survey?
- (2) Verify and exclude OEL asbestos-exempt iNFADS category codes.
- (3) Use: by children, dependents, and/or general public (target no more than 30 buildings)

- (a) Cost Account Codes (CAC) and Unified Facilities Criteria (UFC) referenced
 - (i) Child Development Centers
 - (ii) Youth Centers
- (4) Local knowledge – known asbestos data or incidents, potential exposure
- (5) Sustainment Fund Source and/or Maintenance Unit Identification Code (UIC) – if there are other providers that pay for survey type work (e.g., BUMED)
- (6) Age (based on likelihood of ACM being present)
 - (a) Built Date
 - (i) Pre 1981
 - (ii) 1981 – 1990
 - (iii) Post 1990
 - (b) Recapitalization Information
 - (i) Pre 1981
 - (ii) 1981 – 1990
 - (iii) Post 1990
- (7) Occupancy Rate (number of occupants/hours occupied) – note: typically no authoritative source for this information
- (8) Condition Based Maintenance/Infrastructure Condition Assessment Program (ICAP)
 - (a) Maintenance Execution Plan (MEP) – Current budget year [Cat III-IV, some II]
 - (b) Maintenance Action Plan (MAP) – Budget Year +1 or +2 (current Budget Year could be design package planning)
 - (c) Long-Range Maintenance Plan (LRMP) – Budget Year +6 – Mostly requirements
 - (d) Coordination with Asset Management – (Military Construction [MILCON] and Special Projects planning)
 - (e) Depending on whether or not the PWD is adequately planning for sustainment funds (ST) for these efforts, using Facility Management on buildings for planned work could lower ST costs.
- (9) The mission dependency index (MDI) is a qualitative risk based score that serves as a decision support tool used by the PW facilities team to increase installation operational readiness by identifying critical installation infrastructure used to determine sustainment, restoration, and modernization-SRM project prioritization
- (10) Size and cost

6.3.3 Potential Buildings Not Requiring Asbestos Surveys

Potentially, no building or structure in the United States can be deemed asbestos free or “exempt” without performing an asbestos survey and sample analysis of suspect materials. However, some buildings or structures have a high probability of being asbestos free.

Significant misinformation exists regarding recently constructed buildings and/or newly installed building materials and whether they should be inspected and sampled. Although there have been some bans on asbestos-containing materials, there is still a possibility that asbestos-containing materials could be present in any building, even those newly constructed.

The EPA has stated that non-suspect materials are those that can be treated as non-asbestos-containing without the determination by sampling and analysis or other conclusive documentation. 40 CFR 763.86(b)(4) states that bulk samples are not required to be collected from any homogeneous area where the accredited inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-asbestos containing material. Furthermore, for materials other than glass, wood, or metal, the only way to ensure that a material does not contain asbestos is to sample and analyze it (EPA Letter No. A960025, dated October 12, 1994). As such, if the structure is made solely from glass, wood, or steel, and contains no other materials, it could be considered asbestos free and no sampling would be required. Few buildings or structures in the U.S. can meet this definition. These typically include items such as signs, monuments, flag poles, and structures constructed solely of poured concrete, such as gun emplacements, pill-boxes, pedestrian sidewalks, parking lots, vehicle roadways, and aircraft runways.

There is an exemption for schools built after 1988. 40 CFR 763.99(a) (7) states that an architect or project engineer responsible for the construction of a new school building built after October 12, 1988, or an accredited inspector can sign a statement that no ACM was specified as a building material in any construction document for the building, or, to the best of his or her knowledge, no ACM was used as a building material in the building. The local education agency (LEA) shall submit a copy of the signed statement of the architect, project engineer, or accredited inspector to the EPA Regional Office and shall include the statement in the management plan for that school. An example form is included in Appendix H.

Additionally, overseas bases in countries with asbestos bans in place may presume buildings constructed or materials installed after the date of the ban are asbestos free. Bans must include the manufacture, installation, sale, and importation of ACM.

6.3.4 MEP/MAP/LRMP Coordination

The Requirements Branch within the PWD develops maintenance plans that can be divided into three tiers that will assist in more effectively planning and executing future work. Business Management System (BMS) documents related to MEP/MAP/LRMP are included in the Infrastructure Condition Assessment Program (ICAP) items in the B-15.1 series. The Public Works Condition Based Maintenance Management Training Manual (CBMM) is another useful resource. APM billet placement in the Requirements Branch facilitates MEP/MAP/LRMP coordination.

6.3.5 Periodic Surveillance

Although Navy facilities are not required under AHERA to implement an AHERA-compliant O&M program, periodic surveillance and condition assessments of identified ACM are an important part of an asbestos management program. Periodic surveillance potentially allows problems to be identified and proper action to be taken before the issues become hazards. Most APMs do not have the time or resources to conduct the periodic surveillance and condition assessments themselves. Therefore, it is recommended that periodic surveillance of identified ACM be included in regular ICAP building assessments. This would require the ICAP inspector to

receive AHERA training to be able to recognize and determine the condition of ACM. Results of the condition assessment should be provided to the APM for tracking and recordkeeping. The APM should be made immediately aware of ACM in poor condition that is posing a hazard. Appendix L is an example of an asbestos condition assessment as part of the ICAP program.

6.4 Building Inventory Data

To more easily incorporate asbestos survey data into electronic management tools, survey data should be submitted to the APM in a standard format. This format is a flat file (example may be downloaded from the NAVFAC portal).

6.4.1 Existing Surveys

Existing surveys may or may not be valuable in current efforts in managing asbestos. Existing survey reports and data should be evaluated on the basis of the criteria listed below. Surveys determined to be valuable should be converted to the flat file mentioned above and digitized for upload into electronic management systems. The criteria are listed in order of importance:

- Currency
- AHERA accredited inspector documentation available and compliant
- NVLAP laboratory results available and compliant
- Existing electronic data available
- Ability of survey information to be converted to a flat file (minimum required fields only)
- Availability of photographic logs
- Level of effort to compile electronic file of survey

7 Worker Protection

7.1 Building Occupants

7.1.1 Building Monitor Program

As mentioned in Section 6, although Navy facilities are not required under AHERA to implement an AHERA-compliant O&M program, periodic surveillance and condition assessments of identified ACM are an important part of an asbestos management program. Periodic surveillance potentially allows problems to be identified and proper action to be taken before the issues become hazards. Most APMs do not have the time or resources to conduct the periodic surveillance and condition assessments themselves.

It is recommended that building monitors be utilized to perform periodic surveillance and condition assessments of identified ACM as part of the ICAP program. This will require building monitors to receive two-hour AHERA asbestos awareness training. Appendix L is an example of an asbestos condition assessment as part of the ICAP program.

7.1.2 Building Occupant Awareness

Occupants of buildings that contain asbestos should be made aware of the presence of asbestos in their building and given basic information regarding the definition of asbestos, its health hazards, and basic management practices to prevent accidental damage and/or release of asbestos fibers, and the appropriate response if such an event occurs.

However, untrained personnel should not make asbestos management decisions and must consult the APM for any asbestos concerns. If necessary, this should be done through a proper chain of command (supervisor, building manager, APM, etc.). NAVFAC has developed an asbestos fact sheet for distribution to non-asbestos trained personnel. It is provided in Appendix J.

For buildings that have had a baseline survey where asbestos has been found, a building occupant notification letter is an effective way to advise occupants of the presence of asbestos. The letter should contain a description of the ACM, its location, and basic best management practices (e.g., do not cut it or damage it, etc.). If possible, a map should be included that identifies the location of ACM. The letter can be distributed to employees or posted in a publically accessible area such as a break room or on an employee notification board. An example building notification letter is provided in Appendix M.

In addition to the building occupant notification letter, 29 CFR 1926.1101(k)(6) requires, "At the entrance to mechanical rooms/areas in which employees reasonably can be expected to enter and which contain ACM and/or PACM, the building owner shall post signs which identify the material which is present, its location, and appropriate work practices which, if followed, will ensure that ACM and/or PACM will not be disturbed. The employer shall ensure, to the extent feasible, that employees who come in contact with these signs can comprehend them. Means to ensure employee comprehension may include the use of foreign languages, pictographs, graphics, and awareness training."

7.2 Worker Protection

Worker protection is another key component of a successful asbestos management program. An appropriate medical surveillance program, respiratory protection program, and PPE program will be provided to personnel working in areas potentially contaminated with airborne asbestos fibers, or performing asbestos abatement or O&M work activities that could create an atmosphere of airborne asbestos fibers above the permissible exposure limit (PEL).

Accordingly, OSHA classifies asbestos-impacting work into four categories, as follows:

- Class I: Activities involving the removal of TSI and surfacing ACM, including picking up and bagging asbestos dust and debris generated by Class I work.
- Class II: Activities involving the removal of ACM, other than TSI and surfacing material, including picking up and bagging asbestos dust and debris generated by Class II work.
- Class III: Repair and maintenance operations, where ACM (i.e., TSI, surfacing, or miscellaneous material) is likely to be disturbed, including picking up and bagging asbestos dust and debris generated by Class III work. To be considered Class III work, the amount of ACM impacted cannot exceed the containment of one glove or waste bag (60 inches by 60 inches).
- Class IV: Maintenance and custodial activities, where ACM (i.e., TSI, surfacing, or miscellaneous material) will be contacted by the employee, but not disturbed. Class IV activities also include cleanup work from minor fiber release episodes or work that takes place in an area after a Class I, II, or III job and the associated cleanup and waste removal has been completed.

This section provides regulatory requirements and information on how to establish a medical surveillance program, respiratory protection program, and PPE program to be implemented as part of the components of an asbestos management program.

7.2.1 Medical Surveillance Program

In accordance with OSHA asbestos regulations (29 CFR 1910.1001 and 29 CFR 1926.1101), personnel must be included in a medical surveillance program if personnel are required to:

- Wear respirators
- Engage in OSHA Class I, II, and/or III work for a combined total of 30 days or more per year. This information should be tracked in ESAMS with appropriate asbestos duty/task assignment.
- Be exposed at or above the PEL or excursion limit (EL) at any time

The installation Site Safety Manager will determine who is required to be enrolled in the medical surveillance program. The Navy's Medical Surveillance Program is run by BUMED. The APM should coordinate with Safety and BUMED to ensure that all required employees are enrolled.

Applicable employees will receive a medical examination by a licensed physician to determine their ability to wear a respirator, in accordance with OSHA regulations. Negative pressure filtering devices (i.e., air-purifying respirators) place stress on a worker's respiratory and cardiovascular systems. The medical examination, therefore, should include an OSHA-approved questionnaire of medical and work history with special emphasis on the pulmonary, cardiovascular, and gastrointestinal systems, a general physical exam, a chest X-ray to be read by a certified B Reader, and pulmonary function tests.

Medical examinations must be given to employees within 30 days of employment, annually during the length of employment, and at the termination of employment. Records of medical examinations for employees will be maintained in employees' personnel health files. These records are subject to OSHA regulations, and thus must be maintained for the duration of employment plus 30 years. Additionally, these records must be available to the worker, his or her designated representative, and the Director of NIOSH.

7.2.2 Respirator Protection Program

It is important that a written respiratory protection program is established for any workplace where respirators are required to protect the health of the employees or whenever an employer requires employees to wear respirators. A respiratory protection program must be a written program, and must include worker training and medical surveillance. The NAVFAC PWD Site Safety Manager is responsible for developing the respirator protection program. The APM should work with the Site Safety Manager and provide feedback as necessary. The program must clearly inform the worker about the type and level of respiratory protection required for each activity. The worker must be fit-tested for a respirator, and a respirator must be provided. The worker must be trained in the proper use, care, and maintenance of respirators. The medical monitoring must include a physician's opinion that the person is able to wear a respirator.

The respiratory protection program is required by both the asbestos standards 29 CFR 1910.1001 and 29 CFR 1926.1101 and the general respiratory protection standard 29 CFR 1910.134. OSHA requires the program to include/address the following:

- Procedures for selecting respirators for use in the workplace
- Medical evaluations of employees required to use respirators
- Fit testing procedures for tight-fitting respirators
- Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations
- Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators
- Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators
- Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations
- Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance
- Procedures for regularly evaluating the effectiveness of the program

7.2.2.1 Respirators and Limitations

Personnel working in areas potentially contaminated with airborne asbestos fibers or performing asbestos activities that could create an atmosphere of airborne asbestos fibers above the PEL will be provided with respiratory protection in accordance with 29 CFR 1926.1101, 29 CFR 1910.1001, 29 CFR 1910.134, 40 CFR 763.120&121, EPA and NIOSH "A Guide to Respiratory Protection for the Asbestos Abatement Industry" (1986). In case of a conflict, the

most stringent respiratory protection requirements are applicable. Initial exposure assessments will be performed to determine the respiratory protection required for asbestos abatement and O&M work activities. Prior to initial exposure determination, personnel working in areas contaminated with asbestos fibers should wear respirators.

Respirators used for asbestos abatement or O&M activities must be selected on the basis of the requirements of regulations and a respiratory protection program developed in accordance with OSHA standards 29 CFR 1926.1101 (h), 29 CFR 1910.134, or the EPA "Worker Protection Rule" (40 CFR 763.120&121), as applicable, for the asbestos workers. Liability concerns, historical data, and management policies might also influence whether respirators are used and, if so, the type of respirators for asbestos abatement or O&M activities. NIOSH recommends minimizing occupational exposure to cancer-producing substances, such as asbestos, to the lowest feasible level. In practice, a maximum exposure level for workers of 0.01 fibers per cubic centimeter (f/cc) of air inside the respirator is commonly used when respirators are selected using protection factors.

OSHA has stated that significant risk remains at the OSHA PEL. As a result, OSHA requires respirator use in some situations (such as when working on surfacing or TSI ACM) regardless of exposure levels. The EPA's White Book (EPA, 1986) and the NIBS *Model Guide Specification for Asbestos Abatement & Management in Buildings* Introduction and Section 01562 (NIBS, 1996) contain information regarding respirator selection that might be helpful to the APM. Review of this additional information is strongly encouraged.

In certain situations, full-face respirators might be desirable to provide additional eye and face protection for workers. A Powered Air-Purifying Respirator (PAPR) is preferred by many workers over negative-pressure respirators. OSHA Regulations 29 CFR 1910.1001 and 29 CFR 1926.1101 require that an employer provide a PAPR, in lieu of a negative-pressure respirator, if an employee requests this type of respirator.

Depending upon the type of work and work practices to be used, combination respirator filter cartridges or a different type of respirator might be necessary to protect workers from other contaminants or hazardous substances. Respiratory protection for asbestos work requires the use of high-efficiency particulate air (HEPA) P-99 filter cartridges, which are color-coded purple or magenta.

At a minimum, respirators will be of half-face, dual-cartridge, air-purifying design. Filter cartridges will carry a high-efficiency rating for use in asbestos-contaminated environments. These filter cartridges are color-coded purple or magenta. Approved respirators and protective clothing must be worn at all times when inside asbestos regulated areas and should not be removed for talking, eating, smoking, drinking, or any other purpose. Single-use, disposable, or loose-fitting respirators (e.g., dust masks) do not provide adequate protection and are not allowed for asbestos work. Respirators should be selected from among those approved as acceptable for protection, per NIOSH, under the provisions of 30 CFR 11. Mixing respirator components from different manufacturers, as defined in the regulations, nullifies the NIOSH approval.

Respirators must be worn under the following conditions, for these following work classes:

- Class I
 - Always
- Class II
 - When exposed above the PEL/EL

- When wet methods are not used
- When there is no negative exposure assessments
- When ACM is not removed in a substantially intact state
- Class III
 - When exposed above the PEL/EL
 - When wet methods are not used
 - When there is no negative exposure assessments
 - When TSI or surfacing material is disturbed
- Class IV
 - When exposed above the PEL/EL
 - When working in an area where other employees are required to wear respirators

Prior to the utilization of respirators, employees must be fit-tested for their own respirators and be enrolled in a medical surveillance program (See Section 4.2.2.2 for more details).

Table 9 lists the respirator assigned protection factor values referenced by OSHA for workers performing abatement or O&M work activities.

Table 9 - OSHA-Assigned Protection Factor Values for Respirators

Type of Respirator	Half Mask	Full Facepiece
1. Air-Purifying Respirator	10	50
2. Powered Air-Purifying Respirator (PAPR)	50	1,000
3. Supplied-Air Respirator (SAR) or Airline Respirator		
• Demand mode	10	50
• Continuous flow mode	50	1,000
• Pressure-demand or other positive-pressure mode	50	1,000
4. Self-Contained Breathing Apparatus (SCBA)		
• Demand mode	10	50
• Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	10,000

7.2.2.2 Respirator Fit Test

Prior to the utilization of respirators, employees must be fit-tested for their own respirator and enrolled in a medical surveillance program. Employees utilizing respiratory protection will be fit-tested annually, at a minimum.

Respirator fit testing will be conducted at the following intervals:

- Prior to initial use of a respirator
- Whenever a different respirator face-piece (size, style, model, or make) is used
- At least annually thereafter
- After any reported or observed changes in an employee's physical condition that could affect respirator fit. This includes, but is not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.

If an employee notices that the fit of a respirator has become unacceptable, he or she will be given an opportunity to select another respirator face piece.

7.2.3 Personal Protective Equipment

In accordance with OSHA asbestos regulations (29 CFR 1910.1001 and 29 CFR 1926.1101), personnel who are exposed to airborne concentrations of asbestos above the PEL while performing asbestos abatement or O&M work should use protective clothing. This protective clothing includes coveralls or similar full-body clothing, head coverings, gloves, and foot coverings. The protective clothing will be disposable in nature or properly cleaned and/or laundered after use.

Protective clothing for asbestos work typically consists of disposable coveralls, gloves, and/or boots. Protective clothing for asbestos work can be selected by the APM or the worker, depending upon the work practices and procedures. The protective clothing option selected might depend in part upon the decontamination procedures to be used and the type of work area preparation or enclosure.

