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05 May 09

From: Officer In Charge, Naval Medical Administrative Unit,  
Monterey

To: General Manager, Navy Exchange Department, Naval  
Support Detachment, Monterey, 1650 Del Monte Drive,  
Monterey, CA 93943

Subj: ANNUAL INDUSTRIAL HYGIENE SURVEY, NAVY EXCHANGE  
DEPARTMENT, NAVAL SUPPORT DETACHMENT, MONTEREY,  
REPORT 66288-09

Ref: (a) OPNAVINST 5100.23G

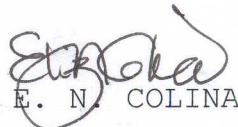
Encl: (1) Industrial Hygiene Survey Report

1. Per reference (a), an annual walk-through survey of the Navy Exchange Department (NEX), Naval Support Detachment, Monterey was conducted by my Industrial Hygienist from 19 February to 24 March 2009. The purpose of this survey was to assess the status of occupational health hazards in the workplace and make improvements with corrective actions.

2. The cooperation and hospitality shown by the NEX staff contributed to a timely assessment of your safety and health programs. This assistance is highly appreciated.

**3. There were 14 Findings and Action items noted in the the Programs Discussion, Findings and Recommendations section starting on page 5 of enclosure (1). Please provide a response to these items to the Industrial Hygienist by 10 July 2009.**

4. If there are any changes in operations, please complete Appendix I and forward it to my Industrial Hygienist. If further consultation on this report is needed, please contact Mr. S. Eric Thurston at COMM (831)242-7769 or by email at sethurs@nps.edu.

  
E. N. COLINA

Copy to:  
NSDM SOH Mgr

Industrial Hygiene Survey  
of  
**Navy Exchange Department**  
**Naval Support Detachment, Monterey**  
19 February to 24 March 2009

Survey Conducted by: S. Eric Thurston,  
Industrial Hygienist

Survey Reviewed by: Michael J. Puckett, MPH, REHS  
Supervisory Industrial Hygienist

Survey Report Approved by: E. N. Colina  
Officer In Charge,  
Naval Medical Administrative Unit  
Monterey

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## EXECUTIVE SUMMARY

1. An annual industrial hygiene survey of the Naval Support Detachment, Monterey, Navy Exchange Department was recently conducted to assess the occupational health portion of your NAVOSH program.

2. The organization of the report is as follows:

- Survey Schedule
- IH Exposure Assessment/Monitoring Plans, Appendix A,
- Air Sampling Results, Appendix B,
- Equipment Noise Inventory, Appendix C,
- Noise Survey Forms, Appendix D,
- Example of HazMat Inventory List, Appendix E,
- Ventilation Inventory, Appendix F,
- Respiratory Protection Program Matrix, Appendix G,
- Mandatory Information for Employees Using Respirators When Not Required Under The Standard, Appendix H,
- Medical Surveillance Program Matrix, Appendix I,
- Standardized IH Glossary, Appendix J, and
- Change of Operation Notification, Appendix K

3. The following is a summary of the major NAVOSH occupational health program deficiencies noted during this survey:

a. Auto Port Mechanics need to start wearing hearing protection while working in the service bays, and need to receive annual audiograms (hearing tests) from the Presidio of Monterey Army Medical Clinic.

b. Problems regarding lack of current hazardous materials inventory lists and cross-referencing of list items to their MSDS's persist at both the Auto Port and Navy Lodge.

c. Section I of this report lists reproductive hazards encountered by the Auto Port Mechanics, Navy Lodge Maintenance Worker, and Navy Lodge Gardener. Their hazardous materials training needs to include a discussion of these hazards and their exposures as discussed in this section.

d. Information from the Federal Respirator Standard (Appendix H) needs to be given to the Retail Store Custodians.

**EXECUTIVE SUMMARY** (continued)

e. The Bloodborne Pathogens Exposure Control Plan at the Navy Lodge needs to be reviewed by the new Manager and either translated into the language(s) of the housekeepers or have a translator readily available if the staff has any questions about the document.

f. Most NAVOSH training is now provided by completing individual modules on the Enterprise Safety Application Management System (ESAMS). As discussed in the Program Discussion, Findings, and Recommendations section of this report, departmental personnel need to log onto ESAMS and complete the individual training modules designated in this report. Most personnel in the department need to receive OSH-related training through this system.

4. Overall, the occupational health portion of your NAVOSH Program is Satisfactory.

## **SURVEY SCHEDULE**

Per Chapter 8 of reference (a), annual surveys of workplaces with significant hazard potential is required. Spaces with minimal hazard potential can be reviewed on a 2-year cycle, and administrative spaces can be reviewed on a 4-year cycle. The following schedule lists the required survey periodicity of the department's work centers, with the last survey year appearing in parentheses:

<u>Annual Required</u>	<u>2-Year Schedule</u>	<u>4-Year Schedule</u>
Auto Port (2009)	Custodians (2009)	Vending (2007)
Navy Lodge (2009)		Retail Store (2007)
		La Mesa Mini Mart (2007)
		Barber Shop (2009)

## PROGRAM DISCUSSION, FINDINGS, AND RECOMMENDATIONS

- References:
- (a) OPNAVINST 5100.23G
  - (b) 29 CFR 1910.134(c)(2)(i)
  - (c) 29 CFR 1910.134, Appendix D
  - (d) 29 CFR 1910.1030(c)(1)(i) and (ii)
  - (e) 29 CFR 1910.1030(c)(1)(iv)

1. As required by reference (a), Chapter 8, an industrial hygiene workplace assessment and evaluation survey of the Navy Exchange Department was conducted from 19 February to 24 March 2009. The primary purpose of the survey was to identify any new occupational hazards, review the occupational health portion of NAVOSH programs and update the Exposure Monitoring Plan (EMP). The discussion, findings and recommendations involving these programs are as follows:

### A. HAZARDOUS MATERIAL CONTROL AND MANAGEMENT PROGRAM (HMCM):

The Navy Lodge no longer stores a great deal of chemical products, but rather purchases them as they are needed for projects.

**FINDING 66288-09-1:** Current hazardous material inventory lists were not available at either the Auto Port and Navy Lodge.

**RECOMMENDATION 66288-09-1:** Both the Auto Port and Navy Lodge need to develop up-to-date hazardous materials inventory lists as required by reference (a), Chapter 7, paragraph 0702g(4). Unique identifiers need to be assigned to individual chemical products so they can be entered on both the inventory lists and individual MSDS's for easy cross-referencing as also required by reference (a), Chapter 7, paragraph 0702g(5). An example of an excellent list developed by the NPS, ECE Department, RADAR Labs is provided as Appendix E in this report.

**FINDING 66288-09-2** It is difficult to confirm that MSDS's for all chemical products are available at the Navy Lodge as required by Chapter 7, paragraph 0702g(6) of reference (a) since they are not in any kind of order. A spot check indicates that the MSDS for the Mineral Spirits Paint Thinner is not available.

**RECOMMENDATION 66288-09-2** The Auto Port needs to determine if they have MSDS's for all chemical products on hand. MSDS's for all future chemical product purchases need to be procured unless they are already on hand. Once in hand, the pages of individual MSDS's need to be stapled together for easy referencing, and they need to be placed inside the binder in order by the unique identifier as discussed in Finding 66288-09-1 above.

A. HAZARDOUS MATERIAL CONTROL AND MANAGEMENT PROGRAM (HMCM)  
(continued):

**FINDING 66288-09-3:** A review of the MSDS binder for the Auto Port indicates that MSDS's are only available for about 1/3 of the hazardous materials in storage/usage.

