



DEPARTMENT OF THE NAVY

NAVAL HOSPITAL JACKSONVILLE
BRANCH HEALTH CLINIC
MARINE CORPS LOGISTICS BASE
814 RADFORD BOULEVARD
ALBANY, GEORGIA 31704

IN REPLY REFER TO:

6260

Ser 001/848

26 Nov 2013

From: Officer in Charge, Naval Branch Health Clinic, Albany, GA
To: Commanding Officer, Marine Corps Logistics Base, Albany, GA

Subj: PERIODIC INDUSTRIAL HYGIENE SURVEY OF BUILDINGS 3010,
3500, 3600, 3700, AND THE CHAPEL BUILDINGS

Ref: (a) OPNAVINST 5100.23G
(b) NAVMC DIR 5100.8

Encl: (1) Executive Summary
(2) Industrial Hygiene Survey Report

1. Per references (a) and (b) enclosures (1) and (2) are provided for your information.

2. Point of contact is Mr. John Sorenson, Industrial Hygienist at 639-7846.

A handwritten signature in black ink, appearing to be "R. M. Bristol".

R. M. BRISTOL
By direction

Copy to:
Director, Logistics Support Division, MCLB, Albany Georgia
Risk Management Office, MCLB Albany
Occupational Health, NBHC Albany

EXECUTIVE SUMMARY

A periodic industrial hygiene survey of the base administration buildings (Buildings 3010, 3500, 3600, 3700 and the Chapel Buildings 7250 and 7260) was conducted during September 2013 by Mr. John Sorenson, Industrial Hygienist, of Naval Branch Health Clinic (NBHC) Albany. The purpose of this survey was to identify health hazards present, assess actual health risk, and recommend controls where needed, as well as to assess your Occupational Health program status. Many of the offices within these buildings have been surveyed as part of their individual command's Industrial Hygiene survey. This survey will duplicate those areas, but is intended to cover those areas not previously covered by any individual command's Industrial Hygiene survey.

No formal response to the NBHC Albany Industrial Hygiene Division is needed, although recommendations made in this report may be specified as items for mandatory corrective action by the Logistics Support Division Safety Officer.

The assistance of building's facilities manager, Mr. James White, greatly facilitated the completion of this survey and is much appreciated.

Attachment (1) to enclosure (2) of this report provides an overall evaluation summary. Attachment (2) provides shop/process-specific individual work area hazard assessments. These are intended to be disseminated to the work areas. If there are any changes in work operations from what is described in this report, or if a focused health hazard evaluation of a specific work operation or new project is needed, please contact Mr. John Sorenson at 639-7846 john.sorenson@med.navy.mil.

Noise and Hearing Conservation:

The Navy has directed industrial hygiene program offices via BUMEDNOTE 6260, dated 13 DEC 2012, to follow Department of Defense Hearing Conservation Program (HCP) guidance provided in DoD Instruction 6055.12 of December 3, 2010. This does not change or redress all HCP elements; however, it does change two major elements. First, the Occupational Exposure Limit (OEL)/Criterion Level will be 85 dB(A) as an 8-hour Time Weighted Average (TWA) for a 40 hour work week instead of what we referred to previously as the Navy OEL of 84 dB(A). Single hearing protection is now required for tasks where the noise levels are greater than 85 dB(A) (previously 84 dB(A)). Double hearing protection is now required where noise levels are greater than 96 dB(A) (previously 104 dB(A)). Second, noise measurement and analysis has changed. A time-intensity exchange rate of 3 dB (decibels) will now be used instead of 4 dB. Hearing protection devices provided by the command must be capable of attenuating worker noise exposure below an 8-hour TWA of 85 dB(A) and 140 dB peak. At the discretion of industrial hygiene, additional noise measurements (sound level surveys) may be obtained in LSD work centers or noise dosimetry (personal monitoring on individual employees) performed to resolve compliance issues that may arise with this change. Examples of compliance issues that might deal with the posting hazardous noise areas, the adequacy of hearing protection devices already in use, or implementing administrative controls to bring effective exposure to less than the DoD OEL.

Field Findings:

Microbial growths were found in the HVAC system and on furniture in Building 3600. The furniture in the contaminated rooms has been removed. The Facilities Manager and the base Risk Management Office Manager have been notified.

Microbial growths were found on some office furniture in the main chapel building, Building 7250. All of the furniture in the contaminated offices has been removed. The MCCS Safety Specialist and the base Risk Management Office Manager have been notified.

Mold has been identified in the Chapel Annex, Building 7260. A remediation contract (N69450-13-C-2266) has been issued to clean out the entire HVAC system. That contract also covers the mold clean up at the base library, Building 7122.

There were no ergonomic issues found during this survey. Employee interviews did not indicate ergonomic complaints. All work stations have furniture that is ergonomically adjustable. Employee education and training on proper working positions is always recommended.