7.3 In-house abatement shops

Some installations and locales (currently the San Diego, California, Hampton Roads, Virginia, and Hawaii areas) have in-house NAVFAC sampling and abatement shops. These shops are typically specially designated insulator production shops. The regionally based teams are based at a PWD but support multiple PWDs. These teams are composed of AHERA-accredited workers and supervisors and maintain a ready supply of abatement equipment. They are typically used to support E/U/R work and small to moderate renovation and demolition related abatement.

The APM should have records for or access to accreditations of in-house sampling and abatement shop personnel. When samples are collected, sampling data should be submitted to the APM in the form of a flat file and include all elements discussed in Section 3. At the conclusion of an abatement action, shop personnel should update the asbestos inventory or provide records of what was performed to the APM so the APM can update the inventory.

7.4 Class III Production Work

Because of the regulatory history of asbestos in the United States, and the fact that asbestos is not completely banned, it is difficult to assume that a material is asbestos free on the basis of its age. Furthermore, it is legal to import and sell certain products that contain asbestos that have been imported from countries where asbestos is still manufactured. Therefore, for materials that have not been sampled and records of its manufacture (safety data sheets, product information sheets) are not available, an asbestos-free assumption cannot be made.

For work (including E/U/R and self-help work) that occurs that may impact unsampled material where the asbestos content is not known, one of the following two courses of action must be followed.

- The material is sampled by an accredited AHERA inspector and submitted to an NVLAP-accredited laboratory for analysis. If the results are positive for asbestos, the asbestos must be abated or removed. The work must be done by an AHERA accredited worker.

or

- The material is considered PACM. Work is done by AHERA accredited workers.

7.5 Job Site Controls

The following should be considered when planning an asbestos abatement event or work that will impact asbestos:

- Work Control or Work Permit System and Approval Process Involving APM
- Work Control or Work Permit Form
- Job Site Requirements for O&M: Discuss the qualifications of an O&M worker and a competent person
- Special Circumstances
 - Emergency Work and Response (include requirements for notification to NESHAP enforcement agency)
 - Dry Removal: Discuss when dry removal only may be necessary (e.g., when working around activated electrical equipment, working on roofing materials, etc.) and how to address this issue
- Types of PPE
- Medical Surveillance Program
- Respiratory Protection Program
 - Respirator Selection
 - Respirator Fit Test
 - Visual Inspection
 - Performing Fit Check
 - Removal of Respirator
- Air Monitoring Program
 - Initial Exposure Assessment
 - Negative Exposure Assessment (NEA): Discuss the three criteria that conform to NEA: (1) objective data, (2) historical data, and (3) initial exposure monitoring data
 - Personal Monitoring
 - Perimeter Monitoring
- Decontamination Procedures

- Amended Water Application: Discuss what constitutes an amended water application to control ACM during a work activity and when should it be used
- Securing the Work Area
- Critical Barrier
- Mini-Enclosures
 - Constructing a Mini-Enclosure
 - Negative Pressure System and HEPA-Filtered Local Exhaust Ventilation
- Glove Bag Installation and Removal
- Wet Methods and Cleaning: Discuss wet wiping, HEPA vacuuming, and steam cleaning carpet procedures
- Basic O&M Procedures: Discuss use of mini-enclosures, portable power tools and handling, area isolation, and avoidance of certain activities (e.g., sawing, sanding, and drilling ACM)
- Application of Lockdown Encapsulant
- Hazard Communication Program
- Packaging Waste: Discuss waste labeling and NESHAP waste packaging requirements
- Decontamination
 - Worker
 - Equipment
 - Work Area
 - Package Waste
- Disposal of Contaminated Water
- Waste Transportation, Storage, and Disposal
- Other Safety Programs (e.g., lockout/tagout)

7.5.1 NESHAP Requirements

NESHAP requires that readily visible and legible warning labels, as specified by OSHA, be used on waste containers or wrapped materials. This warning label is the same as the label described in OSHA 29 CFR 1926.1101. Waste material to be transported off the facility site must also be labeled with the name of the waste generator and the location at which the waste was generated.

7.5.2 DOT Hazardous Material Rules

The United States Department of Transportation (DOT) issues hazardous material rules (HMRs) under the Hazardous Materials Transportation Act, to help ensure that adequate information about materials being shipped commercially over public roads, waterways, and airways is available to transporters for their safety and that of the public.

8 Project Evaluation

APM review of projects is crucial to identify and address potential asbestos hazards posed by renovation, demolition, and other construction activities before they become actual hazards. Many causes of accidental asbestos fiber release incidents can be directly or indirectly linked to circumventing the review process. It is also important that decisions regarding how to address and/or manage asbestos be made by the APM and not by less qualified personnel at the tenant or shop level.

8.1 Work Induction Process

Once the need for a project is identified, the project is evaluated by all divisions in the Public Works Department, for potential issues that the project will need to address and how the project will be executed. This process is known as work induction (although this term may vary among PWDs). Multiple disciplines participate in this process and evaluate projects for impacts to/from utilities, historical and cultural resources, natural resources, lead-based paint, asbestos, and a multitude of other factors. The project must fund any associated requirements due to these impacts.

The participation of the APM in this process is a vital component in the management of asbestos at a PWD. Work Induction occurs in a variety of formats. Examples are a weekly Work Induction Board (WIB) meeting or other WIB process (e.g. round table discussion or a form that is circulated and must be signed off by the various specialists). Regardless of the format, work induction is the APM's opportunity to recommend actions to address asbestos concerns prior to the project planning stage. These actions can then be accounted for in the project schedule and budget. This process is usually coordinated by the Requirements Branch of the PWD.

At a minimum, the APM should evaluate each project for the following items and document that evaluation as well as subsequent actions:

- Based on survey records, previous sampling, or building history, is asbestos present or likely to be present in the facility? Note: uncommon sources/locations of asbestos should be taken into account (asbestos paneling behind walls, asbestos in concrete, etc.)
- Is sampling required? If so, who will conduct the sampling and how fast will results be required?
- If ACM is present, will the proposed work impact or potentially impact it?
- Does the work require trained asbestos personnel?
- Are engineering controls required to prevent the release of asbestos fibers?
- If asbestos is present, is it more practical/safe/cost effective to enclose or encapsulate the ACM or remove and dispose of it?
- Will an abatement plan be required?
- If abatement is being conducted, will this project require third party oversight and/or clearance testing?
- Will this project require regulatory notification and/or permitting?

The APM will utilize PWD generated SOPs to document the evaluation process and other tools used to document the details of actions requiring avoidance, sampling, or abatement actions. Sample SOPs are available on the NAVFAC Portal.

8.2 MILCON and Special Projects

PWD work induction may not cover MILCONS and special projects. Asset Management (AM) and CI are responsible for planning and executing these projects. MILCON and special projects can encounter issues with asbestos if they involve demolition or renovation to existing facilities. Similar to PWD projects, these projects must also be reviewed for asbestos impacts. The APM must coordinate with Asset Management (AM) and CI to ensure that asbestos is properly evaluated and addressed.

In addition to impacting existing buildings, ACM can potentially be placed in new construction in certain countries (the United States being one of them). If possible, a building material log should be requested from the FEAD for new construction. The log should consist of Material Safety Data Sheets (MSDSs) and/or material specification sheets. These records should state whether the materials contain asbestos. These records will help the APM determine asbestos management needs for that facility (including that the building is unlikely to contain asbestos and therefore has minimal management needs).

8.3 Regulatory Notifications

Prior to abatement or other activities that disturb asbestos, NESHAP requires notification to the local agency responsible for enforcing NESHAP and the Clean Air Act (such as an air pollution control district). Some agencies issue permits for each project and often require a permit fee to be paid. Most regulatory agencies require 10-day advance notification, but this time may vary by agency. Not notifying regulators of work can result in the issuing of NOVs and fines.

Host countries of overseas installations typically require similar notifications. The APM should be familiar with local agency requirements.

The APM should review all asbestos-related regulatory notifications, permit applications, and other communication prior to submittal. The APM should be the primary government point of contact for regulatory agencies. Regulatory/permit fees should be built in to the project costs and are not the responsibility of the APM.

8.4 Self-Help

Self-help projects are typically small in scale and are performed by the building tenants themselves. The work induction process is sometimes bypassed, which could lead to the project creating potential asbestos hazards. The APM should work with the Self-Help shop and with building managers to prevent the work induction process from being bypassed.

9 Emergency/Urgent/Routine Work Evaluation

E/U/R work is non-recurring unplanned maintenance. E/U/R work can range from relatively innocuous jobs (such as changing a light bulb) to more complex repairs. E/U/R work is high in volume, short in duration, and limited in scope.

E/U/R work is initiated when a building manager or other authorized personnel (e.g., a Facilities Management Specialist [FMS]) submits a trouble call to the PWD service desk or inputs a service request in Maximo. A work order is generated in Maximo and assigned to a PWD production shop or BOS contractor for action. The work order is tracked in Maximo through completion. Work must be completed in timeframes established by BMS B-15.6 Proper Work Classification, as tracked according to the NAVFAC Metrics Program Guide.

9.1 Asbestos Hazards Associated with E/U/R Work

Because of the random and fast-paced nature of E/U/R work, it is highly susceptible to accidental asbestos release incidents. E/U/R work is especially susceptible to unintended asbestos impacts if a baseline survey of the building has not been conducted, or if there is no or limited asbestos data for the building where the work will be taking place. Currently, this is the case for most Navy-owned buildings. As such, E/U/R work runs the risk of impacting ACM through one of two scenarios:

- (11) Asbestos sampling is not performed prior to work being conducted.
- (12) Sampling has been done, but asbestos information is not provided to the production shop workers.

This lack of information could also result in untrained workers performing tasks that can be defined as abatement work. In addition to the adverse health risks this presents, it also opens the Navy to significant legal liability.

9.2 Evaluation of Potential Asbestos Impacts Within E/U/R Work Flow

Currently, identifying potential or actual ACM that will potentially be impacted by E/U/R work depends on the following occurring:

- Asbestos survey or sampling data are available and have been uploaded to iNFADS, Maximo, and/or internal asbestos inventory tracking systems. The production shop is able to flag potential issues and notify the APM, who can provide data interpretation and work guidance, or identify the need for further action, such as sampling.
- Asbestos is known to exist in the facility subject to the work order through sampling, prior experience, or knowledge of the building history. The production shop notifies the APM for guidance prior to beginning work.
- The production shop worker identifies potential ACM during work execution, stops work, and notifies the production shop supervisor, who notifies the APM for guidance.
- NAVFAC is currently developing systems and procedures to improve asbestos review in the E/U/R workflow. This manual will be updated accordingly when those systems and procedures have been developed.

9.3 Production Shop AND BOSC E/U/R Business Processes

FM&S production shops are continually performing maintenance on Navy buildings. Given the large amount of work and quick execution time, E/U/R work poses the highest risk of accidental asbestos fiber release.

Currently, no Navy-wide procedure exists for screening E/U/R work for asbestos impacts, although NAVFAC is currently developing one. Until a Navy-wide procedure exists, asbestos screening must be incorporated into the E/U/R Service Request and Work Order Process (BMS B-15.27). It is recommended that the APM notify production shops of which buildings are suspected to contain asbestos. Areas of buildings that are more likely to contain ACM (such as mechanical rooms) should be emphasized. iNFADS can be used to identify buildings on the basis of survey information, use, and date of construction.

If potential asbestos is encountered by production shop personnel during the execution of work, the APM must be immediately notified so that sampling or other appropriate action can be taken as quickly as possible. Any work on potential or verified ACM must be performed by AHERA-certified asbestos workers using wet methods and other procedures described in AHERA and Section 7.

As discussed previously, NAVFAC is currently working on processes and tools to facilitate more comprehensive asbestos screening for E/U/R work. These tools will incorporate iNFADS and Maximo and will flag buildings and work that require APM review. This manual will be updated when this process has been developed.

10 Abatement

This section presents the requirements to be followed whenever “*asbestos work*” is performed that involves removal or abatement of asbestos-containing materials from a building location or structure. In addition, it also discusses work activities during which a worker may come into contact with, but does not disturb, asbestos during a janitorial or maintenance activity. As described later in this section, the OSHA Construction Asbestos Standard 29 CFR 1926.1101 has defined asbestos work under four separate classes or work activities during which asbestos may be contacted or disturbed by a worker. These work classes cover both industrial and construction activities and are summarized in Table 10. This section defines the types of workers who can perform asbestos work activities, their individual training requirements, and personal medical monitoring requirements. In addition, this section provides the requirements for OSHA asbestos work activities. These requirements include proper use of engineering controls, work practices, and PPE.

10.1 Abatement Plan Review and Approval

Abatement plans are required for projects large enough to require regulatory notification. Some state requirements are more stringent and require notification for all projects, regardless of size. All abatement plans must be written by an AHERA project designer. Contractor written plans must be approved by a NAVFAC AHERA project designer. Typically, this is the APM. However, if another NAVFAC employee with project designer training (such as someone from FEAD or an IPT) performs the review, no further review is required. Abatement plan review should be tracked and documented. Form 4-A in Appendix I provides an example of an Abatement Plan review and approval form.

Some PWDs have allowed BOS contractors to review abatement plans. If this is to be done, the contractor must have written approval from the APM.

10.2 Asbestos Abatement Workers

This section describes asbestos workers who come into contact with ACM or PACM during an abatement or removal activity. It also summarizes the training and medical monitoring requirements for these asbestos workers. Asbestos workers may need to remove or abate ACM or PACM from a building or structure because of a demolition, renovation, and/or O&M activity. Removal of ACM may also be necessitated as a result of an accident or emergency situation in which an ACM may have become damaged.

As described below, whenever an ACM or PACM is removed, it is considered to be an OSHA Class I, II, or III activity. Any worker or employee performing a Class I, II, or III activity must have proper training based on their job function. Those workers who may come in contact with but do not disturb asbestos (e.g., janitorial staff) are considered to be a Class IV workers and are not permitted to conduct removal of ACM. Class IV workers are also required to receive training. For additional details regarding OSHA Class work activities, refer to Section 10.6.

Based on job function and responsibility, two types of asbestos abatement workers are considered “accredited” under AHERA to perform a Class I, II, or III abatement activity: asbestos abatement worker and asbestos abatement contractor/supervisor. Section 10.6 provides their specific job descriptions.

Other non-abatement workers can be used for projects that meet the AHERA definition of being “Small-scale, short-duration (SSSD) activities,” during which small quantities of ACM are removed when required in the performance of another maintenance activity; these activities are not intended solely as asbestos abatement activities. Individuals performing SSSD-type tasks are not considered abatement workers or contractors/supervisors and so have reduced training requirements. SSSD actions performed by these individuals would be considered under OSHA to be Class III activities.

In addition to individuals who may perform SSSD tasks, other workers may come in contact with but not disturb ACM or PACM (see OSHA Class IV activity in Section 7.6). Under AHERA, these include all members of an employer maintenance and custodial staff (e.g., custodians, electricians, HVAC engineers, plumbers, painters, etc.) who may be working in a building that contains ACBM. These employees are required to receive only “general awareness asbestos training,” which is required to be at least 2 hours in length, whether or not they are required to work with ACBM. These individuals will be trained within 60 days after commencement of employment. The capabilities, prohibitions, and training requirements of the job functions above are summarized in Section 5.

10.3 Medical Monitoring

An overview of the medical monitoring requirements for asbestos abatement workers is presented in this section. For further information pertaining to medical monitoring requirements for employees, refer to Section 6. Medical monitoring/surveillance requirements for asbestos workers can be found under OSHA 29 CFR 1926.1101(m).

Two levels of medical exams may be required to conduct asbestos abatement: approval for respirator use and a medical surveillance program:

- Respirator Approval: A doctor’s or physician’s authorization is required for employees to wear a negative pressure respirator. This exam must be given prior to wearing a respirator.
- Medical Surveillance Program: All employees exposed at or above the PEL or performing Class I, II, or III asbestos work (over 1 hour) for 30 or more days are required to be placed into a medical surveillance program. This exam is required within 10 days of the employees 30th day of work or exposure.

The medical surveillance program requires initial and annual exams as long as the employee performs work requiring medical surveillance.

The content of the initial and annual OSHA asbestos construction medical surveillance exams is summarized in Table 10.

Table 10 - OSHA Medical Surveillance Requirements for Asbestos Workers

Medical Surveillance Program Exam Component	Initial Exam	Annual Exam
Medical questionnaire/history	Comprehensive	Abbreviated
Comprehensive Medical Evaluation	Yes	Yes
Pulmonary function tests	Yes	Yes
Chest X-rays	Up to Physician	Usually every 2–5 years, up to physician

10.4 APM Site Visits

APMs are fully authorized and encouraged to make regular site visits to abatement sites (including CI projects). The APM can be instrumental in identifying deficiencies and other issues before they are cited by regulators or an incident occurs.

10.5 Third Party Monitoring and site clearance Monitoring

Third party monitoring is when an asbestos abatement project is overseen by an unaffiliated asbestos inspector (typically an unaffiliated contractor). Third party monitoring oversees project quality, abatement plan adherence, sampling/monitoring (to ensure that asbestos fibers are not escaping the abatement enclosure), and post abatement clearance (consisting of visual inspection and clearance sampling). Depending on the size, complexity, and circumstances of the abatement project, third party monitoring can consist of the monitor being onsite during the entire project, making occasional visits (such as setting up air sampling equipment, which is collected at the end of the day), or visiting the site only during post abatement clearance activities.

NAVAC has published BMS B-15.19.1, to address third party monitoring. This BMS recommends that third party monitoring be employed on high-priority renovation projects that impact a large amount of friable asbestos. Some states may require third party monitoring and may require that the Navy have a separate contract with the third party.

Third party monitoring can be invaluable to ensure quality and safety of abatement projects. However, it is not necessary to employ third party monitoring on every project. The APM must evaluate the need for third party monitoring. The size and complexity of the project as well as the type of ACM being abated (e.g. highly friable material) should be considered. In addition, abatement projects being performed adjacent to occupied areas and situations where the abated area will be reoccupied should also be considered for third party abatement.