**RECOMMENDATION 66288-09-3:** Obtain the missing MSDS's as required by Chapter 7, paragraph 0702g(6) of reference (a), and ensure they are procured during future chemical product purchases unless they are already on hand.

**FINDING 66288-09-4:** There is no evidence that Auto Port mechanics and the Navy Lodge Maintenance Worker and Gardener have received adequate hazardous materials training as required by Chapter 6, Appendix 6-B of reference (a).

**RECOMMENDATION 66288-09-4:** Training needs to include a one-time review of the Enterprise Safety Application and Management System (ESAMS) HAZCOM Training Module 1169. The supervisor are required to complete the ESAMS HAZCOM Training Module 1058 on an annual basis. Once the MSDS's are obtained as discussed above, supplemental training consisting of a review of them is required. Retraining is necessary whenever a new hazardous material is introduced into the workplace.

B. ENGINEERING CONTROLS: The following engineering controls are in use at the Auto Port:

- brake cleaning chemical compounds (wet methods)during brake inspection or replacement reduces airborne manmade fiber levels.
- a Freon recovery system when recharging vehicle air conditioning systems eliminates the potential for Freon exposure.
- a degreaser machine for cleaning parts that is sealed and unattended eliminates the potential for solvent exposure.

C. RESPIRATORY PROTECTION PROGRAM (RPP):

The only departmental workers who wore respirators in the past were some of the Auto Port mechanics, who wore half mask respirators with attached cartridges during brake work. Those personnel are no longer employed by the department, and the current mechanics do not wear respirators.



C. RESPIRATORY PROTECTION PROGRAM (RPP) (continued):

**ACTION 66288-09-5:** Elective use of a dust mask to protect against inhalation of nuisance dust and allergens occurs during the NEX Retail Store Custodians during use of the leaf blower to clear walkways outside. They have not been provided the required information from the Federal OSHA Respirator Standard regarding elective use of respirators as required by reference (b).

**RECOMMENDATION 66288-09-5:** Provide the Janitors a copy of the required information, reference (c), which is provided as Appendix H in this report, and properly document this action.

D. BLOODBORNE PATHOGENS PROGRAM (BBP): Potential exposure to bloodborne pathogens can occur where Navy Lodge housekeepers are changing linen, handling towels and linen, or when emptying trash cans containing products with possible blood or body fluids on them.

An Exposure Control Plan (ECP) required by reference (d) was developed for the Navy Lodge a few years ago by the Industrial Hygienist. However, the new Navy Lodge Manager could not locate the plan, but another copy was given to him during this survey.

The Navy Lodge housekeepers receive annual bloodborne pathogens training by viewing a Spanish language videotape. The Industrial Hygienist found a Spanish version of the Federal OSHA Bloodborne Pathogens Standard during the 2007 survey and forwarded it to the Navy Lodge Manager for future reference.

**FINDING 66288-08-6:** There is no evidence that the annual review of the Navy Lodge ECP required by reference (e) was conducted since the previous Industrial Hygiene survey.

**RECOMMENDATION 66288-08-6:** The Navy Lodge Manager needs to conduct the required review and document this action by annotating his name, date, signature, and plant status.

**ACTION 66288-08-7:** At last report, the most, if not all, of the housekeepers do not speak, read, or comprehend English as it is not their primary language, and the Navy Lodge ECP is written in English. This is a triple repeat action item from the previous Industrial Hygiene survey reports.

**RECOMMENDATION 66288-08-7:** The Navy Lodge ECP needs to either translate the ECP into a language understandable to the housekeepers or have a translator readily available if they desire to review it.

E. HEARING CONSERVATION PROGRAM (HCP):

An inventory of all departmental equipment whose noise levels were measured during the current and past surveys is provided as Appendix C in this report. Noise survey forms of equipment measured during this survey are provided as Appendix D.

The noise levels of several items used by the Auto Port mechanics were measured during this survey, and the results are summarized in Appendix C of this report. Noise hazard stickers were attached by the Industrial Hygienist as required by Chapter 18, paragraph 1805 of reference (a).

Noise hazardous equipment present at the Navy Lodge includes includes the Rigid wet-dry vacuum used by the housekeeping assistants; the lawn mower, "weed eater", and leaf blower used by the Gardener; and the water pressure washer used by the building maintenance worker. The Housekeeping Assistants wear earplugs when using the Rigid wet-dry vacuum, and the gardener wears both earplugs and muffs during use of all his lawn maintenance equipment. The maintenance worker also wears ear muffs during use of the water pressure washer. All equipment discussed above are properly labeled with the required noise hazard stickers.

Noise hazard stickers on the above equipment need to be replaced whenever they become frayed, worn, or illegible. If new equipment is received that may produce hazardous noise, contact the Industrial Hygienist so their noise levels can be measured by completing the Change-Of-Notification Form provided as Appendix K in this report.

**ACTION 66288-08-8:** The Auto Port mechanics and Navy Lodge gardener have calculated 8-hour TWA noise exposures exceeding the Navy OEL.

**RECOMMENDATION 66288-08-8:** These personnel require enrollment in the command HCP, which includes receipt of annual audiograms (hearing tests) as required by Chapter 18, section 1806 of reference (a). Audiograms occur at the Presidio of Monterey Army Medical Clinic, Occupational Health Department, and can be scheduled by contacting Ms. Flora Dela Pena at 242-4532. These personnel also need to log onto ESAMS and annually complete the Hearing Conservation Training module number 110 as required by Chapter 18, paragraph 1808a of reference (a).

E. HEARING CONSERVATION PROGRAM (HCP) (continued):

**FINDING 66288-08-9:** The Auto Port mechanics operate noise hazardous equipment and were observed not wearing hearing protection during its use.

**RECOMMENDATION 66288-08-9:** Ensure the Auto Port mechanics wear proper hearing protection during operation of this equipment as required by Chapter 18, paragraph 1808 of reference (a). Consult the Comments sections at the bottoms of the Noise Survey Forms appearing in Appendix C for guidance on the proper type of protection to wear for each item.

F. PERSONAL PROTECTIVE EQUIPMENT (PPE): The following PPE is worn for protection against potential health hazards associated with work center operations. All PPE were found to be clean, serviceable, and properly stored:

PPE	PROCESS/PURPOSE
Safety glasses	Auto Port vehicle service
Ear plugs and muffs, dust mask	Retail Store custodians use of leaf blower
Ear plugs	Retail Store custodians vacuuming or pressure washing. Navy Lodge housekeeping assistants using wet-dry vacuums.
Flocked latex rubber gloves	Navy Lodge housekeepers
Ear plugs and muffs	Navy Lodge gardener operation of lawn maintenance equipment
Ear muffs	Navy Lodge gardener use of pressure washer
Thin latex gloves	Navy Lodge Maintenance Worker use of paints and other chemical products

**ACTION 66288-08-10:** Personnel performing processes listed in the table above that wear PPE require training on their proper use, limitations, and care as required by Chapter 20, section 2013 of reference (a).

**RECOMMENDATION 66288-08-10:** Personnel need to log onto ESAMS and complete initial PPE Training Module 1398.

G. NON-IONIZING RADIATION CONTROL PROGRAM: Not applicable.

H. ERGONOMICS:

No injuries related to ergonomic problems have occurred since the previous survey.

H. ERGONOMICS (continued):

**ACTION 66288-08-11:** The following personnel require back injury prevention training as required by reference (a), Chapter 23, Appendix 23-D:

- Auto Port mechanics and assistant mechanics lifting vehicle wheels
- Navy Lodge gardener lifting 25 lb bags of grass seed, fertilizer, and potting soil
- Navy Lodge housekeeping assistants moving furniture
- Retail Store Warehouse personnel moving pallets, and heavy boxes or crates

**RECOMMENDATION 66288-08-11:** These personnel need to log onto ESAMS and annually complete the Back Injury Prevention Training Module 40.