PERIODIC INDUSTRIAL HYGIENE SURVEY
BLDG 3010, 3500, 3600, 3700, 7250, AND 7260
MARINE CORPS LOGISTICS BASE
ALBANY, GEORGIA
REPORT NUMBER: AL13005

Ref: (a) OPNAVINST 5100.23G, *Navy Safety and Occupational Health Program Manual*
(b) NAVMC DIR 5100.8, *Marine Corps Occupational Safety and Health (OSH) Program Manual*
(c) NBHC letter 6260, Ser 452 of 08 Jul 09

Attn: (1) Evaluation Summary
(2) Individual Hazard Assessment
(3) Workplace Monitoring Plan
(4) Medical Surveillance Recommendations
(5) Glossary of Terms

1. Introduction. As required by reference (a) and (b), a periodic industrial hygiene survey of the base administration buildings was conducted during the month of September 2013 by Mr. John Sorenson, Industrial Hygienist, Naval Branch Health Clinic, Albany, GA. The purpose of the survey was to update information reported in reference (c), and consisted of a site visit, walk through evaluations of all work areas, a review of the hazardous material inventory, and employee interviews as appropriate to assist in the industrial hygiene assessment. The assistance of Mr. Robert Bryant during the conduct of this survey is greatly appreciated.

2. Changes in Operations or Assessments. No significant changes in previous hazard assessments or recommendations were noted from those outlined in reference (c). All programs required by reference (a) and (b) are current.

3. Report Contents. An Evaluation Summary of Navy SOH programs, control measures, and hazard evaluations is provided as attachment (1). The updated Individual Hazard Assessment is provided in attachment (2). The Workplace Monitoring Plan is provided in Attachment (3). Attachment (4) is the Medical Surveillance Recommendations. A short glossary of Industrial Hygiene terminology is provided as Attachment (5).

4. Design Reviews. Per ref (a) and (b), industrial hygienists and safety professionals are tasked with ensuring that appropriate hazard control techniques are applied for all facility projects including both special projects and military construction projects as, in many instances, facility design engineers are not totally familiar with all potential health hazards created by various materials, equipment and operations used in Navy industrial facilities. Please ensure that all special projects, engineering designs, purchasing contracts, and newly developed SOPs involving potential health hazards, such as toxic materials, radiation, noise, or other health hazards, are sent to Industrial Hygiene for review.

5. Re-evaluation Schedule and Changes in the Workplace. Please retain this report on file. NBHC Industrial Hygiene will re-evaluate these buildings every four years. However, any significant change in the type of operations performed, new equipment acquired, workplace setting, or change in the kind or amount of chemicals used will result in a need for a re-evaluation of the affected area. The Industrial Hygiene Department should be notified of such changes, per ref (a) and (b). For future reference, should any employee have a possible health-related concern that he/she believes may be related to the workplace, the employee should report the issue to the supervisor when it occurs and be evaluated by Occupational Medicine Services. The Chapel and its Annex (BLDGs 7250 and 7260) will be placed onto the next MCCS and re-evaluated every two years as part of that survey. The HRO offices in BLDG 3010 have been placed onto their own separate survey, but BLDG 3010 remains on this survey until the next PSD survey is conducted, because the "Pass and ID" office in that building has yet to be placed onto the PSD survey. When that occurs, Building 3010 may be removed from this survey.

6. Hearing Protection Usage and Enforcement. Various operations in this work center are noise hazardous and warrant the mandatory use of hearing protection. Ensure that hearing protection use is strictly enforced throughout the work center(s) for personnel who perform operations that are noise hazardous and warrant mandatory use of hearing protection. Under DoD guidelines, single hearing protection is required when noise level exceed 85 dBA and double hearing protection is required during activities where noise exceeds 96 dBA. Hearing Protection Devices (HPDs) must be capable of attenuating work noise exposure below the 8-hour TWA of 85 dBA. Employees were observed to be wearing their HPDs during the IH survey walk through of the DAPS area.

7. Hazardous Materials Management. One of the program requirements reviewed during each industrial hygiene survey is the Hazardous Material Control Management (HMC&M) Program. At the time of this survey it was noted that the work center did have an updated Hazardous Material Inventory/Authorized Use List (HMI/AUL). It is important to remember that the HMI/AUL should list all hazardous materials that are used by the shop and not just the materials that can be purchased directly. The work center should continue to participate in the HMC&M Program. This includes continuing to update the HMC/AUL as needed and maintaining the appropriate Material Safety Data Sheets so that the file can remain current.