Other considerations are potential conflicts of interests of the monitor. While some FECs and PWDs have separate contracting options for third party monitoring, the most common way to access these services is for the abatement contractor to subcontract the monitor. While this practice is perfectly acceptable most of the time, there have been instances where the abatement contractor has had informal agreements with monitors to be lenient in exchange for more work, resulting in a conflict of interest. The APM should be vigilant (particularly in regard to how the monitor was selected) for conflicts of interest and should implement means to prevent them (such as specifying scope of work language to specify how the monitor is selected).

Clearance and air monitoring data should be collected from the monitor and kept as part of the abatement record, including any data required for a NEA. Air monitoring data should be considered when selecting the type of respirators for activities that use respiratory protection.

Training might be required by the air monitoring program or state or local regulations, and could include a NIOSH air monitoring course, industrial hygiene training, or other requirements. Training for persons performing air monitoring work should include hands-on training with the equipment to be used. Training for air monitoring that is currently available consists primarily of courses meeting the NIOSH 582 requirements.

Air monitoring exemptions or requirements for a given work practice should be based on the air monitoring program. Exposure monitoring should be addressed in the air monitoring program and is required for operations covered by OSHA regulations unless requirements for termination of monitoring have been met during program set up or after initial monitoring. The applicable

OSHA standards should be reviewed in detail when developing air monitoring procedures for asbestos work activities.

During the development of work practices for a facility, the APM or abatement personnel will need to perform an exposure assessment for each work practice. Generally, this exposure assessment will involve exposure monitoring. This monitoring is necessary to comply with OSHA requirements, and to demonstrate compliance with the program's goals for airborne asbestos exposure (if more stringent than OSHA requirements). Exposure monitoring may not be necessary if there are already sufficient data available for an NEA, as required by OSHA. Also, initial monitoring may not be required for housekeeping activities governed by the general industry standard (e.g., 29 CFR 1910.1001) where a determination has been made that the activities are not reasonably expected to result in exposures at or above the time-weighted average (TWA) PEL and/or EL.

Exposure monitoring is required following changes in work practices, employees, employee skill levels, or other pertinent factors that could lead to the OSHA action level or exposure limits being exceeded. Personal monitoring should consist of samples to obtain an 8-hour TWA, if possible, and EL monitoring samples. The analyses for OSHA compliance should be by phase-contrast microscopy (PCM) using the OSHA Reference Method (ORM) (29 CFR 1926.1101) or NIOSH Method 7400. TEM analysis will distinguish asbestos fibers from other fibers and might also be used, if desired, to supplement the PCM data required by OSHA. TEM analysis should be performed in accordance with the analytical method in the AHERA regulation (40 CFR Part 763). TEM data cannot substitute for OSHA-required PCM data unless approved by the local OSHA office.

The air monitoring performed for OSHA exposure monitoring does not distinguish between asbestos and non-asbestos fibers and cannot measure the short or thin fibers that may be detected using TEM analysis. Short or thin fibers may be found in airborne asbestos levels generated during disturbance of ACM manufactured with such fibers (e.g., resilient flooring), or where the disturbing process grinds fibers down (such as during sawing, sanding, or grinding). Air monitoring data for OSHA exposure may not be an accurate predictor of TEM results.

The sampling and TEM analysis of settled dust to evaluate areas for cleaning or pre-cleaning prior to an asbestos work activity may be considered. Although current regulations do not require this type of testing, dust sampling is presented as an available analytical tool that may be used to make recommendations for cleaning and other corrective measures. Settled dust sampling can also be used during asbestos work activities to document disturbances of ACM during the activity. Additionally, settled dust sampling might be used as part of a clearance protocol for asbestos work activities. Because no current regulatory standards for asbestos dust sampling have been set by government agencies, an APM might want to consult with experienced laboratories or consultants regarding the latest settled dust sampling procedures and protocols. Procedures in use to sample settled dust include micro-vacuuming (see dust and debris paragraph), surface wipe sampling, passive dust sampling, and tape-lift methods.

10.5.1 Initial Exposure Assessment

The monitoring required for an initial exposure assessment is discussed in paragraph (f)(2) of the OSHA construction standard 29 CFR 1926.1101: "(I) Each employer who has a workplace or work operation covered by this standard shall ensure that a "competent person" conducts an exposure assessment immediately before or at the initiation of the operation to ascertain expected exposures during that operation or workplace."

10.5.2 Negative Exposure Assessment

If it is anticipated that employee exposure during an abatement project or other work involving asbestos will be below PELs, an NEA must be made prior to any reduction in PPE or containment levels. If an NEA is not possible, then the work practice must be performed inside of an enclosure.

The OSHA construction standard sets forth the criteria that must be met to demonstrate that worker exposures will be below the PEL in 29 CFR 1926.1101(f)(2)(iii). The following sections briefly outline the highlights of that paragraph. The standard should be referred to when attempting to make an NEA.

An NEA can be made based on exposure data that conform to any one of the three criteria in Sections 10.5.2.1 through 10.5.2.3.

10.5.2.1 Objective Data

The data must demonstrate that a work practice applied to a particular product or material cannot “release airborne fibers in concentrations exceeding the TWA and excursion limit under those conditions having the greatest potential for releasing asbestos.” In Compliance Directive CPL 2-2.63, OSHA states that “The employer may use data derived from other employers’ jobs. The data should reflect worst-case conditions in a variety of occupational settings.”

10.5.2.2 Historical Data

Data from exposure monitoring performed by the employer during prior asbestos jobs in the previous 12 months (historical data) can be used as the basis for an NEA. These data must be from “work operations conducted under workplace conditions ‘closely resembling’ the processes, type of material, control methods, work practices, and environmental conditions used and prevailing in the employer’s current operations, the operations were conducted by employees whose training and experience are no more extensive than that of employees performing the current job, and these data show that under the conditions prevailing and which will prevail in the current workplace there is a high degree of certainty that employee exposures will not exceed the TWA or excursion limit.”

10.5.2.3 Initial Exposure Monitoring

The results of initial exposure monitoring from the current job can be used as the basis for an NEA. The data used for this purpose must be “from breathing zone samples that are representative of the 8-hour TWA and 30-minute short-term exposures of each employee covering operations which are most likely during the performance of the entire asbestos job to result in exposures over the PELs.” The data must show that exposures are expected to be below the PEL and EL. This initial monitoring usually occurs during the testing and development phase of an asbestos work practice.

10.5.3 Air Monitoring During Asbestos Work Activities

Air monitoring during asbestos work activities can consist of personal monitoring, perimeter monitoring, and clearance monitoring. The air monitoring requirements for the work practice being performed will be conducted in accordance with applicable regulations (such as 29 CFR 1926.1101) and the air monitoring program. The air monitoring work should be conducted by a

trained person assigned by the APM or by a third party consultant. The air monitoring representative should calibrate, adjust, and record the flow rate of all air monitoring pumps to be used before air monitoring is started for an asbestos work activity.

10.5.3.1 Personal Monitoring

To perform personal monitoring, a personal air monitoring pump is attached to a belt worn by the worker. An air sampling cassette is attached to the hose from the pump. The hose is routed up the worker's back and taped to the worker's protective coveralls using duct tape. The cassette should be located with the open end facing downward at an approximate 45-degree angle in the worker's "breathing zone" at about collar level. The pump is turned on and the start time recorded. The air monitoring representative will retrieve or change the cassette when necessary, or when work is completed.

10.5.3.2 Perimeter Monitoring

To perform perimeter monitoring, pumps are placed outside the work area, in close proximity to the work area boundaries and in adjacent areas. Perimeter sampling serves to show that sufficient asbestos fiber control is maintained throughout the work area. Therefore, pumps should be located where they will obtain meaningful measurements of potential contamination leaking from the work area into surrounding areas, as well as measurements of potential exposure to occupants of adjacent areas. Special emphasis should be placed on locating pumps near the work area decontamination facilities and/or critical barrier(s) that, if not sealed and monitored properly, have a higher potential for leaks. Additional emphasis should also be placed on locating pumps in adjacent areas according to their occupancy.

Sampling cassettes are attached to the hoses from the pumps and the cassettes are attached to the top of tripod stands or other stable structures. The sample is located 4 to 5 feet (1.2 to 1.5 meters) above the floor (do not use the pump as a stand due to its vibrations). These cassettes should be located with the open end facing downwards at an approximate 45-degree angle. The air monitoring representative will retrieve or change cassettes as needed or when the work is completed.

If any samples analyzed during the work exceed predetermined "stop-work levels" limit, productive work will be stopped, the area cleaned, and additional engineering controls implemented, as necessary.

10.5.3.3 Clearance Monitoring

A visual inspection is conducted prior to the start of clearance air sampling. The person performing the inspection can be a worker, if authorized by the APM. It should be verified that there is no debris or residue from removed ACM and that visible dust or debris in the work area has been cleaned up. If visible residue, dust, or debris remains, it must be cleaned up using wet wiping and/or HEPA vacuuming before clearance sampling is started.

The visual inspection is performed using procedures approved for use in the facility by the APM. If the person assigned to perform the inspection has not been trained in visual inspection procedures, the APM should be notified. The EPA's Purple Book (EPA, 1985) and the ASTM "Standard Practice for Visual Inspection of Asbestos Abatement Projects" (Document E1368-90) provide visual inspection procedures that might be helpful in developing the inspection procedures.

The most accurate and preferred method of analysis of air samples is transmission electron microscopy (TEM). Phase contrast microscopy (PCM) is commonly used for personal air sample analysis and as a screening tool for area air monitoring, but it cannot distinguish between asbestos fibers and other kinds of fibers which may be present in the air and it cannot detect thin asbestos fibers or count short fibers. During TEM sample collection, the air is stirred up with fans or air blower (1 horse power) and a pump pulls the air through a filter. The fans or air blower stir up into the air any fibers that are on the walls, floors, or corners so that a representative sample can be collected. The air sample is then sent to a lab, where fibers are counted. Note that the collection of air samples for supplementary evaluation or due to personnel complaints should not use aggressive air sampling methods. Aggressive sampling methods, in which air is deliberately disturbed or agitated by use of a leaf blower or fans, should only be used at the completion of an asbestos removal project inside the abatement containment area.

Clearance monitoring using TEM analysis is required by the federal government only under AHERA for applicable school projects involving ACM that is or becomes friable..

Although clearance monitoring is not required for public or commercial buildings after asbestos abatement activity is performed, it is recommended to be done to prove to the building owner and/or occupants that the work area has been properly cleaned and meets the clearance level.

Please note that state/local clearance monitoring requirements may be more stringent than the Federal regulations.

10.6 Updating Asbestos Inventory

An important part of maintaining the asbestos inventory is tracking asbestos that has been removed. This is especially important in tracking already known ACM. However, asbestos that is discovered during a demolition, renovation, or abatement should also be entered in the inventory. Accurate tracking of abatement allows for better assigning of resources and potentially eliminates the need to consider ACM for future work in that building.

10.7 Types of Asbestos Work

As mentioned above, OSHA has four classes or types of asbestos work-related activities. These work activities are defined in Sections 10.7.1 through 10.7.4. For each type or class of asbestos work, the specific engineering controls, work practices, and PPE to be used (if applicable) as mandated by OSHA 29 CFR 1926.1101 are presented.

10.7.1 OSHA Class I

OSHA Class I asbestos work defined by OSHA “means activities involving the removal of TSI and surfacing ACM or presumed asbestos containing material (PACM).”

OSHA Class I asbestos work practices and requirements include the following:

- All asbestos removal activities are to be conducted within a “regulated area” where airborne concentrations of asbestos may exceed, or could potentially exceed, a PEL.

- Regulated areas will be demarcated in a manner that minimizes the number of persons within the area and protect persons outside the area from exposure to airborne asbestos. Warning signs must be visibly posted so that an employee may read the signs and take necessary protective steps before entering the area. The warning signs will bear the following information:

DANGER
 ASBESTOS
 MAY CAUSE CANCER
 CAUSES DAMAGE TO LUNGS
 WEAR RESPIRATORY PROTECTION AND
 PROTECTIVE CLOTHING IN THIS AREA
 AUTHORIZED PERSONNEL ONLY

- Access to regulated areas will be limited to authorized personnel.
- All persons entering the regulated area where employees are required to wear respirators will be supplied with the correct type of respirator as deemed required.
- The employer will ensure that employees working in the regulated area do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics.
- The employer will ensure that all asbestos work performed within a regulated area is supervised by a competent supervisor person (i.e., State Licensed Asbestos Abatement Specialist/Supervisor).
- Personal exposure assessments and air monitoring will be conducted to ensure that workers are not exposed to asbestos concentrations above the asbestos PEL. *The PEL for asbestos* is 0.1 fiber per cubic centimeter of air as an 8-hour TWA, with an EL of 1.0 asbestos fiber per cubic centimeter over a 30-minute period. The employer will provide test results to the employee as soon as possible but no later than within five working days after receipt of the test results either individually in writing or by posting the results in an appropriate location that is accessible to employees.
- Proper engineering controls and work practices will be utilized regardless of levels or exposure: vacuum cleaners equipped with HEPA filters, wet methods or wetting agents to be used during removal and cleaning, and proper cleanup and disposal of wastes and debris in leak-tight containers.
- Local exhaust ventilation equipped with HEPA dust collection systems to achieve compliance with TWA PEL and EL for asbestos are to be installed and supervised by the competent supervisor person.
- Prohibitions include the use of high-speed abrasive disc saws, compressed air for use in removing asbestos, dry sweeping, shoveling or other dry cleanup methods for debris, and employee rotation as a means of reducing employee exposure.

Specific engineering and control methods for Class I asbestos work include the following:

- Class I work involving the removal of more than 25 linear feet or 10 square feet of TSI or surfacing material will use the following engineering methods to ensure that airborne asbestos does not migrate from the regulated area:

- Critical barriers will be placed over all openings to the regulated area (e.g., door, windows, and pipe penetrations) except where activities are conducted outdoors.
- HVAC systems will be isolated in the regulated area by sealing with a double layer of 6 mil plastic or the equivalent.
- Impermeable drop cloths will be placed on surfaces beneath all removal activities.
- All objects within the regulated area will be covered with impermeable drop cloths or plastic sheeting that is secured by duct tape or an equivalent.
- If exposure monitoring shows that a PEL is exceeded, the employer will ventilate the regulated area to move contaminated air away from the breathing zone of employees toward a HEPA filtration or collection device.

In addition, Class I work will be performed using one or more of the following control methods pursuant to the limitations noted:

- Negative Pressure Enclosure (NPE) systems will be used where the configuration of the work area makes the erection of the enclosure feasible, with the following specifications and work practices:
 - The NPE can be of any configuration.
 - At least four air changes per hour will be maintained in the NPE.
 - A minimum of minus 0.02 column inches of water pressure differential, relative to outside pressure, will be maintained within the NPE as evidenced by monomeric measurements.
 - The NPE will be kept under negative pressure throughout the period of its use.
 - Air movement will be directed away from employees performing asbestos work within the enclosure, and toward a HEPA filtration or a collection device.
 - Before beginning work within the enclosure and at the beginning of each shift, the NPE will be inspected for breaches and smoke-tested for leaks, and any leaks sealed.
 - Electrical circuits in the enclosure will be deactivated, unless equipped with ground-fault circuit interrupters.
- Glove Bag Systems may be used to remove ACM and PACM from straight runs of piping and elbows and other connections with the following specifications and work practices:
 - Glove bags will be made of 6 mil thick plastic and will be seamless at the bottom.
 - Glove bags used on elbows and other connections must be designed for that purpose and used without modifications.
 - Each glove bag will be installed so that it completely covers the circumference of pipe or other structure where the work is to be done.
 - Glove bags will be smoke-tested for leaks and any leaks sealed prior to use.

- Glove bags may be used only once and may not be moved.
- Glove bags will not be used on surfaces whose temperature exceeds 150 degrees Fahrenheit (°F).
- Prior to disposal, glove bags will be collapsed by removing air within them using a HEPA vacuum.
- Before beginning the operation, loose and friable material adjacent to the glove bag/box operation will be wrapped and sealed in two layers of 6 mil plastic or otherwise rendered intact.
- Where the system uses an attached waste bag, the bag will be connected to the collection bag using a hose or other material that will withstand the pressure of ACM waste and water without losing its integrity.
- A sliding valve or other device will separate the waste bag from the hose to ensure no exposure when the waste bag is disconnected.
- At least two persons will perform Class I glove bag removal operations.
- Negative pressure glove bag systems may be used to remove ACM and PACM from pipe runs with the following specifications and work practices (in addition to specifications for glove bag systems noted above):
 - Glove boxes will be constructed with rigid sides and made from metal or other material that can withstand the weight of the ACM and PACM and water used during removal.
 - A negative pressure generator will be used to create negative pressure in the system.
 - An air filtration unit will be attached to the box.
 - The box will be fitted with gloved apertures.
 - An aperture at the base of the box will serve as a bagging outlet for waste ACM and water.
 - A back-up generator will be present onsite.
 - Waste bags will consist of 6 mil thick plastic double-bagged before they are filled or plastic thicker than 6 mil.
 - At least two persons will perform the removal.
 - The box will be smoke-tested for leaks and any leaks sealed prior to each use.
 - Loose or damaged ACM adjacent to the box will be wrapped and sealed in two layers of 6 mil plastic prior to the job, or otherwise made intact prior to the job.
 - A HEPA filtration system will be used to maintain pressure barrier in box.
- A water spray process system may be used to remove ACM and PACM from cold line piping if employees carrying out such process have completed a 40-hour separate training course in its use, in addition to training required for employees performing Class I work. The system will meet the following specifications and will be performed by employees using the following work practices:

- Piping will be surrounded on three sides by rigid framing.
- A 360-degree water spray, delivered through nozzles supplied by a high-pressure separate water line, will be formed around the piping.
- The spray will collide to form a fine aerosol that provides a liquid barrier between workers and the ACM and PACM.
- The system will be run for at least 10 minutes before removal begins.
- All removal will take place within the water barrier.
- The system will be operated by at least three persons, one of whom will not perform removal, but will check equipment, and ensure proper operation of the system.
- After removal, the ACM and PACM will be bagged while still inside the water barrier.
- A small walk-in enclosure that accommodates no more than two persons (mini-enclosure) may be used if the disturbance or removal can be completely contained by the enclosure with the following specifications and work practices:
 - The fabricated or job-made enclosure will be constructed of 6 mil plastic or equivalent.
 - The enclosure will be placed under negative pressure by means of a HEPA filtered vacuum or similar ventilation unit.
 - Before use, the mini-enclosure will be inspected for leaks and smoke-tested to detect breaches, and breaches sealed.
 - Before reuse, the interior will be completely washed with amended water and HEPA-vacuumed.
 - During use, air movement will be directed away from the employee's breathing zone within the mini-enclosure.
- Alternative control methods for Class I *work* may be performed using a control method that is not referenced above or that modifies a control method referenced above if the following provisions are complied with:
 - The control method will enclose, contain, or isolate the processes or source of airborne asbestos dust, or otherwise capture or redirect such dust before it enters the breathing zone of employees.