I. OCCUPATIONAL REPRODUCTIVE HAZARDS PROGRAM (ORHP):

Per reference (a), Chapter 29, reproductive hazards include:

- Lead in preformed tire counterweights at the Auto Port
- Xylene, isopropyl alcohol, and methyl alcohol present in carburetor cleaners used by Auto Port Mechanics
- Toluene present in copper gasket compounds used at the Auto Port
- Xylene and methyl alcohol present in aerosol cans of brake cleaner used at the Auto Port
- Xylene present in the tire patching cement and battery protector/sealer used at the Auto Port
- Carbon monoxide from vehicle exhaust in the Auto Port service bays
- Noise from operation of pneumatic hand tools, the bench grinder, and Tire Machine by Auto Port Mechanics
- Toluene, carbon monoxide, and noise from Navy Lodge Gardener use of lawn maintenance equipment
- Xylene, isopropyl alcohol, and methyl alcohol present in some of the aerosol cans of paint used by the Navy Lodge Maintenance Worker
- Noise from use of the wet/dry vacuum at the Navy Lodge.
- Noise from operation of the leaf blower and pressure washer by the Retail Store Custodians.

I. OCCUPATIONAL REPRODUCTIVE HAZARDS PROGRAM  
(ORHP) (continued):

Toluene and carbon monoxide present hazards to a developing fetus, while xylene, alcohols, and noise are female reproductive hazards. Lead presents a hazard to a developing fetus and also to males and females. As discussed in the exposure assessment section of this report (Appendix A), significant exposures are not expected. Only males are exposed to noise hazards in this department, and therefore it does not pose a reproductive hazard.

**ACTION 66288-09-12:** Per Chapter 29, paragraph 2903c(2) of reference (a), personnel working with or exposed to reproductive hazards need to receive annual training.

**RECOMMENDATION 66288-09-12:** Training can be accomplished by completed by completing the ESAMS Occupational Reproductive Hazard Awareness Training Module 1242 ESAMS. The reproductive hazards posed in each work center needs to be identified during the hazardous materials training discussed in Section C of this report.

**ACTION 66288-09-13:** Evaluation of work duties by a pregnant woman, or a man anticipating conceiving children within 120 days or whose partner is currently pregnant, needs to be conducted by the Industrial Hygienist and one of the Army Occupational Health Physicians as required by Chapter 29, paragraphs 2903d(3) and (4) of reference (a).

**RECOMMENDATION 66288-09-13:** Women need to inform their supervisor as soon as possible that they are pregnant, and men fitting the description above also need to also notify their supervisor as to their situation so that the required evaluation can be conducted.

J. MEDICAL SURVEILLANCE PROGRAM (MSP):

**ACTION 66288-09-14:** Several departmental personnel require enrollment in occupational health medical surveillance programs as required by Chapter 8, paragraph 0805 of reference (a).

**RECOMMENDATION 66288-09-14:** See Appendix I for the Medical Surveillance Program Matrix. Contact Ms. Flora Dela Pena of the Presidio of Monterey, Army Medical Clinic, Occupational Health Department at 242-4532 to schedule the exams.

**APPENDIX A**

IH EXPOSURE ASSESSMENT/MONITORING PLAN				
WORKPLACE INFORMATION				
<i>Organization:</i> Naval Support Detachment, Monterey		<i>Dept:</i> Navy Exchange		<i>Workcenter:</i> Auto Port
<i>Location:</i> Bldg 348		<i>Supervisor:</i> Robert Rogers		<i>Phone:</i> 831-373-7271
<i>Workers:</i> 9		<i>Male:</i> 8		<i>Female:</i> 1
<p><i>Operations:</i> Personnel include 5 mechanics (all male), 3 cashiers (1 male and 2 females), 2 male service representative, and 1 male manager. Removal of wheels and inspect brakes after application of brake chemical cleaning products in low pressure aerosol cans to determine if replacement is necessary. Use of various auto maintenance chemicals. Use of pneumatic hand tools for removal and reinstallation of parts. Tire mounting and dismounting. Tire balancing using preformed lead counterweights. General automotive maintenance including oil changes, parts and battery replacement, tuneups, and addition of maintenance fluids. Tire patching and repair using chemical products and a pneumatic hand sander. Recharge air conditioning systems with Freon 134a. Perform vehicle smog tests. Degrease parts in a self-contained degreasing unit using a water-based chemical cleaning compound. Operation of an electric-powered forklift to move pallets of supplies. Retail sale of gasoline, oil, vehicle maintenance fluids, and auto parts.</p> <p>* = Reproductive Hazard, + = carcinogen, IM = intermittent operations</p>				
WORK TASK	POTENTIAL HAZARD	WORKERS INVOLVD	FREQUENCY/DURATION	MONITORING RECOMMENDED?
Brake inspect	*Xyl,*alchls	5	20 cans/wk/1 min	No-See EA Chem
Brake replace	Manmade fibers	5	10 x/wk, 2 ½ hrs	No-See EA Chem
Wheel handlng	Ergonomics	5	Daily, 2-8 hrs IM	N/A
Tire balance	*Lead	5	1-2 hrs/dayIM	No-See EA Chem
Auto chemicls	Solvents,oils	5	Daily, 4-5 hrs IM	No-See EA Chem
Carb cleaners	*Xylen,*alchls	5	12cns/mon, 1 minx	No-see EA Chem
Cu gasket cmpnd	*Tol,slvnts	5	1 cn/mon, 1 min/x	No-See EA Chem
Tire patching	*Xyl,+MeCl,Sol	5	Daily, 20-30mins	No-See EA Chem
Battery sealers	*Xylene,slvnts	5	2cns/mon, 1min/x	No-see EA Chem
Recharge AC	Freon 134a,12	5	Daily, 1 ½ hours	No-See EA Chem
Degreaser mchn	Solvents	5	Unattended job	No-See EA Chem
Smog tests	*CO	1	Daily, 8 hrs	No-See EA Chem
Pneumatic equip	Noise	5	Daily, 8 hrs IM	No-SeeEA Noise
IH EXPOSURE ASSESSMENT (EA)				
<p><b>NOISE:</b> The calculated noise exposure based on measured noise level and duration of exposure <u>will exceed</u> the NOEL when using <u>pneumatic hand tools, including the impact wrenches</u>. The calculated noise exposure from the <u>pneumatic sander</u> during tire buffing and from vehicle engine operation smog test checks will not exceed the NOEL based on the measured noise levels and duration of exposure. The measure noise level of the electric forklift is far below the Navy noise criterion level of 84 dBA.</p>				

**IH EXPOSURE ASSESSMENT/MONITORING PLAN (con'd)**

**WORKPLACE INFORMATION**

Organization: Naval Support Detachment, Monterey	Dept: Navy Exchange	Workcenter: Auto Port
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**IH EXPOSURE ASSESSMENT (EA) (con'd)**