8. Regulatory Compliance.

a. In accordance with OPNAVINST 5100.23G, Navy Safety and Occupational Health Program Manual, the Navy requires each activity to implement safety and health programs consistent with the Occupational Safety and Health Administration standards. The primary objective is to ensure a safe and healthful work environment for all Navy personnel.

b. It is important for the command to understand that many shops have processes that are not in compliance with applicable regulations and that to achieve compliance with those applicable regulations where it has been determined that artisans and/or supervisory personnel may be subjected to airborne levels of stressors above the associated Permissible Exposure Limits (PELs), Threshold Limit Values (TLV), and/or Occupational Exposure Limits (OELs),

administrative of engineering controls must first be determined and implemented whenever feasible. Only when such controls are not feasible to achieve full compliance, protective equipment or any other protective measures shall be used to keep the exposure of employees to air contaminants within the limits prescribed in the applicable standard. It is recommended that the command continue to pursue the application of engineering and/or administrative controls where required.

c. It is also important for the command to understand that housekeeping and hygiene issues are also of critical importance. The Navy has recently reestablished their requirement to implement and manage a Heavy Metals Control Program (HMCP) to meet the requirement of OSHA's 29 CFR 1910.1025 (lead), 1026 (Chromium VI) and 1027 (Cadmium) with respect to the requirement to maintain surfaces as free as practicable of accumulations of lead, Hexavalent chromium, and cadmium as a special emphasis item. This is not a new requirement. These requirements have been part of the OSHA standards since their effective dates for compliance. The standards as a whole have far more requirements than just a single aspect. Industrial Hygiene is available to provide assistance where and when needed.

EVALUATION SUMMARY
PERIODIC INDUSTRIAL HYGIENE SURVEY
Buildings 3010, 3500, 3600, 3700, 7250, and 7260
Marine Corps Logistics Base
Albany, Georgia
Report Number: AL13005

Reference Report

The reference Industrial Hygiene report is NBHC letter 6260, Ser 452 of 08 Jul 09.

New or Significantly Modified Work Center Operations/Processes?

- No *significant* changes in operations/processes were identified. *
- The following changes were identified:

*For purposes of this survey, "*significant changes*" are defined as workplace modifications that require a change in recommended medical surveillance enrollment, personal protective equipment, or exposure control measures (ventilation, etc).

Program Findings and Recommendations

1. Medical Surveillance Program Status.

- No Exposure Based Medical Surveillance is Recommended.
- Exposure Based Medical Surveillance is Recommended.
- No Change in Exposure Based Medical Surveillance Recommendations.
- Exposure Based Medical Surveillance Recommendations have changed as follows:

Comments

2. Hazardous Material Control and Management (HMC&M) Program:

- AUL Y N N/A Accurate Y N
- MSDS Files Y N N/A Accurate Y N
- HAZMAT Training Required? Y N (Note: IH does not track training completion).
- Other (lead, asbestos, etc): Lead Y N (Note: IH does not track training completion)

Comments:

3. Management of Reproductive Hazards:

- Reproductive Hazards Present? Y N
- Any changes from previous survey? Y N

Comments:

4. Noise and Hearing Conservation Program (HCP):

- Are personnel recommended for the HCP? Y N
- Are personnel receiving audiograms? Y N N/A (Note: IH does not track training completion)
- Is hearing protection readily available? Y N N/A
- Is hearing protection used? Y N N/A Not Available for Observation

Comments:

5. Respiratory Protection:

- Are respirators used to control workplace exposures? Y N
- Are they effective? Y N N/A
- Is the Respiratory Protection Program satisfactory? Y N N/A

Comments:

6. Ventilation:

- Are ventilation systems used to control workplace exposures? Y N
- Are the systems effective and operating properly? Y N N/A

Comments:

7. Ergonomics:

- Ergonomic risk factors were identified pertaining to shop work office/computer work
- Available equipment/furniture incorporates good ergonomic design? Y N N/A
- Ergonomic training recommended? Y N (Note: IH does not track training completion)

Comments and/or Recommendations:

8. Other Applicable Programs:

- Lead Control
 Asbestos Control
 Carcinogens
 Other

Comments:

Consultative or Special Surveys/Findings Since the Previous Survey: (check if none)

Comments:

Microbial growths were found in the HVAC system and on furniture in Building 3600. The furniture in the contaminated rooms has been removed. The Facilities Manager and the base Risk Management Office Manager have been notified.

Microbial growths were found on some office furniture in the main chapel building, Building 7250. All of the furniture in the contaminated offices has been removed. The MCCS Safety Specialist and the base Risk Management Office Manager have been notified.

Mold has been identified in the Chapel Annex, Building 7260. A remediation contract (N69450-13-C-2266) has been issued to clean out the entire HVAC system. That contract also covers the mold clean up at the base library, Building 7122.

There were no ergonomic issues found during this survey. Employee interviews did not indicate ergonomic complaints. All work stations have furniture that is ergonomically adjustable. Employee education and training on proper working positions is always recommended.

