EXECUTIVE SUMMARY

A baseline industrial hygiene survey of the Naval Postgraduate School, Monterey, Supply Department was conducted from 30 August to 17 September 2012 to assess the occupational health portion of the department’s NAVOSH Program. Per the requirements of OPNAVINST 5100.23G, Chapter 8, Appendix 8-B, a two-year survey of the Hazardous Materials Control and Management Coordinator (HMCMC) is required (next due in Calendar Year 2014), with other department groups requiring a review every 4 years (next due in Calendar Year 2016).

Many problems were identified involving the HMCMC’s respirator use and NPS respirator program administration:

- lack of means for adequate facepiece cleaning
- lack of required SOPs
- lack of available cartridges needed to support hazardous material spill cleanup
- lack of current medical qualification, training and facepiece fit testing for the HMCMC
- lack of formal documentation for the Respiratory Protection Program Manager (RPPM)’s appointment
- lack of an adequate annual audit of the program by the RPPM
- the RPPM’s lack of a list of NPS personnel (currently limited to the HMCMC) with required program enrollment.

The HMCMC needs to change the location where chemical consolidation/pouring occurs from outside her office to the building’s exhausted laboratory fume hoods or outdoors to both lower/minimize exposure to the chemical vapors generated and ease cleanup of any chemical spillage associated with this process.

Because of the many respiratory protection program problems identified above, the occupational health portion of the department’s NAVOSH Program is **Marginally Satisfactory.**
RESPIRATORY PROTECTION PROGRAM:

RESPIRATOR USER PROGRAM ELEMENTS: The Hazardous Material Control and Management Coordinator (HMCMC) currently wears an air purifying respirator during chemical consolidation/pouring and during minor hazardous materials cleanup. Respirators are required during the latter process since exact chemical exposure concentrations cannot be readily made with available technology without extending the cleanup process from a few hours to several days or weeks until air monitoring sample analysis results would be available.

FINDING 62271-12-20-1: Currently the HMCMC has only packaged wipes to clean her respirator. This does not meet the requirement for adequate cleaning as outlined in reference (b).
RECOMMENDATION 62271-12-20-1: Proper facepiece cleaning details can be found at www.osha.gov, Regulation tab. Additional consultation on proper cleaning procedures can be sought through the NPS Respiratory Protection Program Manager (RPPM), Mr. Martin Catanese, mcatanese@nps.edu.

FINDING 62271-12-20-2: SOPs are not available for the HMCMC’s respirator use.
RECOMMENDATION 62271-12-20-2: Consult with the RPPM for development of the SOPs, which must include selection, care, issue and use. Once developed, they need to posted in the HMCMC’s office.

FINDING 62271-12-20-3: The HMCMC’s respirator is estimated to be at least 15 years old, and she is unable to find replacement air purifying cartridges. This indirectly violates the selection and use requirements outlined in the Navy OSH Manual’s Respiratory Protection Program chapter. Because she is involved in hazardous materials cleanup where a variety of chemicals may be encountered, an adequate stock of more than the current two types of cartridges needs to be procured.
RECOMMENDATION 62271-12-20-3: Consult with the RPPM to aid in finding a source of the cartridges (if still available for the dated respirator) and ensure that an adequate stock of a variety of cartridges needed for spill cleanup and hazardous materials consolidation are procured. If none are available due to the respirator’s age and possible discontinuance by the manufacturer, a current respirator replacement needs to be procured.
RESPIRATORY PROTECTION PROGRAM (continued):

**FINDING 62271-12-20-4:** The HMCMC lacks current medical qualification for respirator use.
**RECOMMENDATION 62271-12-20-4:** Ensure that the HMCMC is scheduled as soon as possible for the required respirator medical surveillance.

**FINDING 62271-12-20-5:** The HMCMC lacks current training and fit testing for respirator use.
**RECOMMENDATION 62271-12-20-5:** Ensure that the HMCMC is scheduled as soon as possible for the required training and fit testing with the RPPM.

The following discussion of the program administration was extracted from the program review of the Naval Support Activity, Monterey Police/Security Force’s survey conducted in Spring 2012, and since it meets the time requirements for program review outlined in the Navy OSH Manual’s Respiratory Protection Program chapter, it is still current and valid. The Industrial Hygienist assumes there has been no change in status on the below Findings since a report of any actions taken to resolve problems requested for provision by 17 June 2012 has not been received. So that information applies to the Naval Posgraduate School and not the this survey, the original Finding/Recommendation numbers have been changed, and only content change involves changing the involved command to NPS rather than the Naval Support Activity, Monterey (NSAM).

**PROGRAM ADMINISTRATION:** The NSAM/NPS RPPM is responsible for managing and administering the department’s program. The RPPM, Mr. Martin Catanese, attended and successfully completed OSHA Training Institute Course 222 in November 2009.