**CHEMICALS:** \*Xylene, \*toluene, \*methyl alcohol, \*isopropyl alcohol and solvent exposures during use of aerosol cans of brake cleaning product, carburetor cleaners, copper gasket compounds, and battery sealers are not expected to exceed the MSALs and OELs based on minimal and brief usage. Monitoring data, traceable to Industrial Hygiene Survey ET-0167, collected during replacement of all 4 brakes on a vehicle using a prescribed wet method, indicates exposures below the MSALs and OELs for manmade fibers does not occur; the supervisor and mechanics report that vehicle brake parts are replaced with non-asbestos containing materials. \*Lead exposure during the handling of preformed wheel counterweights will not exceed the AL because the process does not involve generation of airborne dust or fumes; accidental ingestion through skin contact will be prevented by personnel following required personal hygiene procedures. Use of low toxicity auto service chemical products in limited quantities will not produce solvent and oil exposures above the MSALs and OELs provided the manufacturer's recommendations are followed. \*Xylene and other Solvent exposures above the MSALs and OELs during use of tire patching chemical compounds will not occur based on brief and minimal usage (2 to 3 ounces per day); +Methylene chloride exposure will not exceed the AL, STEL, or PEL during use of Camel Universal Cement during the tire patching process based on monitoring data of 5 May 2000. Freon 12 and 134a exposure above the MSAL and OEL is unlikely because a Freon recovery system is used during recharging of vehicle air conditioning systems. Exposure to unregulated solvents during use of the degreaser machine will not exceed the OELs since the process occurs in a sealed chamber and is unattended. \*Carbon monoxide (CO) exposure during smog check tests is not expected to exceed the MSAL and OEL because fans located at the front of the service bay blow exhaust outside where levels are diluted by outdoor air. \*Carbon monoxide exhaust is not generated by the *electric* forklift.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Thin nitrile rubber gloves are worn by the mechanics at all times because of their constant contact with dirt and their regular contact with residues on the exterior of chemical product containers. Banded earplugs are worn during use of pneumatic impact wrenches and the pneumatic disc sander.

**ENGINEERING CONTROLS:** Use of brake cleaning chemical compounds (wet methods) during brake inspection or replacement. Use of a Freon recovery system when recharging vehicle air conditioning systems. Use of a degreaser machine that is sealed and unattended. Fans placed at front of service bays blow engine exhaust outside during maintenance and smog testing procedures.

**RESPIRATORY PROTECTION PROGRAM (RPP):** Not applicable.

**IH EXPOSURE ASSESSMENT/MONITORING PLAN (con'd)**

**WORKPLACE INFORMATION**

<i>Organization:</i> Naval Support Detachment, Monterey	<i>Dept:</i> Navy Exchange	<i>Workcenter:</i> Auto Port
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**MONITORING PLAN**

POTENTIAL HAZARD	NUMBER OF MEASUREMENTS	METHOD OF MEASUREMENT	METHOD OF MEASUREMENT	FREQUENCY (per year)	MAN-HOURS (per year)
None					

Use the following codes: not applicable.

Signature: /Signed S. Eric Thurston, Industrial Hygienist	Date: 24 March 2009
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**IH EXPOSURE ASSESSMENT/MONITORING PLAN**

**WORKPLACE INFORMATION**

<i>Organization:</i> Naval Support Det, Monterey	<i>Dept:</i> Navy Exchange	<i>Workcenter:</i> Navy Lodge
<i>Location:</i> Bldg 332	<i>Supervisor:</i> Ron Rickow	<i>Phone:</i> 831-372-6133
<i>Workers:</i> 24	<i>Male:</i> 5	<i>Female:</i> 19

**Operations:** Personnel includes 10 female housekeepers, 1 female housekeeping supervisor, 2 male housekeeping assistants, 1 male maintenance worker, 1 male gardener position, 1 female manager, 6 (5 females and 1 male) front desk clerks, and 1 female front desk supervisor.

Housekeepers clean rooms on a daily basis, which includes making up beds, replacing bed linen and towels, dusting the floor and furniture, and emptying trash cans. Vacuum carpets with upright vacuum cleaners. Low toxicity chemical products are used to clean the bathrooms, windows, mirrors, and furniture. Performs washing and drying of bed linen and towels using 3 commercial washing machines and 2 commercial tumble dryers. Stains on linen and towels are treated with stain removers prior to washing.

Housekeeping Assistants perform carpet cleaning and vacuuming, as well as moving furniture to allow cleaning of floor space occupied by the furniture.

The Gardener performs lawn maintenance using two push mowers, one weed eater, one leaf blower, and one hedge trimmer. Gasoline is poured into fuel reservoirs of the lawn mowers and hedge trimmer. Gasoline is mixed with 4-cycle oil before being added to the weed eater and blower. Low toxicity pesticides and herbicides are poured from small containers into liquid pump nozzles, or hand spreaders. Grass seed, fertilizer, and potting soil are applied to lawn and garden areas using manual spreaders filled from 25lb bags; containers are filled from the top of the bags, thus avoiding picking them up except when they are initially placed in the storage shed. Rarely uses a power washer to clean building exterior structures, but mostly to clean walkways; it was not used since the previous 2 surveys.

\* = Reproductive Hazard / IM=intermittent

**IH EXPOSURE ASSESSMENT/MONITORING PLAN (con'd)**

**WORKPLACE INFORMATION (con'd)**

<i>Organization:</i> Naval Support Det, Monterey	<i>Dept:</i> Navy Exchange	<i>Workcenter:</i> Navy Lodge
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**Operations (cont'd):**

The Building Maintenance Worker sharpens metal manual tools with one large dual bench grinding wheels. Uses a cordless hand drill and cordless screwdriver to make repairs. Performs painting on an as-needed basis on both the interior and exterior of the buildings, with paint applied using a brush or roller. Only latex paints are applied to interior surfaces, and oil-based paints are applied to exterior surfaces. Touchup painting of exterior surfaces using aerosol cans is performed as needed. Applies wood finish using a brush. Finish interior walls as needed with texture products applied with aerosol cans. Bonds PVC pipe used in the lawn sprinkler systems using PVC cement. Cove base adhesive is applied with a brush to baseboards prior to application on walls. Adds concrete patching materials to fill holes in the pavement. Blacktop sealer, which contains no regulated hazardous ingredients, is applied to the driveways once a year. Parking lot lines are remarked annually using aerosol cans of white traffic marking paint. Contents of a one-gallon can of WD-40 lubricant is poured into a spray bottle for application on any metal surfaces that require lubrication.

The manager and front desk personnel perform administrative duties only.

\* = Reproductive Hazard / IM=intermittent

WORK TASK	POTENTIAL HAZARD	WORKERS INVOLVED	FREQUENCY/DURATION	MONITORING RECOMMENDED?
Towels, linen Upright vacuums Chem cleanng, Laundry	BBP Noise Solvents, bleach	12	Daily, 8 hrs, IM	No-See EA Biological, Noise, and Chemical
Cleaning carpet Wet-dry vacuum	Solv, corrsv Noise	2 2	Daily/max 3 hrs Rare, 15 mins	No-See EA Chem No-See EA Noise
Lawn maintenance Pest, herb-icides 25 pound bags Power washer Mix, pour gasoline	Noise Low toxic Ergonomics Noise *Toluene, solvents	1 1 1 1 1	Daily, 8 hrs IM Rare, 15mins Rare/5 mins Rare/45 mins Gas:5gals/, Oil: 1oz/month	No-See EA Noise No-See EA Chem N/A No-See EA Noise No-See EA Chem