INDIVIDUAL HAZARD ASSESSMENT		DATE: 08 October 2013	
RECORDED BY: John Sorenson	SIGNATURE: 	POC: James White	TELEPHONE: 639-8215
COMMAND: Various	BUILDING NUMBER: 3500,	TOTAL PERSONNEL: 343	MALES: 206
SHOP NAME: Building 3500		FEMALES: 137	
SHOP OPERATIONS: Administrative offices. Workers in these offices conduct meetings, write, and process paper work. They operate computers, copy machines, facsimile machines and other standard office equipment.			

HEALTH HAZARDOUS STRESSORS AND ASSOCIATED OPERATIONS	DURATION/FREQUENCY OF EXPOSURE	NO. OF WORKERS	EXISTING CONTROLS	EXPOSURE ASSESSMENT
Office Area: Noise	8 hrs / day		None	Acceptable based upon IH observations during walkthrough. No noise hazard was observed.
Office and desk work: Ergonomics	8 hrs / day		Ergonomically adjustable furniture is in use. Education and training to properly use furniture that is provided.	Acceptable due to education/training and engineering controls (adjustable furniture).
Note: Processes not listed herein are assumed to represent "No Significant Hazard" based upon low toxicity, limited duration and/or quantity of exposure or effective Engineering Control.				
USE THE FOLLOWING EXPOSURE ASSESSMENT DEFINITIONS:				
ACCEPTABLE – One where the IH will not expect the SEG to be exposed above the selected OEL.				
UNCERTAIN – Additional data needs to be collected to clarify the exposure assessment. The IH should make an interim exposure assessment based on observation of the process and/or professional judgment.				
UNACCEPTABLE – One where the IH will expect the SEG to be exposed above the selected OEL.				
SKIN – The material poses a skin absorption hazard.				
REPRODUCTIVE HAZARD – The material is a Navy-Recognized Reproductive Hazard.				
CARCINOGEN – The material contains > 0.1% of an OSHA, ACGIH, IARC, or NTP-recognized carcinogen				
NOTE: "EXPOSED" refers to "POTENTIAL EXPOSURE" and does not take PPE, such as respiratory protection or hearing protection, into account.				

INDIVIDUAL HAZARD ASSESSMENT		DATE: 08 October 2013	
RECORDED BY: John Sorenson	SIGNATURE: 	POC: James White	TELEPHONE: 639-8215
COMMAND: Various	BUILDING NUMBER: 3600	TOTAL PERSONNEL: 63	MALES: 38
SHOP NAME: Building 3600		FEMALES: 25	
SHOP OPERATIONS: Administrative offices. Workers in these offices conduct meetings, write, and process paper work. They operate computers, copy machines, facsimile machines and other standard office equipment.			

HEALTH HAZARDOUS STRESSORS AND ASSOCIATED OPERATIONS	DURATION / FREQUENCY OF EXPOSURE	NO. OF WORKERS	EXISTING CONTROLS	EXPOSURE ASSESSMENT
Office Area: Noise	8 hrs / day		None	Acceptable based upon IH observations during walkthrough. No noise hazard was observed.
Indoor Air Quality: Mold	8 hrs/day		None All furniture has been removed from contaminated rooms.	Unacceptable, Base Risk Management Office (RMO) is managing this remediation project.
Office and desk work: Ergonomics	8 hrs / day		Ergonomically adjustable furniture is in use. Education and training to properly use furniture that is provided.	Acceptable due to education/training and engineering controls (adjustable furniture).
Note: Processes not listed herein are assumed to represent "No Significant Hazard" based upon low toxicity, limited duration and/or quantity of exposure or effective Engineering Control.				
USE THE FOLLOWING EXPOSURE ASSESSMENT DEFINITIONS:				
ACCEPTABLE – One where the IH will not expect the SEG to be exposed above the selected OEL.				
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SKIN – The material poses a skin absorption hazard.				
REPRODUCTIVE HAZARD – The material is a Navy-Recognized Reproductive Hazard.				
CARCINOGEN – The material contains > 0.1% of an OSHA, ACGIH, IARC, or NTP-recognized carcinogen				
NOTE: "EXPOSED" refers to "POTENTIAL EXPOSURE" and does not take PPE, such as respiratory protection or hearing protection, into account.				