**FINDING 62271-12-20-6:** The incumbent (Mr. Martin Catanese) has not been appointed in writing as the activity’s RPPM.
**RECOMMENDATION 62271-12-20-6:** A letter signed by the NPS Chief of Staff assigning these duties to Mr. Catanese needs to be prepared and issued to document this appointment.
FINDING 62271-12-20-7: During Calendar Year 2011, the NPS/NSAM RPPM performed the required annual audit of the Respiratory Protection Program. The format prescribed the Navy Region Southwest (NRSW) for the assessment of the entire Safety and Occupational Health Program, where 5 elements are selected for focus, was used. However, the review was inadequate since it did not address all elements of the program. Reference (c) requires that the evaluations be conducted to ensure that all aspects of the written respirator program are effectively implemented.

RECOMMENDATION 62271-12-20-7: The audit prescribed by the NRSW needs to be supplemented so that all respirator program elements are evaluated each year.

The following Finding/Recommendation involving program administration is newly identified as a result of this survey:

FINDING 62271-12-20-8: The RPPM lacks a list of NPS personnel who require the use of respirators.

RECOMMENDATION 62271-12-20-8: This can be easily and readily remedied by the RPPM since the Supply Department’s Hazardous Materials Control and Management Coordinator (HMCMC) is currently the only NPS employee who requires use of respirators.

HEARING CONSERVATION PROGRAM: Personnel in the Property Management section only have incidental and infrequent indirect exposure to noise from forklifts operated by the contractor group within the building. To minimize their noise exposure, personnel merely close their office doors.

HAZARDOUS MATERIAL CONTROL AND MANAGEMENT PROGRAM:

FINDING 62271-12-20-9: The Hazardous Materials Control and Management Coordinator (HMCMC) currently consolidates/pours solvents, and on a limited basis minor amounts of acids/alkalis as well, so that one full container is created rather than several partially full ones. This work is currently performed in the large workroom (when vacant) outside her office. Even though she wears a respirator during this work, the above practice unnecessarily exposes the Coordinator to airborne chemical vapors and may make any chemical spills inadvertently created during this process more difficult to clean up.
HAZARDOUS MATERIAL CONTROL AND MANAGEMENT PROGRAM (continued):

RECOMMENDATION 62271-12-20-9: This work should be performed inside one of the many ventilated lab hoods located on the first and second floors of the building (245), and containers larger than one gallon should not be used since they likely will not fit inside the hoods and their moving in and out of the hoods could be awkward, leading to injuries from poor ergonomics. Handling of acids or alkalis should be restricted to the hood located in the Room 223 Corrosion Research Lab. If use of containers larger than one gallon is necessary, this work should be performed outside the building where outdoor air will adequately dilute chemical vapors to insignificant concentrations. If these recommendations are not feasible, the Industrial Hygienist should be contacted by the HMCMC at least 24 hours in advance of several representative jobs lasting at least 30 minutes in length to schedule air sampling to determine if a respirators need to be worn, and if so, whether or not the air-purifying respirator currently worn by the Coordinator during this work provides adequate protection.

PERSONAL PROTECTIVE EQUIPMENT (PPE): The following PPE is worn by the Hazardous Materials Control and Management Coordinator for protection against potential health hazards found in the workplace:

<table>
<thead>
<tr>
<th>PPE</th>
<th>PROCESS/PURPOSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>29 CFR 1910.120, Appendix B, Level B, C or D PPE</td>
<td>Minor hazardous materials spill cleanups, solvent consolidation/pouring/handling</td>
</tr>
</tbody>
</table>

The PPE available for use by the HMCMC includes:
- heavy duty neoprene rubber gloves
- heavy duty neoprene-latex gloves
- nylon gloves with leather palms and fingers impregnated with rubber nubs
- unlaminated disposable (Tyvek or equivalent) coveralls
- one-piece rubber boots
**OCCUPATIONAL REPRODUCTIVE HAZARDS:** Per reference (a), Chapter 29, reproductive hazards include:

<table>
<thead>
<tr>
<th>WORKER</th>
<th>HAZARD/TYPE</th>
<th>PRODUCT/PROCESS</th>
<th>EXPOSURE ASSESSMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazmat Control/Mgt Coordinator</td>
<td>Xylenes: F, Toluene: D, Methanol: F</td>
<td>Use of aerosol paint cans</td>
<td>Negative—dilution with outdoor air and minimal usage.</td>
</tr>
<tr>
<td>Hazmat Control/Mgt Coordinator</td>
<td>Toluene: D, Alcohols: F</td>
<td>Consolidating/pouring solvents</td>
<td>Negative—if process is performed in ventilated lab hoods or outdoors as recommended above</td>
</tr>
<tr>
<td>Hazmat Control/Mgt Coordinator</td>
<td>Xylenes: F, Toluene: D, Alcohols: F</td>
<td>Hazardous materials spill cleanup*</td>
<td>Negative—protected by appropriate level A, B, or C respirator/PPE</td>
</tr>
</tbody>
</table>

M = male hazard  F = female hazard  PF = pregnant female hazard  
D = developmental hazard (hazard to the fetus)

* A variety of other chemicals posing reproductive hazards could be encountered during spill cleanup, which are too numerous to list. The listed hazards would be the most common ones expected to be encountered.