**IH EXPOSURE ASSESSMENT/MONITORING PLAN (con'd)**

**WORKPLACE INFORMATION (con'd)**

<i>Organization:</i> Naval Support Det, Monterey		<i>Dept:</i> Navy Exchange	<i>Workcenter:</i> Navy Lodge	
WORK TASK	POTENTIAL HAZARD	WORKERS INVOLVED	FREQUENCY/DURATION	MONITORING RECOMMENDED?
Bench grindrs	Noise	1	Rare, 5 mins	No-See EA Noise
Aerosol paintcan	Solvents	1	Rare, < 5 mins	No-See EA Chem
Wood finish	Solvents	1	Rare, < 1 hr	No-See EA Chem
Aerosol texture	Solvents	1	Rare, < 5 mins	No-See EA Chem
PVC cement	Solvents	1	Rare, <15 mins	No-See EA Chem
Covebaseadhesive	Pet dists	1	Rare, 5 mins	No-See EA Chem
Concrete patch	Port cement	1	Rare, 2 mins	No-See EA Chem
Asphalt sealer	Solvents	1	Annual/2 hrs	No-See EA Chem
Traffic paint	Solvents	1	Annual/90 ozs	No-See EA Chem
WD-40 spray	Pet dists	1	Annual/6 ozs	No-See EA Chem
Oil, Latex paints	*Toluene, solvents	1	Rare, 1-2 hr	No-See EA Chem
Desktop computer	Ergonomics	2	Daily, 8 hrs IM	N/A

**IH EXPOSURE ASSESSMENT (EA)**

**NOISE:** The measured noise levels of the following equipment are **below** the Navy noise criterion level of 84 dBA: upright vacuum cleaners, carpet cleaning machine, carpet drying fans, the laundry room with all washing machines and dryers operating, and the cordless hand tools used by the Maintenance Worker. The calculated 8-hour average noise exposures for the wet-dry vacuum and power washer are below the NOEL of 84 dBA based on measured noise levels and duration of exposure. Extremely brief use of the bench grinder will not result in an 8-hour TWA exposures above the NOEL of 84 dBA. The calculated noise exposures during use of the lawn maintenance equipment will exceed the NOEL of 84 dBA based on measured noise levels and exposure duration, and noise dosimetry is unnecessary to determine this.

**IH EXPOSURE ASSESSMENT/MONITORING PLAN (con'd)**

**WORKPLACE INFORMATION (con'd)**

Organization: Naval Support Det, Monterey	Dept: Navy Exchange	Workcenter: Navy Lodge
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**IH EXPOSURE ASSESSMENT (EA) (con'd)**

**CHEMICALS:** Use of low toxicity cleaning, laundry, and carpet cleaning products will not expose personnel to levels above the MSALs and OELs if manufacturer instructions and precautions are followed. Minimal amounts of gasoline (and oil mixed together for use in the equipment) and poured into fuel reservoirs of lawn maintenance equipment will not result in exposures above the MSALs and OELs based on dilution of vapors with outdoor air. Minimal usage of low toxicity herbicides and pesticides will not result in exposures above the MSALs and OELs. Rare use of oil-based and low toxicity latex-based paints applied with brushes or rollers will not result in exposures that exceed the MSALs and OELs based on method of application; solvent vapors from use of oil-based paints only used on exterior surfaces are also diluted with outdoor air. Brief duration exposures during use of aerosol cans of paint and wall texture material will not result in \*toluene and solvent exposures above the MSALs and OELs. Rare and brief use of wood finish applied with a brush will not result in solvent exposures above the MSALs based on method of application. Rare and brief use of PVC cement, cove base adhesive, and concrete patch will not result in exposures exceeding the MSALs and OELs. Solvent vapors from use of asphalt sealing compound and aerosol cans of white traffic marking paint will not exceed the MSALs and OELs based on dilution with outdoor air. Significant levels of petroleum distillates will not result from use of WD-40 lubricant based on minimal and brief usage.

**BIOLOGICALS:** Significant BBP (bloodborne pathogens) during housekeeping duties are not expected because proper procedures are followed and proper PPE is worn.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Housekeepers wear heavy duty impermeable gloves when performing tasks that might result in exposures to BBP and when using household cleaning products. Earplugs and/or muffs are worn when using hazardous noise equipment. Canvas gloves with rubber palms are worn during application of low toxicity pesticides and herbicides. Thin latex gloves are worn during use of paint and other chemical products where incidental skin contact may occur.

**RADIATION, ENGINEERING CONTROLS, RESPIRATORY PROTECTION PROGRAM:** N/A

**MONITORING PLAN**

POTENTIAL HAZARD	NUMBER OF MEASUREMENTS	METHOD OF MEASUREMENT	METHOD OF MEASUREMENT	FREQUENCY (per year)	MAN-HOURS (per year)
None					

Use the following codes: not applicable.

Signature: /Signed S. Eric Thurston, Industrial Hygienist	Date: 19 February 2009
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**IH EXPOSURE ASSESSMENT/MONITORING PLAN**

**WORKPLACE INFORMATION**

<i>Organization:</i> Naval Support Det, Monterey	<i>Dept:</i> Navy Exchange	<i>Workcenter:</i> Retail Store Custodians
<i>Location:</i> Bldgs 303, 348	<i>Supervisor:</i> Bruce Parker	<i>Phone:</i> 831-375-3737
<i>Workers:</i> 2	<i>Male:</i> 2	<i>Female:</i> 0

*Operations:* Performs custodial services for the main Exchange building and attached Auto Port building. Low toxicity chemical cleaning products are selected from a wall-mounted reservoir dispenser and drained into spray bottles then applied to surfaces and wiped off. An upright vacuum is used to clean carpets. The floor buffing machines and carpet shampooing machines were broken and excessed out; when needed, an outside company is hired to buff the floors and shampoo the carpets. Performs minimal gardening services, such as watering plants and planting grass seed. Lawn maintenance equipment is not used except for an electric-powered leaf blower. Rarely operates a water pressure washer outside. \* = Reproductive Hazard

WORK TASK	POTENTIAL HAZARD	WORKERS INVOLVD	FREQUENCY/DURATION	MONITORING RECOMMENDED?
Chem cleaners	SolvntsAmines	2	1 quart/month	No-EA Chem
Vacuuming	Noise	2	Daily/15-20 mins	No-EA Noise
Blowing leaves	Noise	2	Daily/1 hour	No-EA Noise
Pressure wash	Noise	2	Biannual/1 ½ hrs	No-EA Noise

**IH EXPOSURE ASSESSMENT (EA)**

**NOISE:** The calculated noise exposures from use of the leaf blower, vacuum, and pressure washer will not exceed the NOEL based on measured noise levels and duration of exposure. **CHEMICALS:** Use of low toxicity household cleaning products will not exceed the MSALs and OELs as long as manufacturer label directions are followed.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Heavy duty impermeable gloves when working with chemical products; disposable earplugs or ear muffs during use of the vacuum and pressure washer; and both earplugs and muffs during use of the leaf blower.

**RESPIRATORY PROTECTION PROGRAM (RPP):** Elective use of dust masks to protect against inhalation of nuisance dust and allergens during use of the leaf blower to clear walkways.

**MONITORING PLAN**

POTENTIAL HAZARD	NUMBER OF MEASUREMENTS	METHOD OF MEASUREMENT 1	METHOD OF MEASUREMENT 2	FREQUENCY (per ear)	MAN-HRS (per yr)
NONE					

Use the following codes: not applicable.

Signature: S. Eric Thurston, Industrial Hygienist	Date: 10 March 2009
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**IH EXPOSURE ASSESSMENT/MONITORING PLAN**

**WORKPLACE INFORMATION**

<i>Organization:</i> Naval Support Det, Monterey	<i>Dept:</i> Navy Exchange	<i>Workcenter:</i> Barber Shop
<i>Location:</i> Bldg 303	<i>Supervisor:</i> Sisun James	<i>Phone:</i> 831-375-3737
<i>Workers:</i> 4	<i>Male:</i> 1	<i>Female:</i> 3
<i>Operations:</i> Performs men's hair cutting.		