INDIVIDUAL HAZARD ASSESSMENT		DATE: 08 October 2013	
RECORDED BY: John Sorenson	SIGNATURE: 	POC: James White	TELEPHONE: 639-8215
COMMAND: Various	BUILDING NUMBER: 3010	TOTAL PERSONNEL: 31	MALES: 12
SHOP NAME: Building 3010		FEMALES: 19	
<p>SHOP OPERATIONS: Administrative offices. Workers in these offices conduct meetings, write, and process paper work. They operate computers, copy machines, facsimile machines and other standard office equipment. This building contains the base Human Resources Office (HRO) which was surveyed in a separate survey. The "Pass and ID" office will be included in the next PSD survey. After that occurs Building 3010 will be eliminated from this survey.</p>			

HEALTH HAZARDOUS STRESSORS AND ASSOCIATED OPERATIONS	DURATION // FREQUENCY OF EXPOSURE	NO. OF WORKERS	EXISTING CONTROLS	EXPOSURE ASSESSMENT
Office and warehouse Areas: Noise	8 hrs/day		None	Acceptable based upon IH observations during walkthrough.
Office and desk work: Ergonomics	8 hrs/day		Ergonomically adjustable furniture is in use. Education and training to properly use furniture that is provided.	Acceptable due to engineering controls.
<p>Note: Processes not listed herein are assumed to represent "No Significant Hazard" based upon low toxicity, limited duration and/or quantity of exposure or effective Engineering Control.</p>				
<p>USE THE FOLLOWING EXPOSURE ASSESSMENT DEFINITIONS:</p> <p>ACCEPTABLE – One where the IH will not expect the SEG to be exposed above the selected OEL.</p> <p>UNCERTAIN – Additional data needs to be collected to clarify the exposure assessment. The IH should make an interim exposure assessment based on observation of the process and/or professional judgment.</p> <p>UNACCEPTABLE – One where the IH will expect the SEG to be exposed above the selected OEL.</p> <p>SKIN – The material poses a skin absorption hazard.</p> <p>REPRODUCTIVE HAZARD – The material is a Navy-Recognized Reproductive Hazard.</p> <p>CARCINOGEN – The material contains > 0.1% of an OSHA, ACGIH, IARC, or NTP-recognized carcinogen</p> <p>NOTE: "EXPOSED" refers to "POTENTIAL EXPOSURE" and does not take PPE, such as respiratory protection or hearing protection, into account.</p>				

INDIVIDUAL HAZARD ASSESSMENT		DATE: 09 October 2013	
RECORDED BY: John Sorenson	SIGNATURE: 	POC: James White	TELEPHONE: 639-8215
COMMAND: Various	BUILDING NUMBER: 3700	TOTAL PERSONNEL: 693	MALES: 416
SHOP NAME: Building 3700		FEMALES: 277	
SHOP OPERATIONS: Administrative offices. Workers in these offices conduct meetings, write, and process paper work. They operate computers, copy machines, facsimile machines and other standard office equipment.			

HEALTH HAZARDOUS STRESSORS AND ASSOCIATED OPERATIONS	DURATION/FREQUENCY OF EXPOSURE	NO. OF WORKERS	EXISTING CONTROLS	EXPOSURE ASSESSMENT
Office Area: Noise	8 hrs / day		None	Acceptable based upon IH observations during walkthrough. No noise hazard was observed.
Office and desk work: Ergonomics	8 hrs / day		Ergonomically adjustable furniture is in use. Education and training to properly use furniture that is provided.	Acceptable due to education/training and engineering controls (adjustable furniture).
Note: Processes not listed herein are assumed to represent "No Significant Hazard" based upon low toxicity, limited duration and/or quantity of exposure or effective Engineering Control.				
USE THE FOLLOWING EXPOSURE ASSESSMENT DEFINITIONS: ACCEPTABLE – One where the IH will not expect the SEG to be exposed above the selected OEL. UNCERTAIN – Additional data needs to be collected to clarify the exposure assessment. The IH should make an interim exposure assessment based on observation of the process and/or professional judgment. UNACCEPTABLE – One where the IH will expect the SEG to be exposed above the selected OEL. SKIN – The material poses a skin absorption hazard. REPRODUCTIVE HAZARD – The material is a Navy-Recognized Reproductive Hazard. CARCINOGEN – The material contains > 0.1% of an OSHA, ACGIH, IARC, or NTP-recognized carcinogen NOTE: "EXPOSED" refers to "POTENTIAL EXPOSURE" and does not take PPE, such as respiratory protection or hearing protection, into account.				

INDIVIDUAL HAZARD ASSESSMENT		DATE: 09 October 2013	
RECORDED BY: John Sorenson		POC:	Alisha Enfinger
SIGNATURE: <i>John A. Sorenson</i>		TELEPHONE:	639-7259
COMMAND: MCLB, Logistics Support Division (LSD)		TOTAL PERSONNEL:	0
SHOP NAME: Base Chapel, BLDGs 7250 and 7260		MALES:	0
		FEMALES:	0
SHOP OPERATIONS: There are currently no employees in the base Chapel or its Annex building. When staffed in the past they conducted meetings, wrote, and process paper work. They operated computers, copy machines, facsimile machines and other standard office equipment.			