A certified Industrial Hygienist or licensed professional engineer who is also qualified as an accredited project designer will evaluate the work area, the projected work practices, and the engineering controls and will certify in writing that the planned control method is adequate to reduce direct and indirect employee exposure to below the PELs under worst-case conditions of use, and that the planned control method will prevent asbestos contamination outside the regulated area, as measured by clearance sampling which meets the requirements of AHERA, or perimeter monitoring that meets the criteria in paragraph (g)(4)(ii)(B) of 29 CFR 1926.1101.

10.7.2 OSHA Class II

OSHA Class II asbestos work defined by OSHA “means activities involving the removal of ACM or PACM which is not TSI or surfacing material.” Similar to OSHA Class I asbestos work,

Class II asbestos work normally requires the use of a State Licensed Asbestos Project Designer, Asbestos Management Planner, Asbestos Inspector, Asbestos Abatement Specialist/Supervisor, Asbestos Abatement Worker, Air Monitoring Technician, and/or Certified Industrial Hygienist.

OSHA Class II asbestos work practice and requirements include the following:

- All Class II work will be supervised by a competent person (i.e., Abatement Specialist/Abatement Supervisor).
- All Class II asbestos work will be performed using the work practices and requirements as described above for OSHA Class I activities.
- For all indoor projects, where the employer has not produced a negative exposure assessment, or where, during the job, changed conditions indicate there may be exposure above the PEL or where the employer does not remove the ACM in a substantially intact state, the employer will use one of the following methods to ensure that airborne asbestos does not migrate from the regulated area:
 - Critical barriers will be placed over all openings to the regulated area.
 - The employer will use another barrier or isolation method that prevents the migration of airborne asbestos from the regulated area, as verified by perimeter area monitoring or clearance monitoring.
 - Impermeable drop cloths will be placed on surfaces beneath all removal activity.

Specific engineering and control methods for Class II asbestos work include the following:

- Class II asbestos work will also be performed by complying with the work practices and controls designated for each type of asbestos work to be performed as described below. Where more than one control method may be used for a type of asbestos work, the employer may choose one or a combination of designated control methods. Class II work also may be performed using a method allowed for Class I work, except that glove bags and glove boxes are allowed if they fully enclose the Class II material to be removed.
- For removal of vinyl and asphalt flooring materials that contain ACM or for buildings constructed no later than 1980, and the employer has not verified the absence of ACM, the employer will ensure that employees comply with the following work practices and that employees are properly trained:
 - Flooring or its backing will not be sanded.
 - Vacuums equipped with HEPA filters, disposable dust bags, and metal floor tools (no brush) will be used to clean floors.
 - Resilient sheeting will be removed by cutting with wetting of the snip point and wetting during delamination. Rip-up of resilient sheet floor material is prohibited.
 - All scraping of residual adhesive and/or backing will be performed using wet methods.
 - Dry sweeping is prohibited.
 - Mechanical chipping is prohibited.

- Tiles will be removed intact, unless the employer demonstrates that intact removal is not possible.
- When tiles are heated and can be removed intact, wetting may be omitted.
- Resilient flooring material, including associated mastic and backing, will be assumed to be asbestos-containing unless an Industrial Hygienist or asbestos inspector determines that it is asbestos-free using recognized analytical techniques.
- For removal of roofing material that contains ACM, the employer will ensure that the following work practices are followed:
 - Roofing material will be removed in an intact state to the extent feasible.
 - Wet methods will be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards.
 - Cutting machines will be continuously misted during use, unless a competent person determines that misting substantially decreases worker safety.
 - When removing built-up roofs with asbestos-containing roofing felts and an aggregate surface using a power roof cutter, all dust resulting from the cutting operation will be collected by a HEPA dust collector, or will be HEPA vacuumed by vacuuming along the cut line. When removing built-up roofs with asbestos-containing roofing felts and a smooth surface using a power roof cutter, the dust resulting from the cutting operation will be collected either by a HEPA dust collector or HEPA vacuuming along the cut line, or by gently sweeping and then carefully and completely wiping up the still-wet dust and debris left along the cut line.
 - Asbestos-containing material that has been removed from a roof will not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it will be lowered to the ground via covered, dust-tight chute, crane, or hoist.
 - Any ACM that is not intact will be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift. While the material remains on the roof it will either be kept wet, placed in an impermeable waste bag, or wrapped in plastic sheeting.
 - Intact ACM will be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift.
 - Upon being lowered, unwrapped material will be transferred to a closed receptacle in such manner so as to preclude the dispersion of dust.
 - Roof level heating and ventilation air intake sources will be isolated or the ventilation system will be shut down.

- Notwithstanding any other provision stated above, removal or repair of sections of intact roofing less than 25 square feet in area does not require use of wet methods or HEPA vacuuming as long as manual methods that do not render the material non-intact are used to remove the material and no visible dust is created by the removal method used. In determining whether a job involves less than 25 square feet, the employer will include all removal and repair work performed on the same roof on the same day.
- For removal of cementitious asbestos-containing siding and shingles or transite panels containing ACM on building exteriors (other than roofs, where roofing removal requirements applies), the employer will ensure that the following work practices are followed:
 - Cutting, abrading, or breaking siding, shingles, or transite panels will be prohibited unless the employer can demonstrate that methods less likely to result in asbestos fiber release cannot be used.
 - Each panel or shingle will be sprayed with amended water prior to removal.
 - Unwrapped or unbagged panels or shingles will be immediately lowered to the ground via covered dust-tight chute, crane, or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.
 - Nails will be cut with flat, sharp instruments.
- For removal of gaskets containing ACM, the employer will ensure that the following work practices are followed:
 - If a gasket is visibly deteriorated and unlikely to be removed intact, removal will be undertaken within a glove bag as described above in this section.
 - The gasket will be immediately placed in a disposal container.
 - Any scraping to remove residue must be performed wet.
- When performing any other Class II removal of asbestos containing material for which specific controls have not been listed in this section, the employer will ensure that the following work practices are complied with:
 - The material will be thoroughly wetted with amended water prior to and during its removal.
 - The material will be removed in an intact state unless the employer demonstrates that intact removal is not possible.
 - Cutting, abrading, or breaking the material will be prohibited unless the employer can demonstrate that methods less likely to result in asbestos fiber release are not feasible.
 - Asbestos-containing material removed will be immediately bagged or wrapped, or kept wetted until transferred to a closed receptacle, no later than the end of the work shift.

10.7.3 OSHA Class III

OSHA Class III asbestos work defined by OSHA “means repair and maintenance operations, where ACM, including TSI and surfacing material and PACM, is likely disturbed.” This would include any repairs up to one glove bag (any quantities exceeding one glove bag would be considered an OSHA Class I or II activity) or waste bag containing removed ACM. Asbestos bulk sampling is also considered by OSHA to be a Class III work activity.

OSHA Class III asbestos work will typically involve only the use of a State Licensed Asbestos Inspector (if asbestos bulk sampling is performed), Asbestos Abatement Specialist/Supervisor, and/or an Asbestos Abatement Worker (if removal of ACM or PACM is required so that a repair, maintenance, or installation activity can be performed).

Specific engineering and control methods for Class III asbestos work include the following:

- OSHA Class III asbestos work practices and engineering controls – OSHA Class III asbestos work will be conducted using engineering and work practice controls that minimize the exposure to employees performing the asbestos work and to bystander employees. The following work practices and engineering controls shall be utilized:
 - As with OSHA Class I and II work activities, all asbestos removal activities conducted within a “regulated area” are to be demarcated, are to have access to the regulated area limited to authorized personnel only, are to be performed by a competent person, and may require a respirator and protective clothing to be worn.
 - The work will be performed using wet methods.
 - To the extent feasible, the work will be performed using local exhaust ventilation.
 - Where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of thermal system insulation or surfacing material, the employer will use impermeable drop cloths, and will isolate the operation using mini-enclosures or glove bag system or another isolation method.
 - Where the employer does not produce a "negative exposure assessment" for a job, or where monitoring results show that the PEL has been exceeded, the employer will contain the area using impermeable drop cloths and plastic barriers or their equivalent, or will isolate the operation using a control system utilized for conducting Class I work.
 - Employees performing Class III jobs, which involve the disturbance of thermal system insulation or surfacing material, or where the employer does not produce a "negative exposure assessment" or where monitoring results show a PEL has been exceeded, will wear respirators that are selected, used, and fitted pursuant to applicable OSHA requirements.

10.7.4 OSHA Class IV

OSHA Class IV asbestos work defined by OSHA “means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste debris resulting from Class I, II, and III activities.”

OSHA Class IV workers will typically include janitorial staff, maintenance staff, operators of heating and air conditioning equipment (e.g., such as boiler operators), or any other staff member or employee who may contact but do not disturb ACM or PACM when performing their job duties.

OSHA Class IV asbestos jobs will be conducted by employees who have received asbestos awareness training (see training above and also Section 4 of this report). In addition, all Class IV jobs will be conducted in conformity with the requirements set out in paragraph 29 CFR 1926.1101 (g)(1) mandating the use of wet methods, HEPA vacuums, and prompt cleanup of debris containing ACM or PACM.

10.8 Notifications

NESHAP regulations mandate that certain abatement activities require prior notification before abatement activities are initiated. The notification is filed with the Regional EPA office, or in most instances, the state agency that has jurisdiction (e.g., Environmental Protection, Department of Health, and Department of Natural Resources). Copies of notifications may also be required to be filed with a state county or local municipality. The APM shall be the designated government POC on all notifications and should review those notifications prior to submittal. Notifications should be submitted via registered letter, unless the state agency utilizes some sort of electronic notification submittal system that can be utilized to verify receipt.

The NESHAP regulations require the owner or operator of a facility to notify the EPA when at least 160 square feet or 260 linear feet of RACM (35 cubic feet of facility components where the length or area cannot be measured) is to be disturbed as a result of either renovation or demolition. Note that the dividing of a project into a series of smaller jobs to avoid the notification requirements above is not permitted. State and local notification requirements vary widely, especially with respect to the quantity triggering reporting and the number of days required for advance notice. The notification must be done by the owner of the facility typically within 10 working days before disturbance of RACM. Table 11 summarizes the federal NESHAP notification requirements.

Table 11 - Summary of Federal NESHAP Abatement Notification Requirements

Who Does Notification	When is Notification Required	Where
<p>Owner of the facility – within 10 working days before disturbance of RACM</p> <p>If for an emergency renovation and/or demolition (as defined in 40 CFR 61.141) the notification must be postmarked or delivered to the EPA as soon as possible, but no later than the following work day.</p>	<p>Demolition/Renovation – projects with over 160 square feet or 260 linear feet of RACM (or 35 cubic feet of facility components where the length or area cannot be measured)</p>	<p>Send to authority that has jurisdiction (federal EPA Regional office, state agency, local agency, and/or municipality having jurisdiction)</p>

Note: State and local requirements may be more stringent."

Each owner or operator of a demolition or renovation activity to which notification is applicable must:

- (1) Provide the applicable agency with written notice of intention to demolish or renovate (delivery of the notice by U.S. Postal Service, commercial delivery service, or hand delivery is acceptable).
- (2) Update the notice, as necessary, including when the amount of asbestos affected changes by at least 20%.
- (3) Postmark or deliver the notice at least 10 working days before asbestos stripping or removal work or any other activity begins (such as site preparation that would break up, dislodge, or similarly disturb asbestos containing material).

Note that state or local requirements may be more stringent than the Federal requirements or that different notification forms may be required by the agency having jurisdiction.

The typical information required is as follows:

- (1) Determination of whether it is the original or an update notification.
- (2) Name, address, and telephone number of facility owner, operator, and asbestos removal contractor owner and operator.
- (3) Determination of whether it addresses demolition or renovation.
- (4) Description of facility (size, age, present and prior uses).
- (5) Procedures used to detect (including analytical methods) Category I and Category II RACM. The term RACM is defined in the NESHAP [40 CFR 61M] as ACM that, under conditions of normal use, is non-friable. Category I pertains to asphalt roofing felts, vinyl asbestos tile (VAT), gaskets, and packing materials that release asbestos fibers into the air if the material is ground, sanded, drilled, or sawed. Category II refers to non-friable asbestos shingles, transite, and other asbestos board. Category II materials may create an asbestos dust if subjected to forces that cause the material to disintegrate.
- (6) Estimate of the approximate amount of RACM to be removed.
- (7) Estimate of the approximate amount of Category I and Category II non-friable ACM that will not be removed.
- (8) Location of affected facility (street address, building/room/floor number, city, county, and state).
- (9) Scheduled starting and completion dates for asbestos removal work.
- (10) Scheduled starting and completion dates for renovation or demolition.
- (11) Description of demolition or renovation work to be done.
- (12) Description of work practices and engineering controls to be employed.
- (13) Name and location of waste disposal site for asbestos contaminated waste materials.
- (14) Training certification of at least one person for supervising the removal.
- (15) Name, address, and telephone number of waste hauler.

- (16) For mandated demolitions of structurally unsound buildings, the name, title, and authority of the state or local government representative who ordered the demolition, date of order, and date demolition was ordered to begin. Attach a copy of the order to the notification.

Under these circumstances, notification should be made as soon as possible and not more than one day after the beginning of the demolition project.

- (17) For emergency renovations, date and hour of the emergency, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, equipment damage, or unreasonable financial burden.
- (18) Description of procedures to be followed if unexpected RACM is found, or Category.
- (19) All non-friable ACM that becomes pulverized or reduced to powder.

11 Waste Management

This section presents requirements for the proper management of asbestos waste that may be generated as a result of a demolition or renovation operations. It is critical for compliance with asbestos waste regulations that planned and unplanned maintenance work, as discussed in sections 8 and 9, are properly evaluated and classified with respect to asbestos, so that waste materials are properly identified and classified. Waste management activities, which include removal, packaging, labeling, transportation, disposal, and recordkeeping, must all be accomplished in accordance with applicable federal, state, and local laws and regulations. The management of asbestos waste is regulated by NESHAP standard 40 CFR Part 61 Subpart M, AHERA standard 40 CFR Part 763 Subpart E, OSHA standard 29 CFR 1926.1101 or 29 CFR 1910.1001, DOT standard 49 CFR 171, 172, and 173, and state and local requirements. The EPA does not regulate asbestos waste as hazardous waste under the Resource Conservation and Recovery Act (RCRA) and so it is not considered to be an RCRA hazardous waste. However, some states consider asbestos waste to be a “non-RCRA” or “state-only” hazardous waste.

In general, federal, state, and local regulations require that asbestos-containing waste material be sealed in a leak-tight container while wet, labeled, and disposed of properly in a landfill qualified to receive asbestos waste. Landfills have special requirements for handling and securing asbestos-containing waste to prevent releases of asbestos into the air. Transportation vehicles that move the waste from the point of generation to the asbestos landfill have special labeling requirements and waste shipment recordkeeping requirements. An example Waste Shipment Record is provided in Appendix K.

11.1 Packaging and Labeling

An asbestos waste generator is defined under NESHAP to mean “any owner or operator of a source covered by this subpart whose act or process produces asbestos-containing waste material.”

Under NESHAP, asbestos-containing waste material as applied to demolition or renovation operations “includes regulated asbestos-containing material waste and materials contaminated with asbestos, including disposable equipment and clothing.” Under NESHAP, the handling requirements for ACM are determined on the basis of which category the ACM is classified under. The NESHAP places ACM in three distinct categories: friable ACM, Category 1 non-friable ACM, and Category 2 non-friable ACM.

Friable ACM:

Friable ACMs are those that, when dry, can be easily crumbled by hand pressure and generate dust. Examples include thermal pipe insulation and sprayed-applied fireproofing or insulation. Friable ACMs are always regulated (i.e., Regulated Asbestos-Containing Material or RACM) under NESHAP when they are disturbed during demolition or renovation.

Category 1 Non-Friable ACM:

These materials, which include items such as resilient floor covering (e.g., vinyl floor tile), mastics, and asphalt roofing products, are not considered regulated ACM and do not need to be removed prior to demolition or renovation. However, if they are subjected to sanding, grinding, cutting, or abrading, are in poor condition and friable, or if they will be burned, Category 1 Non-Friable ACM is considered regulated ACM (or RACM) and must be removed accordingly.

Category 2 Non-Friable ACM:

The treatment of Category 2 non-friable ACMs, which includes asbestos-cement siding, asbestos millboard, and cementitious piping (e.g., transite materials), should be evaluated on a case-by-case basis. If these materials are likely to be crushed, pulverized, or reduced to powder during demolition or renovation, they must be removed prior to project start and treated as a regulated ACM (or RACM) if exposed to these conditions.

Packaging and Labeling Requirements:

Under NESHAP (see subsection 61.150), if a RACM is present at a site designated for demolition or renovation, it must be properly removed, packaged, and labeled prior to removal from the building for storage or disposal.

The RACM must first be placed while wet into leak-tight impermeable containers. Leak-tight is defined by NESHAP to mean that solids or liquids cannot escape or spill out. It also means that the container must be dust-tight. According to OSHA requirements, the packaging can include bags that are 6 mil thick and double-bagged, plastic-lined cardboard containers, or plastic-lined metal containers. OPNAVINST 5100.23 recommends that color-coded containers be used to ensure easy recognition. For waste materials that will not fit into containers without additional breaking, the wetted material can be placed into leak-tight wrapping and sealed using packaging tape or duct tape. If placed directly into trailers, or drop-off boxes, the trailer or drop-off box must be lined with plastic sheeting and covered with a tarp.