WORK TASK	POTENTIAL HAZARD	WORKERS INVOLVD	FREQUENCY/DURATION	MONITORING RECOMMENDED?
Elect trimmers	Noise	4	Daily/8 hrs	No-EA Noise
Disinfectant	HydPer, Isoprpr	4	4 ozs/month	No-EA Chemical

**IH EXPOSURE ASSESSMENT (EA)**

**NOISE:** The measured noise level of the electric trimmers used do not exceed the Navy noise criterion level of 84 dBA.

**CHEMICALS:** The disinfectant used for combs and scissors, which contains isopropyl alcohol and hydrogen peroxide, is diluted 1:1 with water before use. Isopropyl alcohol exposure is unlikely to exceed the OELs based on minimal usage. There are no exposure standards for hydrogen peroxide.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** None.

**RESPIRATORY PROTECTION PROGRAM (RPP):** Not applicable.

**MONITORING PLAN**

POTENTIAL HAZARD	NUMBER OF MEASUREMNTS	METHOD OF MEASUREMENT <b>1</b>	METHOD OF MEASUREMENT <b>2</b>	FREQUENCY (per yr)	MAN-HOURS (per year)
NONE					

Use the following codes: not applicable.

Signature: <b>Signed/</b> S. Eric Thurston, Industrial Hygienist	Date: 6 March 2009
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**APPENDIX B  
AIR SAMPLING RESULTS**

<u>DATE</u>	<u>JOB</u>	<u>STRESSOR</u>	<u>RESULTS</u>	<u>CRITERION</u>
8 Nov 01	Brake pad/shoe replacement	Asbestos Manmade fibers	<LOD <LOD	STEL=1 f/cc TWA=1 f/cc
2 Apr 01	Front brake pad replacement	Asbestos Manmade fibers	<LOD <LOD	STEL=1 f/cc TWA=1 f/cc
6 Apr 01	Tire patching with cement	Methylene chloride	3.12 ppm 0.1 ppm	STEL=125 ppm TWA=50 ppm
5 May 00	Vehicle brake inspection	Asbestos Manmade fibers	0.03 f/cc 0.003 f/cc	STEL=1 f/cc TWA=1 f/cc
9 Nov 99	Vehicle brake inspection	Asbestos Manmade fibers	0.03 f/cc 0.003 f/cc	STEL=1 f/cc TWA=1 f/cc

**APPENDIX C  
EQUIPMENT NOISE LEVEL INVENTORY**

<u>LOCATION</u>	<u>SOURCE</u>	<u>READING</u>	<u>RADIUS</u>
<u>Bldg 303</u> <u>(Main Store)</u>	Excell Model XC Pressure Washer	95 dBA	10 ft
	Craftsman Red Leaf Blower	90 dBA	>20 ft
	Hoover Wind Tunnel Upright Vacuum	82 dBA	N/A
<u>Bldg 332</u> <u>(Lodge)</u>	Ridgid Wet-Dry Vacuum	93 dBA	Entire room
	Windsor Upright Vacuum Cleaner	72 dBA	N/A
	Laundry Room, all washers and dryers operating	73 dBA	N/A
	Laundry Room, Windsor Upright Vacuum Cleaner	75 dBA	N/A
	Windsor Export Carpet Shampooer	79 dBA	N/A
	Windsor Carpet Drying Fan	80 dBA	N/A
	Shindaiwa Weed Eater	105 dBA	>20 ft
	Husquvanna Leaf Blower	110 dBA	>20 ft
	Craftsman Push Lawn Mower	85 dBA	3 ft
	Ex-Cell Water Pressure Washer	86 dBA	4 ft
MTD HUSKee Hedge Trimmer	80 dBA	N/A	
<u>Bldg 348</u> <u>(Auto Port)</u>	Hunter Tire Machine	110 dB**	N/A
	Blue Point Pneumatic Disc Sander	92 dBA	12 feet
	FIXible Antifreeze Recycling Station	<70 dBA	N/A
	Snap-On Pneumatic Hammer	112 dBA	EB
	Snap-On Pneumatic Impact Wrench	105 dBA	EB
Ingersoll Rand Pneumatic Impact Wrench	107 dBA	EB	



**APPENDIX C  
EQUIPMENT NOISE LEVEL INVENTORY (con' d)**

<u>LOCATION</u>	<u>SOURCE</u>	<u>READING</u>	<u>RADIUS</u>
<u>Bldg 348</u> <u>(Auto Port)</u>	MAC Tools ¼ Inch Pneumatic Ratchet	105 dBA	EB
	MAC Tools ¼ Inch Pneumatic Ratchet	92 dBA	20 feet
	Snap-On Pneumatic Impact Wrench	107 dBA	EB
	Snap-On Blue Point 3/8 Inch Pneumatic Ratchet	102 dBA	EB
	MAC Tools 3/8/1/2 Inch Pneumatic Drill	93 dBA	20 feet
	Chicago Pneumatic ¾ Inch Pneumatic Impact Wrench	99 dBA	EB
	MAC Tools ½ Inch Pneumatic Impact Wrench	101 dBA	EB
	No Name 6 Inch Dual Bench Grinder/Wire Wheel	87 dBA	4 feet
	Dewalt Cordless/Corded Wet Dry Vacuum	<50 dBA	N/A
Tire Tech Box Fans	<50 dBA	N/A	

\*\* = Peak measured level  
EB = Entire bay

**APPENDIX D, NOISE SURVEY FORMS**

**INDUSTRIAL HYGIENE NOISE SURVEY FORM**

Date: 19 Feb 09    IH UIC: 39162    Activity: NEX Department, Monterey  
 Activity UIC: 66288    Shop: Navy Lodge    Location: Outdoor Shed

Area Posted:     Yes    ( Single or  Double)     No

Hearing Protection In Use:     Yes     No

**Sound Level Meter Results**

Item #	#1				
Source Description	Huskee Gasoline-Powered Edge Trimmer, Model 25B-554L731				
Machine#/USN#	S/N 1C015KA0077				
Noise Pattern C = Continuous IN = Intermittent IM = Impulse/Impact	<b>XC</b> IN IM				
Noise Source Labeled	Yes <b>XNo</b>				
Noise Radius (ft)	N/A				
Meter Response F = Fast S = Slow I = Impulse/Impact	F <b>XS</b> I				
Results	80 dBA				

Comments: Measurements were taken at the operator hearing zone. Hearing protection during the edge trimmer's operations is not required.