HEALTH HAZARDOUS STRESSORS AND ASSOCIATED OPERATIONS	DURATION / FREQUENCY OF EXPOSURE	NO. OF WORKERS	EXISTING CONTROLS	EXPOSURE ASSESSMENT
Indoor Air Quality: Mold	8 hrs/day		None	Unacceptable, Base Risk Management Office (RMO) is managing this remediation project.
All furniture has been removed from the administrative offices in main chapel building, 7250. A contract (N69450-13-C-2266) has been issued to remediate the mold issue in the Annex building, 7260. The base RMO in managing the remediation project.				
Note: Processes not listed herein are assumed to represent "No Significant Hazard" based upon low toxicity, limited duration and/or quantity of exposure or effective Engineering Control.				
USE THE FOLLOWING EXPOSURE ASSESSMENT DEFINITIONS:				
ACCEPTABLE – One where the IH will not expect the SEG to be exposed above the selected OEL.				
UNCERTAIN – Additional data needs to be collected to clarify the exposure assessment. The IH should make an interim exposure assessment based on observation of the process and/or professional judgment.				
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SKIN – The material poses a skin absorption hazard.				
REPRODUCTIVE HAZARD – The material is a Navy-Recognized Reproductive Hazard.				
CARCINOGEN – The material contains > 0.1% of an OSHA, ACGIH, IARC, or NTP-recognized carcinogen				
NOTE: "EXPOSED" refers to "POTENTIAL EXPOSURE" and does not take PPE, such as respiratory protection or hearing protection, into account.				

Exposure Monitoring Plan 2013-2017
 BLDG 3010, 3500, 3600, 3700, 7250, AND 7260
 Marine Corps Logistics Base, Albany, GA

Date Issued: 24 July 2013

IH: John Sorenson

SHOP NAME AND PROCESS	POINT OF CONTACT (SHOP SUPERVISOR)	STRESSOR	SAMPLING INSTRUCTIONS	NUMBER OF SAMPLES NEEDED	MAN-HOURS	PRIORITY (SEE NOTE 1)	COMMENTS
No Monitoring Required							
Actions:							
Actions:							
TOTAL MAN-HOURS							
NOTE 1: DEFINITION OF MONITORING PRIORITIES:							
Priority 1: Mandated by instruction/law							
Priority 2: Needed for forming hazard assessment or establishing PPE need (everything not fitting 1 or 3)							
Priority 3: Nice to have/freshen old data/have data but want to strengthen the statistics/miscellaneous or screening sampling							

**SUMMARY OF MEDICAL SURVEILLANCE NEEDS FOR
BLDG 3010, 3500, 3600, 3700, 7250, AND 7260
Marine Corps Logistics Base
Albany, GA
REPORT NUMBER: AL13005**

Industrial Hygienist: John Sorenson				Survey Period 2013-1014	
Shop/POC	Hazard	Controls	Medical Evaluation	Code	Comments
There are no Medical Surveillance Recommendations					
ADDITIONAL NON-EXPOSURE BASED MEDICAL SCREENING					
CODE REFERENCE: 1. <i>Medical Surveillance Procedures Manual and Medical Matrix, latest edition</i>					
Comment Explanations: These buildings contain office workers and no type of industrial work occurs in these areas.					
<p>2. For Noise Only: Use only those types listed in appendix 18-A of OPNAVINST 5100.23G, or for where a valid waiver has been granted. Participate in the Hearing Conservation Program. As per OPNAVINST 5100.23G to include:</p> <ul style="list-style-type: none"> a. The use of PPE b. The labeling of noise hazardous non-combatant equipment. c. Annual Training <p>Annual Audiometric evaluation.</p>			<p>3. For Respirator Use Only: Participate in the Respiratory Protection Program. As per OPNAVINST 5100.23G to include:</p> <ul style="list-style-type: none"> a. The use of PPE b. Fit Testing c. Appropriate medical surveillance d. Annual Training 		

GLOSSARY OF TERMS

AABA: Ambient Air Breathing Apparatus. Unlike compressors used for breathing air for atmosphere supplying respirators which must be tested quarterly to ensure that at least Grade D quality air is supplied to respirator wearers; AABAs are exempt from quarterly Grade D air quality testing.

NOTE: AABA air intakes must be located in fresh clean ambient air.

Acceptable: (in the context of exposure assessment) Exposure estimate of similar exposure group is less than half (50%) of the occupational exposure limit (OEL). *See also Action Level.*

ACGIH®: American Conference of Governmental Industrial Hygienist is an independent standard setting group who develops Threshold Limit Values®, the workplace exposure limit recommended by the American Conference of Governmental Industrial Hygienists. Examples of this include annual editions of the *TLVs® and BEIs®* and work practice guides. *See also TLV® (Threshold Limit Value); TWA (Time-Weighted Average); STEL (Short-Term Exposure Limit); and Ceiling Limit*

Action Level: Unless otherwise specified in a NAVSOH standard, one-half the relevant PEL, TLV®, etc. *See also Occupational Exposure Limit (OEL).*

Administrative Control: Procedures and practices that limit exposure to harmful physical or chemical agents by control or manipulation of work schedule or the manner in which work is performed. Administrative controls reduce the exposure to stressors and thus reduce the cumulative dose to any one worker. If unable to alter the job or workplace to reduce the stressors, administrative controls should be used. Administrative controls are most effective when used in combination with engineering controls.