The containers or wrapped materials must then have warning labels as specified by OSHA under 29 CFR 1910.1001(j)(5) or 1926.1101(k)(8). Packaging must be marked, except for small quantities, limited quantities, and exempt packages.

Entries for non-bulk packaging:

RQ	Reportable Quantity, if 1 pound or more friable asbestos.
WASTE	For waste material, if applicable, or use EPA mark.
ASBESTOS	Shipping name; for domestic transportation only; see Note below.
MIXTURE	For asbestos mixed with a binder or filler, etc.
NA2212	North American identification number; for domestic transportation only.
JANE Q. PUBLIC INTL. CO.	Consignee or consignor name and address.
1234 MAIN ST.	Except some direct road or train transport.
OURTOWN, ZZ 99999	

A bulk packaging (uncommon for asbestos waste shipments) must be marked with a panel, placard, or other display.

The labels will be printed in letters of sufficient size and contrast so as to be readily visible and legible. Labels are required to comply with the requirements of 29 CFR 1910.1200 (f) and include the following information:

DANGER
CONTAINS ASBESTOS FIBERS
MAY CAUSE CANCER
CAUSES DAMAGE TO LUNGS
DO NOT BREATHE DUST
AVOID CREATING DUST



In addition to the warning labeling above, according to NESHAP, the container must have labels that “identify the waste generator (such as the name of the roofing contractor, abatement contractor, and/or building owner or operator) and the location of the site at which the waste was generated.”

DOT 40 CFR 172 stipulates the requirements for shipping papers, package marking, labeling, and transport vehicle placarding applicable to the shipment and transportation of materials defined as being hazardous. Asbestos is considered by DOT to be a Class 9 miscellaneous hazardous material.

Note: Proper training shall be obtained prior to offering a shipment of asbestos for transportation over highway, rail, air and water per Defense Transportation Regulations DoD 4500.9R Pt 2 chapter 204.

Entries used in the hazardous material description on shipping papers are:

RQ	Reportable Quantity, if 1 pound or more friable asbestos.
WASTE	For waste material, if applicable.
ASBESTOS	Shipping name; for domestic transportation only.
MIXTURE	For asbestos mixed with a binder or filler, etc.
9	Class 9, Miscellaneous Hazardous Materials, includes asbestos.
NA2212	North American identification number; for domestic transportation only.
PG III	Packing Group; for domestic transportation only.
LTD QTY	Limited quantity, if applicable.
20 OZ	Total quantity of material described; may abbreviate unit.

The DOT requires that packages containing asbestos offered for shipment to be labeled with the following marking, which includes the identification number, proper shipping name, hazard class, and packing group number:

R.Q., NA2212, Asbestos, 9, PGIII

The DOT also requires packages containing asbestos offered for shipment to be labeled with the Class 9 miscellaneous hazardous materials label:



The following photograph is an example asbestos disposal bag:



According to NESHAP, for operations where buildings are demolished involving non-regulated ACM, the asbestos-waste material does not need to be sealed in leak-tight containers or wrapping, but may be transported and disposed of in bulk. It is the EPA's interpretation that waste resulting from the removal of a non-regulated ACM, such as when using removal methods that do not cut, grind, sand, or abrade a Category I non-friable asbestos-containing roofing material, is not subject to NESHAP and can be disposed of as non-asbestos waste without any labeling.

There is some variance in state and local requirements for definitions of asbestos waste and associated disposal requirements, particularly for non-friable materials. In some states, all ACM is considered to be regulated and must be treated as RACM regardless of whether the material is non-friable before or after removal.

11.2 Asbestos Waste Handling, Storage, and Transportation

This section presents the waste handling, storage, and transportation requirements mandated by NESHAP and DOT regulations.

Asbestos Waste Handling and Storage Requirements:

NESHAP requires that, as soon as is practicable, all asbestos-containing waste material is to be disposed of at an approved or licensed landfill. Non-regulated ACM may be disposed of in landfills that accept ordinary demolition waste. If this is impractical and the asbestos-containing waste must be stored prior to disposal, certain handling requirements must be followed. First, proper care in handling must be used to prevent bags or containers from rupturing when being moved to a storage area, dumpster, or transport vehicle. The containers should be properly labeled and warning signs posted while the containers are being transferred to a transport vehicle or dumpster (see next paragraph). To limit potential disturbance and public exposure, the material must also be stored in a secure manner until transported for final disposal. No exact time limit is specified under NESHAP or federal regulations regarding how long asbestos waste can be stored prior to disposal. The “as soon as practicable” determination is left up to the individual agency interpretation. Should the waste be stored at an installation RCRA Hazardous Waste 90-Day site, the waste should be segregated away from hazardous waste and kept in the appropriate or designated bay. Asbestos is not regulated by RCRA and not recognized as a hazardous waste but rather a TSCA waste and not subjected to the 90 day rule unless it was mixed with a hazardous waste.

Asbestos Transportation Requirements:

NESHAP and the DOT require the marking of vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that the signs are visible. The markings must conform to the requirements of Sections 61.149(d)(1) (i), (ii), and (iii). The marking must:

- Be displayed in such a manner and location that a person can easily read the legend
- Conform to the requirements for upright format signs specified in 29 CFR 1910.145(d)(4)
- Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph

DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD
Authorized Personnel Only

Vehicle placarding requirements are stipulated in 49 CFR 172.500. In general, vehicles transporting hazardous materials over the road must be placarded on each side and each end. However, 49 CFR 172.504 (f) (9) states that a “Class 9 placard is not required for domestic transportation which occurs within the United States.” However, the bulk packaging must be marked with the appropriate identification number on a Class 9 placard (see the figure above under labeling).

Government-generated asbestos waste is typically transported by the installation BSVE department that maintains vehicles and ensures that they are properly placarded and certified (if necessary) to transport asbestos waste.

Transportation and disposal of contractor-generated waste is typically the responsibility of the contractor unless the contractor is specifically exempted in its contract.

Shipping limitation:

For domestic transportation, asbestos shipments are limited to 440 pounds (200 kilograms [kg]) by aircraft or passenger-carrying railcars, unless the asbestos is stabilized in a binder.

International transportation:

The HMR defines:

- Crocidolite asbestos as "blue asbestos."
- Amosite and myosorite asbestos as "brown asbestos."
- Chrysotile, actinolite, anthophyllite, and tremolite asbestos as "white asbestos."

Shipping limitations:

- "Blue" or "brown" asbestos, other than a "small quantity" shipment or ACM that is stabilized in a binder (e.g., non-friable ACM in good condition; see "DOT exceptions") is forbidden from aircraft or passenger-carrying railcars.
- "White" asbestos is limited to 440-pound (200 kg) shipments by aircraft or passenger carrying railcars, unless it is similarly stabilized in a binder.

Information:

For international transportation, the following United Nations (UN) shipping names, identification numbers, and packing groups must be used. (They may also be used for domestic transportation.)

UN shipping names; see "shipping limitations," below:

WHITE (or BLUE or BROWN) ASBESTOS

UN2590 (or UN2212, or UN2212)

PG III (or II or II)

UN identification numbers:

Packing Groups; II and III are medium and minor; use II if mixed shipment.

Marking mixed international shipments: When asbestos materials of two or more UN descriptions are mixed in an international shipment, each is listed on the mark and shipping papers. For example, a shipping paper might show: "RQ, Waste blue and white asbestos mixture, 9, UN2212 and UN2590, PG II, Ltd Qty, 22 lbs."

DOT exceptions:

The HMR does not cover asbestos fixed in a binder such as cement, plastic, asphalt, resins, or mineral ore (e.g., non-friable ACM that has not become crumbled, pulverized, or reduced to powder), or asbestos-containing manufactured products (e.g., pipe gaskets).

The HMR does not cover shipments under 1 pound of friable ACM.

Packaging of ACM must meet specific requirements, but need not meet HMR performance-oriented packaging specifications for Packing Groups II and III.

11.3 Disposal Requirements

NESHAP requires that all asbestos-containing waste material be deposited as soon as practicable by the waste generator at (1) a waste disposal site operated in accordance with the provisions of 40 CFR 61.154, or (2) an EPA-approved site that converts RACM and asbestos-

containing waste material into non-asbestos (asbestos-free) material according to the provisions of Section 61.155.

RACM must be disposed of at an approved or licensed landfill. In general, waste containing non-friable material is not regulated and is treated as either construction debris or municipal solid waste that can be disposed of at a municipal solid waste landfill or construction and demolition landfill.

OPNAVINST 5100.23 provides additional guidance pertaining to the disposal of asbestos wastes. Paragraph 1712 states that “some States may require asbestos containing materials to be disposed of in specially designated landfills. Consult with the activity environmental coordinator prior to any disposal. Where State or local agencies regulate asbestos as a hazardous waste (HW), the Navy may be responsible for the management of all administrative and disposal requirements as the generator of the waste. The landfill operator will record specific locations within landfills used for the disposal of asbestos containing materials and the cognizant naval facility will retain a copy per reference. This practice should reduce the possibility of future unearthing and rupturing of disposal containers.”

In addition, specific state, local, and/or host country regulations may be applicable. The APM and environmental department should determine those requirements and integrate them into waste management procedures as necessary.

11.4 Record keeping

This section outlines the requirements concerning the record keeping requirements pertaining to the asbestos waste disposal. Please refer to Section 9 for all other recordkeeping requirements. For each load of asbestos waste that is regulated under the NESHAP, a waste shipment record (WSR) must be maintained in accordance with Section 61.150(d). Information that must be maintained for each waste load includes the following:

- Name, address, and telephone number of the waste generator
- Name and address of the local, state, or EPA regional office responsible for administering the asbestos NESHAP program
- Quantity of waste in cubic meters (or cubic yards)
- Name and telephone number of the disposal site operator
- Name and physical site location of the disposal site
- Date transported
- Name, address, and telephone number of the transporter(s)
- Certification that the contents meet all government regulations for transport by highways.

A copy signed by the transporter must be given to the waste generator (i.e., the building owner or operator, such as a maintenance or abatement contractor) when the waste leaves the building site. The waste generator is responsible for ensuring that a copy of the WSR is delivered to the disposal site along with the waste shipment. If a copy of the WSR signed by the disposal site operator is not returned to the waste generator within 35 days, the waste generator must contact the transporter and/or the disposal site to determine the status of the waste shipment (40 CFR 61.150(d)(3)). If the signed WSR is not received within 45 days, the waste generator must report, in writing, to the responsible NESHAP program agency and send along a

copy of the WSR. (40 CFR 61.150(d)(4)). Copies of WSRs, including those signed by the disposal site operator, must be retained for at least two years (40 CFR 61.150(d)(5)).

The EPA does not require the use of a hazardous waste manifest. However, a hazardous waste manifest can be used to transport asbestos. Additional information required by 40 CFR 61.150 listed above must be included on the shipping document. Certain states may require the use of their own asbestos waste shipment/disposal record.

DOT 40 CFR 173.201 stipulates that hazardous material shipping papers must be retained for three years after the initial carrier accepts the waste for transport. RCRA recordkeeping and reporting requirements stipulated in 40 CFR Part 262.40 Subpart D also require that hazardous waste manifests be retained for at least three years from the date the waste was accepted by the initial transporter. Local regulators often require records of asbestos waste disposal and must be provided if requested per NESHAP and RCRA. However, the recommended goal is to keep all asbestos records for the life of each building plus 30 years.

According to CNICINST 5100.1, designated Navy personnel will be required to sign the Waste Shipment Record as the waste generator. However, this responsibility is sometimes delegated to an abatement contractor because they are contracted to ensure that the asbestos waste is properly disposed of.

Note that state or local requirements, including the installation operating permit, may be more stringent than the Federal requirements.

12 Record keeping and Management

Recordkeeping is essential to effective asbestos management. Historically, resources have been expended to establish asbestos records. However, the lack of adequate recordkeeping quickly renders these records obsolete. Asbestos records are to be kept for 30 years.

12.1 Types of Data and Records

Recordkeeping can be broken into three primary categories; medical, training, and facility.

Medical recordkeeping is legally required and includes personal medical records, baseline examinations, the medical monitoring program, and other personal and medical monitoring. Medical recordkeeping is the responsibility of BUMED. However, the APM should be aware of how this data is collected and who it is collected for, and should assist BUMED so that all applicable employees are included. Respirator fit tests can also be included in this category and are the responsibility of NAVFAC Safety.

AHERA and other asbestos related training must be tracked to ensure that employees who require accreditation to perform their work have current training at a level appropriate to their duties. It is also important to be able to present training records to auditors and/or regulators if requested. Training is primarily tracked in ESAMS and the EPR Portal and is discussed in Sections 9.3 and 9.4. The APM does not need to track training for contractors, but contractors must be able to provide records for their employees if requested by the APM.

Facility recordkeeping includes the asbestos inventory, abatement records, records of project and abatement plan reviews, and regulatory interactions. This is the responsibility of the APM.

12.2 iNFADS

Currently, iNFADS is the primary data store for asbestos information. Whole files, such as survey reports and abatement records, can be uploaded and attached to the property record card for the building where work was performed. iNFADS will insert hyperlinks to these files when the property record card for that building is queried. The APM should consult with the installation RPAO to determine the most efficient way to upload these documents.

12.3 ESAMS

In addition to providing training, ESAMS tracks training for PWD employees. ESAMS should be the primary means to track training. APMs should ensure that all asbestos-related training at their PWDs is entered and tracked in ESAMS. The APM can then utilize ESAMS to ensure that training is current and can allocate training resources as necessary.

12.4 EPR Portal

Similar to ESAMS, the EPR Portal also tracks employee training. The EPR Portal should be used to track training for those that do not have access to ESAMS.

12.5 Audits and regulatory inspections

The APM should record and track any official interactions with regulatory entities. The date, name, reason, outcome, and any follow-up actions should be noted. This should be done, even if no violations or follow-up actions resulted.

The APM will be provided with records of any Navy audit. The APM should maintain these records in a central location to track deficiencies noted during the audit and track corrective measures.

Appendix A – Site Specific Regulations

1. The PWD- and FEC-level APM will use this appendix to document all applicable state and/or local regulations and requirements pertaining to their location(s); and, when so annotated and completed, the P-502 and this appendix will fulfill site-specific O&M requirements.

APMs shall review the requirements of Appendix 17-C of OPNAVINST 5100.23_, and include in this P-502 Appendix:

- a. State and Local requirements and regulations.
- b. Listing with locations for all asbestos surveys conducted IAW the P-502. APMs are to include in this appendix a list of all structures and facilities that have been found to contain ACM, and ACPM (if appropriate). Include each building with ACM in the O&M Program until no ACM remains.
- c. Include within the listing:
 - (1) Responsible activity.
 - (2) Location of ACM/PACM within the structure/building.
 - (3) If retained or managed using an electronic data repository, include in this Appendix the type/system used as the installations asbestos repository for the ACM/PACM data.
 - (4) Sampling method used, and laboratory results.

2. On-site evaluations and analysis of PACM and confirmed ACM proceeds from the presumption that all suspect material contains asbestos until laboratory analysis proves otherwise.

a. ACM discovered via survey, or otherwise, will be subject to adjudication and addressed as required; and, if in the best interest of health, safety and regulation is to remain in place; it will be included in the listing herein, and in the O&M program until disposed of.

b. Include in this appendix the local (and if appropriate, any centrally managed) funding sources for the asbestos program.

3. In addition, APMs shall review the requirements of CNICINST 5100.1_, and any Regional instructions for asbestos handling applicable to the installation.