**APPENDIX D, NOISE SURVEY FORMS (continued)**

SOUND LEVEL METER		MICROPHONE		CALIBRATOR	
Mfg: SIMPSON		Mfg: SIMPSON		Mfg: SIMPSON	
Model: 886-2	Serial #: 007336	Model:	Serial #: 30394	Model: 890-2	Serial #: 73900
Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9 Jun 09	Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9Jun 09	Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9 Jun 09
Field Calibration: Pre Cal Date: <u>19 Feb 09</u> Post Cal Date: <u>19 Feb 09</u>					
Field Calibration OK: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Field Calibrated By: <u>Eric Thurston</u>					
Measurements Obtained: <input type="checkbox"/> Indoors <input checked="" type="checkbox"/> Outdoors					
Wind Screen: <input checked="" type="checkbox"/> Used <input type="checkbox"/> Not Used					
Sampler: <u>Eric Thurston</u>			Date Completed: <u>19 Feb 09</u>		
Reviewing IH: <u>Michael J. Puckett</u>			Date Reviewed: <u>22 Apr 09</u>		
Data Entered By: <u>Eric Thurston</u>			Date Entered: <u>6 Mar 09</u>		

**APPENDIX D, NOISE SURVEY FORMS (continued)**

**INDUSTRIAL HYGIENE NOISE SURVEY FORM**

Date: 10 Mar 09    IH UIC: 39162    Activity: NEX Department, Monterey  
 Activity UIC: 66288 Shop: Retail Store Location: Outdoors and Indoors

Area Posted:     Yes    ( Single or  Double)     No

Hearing Protection In Use:     Yes     No

**Sound Level Meter Results**

Item #	#1	#2			
Source Description	Excell Model XC2600 2600 psi Pressure Washer	Hoover Blue Wind Tunnel Model U575-900 Upright Vacuum			
Machine#/USN#	S/N 5678	S/N 100700342807			
Noise Pattern C = Continuous IN = Intermittent IM = Impulse/Impact	<b>XC</b> IN IM	<b>XC</b> IN IM			
Noise Source Labeled	<b>XYes</b> No	Yes <b>XNo</b>			
Noise Radius (ft)	10	N/A			
Meter Response F = Fast S = Slow I = Impulse/Impact	F <b>XS</b> I	F <b>XS</b> I			
Results	95 dBA	82 dBA			

Comments: Measurements were taken at the operator hearing zone. Use of hearing protection during the pressure washer needs to continue, but is not required for the upright vacuum. The noise level of the pressure washer was measured outside and the vacuum inside.

**APPENDIX D, NOISE SURVEY FORMS (continued)**

SOUND LEVEL METER		MICROPHONE		CALIBRATOR	
Mfg: SIMPSON		Mfg: SIMPSON		Mfg: SIMPSON	
Model: 886-2	Serial #: 007336	Model:	Serial #: 30394	Model: 890-2	Serial #: 73900
Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9 Jun 09	Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9 Jun 09	Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9 Jun 09
Field Calibration: Pre Cal Date: <u>10 Mar 09</u> Post Cal Date: <u>10 Mar 09</u>					
Field Calibration OK: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Field Calibrated By: <u>Eric Thurston</u>					
Measurements Obtained: <input checked="" type="checkbox"/> Indoors <input checked="" type="checkbox"/> Outdoors					
Wind Screen: <input checked="" type="checkbox"/> Used Outdoors <input checked="" type="checkbox"/> Not Used Indoors					
Sampler: <u>Eric Thurston</u>			Date Completed: <u>10 Mar 09</u>		
Reviewing IH: <u>Michael J. Puckett</u>			Date Reviewed: <u>22 Apr 09</u>		
Data Entered By: <u>Eric Thurston</u>			Date Entered: <u>11 Mar 09</u>		

**APPENDIX D, NOISE SURVEY FORMS (continued)**

**INDUSTRIAL HYGIENE NOISE SURVEY FORM**

Date: 12 Mar 09    IH UIC: 39162    Activity: NEX Department, Monterey  
 Activity UIC: 66288    Shop: Auto Port    Location: Service Bays

Area Posted:     Yes    ( Single or  Double)     No

Hearing Protection In Use:     Yes     No

**Sound Level Meter Results**

Item #	#1	#2	#3	#4	#5
Source Description	Snap-On Pneumatic Hammer	Snap-On Model XT 7100 Pneumatic Impact Wrench	Ingersoll Rand Model A Pneumatic Impact Wrench	MAC Tools Model A50910 ¼ Inch Pneumatic Ratchet	MAC Tools Model 2865 ¼ Inch Pneumatic Ratchet
Machine#/USN#	S/N 96100215	S/N 05012092	None	None	S/N 005
Noise Pattern C = Continuous IN = Intermittent IM = Impulse/ Impact	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM
Noise Source Labeled	<b>XYes</b> No	<b>XYes</b> No	<b>XYes</b> No	<b>XYes</b> No	<b>XYes</b> No
Noise Radius (ft)	Entire Bay	Entire Bay	Entire Bay	Entire Bay	20 feet
Meter Response F = Fast S = Slow I = Impulse/ Impact	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I
Results	112 dBA	105 dBA	107 dBA	105 dBA	92 dBA

Comments: Measurements were taken at the operator hearing zone. Personnel need to wear both ear plugs **and** muffs during operation of items # 1-4, and either plugs **or** muffs during item #5.

**APPENDIX D, NOISE SURVEY FORMS (continued)**

INDUSTRIAL HYGIENE NOISE SURVEY FORM					
Date: <u>12 Mar 09</u> IH UIC: <u>39162</u> Activity: <u>NEX Department, Monterey</u>					
Activity UIC: <u>66288</u> Shop: <u>Auto Port</u> Location: <u>Service Bays</u>					
Area Posted: <input type="checkbox"/> Yes    ( <input type="checkbox"/> Single or <input type="checkbox"/> Double) <input checked="" type="checkbox"/> No					
Hearing Protection In Use: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
Sound Level Meter Results					
Item #	#6	#7	#8	#9	#10
Source Description	Snap-On Model MG31 Pneumatic Impact Wrench	Snap-On Blue Paint Model AT714 3/8 Inch Pneumatic Ratchet	MAC Tools Model 3/8/1/2 Inch Pneumatic Drill	Chicago Pneumatic Model 772 3/4 Inch Pneumatic Impact Wrench	MAC Tools Model ADK850A 1/2 Inch Pneumatic Impact Wrench
Machine#/USN#	S/N 0506894	S/N 0310044	S/N 08010870A	S/N 6111A332	S/N 1A01117
Noise Pattern C = Continuous IN = Intermittent IM = Impulse/Impact	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM
Noise Source Labeled	<b>XYes</b> No	<b>XYes</b> No	<b>XYes</b> No	<b>XYes</b> No	<b>XYes</b> No
Noise Radius (ft)	Entire Bay	Entire Bay	20 feet	Entire Bay	Entire Bay
Meter Response F = Fast S = Slow I = Impulse/Impact	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I
Results	107 dBA	102 dBA	93 dBA	99 dBA	101 dBA
Comments: Measurements were taken at the operator hearing zone. Personnel need to wear both ear plugs <b>and</b> muffs during operation of item # 6, and either plugs <b>or</b> muffs during items #7-10.					

**APPENDIX D, NOISE SURVEY FORMS (continued)**

**INDUSTRIAL HYGIENE NOISE SURVEY FORM**

Date: 12 Mar 09    IH UIC: 39162    Activity: NEX Department, Monterey  
 Activity UIC: 66288    Shop: Auto Port    Location: Service Bays

Area Posted:     Yes    ( Single or  Double)     No

Hearing Protection In Use:     Yes     No

**Sound Level Meter Results**

Item #	#11	#12	#13	#14	#15
Source Description	No Name 6 Inch Model 899-2374 Dual Bench Grinder/ Wire Wheel	Ammo Professional Brake Service Lathe	Ammo Professional Brake Service Lathe	Dewalt Model DC 500 Heavy Duty 2 Gallon Cordless/ Corded Wet/Dry Vac	Tire Tech Model PO 3021 Box Fan
Machine#/ USN#	None	S/N 0808008028	S/N 0802600231	S/N 528899	S/N C03
Noise Pattern C = Continuous IN = Intermittent IM = Impulse/ Impact	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM	<b>XC</b> IN IM
Noise Source Labeled	<b>XYes</b> No	Yes <b>XNo</b>	Yes <b>XNo</b>	Yes <b>XNo</b>	Yes <b>XNo</b>
Noise Radius (ft)	Entire Bay	N/A	N/A	N/A	Entire Bay
Meter Response F = Fast S = Slow I = Impulse/ Impact	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I	F <b>XS</b> I
Results	87 dBA	<50 dBA	<50 dBA	< 50 dBA	<50 dBA

Comments: Measurements were taken at the operator hearing zone. Personnel need to wear either plugs **or** muffs during item #11. Hearing protection is unnecessary during operation of the other items.