AUL: Authorized Use List – The list of all hazardous material needed to support the requirements of a department, shop or other entity that have been approved for use.

BBP: Blood-Borne Pathogen – Pathogenic microorganisms transmissible by exposure to blood and other potentially infectious materials, and include Hepatitis B Virus (HBV), Hepatitis C, and Human Immune Deficiency Virus (HIV), as well as syphilis and malaria.

Carcinogen: The material contains greater than or equal to 0.1% of an Occupational Safety and Health Administration (OSHA), American Conference of Governmental Industrial Hygienist (ACGIH), International Agency for Research on Cancer (IARC), or National Toxicology Program (NTP)-recognized carcinogen.

Ceiling Limit- TLV®: (TLV-C) Is a concentration that should not be exceeded during any part of the workday (as recommended by the ACGIH). *See also OEL*

Concentration: The quantity of a substance per unit volume (in appropriate units). The following are examples of concentration units. *See unit examples below*

Mg/m ³	Milligrams per cubic meter	Unit of airborne concentration for gases, vapors, fumes, and/or dusts
µg/m ³	Micrograms per cubic meter	Unit of airborne concentration for gases, vapors, fumes, and/or dusts
PPM	Parts per million (air)	Unit of airborne concentration for vapors or gases
Fibers/cc or f/cc	Fibers per cubic centimeter	A unit of measure for fibrous airborne particulates such as asbestos fibers.
Mppcf	Millions of particles per cubic foot	A unit used for airborne dusts based on particle counts & which has virtually been eliminated from routine use.

CHRIMP: The Consolidated Hazardous Material Reutilization and Inventory Management Program serves as a fundamental element of the Navy's life-cycle control and management of Hazardous Materials.

Contaminant: A material or agent in concentrations higher than those normally present in the atmosphere, e.g., dust, fume, gas, mist or vapor, which can be harmful, irritating, or a nuisance.

Decibel-dB: A unit used to express sound pressure levels; specifically, 20 times the logarithm of the ratio of the measured sound pressure to a reference quantity, 20 micro-pascals (0.0002 microbars).

dBA or dBA_s: A sound level reading in decibels as measured on the A-weighted network of a sound level meter. (See A-weighted Sound Level) Sometimes referred to as dBA_s, meaning A-weighted Sound level, where the sound level meter is set to "slow response." A-weighted sound pressure is designated to approximate the response of the human ear to sound.

DV: Dilution Ventilation – An engineering control strategy which relies upon the dilution of potential contaminants with fresh (outside) air thus reduces the concentration of potential contaminants to acceptable levels.

EPA: United States Environmental Protection Agency is a federal agency charged with the promulgation and enforcement of environmental regulations. Their mission includes Air, Water and Waste regulation to protect the public and the environment.

Ergonomic Hazards: Workplace conditions that pose a biomechanical stress to a worker's body as a consequence of posture and force requirements, work/rest regimens, repetition rate, or other similar factors. Faulty work station layout, improper work methods, or tools may contribute to such conditions.

Ergonomics: The study of the design of work in relation to the physiological and psychological capabilities of people. The aim of the discipline is the evaluation and design of facilities, environments, jobs, training methods, and equipment to match the capabilities of users and workers, and thereby to reduce fatigue, error, or unsafe acts.

AND / OR

Ergonomics is the field of study that involves the application of knowledge about physiological, psychological and biomechanical capacities and limitations of the human body. This knowledge is applied in the planning, design, and evaluation of work environments, jobs, tools and equipment to enhance worker performance, safety and health and reducing the potential for fatigue, error, or unsafe acts.

Ergonomics is essentially fitting the workplace to the worker. The application of knowledge about physiological, psychological and biomechanical capacities and limitations of the human body to work environments, jobs, tools and equipment to enhance worker performance, safety and health and to reduce the potential for fatigue, error, or unsafe acts.

Fibers per cubic centimeter (fibers/cc): Unit of measure used to describe the concentration of asbestos or manmade fibers in air. This unit is often used to describe airborne or occupational inhalation exposure potential and in describing recommended control limits.