Appendix B – Compliance Matrix

Review Date:																
Reviewer: (Name, Organization, Contact Info)																
Site Specific Information																
Regulatory Agencies / Jurisdiction (provide all if more than one for each):																
Level: Federal, State, Local or Other																
Personnel accreditation		Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	
OSHA standards		Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	
NESHAP standards		Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	Level	Name	
KEY/LEGEND																
STATUS	DEFINITION			DESCRIPTION												
FI	Fully Implemented			Requirement is fully addressed at the location												
PI	Partially Implemented			Portions of the requirement have been implemented, or the requirement has not yet been fully implemented												
NI	Not Implemented			Requirement has not been implemented												
NA	Not Applicable			Requirement does not apply (Reviewer is required to provide explanation in comments)												
Requirement			Source 1				Source 2				Source 3				Review Results	
Question	Item No.	Responsible Party	Type	Level	Agency	Citation	Type	Level	Agency	Citation	Type	Level	Agency	Citation	Status	Comments
STAFFING																
Has the installation commanding officer appointed an asbestos program manager (APM) in writing?	1	PW	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Sections 1707 and 1713	Policy	Navy	OPNAV	OPNAVINST 5090.1 Chapter 25 Section 25-3.3						
TRAINING																
Have members of the Pw/D production shop and janitorial personnel who may work in a building that contains asbestos received awareness training of at least 2 hours, whether or not they are required to work directly with asbestos? Is the training documented and tracked?	2	PW	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Appendix 17-B	Policy	Navy	CNIC	CNIC Enclosure 5100.1 Section 6(a)(2)	Regulation	Federal	EPA	AHERA: 40 CFR Part 763.92 Subpart E		
Are Pw/D personnel and other building occupants who may impact ACM been notified of the presence, location, and quantity of ACM in their respective buildings?	3	PW; Tenants	Regulation	Federal	OSHA	OSHA: 29 CFR 1910.100(i)(2)(ii)										
Have short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come in contact with asbestos been provided information regarding the locations of confirmed, suspected, and presumed ACM?	4	PW	Regulation	Federal	EPA	AHERA: 40 CFR Part 763.84 Subpart E	Policy	Navy	CNIC	CNIC Enclosure 5100.1 Section 6(a)						
Has the Installation APM completed the following training? AHERA Building Inspector AHERA Management Planner AHERA Asbestos Project Designer AHERA Contractor/Supervisor	5	PW	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Appendix 17-B										
Have personnel that perform any of the tasks listed below completed a 4-day worker training course? (1) Asbestos response actions other than Small Scale Short Duration (SSSD) activities (maintenance/repair activities which produce less than 1 glove bag of waste); (2) Maintenance activities that disturb friable ACM other than SSSD activities; or (3) Asbestos response action for a fiber release episode	6	PW	Regulation	Federal	EPA	AHERA: 40 CFR Part 763 Subpart E, Asbestos Model Accreditation Plan (MAP)	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Appendix 17-B		

Have personnel who supervise workers that perform any of the tasks listed below completed a 5-day Contractor/Supervisor training course? (1) Asbestos response actions other than SSSD activities; (2) Asbestos maintenance activity that disturbs friable ACM other than SSSD activity; (3) Asbestos response action for a fiber release episode; (4) Workers performing response actions and providing direction	7	PV	Regulation	Federal	EPA	AHERA: 40 CFR Part 763 Subpart E, Asbestos Model Accreditation Plan (MAP)	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Appendix 17-B		
Does government representatives verify that contractors conducting work described in items 5 and 6 on Navy property have completed a training courses described in items 5 and 6 and possess the applicable state and/or local certifications?	8	PV; FEAD	Regulation	Federal	EPA	AHERA: 40 CFR Part 763 Subpart E, Asbestos Model Accreditation Plan (MAP)	Regulation	State/Local	Various depending on locality	Various depending on locality						
Are waste transporters (operators and vehicles) certified/registered with the appropriate state agency to transport ACM?	9	PV; EV	Regulation	Federal	DOT	DOT: 49 CFR parts 171 and 172	Regulation	State/Local	Various depending on locality	Various depending on locality	Policy	Navy	CNIC	CNIC 5100.1 Section 5(b)		
INVENTORIES AND SURVEYS																
Does the installation maintain an asbestos inventory of presumed and confirmed ACM on base? What percentage of the facilities are covered by the inventory?	10	PV	Regulation	Federal	OSHA	OSHA: 29 CFR 1910.100(l)(j)(2)(ii)	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Appendix 17-C	Policy	Navy	Policy	CNIC 5100.1 Section 5(c)(2)		
Is there a record maintained by the installation of the sample/survey data described above.	11	PV	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Appendix 17-C	Policy	Navy	CNIC	CNICINST Enclosure 5100.1 Section 6(a)						
WORKER & BUILDING OCCUPANT PROTECTION																
Is the Asbestos Management Plan current and up to date?	12	PV	Policy	Navy	CNIC	CNICINST 5100.1 Section 5(c)(4)										
Has an Asbestos O&M Program been developed and implemented? (Note: If the site is following the NAVFAC-wide Program Management Manual, that strategy meets this requirement.)	13	PV	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Appendix 17-C	Policy	Navy	CNIC	CNICINST 5100.1 Section 5(c)(1)						
Have periodic surveillance inspections been performed every six (6) month by qualified staff since the development of the Asbestos Management Plan? Are the periodic surveillance inspections documented in the Asbestos Management Plan?	14	PV	Policy	Navy	CNIC	CNICINST Enclosure 5100.1 Section 6(a)(3)										

<p>Are asbestos notification signs: (1) Posted at the entrance to mechanical rooms/ areas containing TSI and surfacing ACM/ PACM? (2) Sufficiently detailed to identify the material of concern, its location, and appropriate work practices to avoid disturbing the material? (3) Understood by employees?</p>	15	PW	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Policy	Navy	CNIC	CNICINST Enclosure 5100.1 Section 6(a)						
<p>Have warning labels been attached immediately to friable and nonfriable confirmed, assumed, and presumed asbestos located in routine maintenance areas (boiler room or mechanical room, that is not normally frequented by occupants, in which maintenance employees or contract workers regularly conduct maintenance activities)? Do the labels read: CAUTION: ASBESTOS. HAZARDOUS. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT</p>	16	PW	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704(g)	Policy	Navy	CNIC	CNICINST Enclosure 5100.1 Section 6(a)	Regulation	Federal	EPA	AHERA: 40 CFR Part 763.95 Subpart E		
<p>Are Labels: (1) Attached to all products containing asbestos and to all containers holding such products? (2) Printed in large, bold letters on a contrasting background? (3) Read: DANGER CONTAINS ASBESTOS FIBERS AVOID CREATING DUST CANCER AND LUNG DISEASE HAZARD (4) Contain a warning statement against breathing asbestos fibers? (5) Placed where they will clearly be noticed by employee, appropriately placed signs may be posted instead of labels as long as they contain all the necessary labeling information? (6) Understood by employees?</p>	17	PW	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101										
<p>Are Navy water systems with asbestos cement pipes monitored for asbestos? This includes at a minimum: one sample taken during the first 3 years of every 3 year compliance period and results must be equal to or less than 7 million fibers per liter (longer than 10 micrometer).</p>	18	EV	Regulation	Federal	EPA	EPA: 40 CFR 141.23	Policy	Navy	OPNAV	OPNAVINST 5090 Chapter 21 section 3-4-						

EJMR AND PROJECT WORK EVALUATIONS

Does the APM review facilities maintenance activities for potential impacts to ACM?	19	PV	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Pollog	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704(e)	Pollog	Navy	CNIC	CNICINST 5100.1 Section 5(a)(2)		
Do the PVD Site Safety Manager and APM coordinate to implement the respiratory protection program for asbestos related work?	20	Safety, PV	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Pollog	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704(e)	Pollog	Navy	CNIC	CNICINST 5100.1 Section 5(a)(2)		
Is suspected ACM that will be potentially impacted by renovation or demolition activities sampled by an AHERA accredited inspector prior to the commencement of work?	21	PV	Regulation	Federal	EPA	MESHAP: 40 CFR Part 61 Subpart M	Pollog	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1712(c)(1)(a)	Pollog	Navy	OPNAV	OPNAVINST 5090.1 Chapter 25 Section 25-3.3		
Is all friable ACM removed from facilities prior to demolition, renovation or other activities that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal, including damaged non-friable material (Category I and II RACM) except for when condition listed under 40 CFR Part §61.145(c)(1) are met?	22	PV	Regulation	Federal	EPA	MESHAP: 40 CFR Part 61 Subpart M										
Is work that involves or may potentially involve the activities listed below designed and reviewed by an AHERA certified Project Designer that represents the government? (1) Asbestos response action other than SSSD activity; (2) Maintenance, renovation, or demolition activity that disturbs ACM other than SSSD activity; or (3) asbestos response action for a major fiber release episode.	23	PV	Pollog	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Appendix 17-B	Regulation	Federal	EPA	AHERA: 40 CFR Part 763 Subpart E						
ABATEMENT																
Has the installation established a respiratory protection program that includes respiratory protection for asbestos-related work?	24	Safety	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101										
Are asbestos exposure assessments regularly conducted (and records of such assessments maintained) for Class II, Class III, and Class IV work? If not, is Class I training, controls, and PPE implemented for all projects that may potentially impact ACM?	25	BUMED	Regulation	Federal	EPA	OSHA: 29 CFR 1926.1101	Pollog	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1709	Pollog	Navy	CNIC	CNICINST 5100.1 Section 5(a)(1)		

Does the installation provide respirators and ensure that they are used under the following circumstances: (1) All Class I work (2) Class II work where ACM is not removed in a substantially intact state (3) Class II and III work performed without using wet methods (4) Class II and III work where NEA was not done (5) Class III work where TSI or surfacing ACM/ PACM is disturbed (6) Class IV work performed in regulated areas where other employees are required to wear respirators (7) When employees are exposed above the PEL/EL (8) In emergencies	26	Safety	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Policy	Navg	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704(e)							
Where used, were appropriately selected respirators provided at no cost to the employee? Respirator approved by the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH)?	27	Safety	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Policy	Navg	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704(e)							
Is the NESHAP enforcement agency provided with a written notice (e.g. Notification of Demolition and Renovation Form) at least 10 working days prior to performing facility demolition activity?	28	PV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M	Policy	Navg	OPNAV	OPNAVINST 5100.23G, Chapter 17, Appendix 17-D							
Is the NESHAP enforcement agency provided with a written notice (e.g. Notification of Demolition and Renovation Form) at least 10 working days prior to performing facility renovation activity that involves removing friable ACM at the following minimum amounts for the same facility within a calendar year? * 260 linear feet (80 meters) on pipes * 160 square feet (15 square meters) on other facility components * (3) 35 cubic feet (1 cubic meter) off facility components where the length or area could not be measured perviously	29	PV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M	Policy	Navg	OPNAV	OPNAVINST 5100.23G, Chapter 17, Appendix 17-D							
Is the NESHAP enforcement agency notified when renovation or demolition activity dates change or when the amount of asbestos affected during any of these activities change by at least 20 percent?	30	PV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M											

When performing asbestos work, do workers follow OSHA's requirements, especially the following elements: 29 CFR 1926.1101: work class requirements and controls, notifications, regulated area requirements, engineering control practices, communication requirements, warning signs and labels practices, training requirements, and competent person present on required work? 29 CFR 1910.1001: exposure of asbestos monitoring and methods, respiratory protection, engineering control work practices, PPE, hygiene facilities and practices, communication hazards, and housekeeping practices?	31	PW	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Regulation	Federal	OSHA	OSHA: 29 CFR 1910.1001						
Are there engineering control measures or work practices in place during abatement activities at the PwD to eliminate visible emissions to the outside air during the collection, processing, packaging, or transporting of asbestos-containing waste material generated by the source?	32	PW	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M	Policy	Navy	OPNAV	OPNAVINST 5090.1 Chapter 25 Section 25-3.3	Policy	Navy	OPNAV	OPNAVINST 5090 Chapter 21 section 3-4-		
When the removal of asbestos is required is friable ACM wet during removal or renovation activities (except when exempted in writing by the NESHAP enforcement agency) to avoid damaging equipment or creating a safety hazard?	33	PW; FEAD	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704 and 1706	Policy	Navy	OPNAV	OPNAVINST 5090.1 Chapter 25 Section 25-3.3		
For abatement activities at the PwD that require the removal of ACM from height, or is transported from height (i.e. upper stories or rooves) is friable ACM transported to the ground via leak-tight chutes or containers if it has been removed or stripped more than 50 feet above the ground level and was not removed as units or sections?	34	PW; FEAD	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M										
Is ACM that has been removed replaced by asbestos-free materials?	35		Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1702(b)	Policy	Navy	OPNAV	OPNAVINST 5090.1 Chapter 25 Section 25-3.3						
WASTE MANAGEMENT																
Are asbestos-containing waste materials disposed of as soon as practical after generating?	36	PW	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704						
Are asbestos-containing waste materials disposed of at disposal facilities certified by the EPA and/or state, local, or foreign government regulatory agencies to accept such waste?	37	PW	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1712(b)						
Are copies of waste shipment records provided to disposal site owners/operators when asbestos-containing waste material is delivered to the disposal site?	38	EV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M										

<p>Is asbestos-containing waste material stored in leak-tight containers and wrapped properly and labeled with one of the following statements:</p> <p>DANGER CONTAINS ASBESTOS FIBERS AVOID CREATING DUST CANCER AND LUNG DISEASE HAZARD</p> <p>DANGER CONTAINS ASBESTOS FIBERS MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS DO NOT BREATHE DUST AVOID CREATING DUST</p>	39	PV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704(a) and (g)	Policy	Navy	OPNAV	OPNAVINST 5090 Chapter 21 section 3-4-
<p>Prior to transporting asbestos-containing waste, are labels installed that state the following:</p> <p>RQ [reportable quantity - 1 pound or more of friable asbestos] WASTE ASBESTOS MIXTURE NA2212</p>	40	PV	Regulation	Federal	DOT	DOT: 49 CFR parts 171 and 173	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1704(g)				
<p>Do Waste Shipment Records contain all required information as described in 40 CFR Part 61.150(d)(1) below:</p> <p>(1) The name, address, and telephone number of the facility as the waste generator. (2) The name and address of the local, State, or EPA Regional office responsible for administering the asbestos NESHAP program. (3) The approximate quantity in cubic meters (cubic yards). (4) The name and telephone number of the disposal site operator. (5) The name and physical site location of the disposal site. (6) The date transported. (7) The name, address, and telephone number of the transporter(s). (8) A certification that the contents of this consignment are fully and accurately described by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.</p>	41	PV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M								

<p>Are the vehicles used for transportation of asbestos-containing waste material off the facility site properly marked as follows: (1) Placards displayed in such a manner and location that a person can easily read the legend, (2) Conform to the requirements for 51 cm x 36 cm (20 in x 14 in) upright format signs specified in 29 CFR 1910.145(d)(4). (3) Display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in this paragraph:</p> <p>DANGER ASBESTOS DUST HAZARD CANCER AND LUNG DISEASE HAZARD <i>Authorized Personnel Only</i></p> <p>Spacing between any two lines at least equal to the height of the upper of the two letters. Note that this requirement does not apply to transportation within the fence line of a facility.</p>	42	PV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M	Regulation	Federal	OSHA	OSHA: 29 CFR 1910.145(d)(4)	Regulation	Federal	DOT	DOT: 49 CFR parts 171 and 173
<p>Have waste shipment records (signed by the owner/operator of the designated waste disposal site) been received by the installation within 35 days of the date the waste was initially accepted by the transporter?</p> <p>If not, was the transporter and disposal site owner/operator contacted?</p>	43	EV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M								
<p>If response to item above is NO, after 45 days of the date of the waste was initially accepted by the transporter?</p> <p>Was NESHAP enforcement agency informed in writing?</p>	44	EV	Regulation	Federal	EPA	NESHAP: 40 CFR Part 61 Subpart M								
RECORDKEEPING & DATA MANAGEMENT - section to be updated as data management procedures are finalized and published (e.g. INFADS, Maximo & ESAMS requirements)														
<p>Are employees notified of the result of the exposure assessment results as soon as possible (no later than 5 working days) in writing either individually or by posting results in an appropriate location that is accessible to employees?</p>	45	BUMED	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101								
<p>Is a record of NESHAP notifications and other abatement records maintained by the installation?</p>	46	PV	Policy	Navg	CNIC	CNICINST Enclosure 5100.1 Section 10(d)(3)								

Does the PwD participate in a Medical Surveillance Program that covers all employees who spend 30 or more days per year doing Class I, II or III work, or are exposed at or above the PEL for a combined 30 days or more per year?	47	BUMED	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101	Pollog	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1709(d) and 1710(h)(3)	Pollog	Navy	CINIC	CNICINST 5100.1 Section 5(a)(2)		
Does the Medical Surveillance Program ensure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and are provided at no cost in accordance with OSHA?	48	BUMED	Regulation	Federal	OSHA	OSHA: 29 CFR 1926.1101										
Are employees formerly enrolled in the medical surveillance program enrolled with the BUMED program established for such employees in order to maintain medical records for 30 years?	49	BUMED	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1710(c)(1)										
Are the names and social security numbers of employees formerly enrolled in the medical surveillance program, but never met exposure criteria, forwarded to the Navy Environmental Health Center?	50	BUMED	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1710(c)(3)										
Are civilian personnel that are terminating Navy employment and are no longer eligible to receive care in Navy clinics encouraged to obtain a copy of their health record for follow up with their private physician?	51	BUMED	Policy	Navy	OPNAV	OPNAVINST 5100.23G Chapter 17, Section 1710										
Does the installation maintain a record of completed asbestos waste shipments for at least three years?	52	Pw; EV	Policy	Navy	CNIC	CNICINST Enclosure 5100.1 Section 10(d)(4)										

State/Territory	Notes	Local	EPA/OSHA Region	State Environmental Agency		State Professional Accreditation Agency		State OSHA Agency	
Texas	Federal exemption for AHERA due to state-specific rule		6	Commission on Environmental Quality	www.tceq.state.tx.us/	Texas Department of State Health Services	www.dshs.state.tx.us/		
Georgia			4	Environmental Protection Division (EPD)	www.gaepd.org				
Puerto Rico	www2.pr.gov		2						
Mississippi			4	Department of Environmental Quality (DEQ)	www.deq.state.ms.us/	Department of Environmental Quality (DEQ)	www.deq.state.ms.us/		
South Carolina			4	Department of Health & Environmental Control (DEHC)	www.scdhec.gov/	Department of Health & Environmental Control (DEHC)	www.scdhec.gov/		
Maryland			3	Department of the Environment	www.mde.state.md.us	Department of the Environment	www.mde.state.md.us		
Washington, DC			3	District Department of the Environment	http://ddoe.dc.gov/				
California	State specific professionals & accreditation		9	Environmental Protection Agency (EPA)	www.calepa.ca.gov/	Department of Industrial Relations (DIR)	www.dir.ca.gov/		
		San Diego County		Air Pollution Control District	www.sdapcd.org				
		Los Angeles County							
		Ventura County							
		Monterey County							
		Imperial County							
		Kings County							
		Kern County							
Nevada				Division of Environmental Protection (DEP)	www.ndep.nv.gov				
Hawaii				Department of Land and Natural Resources (DLNR) [NO ASBESTOS ENFORCEMENT]	www.dlnr.hawaii.gov	Department of Health (DOH)	http://health.hawaii.gov		
Other States where NAVFAC May be a service provider to non-CNIC customers (e.g. USMC)									
North Carolina			4	Department of Environment and Natural Resources (NCDENR)	http://portal.ncdenr.org	Department of Health and Human Services (DHHS), Health Hazards Control Unit (HHCU)	http://epi.publichealth.nc.gov		

This list does not include additional states where Naval Operational Support Centers (NOSC) are located

Appendix D – Example APM Appointment Letter



DEPARTMENT OF THE NAVY

Insert Appropriate Letter Head

Date

From: Commanding Officer, Insert Installation
To: Name, Position
Subj: APPOINTMENT AS ASBESTOS PROGRAM MANAGER (APM)
Ref: (a) OPNAVINST 5100.23 (series)

1. Per reference (a), you are hereby appointed as the Asbestos Program Manager (APM) for Insert Installation. This area of responsibility includes all facilities managed by Naval Facilities Engineering Command Public Works Department (PWD) Insert PWD. These official property record cards for these facilities are managed in iNFADS under the following Activity UICs: Insert Activity UICs. *Ensure that any special areas are included and noted, especially those that may be away from the assigned duty station.*
 - a. UIC or Special Area
 - b. UIC or Special Area
2. Asbestos is a known component of Navy building systems. Asbestos is managed by the NAVFAC Public Works Business Line, Facilities Management and Sustainment Product Line. You will perform the duties outlined in reference (a) as applicable to this command. You have the authority to oversee all asbestos related activities including, but not limited to: surveys and inspections, operation and maintenance (O&M) of in-place asbestos and impacted facilities maintenance work, project reviews, review of abatement plans, and abatement activities. You will work with command supervisors to ensure that all command employees are properly identified for all classes of asbestos work and trained accordingly. You are responsible for maintenance of program documentation and record keeping. You will interface with regulatory agencies as applicable.
3. Additionally, you will coordinate with the relevant personnel at BUMED Industrial Hygiene Insert local BUMED command and local safety offices to meet program requirements.
4. *If any tenant command also appoints an APM (e.g. NAVSEA, NAVAIR or other service) explain how responsibilities may be impacted. You can also reference any applicable MOU or other documentation that applies to or provides this information.*
5. This appointment is effective for the duration of my tenure as the Commanding Officer or until otherwise revoked.