**APPENDIX D, NOISE SURVEY FORMS (continued)**

SOUND LEVEL METER		MICROPHONE		CALIBRATOR	
Mfg: SIMPSON		Mfg: SIMPSON		Mfg: SIMPSON	
Model: 886-2	Serial #: 007336	Model:	Serial #: 30394	Model: 890-2	Serial #: 73900
Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9 Jun 09	Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9Jun 09	Last Electro- acoustic Cal Date: 9 Jun 08	Next Electro- acoustic Cal Date: 9 Jun 09
Field Calibration: Pre Cal Date: <u>12 Mar 09</u> Post Cal Date: <u>12 Mar 09</u>					
Field Calibration OK: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Field Calibrated By: <u>Eric Thurston</u>					
Measurements Obtained: <input checked="" type="checkbox"/> Indoors <input type="checkbox"/> Outdoors					
Wind Screen: <input type="checkbox"/> Used <input checked="" type="checkbox"/> Not Used					
Sampler: <u>Eric Thurston</u>			Date Completed: <u>12 Mar 09</u>		
Reviewing IH: <u>Michael J. Puckett</u>			Date Reviewed: <u>22 Apr 09</u>		
Data Entered By: <u>Eric Thurston</u>			Date Entered: <u>13 Mar 09</u>		

**APPENDIX E**  
**EXAMPLE OF HAZARDOUS MATERIALS INVENTORY**

**ECE Department Code EC**

**Locker # 158**  
**Location S-543A**

**Date: 2 Feb 09**

<b>MSDS#</b>	<b>Product Name</b>	<b>Manufacturer</b>	<b>Unit of Issue</b>	<b>QTY</b>
1213	Flux	GC Electronics	8 oz/BT	1
2431	Trichloroethane	Plaze Inc	12 oz/CN	1
2445	CPC MIL-C-81309	Malter International	16 oz/CN	1
4607	Isopropyl Alcohol	TT-1-735A	8 oz/BT	2
4815	Epoxy	Watkins and Associate	BX/2 TU	1
5610	Heat Sink Compound	American Oil and Supply	4 oz/TU	1
6394	Silicone Dielectric Compound	General Electric	8 oz/TU	1

**APPENDIX F  
VENTILATION INVENTORY**

Not applicable.

**APPENDIX G**  
**RESPIRATORY PROTECTION PROGRAM MATRIX**

Respirators are not required during any procedures performed by departmental personnel. The Retail Store Custodians wear dust masks on an elective basis when using the leaf blower outdoors to protect against nuisance dust and allergens.

## APPENDIX H

### **29 CFR 1910.134, Appendix D, (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard**

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers.

However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

Occupational Safety & Health Administration  
200 Constitution Avenue, NW  
Washington, DC 20210

**APPENDIX I**  
**MEDICAL SURVEILLANCE PROGRAM MATRIX**

DESIGNATED PERSONNEL	MEDICAL SURVEILLANCE PROGRAM
Auto Port Mechanics	Hearing Conservation (Code 503)
Auto Port Forklift Operators	Forklift Operator (Code 710)
Barbers	Barber/Beauty Shop Worker (Code 723)
Warehouse Forklift Operators	Forklift Operator (Code 710)
Navy Lodge Housekeepers	Blood and Body Fluids (Code 178)
Navy Lodge Gardener	Hearing Conservation (Code 503)

**APPENDIX J  
GLOSSARY**

<b>TERM</b>	<b>MEANING</b>
<b>AL</b>	Action Level - Normally half of PEL. Exposure level at which air sampling, employee training, and medical surveillance are required.
<b>ACGIH</b>	American Conference of Government Industrial Hygienist
<b>AC/HR</b>	Air Changes Per Hour
<b>ANSI</b>	American National Standards Institute
<b>AQS</b>	Air Quality Standard
<b>ASHRAE</b>	American Society of Heating, Refrigeration, and Air Conditioning Engineers
<b>ASTC</b>	Aviation Survival Training Center
<b>C</b>	Ceiling - Toxic material exposure level which cannot be exceeded for any length of time.
<b>CFM</b>	Cubic Feet Per Minute
<b>CFR</b>	Code of Federal Regulation
<b>EL</b>	Excursion Limit - Concentration limit which cannot be exceeded at any time.
<b>EAMP</b>	Exposure Assessment/Monitoring Program. A program to evaluate workplace health hazards through surveys and exposure measurement.
<b>EPA</b>	Environmental Protection Agency
<b>ERT</b>	Emergency Reclamation Team
<b>FC</b>	Footcandles
<b>F/CC</b>	Fibers Per Cubic Centimeter. A means for expressing airborne asbestos fiber concentrations.
<b>FeA</b>	Field Area
<b>FiA</b>	Filter Area
<b>FPM</b>	Feet Per Minute
<b>FT3</b>	Cubic Feet
<b>HDI</b>	Hexamethylene Diisocyanate
<b>HEPA</b>	High Efficiency Particulate Air
<b>HM</b>	Hazardous Material
<b>HMC&amp;M</b>	Hazardous Material Control and Management
<b>HW</b>	Hazardous Waste
<b>IES</b>	Illumination Engineering Society
<b>IH</b>	Industrial Hygiene
<b>L</b>	Liter
<b>LPM</b>	Liters Per Minute
<b>LOD</b>	Limit of Detection
<b>LOQ</b>	Limit of Quantitation

**APPENDIX J (continued)**

<b>MG/M3</b>	Milligram Per Cubic Meter of air. A means of expressing concentrations of dust and metal fumes in the air.
<b>MSAL</b>	Medical Surveillance Action Level. Concentration of air contaminant at which medical surveillance examinations must be provided to exposed personnel.
<b>MSDS</b>	Material Safety Data Sheet. A form used by manufacturers to communicate to users the chemical and physical properties of their products.
<b>MSM</b>	Medical Surveillance Matrix
<b>NAVOSH</b>	Navy Occupational Safety and Health
<b>NEHC</b>	Navy Environmental Health Center
<b>NIOSH</b>	National Institute of Occupational Safety and Health
<b>OEL</b>	Occupational Exposure Limit
<b>OH/PM</b>	Occupational Health/Preventive Medicine
<b>OSHA</b>	Occupational Safety and Health Administration
<b>OV</b>	Organic Vapor
<b>PPE</b>	Personal Protective Equipment
<b>PPM</b>	Parts Per Million. A means of expressing the concentration of gases and vapors in the air.
<b>PSI</b>	Pounds Per Square Inch
<b>RF</b>	Radio Frequency
<b>SOP</b>	Standard Operating Procedure
<b>SQFT</b>	Square Feet
<b>STEL</b>	Short Term Exposure Limit. A 15 minute time weighted average exposure which should not be exceeded at anytime during a workday.
<b>STRESSOR</b>	Potential hazard (e.g. Noise, Chemicals, Dusts, etc.)
<b>TLV</b>	Threshold Limit Value. Established by ACGIH as levels of airborne contaminants or physical hazards under which it is believed workers may be exposed on a daily basis without adverse effect.
<b>TWA</b>	Time Weighted Average. A method of averaging varying concentrations over a specified period of time, usually 8 hours.
<b>UG</b>	Microgram
<b>VOL</b>	Volume
<b>&gt;</b>	Greater Than
<b>&lt;</b>	Less Than