**ERGONOMICS:** Occasional heavy lifting in urgent situations is performed by Property Management personnel when contractor workers are unavailable; this lifting is aided by use of manual pallet jacks to move pallets and two-person teams for items weighing over 40 pounds when lifting aids are not used or feasible. The Hazardous Materials Control and Management Coordinator moves heavy containers by using dollies or enlists the assistance of others, e.g., departmental hazardous materials coordinators. No injuries due to ergonomic issues have occurred.

**MEDICAL SURVEILLANCE MATRIX:** Refer to Appendix F in this report for the Medical Surveillance Program Matrix. The NPS Safety and Occupational Health Office may prescribe additional surveillance based on the results of their safety inspections or safety-related requirements.
TRAINING MATRIX: See Appendix G for the Training Matrix based on industrial hygiene exposure assessments. Additional training for safety-related hazards or requirements may be identified separately by the department’s Site Safety Manager, or as automatically prescribed by the Enterprise Safety Applications Management System (ESAMS) (currently used to satisfy OSH training requirements) for each individual user when he or she logs onto the system.
## APPENDIX E
### RESPIRATORY PROTECTION PROGRAM MATRIX

<table>
<thead>
<tr>
<th>WORKER</th>
<th>WORK TASK</th>
<th>RESPIRATOR TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazmat Control/Management Coordinator</td>
<td>Chemical consolidation/pouring</td>
<td>3M full facepiece air purifying (APR) with organic vapor and/or P100 (HEPA) filter cartridges</td>
</tr>
<tr>
<td>Hazmat Control/Management Coordinator</td>
<td>Minor hazardous materials spill cleanup</td>
<td>3M full facepiece air purifying (APR) with organic vapor and/or P100 (HEPA) filter cartridges</td>
</tr>
</tbody>
</table>
APPENDIX F

MEDICAL SURVEILLANCE MATRIX

COMMAND:
Naval Postgraduate School, Monterey

DATE: September 2012

DEPARTMENT: Supply

<table>
<thead>
<tr>
<th>DESIGNATED PERSONNEL</th>
<th>MEDICAL SURVEILLANCE PROGRAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazarous Material</td>
<td>Hazardous Waste Worker/Emergency</td>
</tr>
<tr>
<td>Control/Management</td>
<td>Responder (711), Respirator User</td>
</tr>
<tr>
<td>Coordinator</td>
<td>Certification Exam (716)</td>
</tr>
</tbody>
</table>

The point of contact for scheduling occupational health exams at the Presidio of Monterey, Army Medical Clinic is Anne Mountain, Occupational Health Technician at anne.k.mountain@us.army.mil, 831-242-4842. Their policy is for the supervisor(s) to contact them for scheduling exams instead of individual workers scheduling themselves.

Yearly and termination Hazardous Waste Worker/Emergency Responder exams are required. A termination exam is necessary as soon as practical after worker reassignment or termination of employment.

After the initial exam, the Respirator User Exam frequency is based on age:
- 15 to 34 years of age: every 5 years
- 35 to 44 years of age: every 2 years
- 45 years of age and older: annual

The Hazardous Material Control/Management Coordinator reports that she has been enrolled in the Asbestos, Past Worker, 10+ Years Since First Exposure (Health Code 115) medical surveillance program in the past. Enrollment in this program is voluntary, and since the industrial hygiene survey report only recommends medical surveillance based on current job duties/processes, this program is not formally discussed in the above table. If interested, the Coordinator should discuss this with the Occupational Health personnel when being seen for the exam process for the other two programs listed above.
APPENDIX G
TRAINING MATRIX

COMMAND: Naval Postgraduate School, Monterey  DATE: September 2012
DEPARTMENT: Supply

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>ESAMS TRAINING MODULE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy lifting</td>
<td>Back Injury Prevention (One Time Only) (40), General Ergonomics Awareness (371)</td>
</tr>
<tr>
<td>Property Management Supervisor</td>
<td>Ergonomics Awareness Training for Supervisors (372)</td>
</tr>
<tr>
<td>Hazardous Material Control/Management Coordinator</td>
<td>PPE (Initial only) 1398</td>
</tr>
</tbody>
</table>

Training is required annually except where otherwise indicated.

The Hazardous Material Control/Management Coordinator will also require both annual respiratory protection training and respirator facepiece fit testing as outlined in OPNAVINST 5100.23G, Chapter 15. This needs to be coordinated with the NPS Respiratory Protection Program Manager, currently Mr. Martin Catanese of the Safety and Occupational Health Office, mcatanese@nps.edu.

Additional training for safety-related hazards or requirements may be identified separately by the NPS Safety and Occupational Health Office, or as automatically prescribed by ESAMS for each individual user when they log onto the system.