SIGNATURE

Copy to:
FEC FM&S PLC
Ech III FM&S PLM
Other local organizations (e.g. safety, environmental, tenants)

Appendix E – Accidental Asbestos Fiber Release Episode Tracking

Date	Location (PWD)	Bldg/Area	APM	Brief Description Cause, incident, mitigation, resolution	Quantity	Safety POC (s)	BUMED/IH POC	Potential Exposure/Medical Monitoring Do not provide personnel names or other personal info

Appendix F – PWD/FEC Training Plan

ASBESTOS CONTRACTOR SUPERVISOR CLASS 1-4 FLOWCHART				
OVERSIGHT DECISION MATRIX				
ACM WORK CLASS	CLASS I	CLASS II	CLASS III	CLASS IV
ACM MATERIALS	SURFACING MATERIALS (SM) Sprayed-on Acoustic (SOAC) FIREPROOFING TEXTURED PAINT THERMAL SYSTEM INSULATION (TSI)	NON-TSI or SURFACING MATERIALS: WALLBOARD FLOOR TILE ROOFING SHINGLES/PAPER SIDING SHINGLES CONSTRUCTION MASTICS ACOUSTICAL CEILING TILES	SURFACING MATERIALS (SM): Sprayed-on Acoustic (SOAC) FIREPROOFING TEXTURED PAINT THERMAL SYSTEM INSULATION (TSI)	DUST, WASTE, AND DEBRIS FROM ALL MATERIALS
ACM WORK PRACTICES	ACTIVITIES INVOLVING THE REMOVAL OF TSI AND SURFACING ACM	ACTIVITIES INVOLVING THE REMOVAL OF ACM WHICH IS NOT TSI OR SURFACING MATERIAL	REPAIR AND MAINTENANCE OPERATIONS WHERE ACM INCLUDING TSI AND SURFACING MATERIALS ARE LIKELY TO BE DISTURBED	MAINTENANCE AND CUSTODIAL ACTIVITIES DURING WHICH EMPLOYEES CONTACT BUT DO NOT DISTURB ACM AND CLEANUP OF DUST WASTE AND DEBRIS FROM CLASS I-III ACTIVITIES
REQUIRED TRAINING (AHERA)	AHERA 5-day CST	AHERA 5-day CST	AHERA 2-hr Asbestos Awareness AHERA 14-hr OTJ Training	AHERA 2-hr Asbestos Awareness
RESPIRATORY REQ'TS	1/2 MASK APR FOR SETUP PAPR (IF FRIABLE)	1/2 MASK APR (NONFRIABLE) FULL APR (NONFRIABLE PAPER (FRIABLE)	1/2 MASK APR	WEAR WHAT OTHER ASBESTOS WORKERS ARE WEARING AT THE SITE
ACM SAMPLING PROTOCOLS (IDENTIFICATION) (AHERA)	AHERA (per ACM Surfacing) <1000 ft ² (3 samples) 1000-5000 ft ² (5 samples) >5,000 ft ² (7 samples) TSI (3 samples minimum) Misc (3 samples minimum)	AHERA (per ACM Surfacing) <1000 ft ² (3 samples) 1000-5000 ft ² (5 samples) >5,000 ft ² (7 samples) TSI (3 samples minimum) Misc (3 samples minimum)	AHERA (per ACM Surfacing) <1000 ft ² (3 samples) 1000-5000 ft ² (5 samples) >5,000 ft ² (7 samples) TSI (3 samples minimum) Misc (3 samples minimum)	AHERA (per ACM Surfacing) <1000 ft ² (3 samples) 1000-5000 ft ² (5 samples) >5,000 ft ² (7 samples) (No sampling by staff here) TSI (3 samples minimum) Misc (3 samples minimum)
ACM SAMPLING PROTOCOLS (POST-ACM REMOVAL) (FINAL CLEARANCE)	1. ACM Removal (<160SF/260LF): 1a. 5 Work Area samples (PCM) 1b. 3 blanks (PCM) 1c. Fiber cncs < 0.01 f/cc 2. ACM Removal (>160SF/260LF): 2a. 5 samples outside WA (TEM) 2b. 5 samples inside WA (TEM) 2c. 3 blanks (TEM)	1. ACM Removal (<160SF/260LF): 1a. 5 Work Area samples (PCM) 1b. 3 blanks (PCM) 1c. Fiber cncs < 0.01 f/cc 2. ACM Removal (>160SF/260LF): 2a. 5 samples outside WA (TEM) 2b. 5 samples inside WA (TEM) 2c. 3 blanks (TEM)	1. ACM Removal (<160SF/260LF): 1a. 5 Work Area samples (PCM) 1b. 3 blanks (PCM) 1c. Fiber cncs < 0.01 f/cc 2. ACM Removal (>160SF/260LF): 2a. 5 samples outside WA (TEM) 2b. 5 samples inside WA (TEM) 2c. 3 blanks (TEM)	1. ACM Removal (<160SF/260LF): 1a. 5 Work Area samples (PCM) 1b. 3 blanks (PCM) 1c. Fiber cncs < 0.01 f/cc 2. ACM Removal (>160SF/260LF): 2a. 5 samples outside WA (TEM) 2b. 5 samples inside WA (TEM) 2c. 3 blanks (TEM)
REGULATED AREA REQ'D? (29 CFR 1926.1101)	YES Competent Person Demarcation Prohibited Activities Respiratory Protection Limited Access	YES Competent Person Demarcation Prohibited Activities Respiratory Protection Limited Access	YES Competent Person Demarcation Prohibited Activities Respiratory Protection Limited Access	YES Competent Person Demarcation Respiratory Protection

ACM WORK CLASS	CLASS I	CLASS II	CLASS III	CLASS IV
<p>DECONTAMINATION FACILITIES (29 CFR 1926.1101)</p>	<p>Over 25 linear or 10 ft2 of TSI or Surfacing ACM, decon must consist of: 3-stage system adjacent to work area:</p> <ol style="list-style-type: none"> Equipment Room Shower Clean Room <p>< /= 25 linear or 10 ft2 of TSI or Surfacing ACM, decon must consist of: 3-stage system adjacent to work area:</p> <ol style="list-style-type: none"> Equipment Room Clean Room 	<p>For all ACM, decon consist of: 2-stage system adjacent to work area:</p> <ol style="list-style-type: none"> Equipment Room Clean Room 	<p>For all ACM, decon consist of: 2-stage system adjacent to work area:</p> <ol style="list-style-type: none"> Equipment Room Clean Room 	<p>None Required</p>
<p>ENGINEERING/DUST CONTROLS (Control/Contain/Isolate)</p>	<ol style="list-style-type: none"> Critical barriers over openings HVAC Isolation (DL 6 mil poly) Impermeable drop cloths All objects covered All seams duct taped Negative Pressure Ventilation HEPA Vacuum/Filtration/Collection Negative Pressure Enclosure (NPE) NPE/4 air exchanges/hour -0.02 inches water inside NPE Air movement towards HEPA Deactivate electrical circuits Use 2-person Glovebag Removal Use wetting agents/methods Use water spray on cold pipe TSI Use 2-person Walk-In Enclosure Competent Person Oversight 	<ol style="list-style-type: none"> Critical barriers over openings HVAC Isolation (DL 6 mil poly) Impermeable drop cloths All objects covered All seams duct taped Negative Pressure Ventilation HEPA Vacuum/Filtration/Collection Negative Pressure Enclosure (NPE) NPE/4 air exchanges/hour -0.02 inches water inside NPE Air movement towards HEPA Deactivate electrical circuits Use 2-person Glovebag Removal Use wetting agents/methods Use water spray on cold pipe TSI Use 2-person Walk-In Enclosure Competent Person Oversight Flooring, roofing, siding procedures 	<ol style="list-style-type: none"> Critical barriers over openings HVAC Isolation (DL6 mil poly) Impermeable drop cloths All objects covered All seams duct taped Negative Pressure Ventilation HEPA Filtration/Collection Negative Pressure Enclosure (NPE) NPE/4 air exchanges/hour -0.02 inches water inside NPE Air movement towards HEPA Deactivate electrical circuits Use 2-person Glovebag Removal Use wetting agents/methods Use water spray on cold pipe TSI Use 2-person Walk-In Enclosure Competent Person Oversight 	<ol style="list-style-type: none"> HEPA Vacuum/Filtration/Collection Wear respirators as required Use wetting agents for dust/debris Assume TSI dust is ACM Assume friable SM dust is ACM No sanding, abrading, or grinding Competent Person Oversight
<p>APCD NOTIFICATION REQTS SDAPCD Rule 361.145 NESHAP 40 CFR 61.145 SP M (Demolition or Renovation)</p>	<p>FILING NOTICE OF INTENT (NOI)</p> <p>Demolition: Wrecking/Removal of LBS</p> <ol style="list-style-type: none"> 10 WD prior to activity ACM Present or Not!!! <p>Renovation: Disturbs/strips/removes RACM:</p> <ol style="list-style-type: none"> 10 WD prior to activity At least 260LF on pipes At least 160SF on other (floor) At least 35 CF of pipe/other not measured before stripping. 	<p>FILING NOTICE OF INTENT (NOI)</p> <p>Demolition: Wrecking/Removal of LBS</p> <ol style="list-style-type: none"> 10 WD prior to activity ACM Present or Not!!! <p>Renovation: Disturbs/strips/removes RACM:</p> <ol style="list-style-type: none"> 10 WD prior to activity At least 260LF on pipes At least 160SF on other (floor) At least 35 CF of pipe/other not measured before stripping. 	<p>FILING NOTICE OF INTENT (NOI)</p> <p>Demolition: Wrecking/Removal of LBS</p> <ol style="list-style-type: none"> 10 WD prior to activity ACM Present or Not!!! <p>Renovation: Disturbs/strips/removes RACM:</p> <ol style="list-style-type: none"> 10 WD prior to activity At least 260LF on pipes At least 160SF on other (floor) At least 35 CF of pipe/other not measured before stripping. 	<p>None Required</p>

Appendix G - Baseline Survey Prioritization Criteria
To assist PWDs with Survey Planning

*Target is 150-200 buildings; utilize iNFADS real property records (consider utilization vs facility).
The below items are recommended.*

1. Is there a current survey?
2. Verify & exclude OEL asbestos-exempt iNFADS category codes.
3. Use: by children or the 'public' (target no more than 30 building)
Child Development Centers – CAC Codes & UFC referenced
Youth Centers
4. Local knowledge - known asbestos data or incidents, potential exposure
5. Sustainment Fund Source and/or Maintenance UIC – if there are other providers that pay for this type of work (e.g. BUMED)
6. Age (Based on likelihood of ACM being present)
 - a. Built Date
 - Pre 1981
 - 1981 – 1990
 - Post 1990
 - b. Recapitalization Information
 - Pre 1981
 - 1981 – 1990
 - Post 1990
7. Occupancy Rate (# occupants/hrs occupied) – *Note: typically no authoritative source for this information.*
8. Condition Based Maintenance / Infrastructure Condition Assessment Program (ICAP)
Maintenance Execution (MEP) – Current budget year [Cat III-IV, some II]
Maintenance Action Plan (MAP) – BY +1 or +2 (current BY could be design package planning)
Long Range Maintenance Plan (LRMP) – BY +6 - Mostly requirements
Coordination with AM - POM (MLCON & Special Projects planning)

Depending on whether or not your PWD is adequately planning for ST funds for these efforts – then using FP on buildings for planned work, could lower ST costs.

9. MDI
10. Size & Cost

Appendix H - Asbestos Free Certification

The Contractor shall not use any asbestos containing material (ACM) at any time during the construction. The Contractor shall verify that all materials, including those supplied by third parties, are asbestos free. A written certification letter shall be provided by the Contractor to the Navy certifying that the finished work is asbestos free.

In addition, the Contractor shall submit MSDSs for the suspect materials listed in Attachment X to the Project Manager for the Facility Manager's records.

Appendix I – Asbestos Abatement Plan Checklist

Project Title: _____

Building/Room: _____

Contract Number: _____

Date Plan Received: _____

() Fully address each Checklist Item and **resubmit** for approval

() Approved

ASBESTOS ABATEMENT PLAN CHECKLIST	
Item Fully Addressed (Yes/No)	CHECKLIST ITEM DESCRIPTION
	1. Is the plan prepared, signed, and sealed by a Qualified Person (i.e., a Certified Asbestos Consultant (CAC), AHERA Project Designer, etc.)? <ul style="list-style-type: none"> • Provide the certification number and date for the Qualified Person. • Provide up-to-date asbestos training records. • Provide up-to-date Asbestos Worker Medical Clearance report • Provide up-to-date fit test certificates for asbestos worker(s)/supervisor(s).
	2. Does the plan include a drawing showing the location, size, and details of asbestos regulated areas, including the following: 1) location of the clean and dirty areas, 2) buffer zones, 3) showers, 4) storage areas, 5) change rooms, 6) exclusion zones, and 7) local exhaust equipment?
	3. Does the plan include a work area and breathing zone air monitoring plan?
	4. Does the plan include the personal protective equipment to be used as well as donning/doffing procedures?
	5. Does the plan include step-by-step details for the sequencing of asbestos-related work? The asbestos abatement plan must: <ul style="list-style-type: none"> • Specify what Asbestos material(s) are to be removed/disturbed, • State whether such materials are friable/non-friable, • State whether mechanical means will be used to remove such materials, and if not, what means will be used. • State whether a notification to the San Diego APCD is required. If a notification is required, the NBPL Asbestos Program Manager (APM) must approve all notifications (in writing) prior to submittal to the San Diego APCD.
	6. Does the plan include a disposal plan for hazardous and non-hazardous wastes? <ul style="list-style-type: none"> • Clean Harbors has signature authority for hazardous waste manifests (if applicable).
	7. Does the plan specify the type of wetting agent and/or solvent to be used? <ul style="list-style-type: none"> • What products will be used (i.e., solvents, amended water, etc.)? <ul style="list-style-type: none"> ✓ Provide respective MSDS/product specification sheets. • If a solvent is to be used, a usage log must be kept (regardless of the quantity to be used). <ul style="list-style-type: none"> ✓ To be exempt from permitting, the mastic removal solvent used must have a vapor pressure less than or equal to 0.2 mmHg and be used in volumes less than or equal to 11 gal/day.
	8. Does the plan include both Fire and Medical Emergency response plans? <ul style="list-style-type: none"> • Provide phone numbers and addresses for emergency medical services (to be used).
	9. Does the plan include a detailed description of the environmental pollution controls method? <ul style="list-style-type: none"> • How will water runoff be captured (if applicable)?

 Installation Asbestos Program Manager
 Ph: () - or

 Date

Appendix J – Asbestos Safety Awareness



ASBESTOS SAFETY AWARENESS

The Safety of personnel working for the Navy is a high priority. Therefore, this fact sheet serves to inform employees of the possible *hazards of Asbestos* in our facilities.

Navy safety policy is to maintain any asbestos containing materials (ACM) in place and in good condition. This approach is protective of our health and safety because these materials do not present a hazard if they are intact and in good condition, and are left undisturbed. This fact sheet is to update you on what to look for in your facilities and who to contact if you have any questions or concerns with regard to materials that may contain asbestos.

During renovation, and/or demolition, materials containing asbestos can be disturbed such that a hazard could be created. Asbestos can be a potential hazard when microscopic asbestos fibers become airborne due to grinding, sanding, and/or cutting of asbestos-containing material. A hazard can also be created when such materials become deterioration. All renovations and demolitions at Navy facilities shall be carried out in strict accordance with OSHA and EPA regulations to protect the workers and surrounding personnel.

At this time, the Navy does not perform routine surveys to identify asbestos containing materials. Instead, sampling is performed prior to disturbance of suspect materials. By doing so, this approach helps to ensure the best protection for workers and occupants by addressing any asbestos concerns PRIOR to any Navy renovation or demolition projects. Moreover, it allows us to systematically identify suspect materials and test them for asbestos and other hazards such as lead-based paint (ref. U. S. Army Corps of Engineers, EM 385-1-1, 06.B.05). Overall, the Navy is committed to protecting the health and safety of our military, civilian, and contractor personnel.

Background:

Asbestos was widely used prior to 1980 in all kinds of construction materials, and unfortunately may be imported and installed today. As a result, even NEW materials are required to be tested for the presence of asbestos before it is disturbed. The most typical asbestos-containing materials encountered at many Naval facilities include the following: **Vinyl tile, glues and mastics, roofing materials and penetration mastics, sprayed-on acoustic ceiling, decorative plasters, pipe insulation, asbestos cement piping and asbestos cement siding.** The second page of this document includes a more exhaustive (but not all inclusive) list of those materials that have been known to contain asbestos.

The only acceptable method to determine if a material contains asbestos is to perform laboratory analysis of an asbestos sample (taken by a certified AHERA Building Inspector). Visual inspection(s) of such material is NOT an acceptable method.

Notification Procedures for damaged and deteriorated materials in your facility:

You can assist in maintaining our facilities in safe and healthy conditions by notifying your *supervisor, Facility Management Specialist (FMS), Asbestos Program Manager (APM), Building Monitor or Command Safety Officer* if you notice any deteriorated materials such as those described above in your work areas. We can then test the material for asbestos and develop a plan of action if needed.

Site Approval Process for Renovation including Self- Help:

For your health and safety it is important that you and your command follow the appropriate site approval procedures to attain approval from the Public Works Officer (PWO) prior to any renovation/demolition activity at your building. This process is in place to assure you that you are not inadvertently exposing yourselves or others to hazardous materials. Contact your FMS if you have any questions about this process.

If you have any questions, please contact your respective Public Works Office to seek more information from the installation Asbestos Program Manager (APM).

Thank you
Public Works Officer

The following list does not include every product/material that may contain asbestos. It is intended as a general guide to show which types of materials may contain asbestos.

(Source: EPA, <http://www.epa.gov/region6/6pd/asbestos/asbmatl.htm>)

Sample List of Suspect Asbestos Containing Materials

Cement Pipes	Elevator Brake Shoes
Cement Wallboard	HVAC Duct Insulation
Cement Siding	Boiler Insulation
Asphalt Floor Tile	Breaching Insulation
Vinyl Floor Tile	Ductwork Flexible Fabric Connections
Vinyl Sheet Flooring	Cooling Towers
Flooring Backing	Pipe Insulation (corrugated air-cell, block, etc.)
Construction Mastics (floor tile, carpet, ceiling tile, etc.)	Heating and Electrical Ducts
Acoustical Plaster	Electrical Panel Partitions
Decorative Plaster	Electrical Cloth
Textured Paints/Coatings	Electric Wiring Insulation
Ceiling Tiles and Lay-in Panels	Chalkboards
Spray-Applied Insulation	Roofing Shingles
Blown-in Insulation	Roofing Felt
Fireproofing Materials	Base Flashing
Taping Compounds (thermal)	Thermal Paper Products
Packing Materials (for wall/floor penetrations)	Fire Doors
High Temperature Gaskets	Caulking/Putties
Laboratory Hoods/Table Tops	Adhesives
Laboratory Gloves	Wallboard
Fire Blankets	Joint Compounds
Fire Curtains	Vinyl Wall Coverings
Elevator Equipment Panels	Spackling Compounds

Important Things to Keep in Mind:

1. **New materials are NOT exempt.** All suspect materials to be disturbed are required to be sampled for the presence of asbestos **regardless of the age of the structure or suspect materials.** Typically, materials such as glass, wood, and metal are not considered suspect materials.
2. Visual inspection is not an acceptable method to determine if suspect materials contain asbestos. Lab analysis of suspect material(s) is required to make such a determination.
3. It is a regulatory requirement to sample all suspect asbestos-containing material (ACM) to be disturbed prior to facility renovation or demolition (per the federal National Emission Standards for Hazardous Air Pollutants (NESHAP), section 61.145, NAVFACINST 5100.11J, and Occupational Safety and Health Administration (OSHA) 1910.1001 (j)(2)(i)).

Appendix K – Example Asbestos Waste Shipment Record

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number CA 7 1 7 0 0 9 0 0 1 6	2. Page 1 of 4	3. Emergency Response Phone 877-324-9628	4. Manifest Tracking Number 013432214 JUN			
5. Generator's Name and Mailing Address Commander Navy Region SW P.O. Box 181470 Coronado CA 92178-1470 Generator's Phone: 619 545-6520				Generator's Site Address (if different than mailing address) Naval Air Station North Island Hazardous Waste Facility Building 1606 San Diego CA 92135				
6. Transporter 1 Company Name Double Barrel Environmental Services				U.S. EPA ID Number CAR000177578				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address US Ecology Nevada Inc Hwy 95, 12 Miles South of Beatty, NV Beatty NV 89003 Facility's Phone: 800 730-3043				U.S. EPA ID Number INVT330010000				
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit WL/Vol.	13. Waste Codes	
			No.	Type				
	X	1 RQ UN1950, WASTE Aerosols 2.1 (D007)	0 0 1	CF	00353	P	D001 D005 D007 D008 D018 214	
	X	2 UN1950, WASTE Aerosols 2.2	0 0 1	DF	00041	P	D005 741	
	X	3 RQ UN1133, WASTE Adhesives 3, PGII (D001)	0 0 1	DM	00134	P	D001 D005 D007 D008 D011 281	
X	4 RQ UN1263, WASTE Paint 3, PGII (D001)	0 0 1	DF	00140	P	D001 D005 D007 D035 461		
14. Special Handling Instructions and Additional Information SP450014D0008-0234 1:HE11, D035, D035, ER0126 (15) 1XCYDCF, 2:HE12, D018, D022, D023, ER0128 (21) 1X51, Wear proper PPE when handling DBS#26517 2:HE21, ER0126 (4) 1X15, 4:HE11, ER0128 (22) 1X51,								
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true. LAIR JOHN KERRIS 5-5-15								
Generator's/Offeror's Printed/Typed Name JOHN WHAPLE				Signature <i>[Signature]</i>		Month Day Year 5 5 15		
TRANSPORTER INTL	16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____							
	17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name HAROLD STANSBURY				Signature <i>[Signature]</i>		Month Day Year 5 5 15		
Transporter 2 Printed/Typed Name				Signature		Month Day Year		
DESIGNATED FACILITY	18. Discrepancy							
	18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
	Manifest Reference Number: _____							
	18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
	Facility's Phone: _____				18c. Signature of Alternate Facility (or Generator)			
						Month Day Year		
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1. _____		2. _____		3. _____		4. _____		
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a								
Printed/Typed Name				Signature		Month Day Year		
						Month Day Year		

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved 2011-07-15

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		21. Generator ID Number CA7170690016	22. Page 2 of 4	23. Manifest Tracking Number 013432214JJK					
24. Generator's Name Commander Navy Region SW									
25. Transporter _____ Company Name				U.S. EPA ID Number					
26. Transporter _____ Company Name				U.S. EPA ID Number					
GENERATOR	27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No. Type		29. Total Quantity	30. Unit WL/Vol.	31. Waste Codes		
	X	5. RQ UN1263, WASTE Paint 3, PGII (D001)	0 0 1	DM	00197	P	D001	271	
	X	5. RQ UN1263, WASTE Paint 3, PGII (D007)	0 0 2	DM	01178	P	D001 D005 D007 D008 D018 461		
	X	7. RQ UN1263, WASTE Paint 3, PGII (D007)	0 1 1	DM	03159	P	D001 D005 D008 D018 D035 461		
	X	8. RQ UN1993, WASTE Flammable liquids, n.o.s. (XYLENE,METHYL ETHYL KETONE) 3, PGII (D011)	0 0 8	DM	02962	P	D001 D005 D006 D007 D008 343		
	X	9. UN1993, WASTE Flammable liquids, n.o.s. (ISOPROPYL ALCOHOL,ALIPHATIC HYDROCARBONS) 3, PGII (LABPACK)	0 0 1	DF	00050	P	D001	331	
	X	10. UN1993, WASTE Flammable liquids, n.o.s. (MINERAL SPIRITS) 3, PGII	0 0 1	DM	00071	P	D001	214	
	X	11. RQ UN1993, WASTE Flammable liquids, n.o.s. (METHANOL) 3, PGII (F003)	0 0 2	DM	00729	P	D001 F003	214	
	X	12. RQ UN1325, WASTE Flammable solids, organic, n.o.s. (ISOPROPYLALCOHOL,ETHYLALCOHOL) 4.1, PGII (D001)	0 0 1	DM	00131	P	D001 D005 D006 D008 352		
	X	13. UN1479, WASTE Oxidizing solid, n.o.s. (AMMONIUM NITRATE) 5.1, PGII	0 0 1	DF	00103	P	D001	181	
	X	14. UN2810, WASTE Toxic, liquids, organic, n.o.s. (METHYLENE CHLORIDE) 6.1, PGII	0 0 1	DF	00025	P	U080	741	
	32. Special Handling Instructions and Additional Information 5)HI21, ERG#128 (6)1X55; 6)HI11,D035, ERG#128 (10)2X55; 7)HI11, ERG#128 (11)1X55; 8)HI12,D011,D019,D035, ERG#128 (8)8X55; 9)HI31, ERG#128 (9)1X15; 10)HI31, ERG#128 (10)1X30; 11)HS11, ERG#128 (23)2X55; 12)HI15, ERG#133 (14)1X55; 13)HO71, ERG#140 (13)1X15; 14) HS61, ERG#153(22)1X5;								
	TRANSPORTER	33. Transporter Acknowledgment of Receipt of Materials							
		Printed/Typed Name	Signature					Month	Day
DESIGNATED FACILITY	34. Transporter Acknowledgment of Receipt of Materials								
	Printed/Typed Name	Signature					Month	Day	Year
35. Discrepancy									
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		21. Generator ID Number CA 7 1 7 0 0 9 0 0 1 6	22. Page 8 of 4	23. Manifest Tracking Number 0 1 3 4 3 2 2 1 4 J J K			
24. Generator's Name Commander Navy Region SW							
25. Transporter _____ Company Name				U.S. EPA ID Number			
26. Transporter _____ Company Name				U.S. EPA ID Number			
GENERATOR	27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers No. Type		29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes
	X	15. UN3261, Corrosive solid, acidic, organic, n.o.s. (CITRIC ACID) 8, PGII	0 0 1	DF	00071	P	331
	X	16. UN3262, Corrosive solid, basic, inorganic, n.o.s. (POTASSIUM HYDROXIDE, SODIUM HYDROXIDE) 8, PGII	0 0 1	DF	00102	P	181
	X	17. UN3262, Corrosive solid, basic, inorganic, n.o.s. (CALCIUM HYDROXIDE, POTASSIUM HYDROXIDE) 8, PGIII	0 0 3	CF	03447	P	181
	X	18. RQ NA2212, Asbestos 9, PGIII	0 0 1	CF	00284	P	151
	X	19. RQ UN2315, Polychlorinated biphenyls, liquid 9, PGII (AROCHLOR 1016 & 1254)	0 0 1	DF	00001	K	731
	X	20. RQ NA3077, Hazardous waste, solid, n.o.s. (METHYLENE CHLORIDE, METHYLETHYL KETONE) 9, PGIII (F002)	0 0 1	DF	00131	P	D005 D006 D007 D008 D010 751
	X	21. RQ NA3082, Hazardous waste, liquid, n.o.s. (CHROMIUM, SILVER) 9, PGIII (D011)	0 0 1	DM	00321	P	D005 D006 D007 D008 D011 281
	X	22. RQ NA3082, Hazardous waste, liquid, n.o.s. (TETRACHLORETHYLENE) 9, PGIII (F002)	0 0 1	DF	00107	P	D007 F002 741
	X	23. RQ UN3432, Polychlorinated biphenyls, solid 9, PGII (SMALL SEALED TRANSFORMERS)	0 0 1	DM	00311	K	261
X	24. RQ UN3432, Polychlorinated biphenyls, solid 9, PGII (SMALL PCB CAPACITORS)	0 0 1	DM	00028	K	261	
32. Special Handling Instructions and Additional Information 15)HA62, ERG#154 (24)1X15; 16)HB23, ERG#154 (34)1X55; 17)RB21, ERG#154 (3)1XCYDCF; 18)HT21, ERG#171 (18)1XCYDCF; 19)HT61, OSD 3/20/15, ERG#171 (18)1X1; 20)HT46, D022, D029, D035, F002, F005, ERG#171 (27)1X55; 21)HT13, D035, ERG#171 (28)1X55; 22)HS41, ERG#171 (7)1X15; 23)HT62, OSD 3/18/15, ERG#171 (30)1X55; 24) HT62, OSD 4/9/15, ERG#171(1)1X15;							
TRANSPORTER	33. Transporter _____ Acknowledgment of Receipt of Materials						
	Printed/Typed Name	Signature			Month	Day	Year
DESIGNATED FACILITY	34. Transporter _____ Acknowledgment of Receipt of Materials						
	Printed/Typed Name	Signature			Month	Day	Year
35. Discrepancy							
36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		21. Generator ID Number CA 7 1 7 0 0 9 0 0 1 6	22. Page 4 of 4	23. Manifest Tracking Number 0 1 3 4 3 2 2 1 4 J J K					
24. Generator's Name Commander Navy Region SW									
25. Transporter _____ Company Name				U.S. EPA ID Number					
26. Transporter _____ Company Name				U.S. EPA ID Number					
27a. HM	27b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	28. Containers		29. Total Quantity	30. Unit Wt./Vol.	31. Waste Codes			
		No.	Type						
GENERATOR	X 25. RQ UN3290, WASTE Toxic solid, corrosive, inorganic, n.o.s. (POTASSIUM CYANIDE) 8.1 (8), PGII (F007)	0 0 1	DM	00144	P	D003	D006	D007	
	26. Non-RCRA Hazardous Waste Liquid (SATURATED OILY DEBRIS)	0 1 7	DM	05373	P	225			
	27. Non-RCRA Hazardous Waste Liquid (WASH RACK SUMP SLUDGE)	0 0 1	DM	00234	P		491		
	28. Non-RCRA Hazardous Waste Liquid (DETERGENT)	0 0 1	DF	01354	P		581		
	29. Non-RCRA Hazardous Waste Liquid (CONSOLIDATED PROPYLENE GLYCOL, COMPRESSOR CONDENSATE)	0 0 1	DM	00404	P		132		
	30. Non-RCRA Hazardous Waste Liquid (LATEX PAINT)	0 0 1	DM	00599	P		481		
32. Special Handling Instructions and Additional Information 25)HR12,F007,F008, ERG#154 (12)1X55; 26)HP24, (26)1X55; 27)HT70, (29)1X30; 28)HT78, (17)1X55; 29)HT84, (21)1X55; 30)HT98, (2)1X55;									
TRANSPORTER	33. Transporter Acknowledgment of Receipt of Materials			Signature			Month	Day	Year
	34. Transporter Acknowledgment of Receipt of Materials			Signature			Month	Day	Year
DESIGNATED FACILITY	35. Discrepancy								
	36. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								

Appendix L – Example ICAP Coordinated Periodic Surveillance

FACILITY ASBESTOS INSPECTION FORM

FACILITY NUMBER: PM		DATE:			
SUMMARY OF ABESTOS and LEAD - INSPECTION					
Material/Product Surveyed ¹	Sampled? – Yes/No ²	PACM Present ³	Condition of ACM/PACM Suspected ACM (e.g. good, damaged)	Qty ACM Present (lf, sf, cf)	Friable? – Yes/No
ROOFING & SIDING					
o Transite	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
WALLS & CEILINGS					
o Ceiling Tiles	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Ceiling Tile Mastic	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Sprayed/Toweled coating	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Asbestos-cement sheet	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Spackle/Joint compounds	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Textured paints	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
FLOORS					
o Vinyl-asbestos tile 9 x 9	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Resilient sheet flooring	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Mastic adhesives	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Other – describe	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
PIPES & BOILERS					
o Cement pipe and fittings	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Block insulation TSI	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Preformed pipe wrap	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Corrugated asbestos paper	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Paper tape	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
OTHER PRODUCTS					
o Window Glazing Putty	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Building Caulk	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o Other – describe	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o					
o					
o					
LEAD PAINT					
o On Walls	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o On Ceiling	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			<input type="checkbox"/> Yes <input type="checkbox"/> No
o					
o					
¹ This list is not an exclusive list of potential materials containing asbestos and the inspector should use it only as a minimal reference of potential asbestos containing materials present. ² No sampling is required if the inspector suspects that the materials are ACM and treats them as ACM. For a suspect material to be classified as non-ACM, a minimum number of samples must be collected and analyzed as required by <u>ASHERA/ASHARA regulations</u> . ³ All materials identified as having an asbestos content greater than 1% are considered to be regulated asbestos containing materials (RACM).					

Appendix M – Example Building Occupant Notification Letter

01 February 2016

TO: OCCUPANTS OF BUILDING XXX

FROM: *Insert Installation* COMMANDING OFFICER

RE: NOTIFICATION OF THE PRESENCE OF ASBESTOS-CONTAINING MATERIALS (ACM)

To all occupants, visitors, and contractors,

This notification is being furnished to inform building occupants about asbestos-containing materials (ACM) in this building and to provide the information to assist in avoiding any unintentional contact with the ACM, to ensure that appropriate precautionary measures are taken before disturbing any ACM, and to assist in making appropriate disclosures.

The Public Works Department selected this building to be surveyed for the presence of ACM. The results of the survey concluded that ACM is present in this building.

ACM does not pose a significant health risk to building occupants unless the ACM is damaged. Therefore, it is imperative that ACM identified in this building remains undisturbed or undamaged, and if damage occurs, that steps be taken immediately to control and limit the release of asbestos fibers.

Any work that may impact identified or potential ACM (including repair and removal of ACM) must be performed by trained personnel and must be reviewed and approved by the installation Asbestos Program Manager prior to being conducted. If work must be performed that may impact identified ACM, or if wear or damage is observed on these components, a supervisor must be notified immediately; the supervisor will then notify the PW Department. ACM identified in this building includes:

- RESILIENT FLOOR TILE, 1' X 1' BIEGE MOTTLED
- RESILIENT FLOOR TILE, 1' X 1' WHITE WITH BLACK STREAKS
- WALL TILE ADHESIVE, BEHIND ACOUSTIC WALL PANELS, ASSUMED
- ACOUSTICAL WALL PANEL, ACOUSTIC PANEL, ASSUMED
- JOINT COMPOUND, WHITE MUD
- ROOFING SYSTEM, TYPE UNKNOWN, ASSUMED

Attached to this letter is a building floor plan indicating the ACM location(s) within the building.

The Public Works Department is committed to providing a safe and healthy working environment. If you have any questions or need additional information, please contact the Public Works Department,

_____.

Public Works Officer, By Direction