Hazardous Chemical: Any chemical that is a physical hazard or a health hazard per 29 CFR Section 1910.1200(c), and with some exceptions as specified in the Community Right to Know Law of 1986 (Superfund Amendments and Reauthorization Act [SARA], Title III). *See "Hazardous Material."*

Hazardous Material (HM): For the purposes of the Safety Data Sheet (SDS), a hazardous material is defined as a material having one or more of the following characteristics:

- (a) Has a flashpoint below 200°F (93.3°C) closed cup, or is subject to spontaneous heating or is subject to polymerization with release of large amounts of energy when handled, stored, and shipped without adequate control.
- (b) Has a threshold limit value (TLV) below 1000 ppm for gases and vapors, below 500 mg/m³ for fumes, and below 30 mppcf for dusts.
- (c) A single oral dose which will cause 50 percent fatalities to test animals when administered in doses of less than 500 mg per kilogram of test animal weight.
- (d) Is a strong oxidizing or reducing agent.
- (e) Causes first degree burns to skin in short time exposure or is systematically toxic by skin contact.
- (f) In the course of normal operations, may produce dusts, gases, fumes, vapors, mists, or smokes with one or more of the above characteristics.
- (g) Produces sensitizing or irritating effects.
- (h) Is radioactive.
- (i) The item has special characteristics, which in the opinion of the manufacturer could cause harm to personnel if used or stored improperly.

Hazardous Substance: Any substance that, because of its quantity, concentration, or hazardous properties, may pose a substantial hazard to human health or the environment when purposely released or accidentally spilled.

HCP: Hearing Conservation Program – Such programs typically include: monitoring, audiometric testing, hearing protectors, training, and recordkeeping requirements.

IHFOM: The Navy Industrial Hygiene Field Operations Manual
<http://www.med.navy.mil/sites/nmcphc/industrial-hygiene/industrial-hygiene-field-operations-manual/Pages/default.aspx>

L_{avg}: Best described as the Average Sound Level over the period of the measurement. Usually measured A-weighted but there is no time constant applied. As it is an average, it will settle to a steady value, making it much easier to read accurately than with a simple instantaneous Sound Level. Being an average, it is also showing the total energy of the noise being measured, so it is a better indicator of potential hearing damage or the likelihood that the noise will generate complaints.

LEV: Local Exhaust Ventilation – an engineering control form which relies on exhaust systems equipped with specially designed ‘hoods’ which capture dusts, fumes, mists, gases or vapors to prevent or reduce the inhalation contaminants.

Mandatory: 1. authoritatively ordered; obligatory; compulsory: *It is mandatory that all personnel show ID badges when entering the gate.*
2. permitting no option; not to be disregarded or modified: *e.g. a mandatory requirement*

MCE Filter: Mixed Cellulose Ester membrane filters – a type of sampling media used to collect specific particulates as a part of Industrial Hygiene evaluation.

Micrograms per cubic meter ($\mu\text{g}/\text{cu.m.}$ or $\mu\text{g}/\text{m}^3$): A unit of measure for exposures to materials based on mass per unit volume. A microgram represents one millionth of a gram of material. *See also Milligrams per cubic meter and parts per million*

Milligrams per cubic meter ($\text{mg}/\text{cu.m.}$ or mg/m^3): A unit of measure for exposures to materials based on mass per unit volume. A milligram represents one thousandth of a gram of material. *See also Micrograms per cubic meter and parts per million.*

Monitoring, Industrial Hygiene: Measurement of the amount of contaminant or physical stress reaching the worker in the environment.

Monitoring, Medical Surveillance: The preplacement and periodic evaluation of the health status of workers exposed to toxic substances or physical agents in the workplace. Measures the effects of contaminant on a workers body functions and tissues, e.g., decreased lung function, dermatitis, and abnormal blood count.

MSAL: Medical Surveillance Action Level – The recommended threshold at which ongoing medical surveillance should be initiated as an additional assurance that clinical health effects are not occurring. Medical surveillance may be specified by standard or voluntarily adhered to by convention. *See also Action Level*

Navy Safety and Occupational Health (NAVSOH) Standards: Occupational safety and health standards published by the Navy which include, are in addition to, or are alternatives for

the OSHA standards which prescribe conditions and methods necessary to provide a safe and healthful working environment.

NMCPHC: Navy and Marine Corps Public Health Center

NIOSH: The National Institute for Occupational Safety and Health is the federal agency that tests equipment, evaluates and approves respirators, conducts studies of workplace hazards, and proposes occupational exposure standards to OSHA.

NOAA: The National Oceanic and Atmospheric Administration is a federal agency focused on the condition of the oceans and the atmosphere.

NOEL: Navy Occupational Exposure Limit

Noise: Noise is defined as unwanted sound.

Noise Exposure: Personal exposure to a combination of sound levels at various intensities and durations.

Occupation Exposure Limit (OEL): The exposure limit used by a health professional to help determine a workers' or populations' health risk from exposure to a hazard. "OEL" is a generic term used to apply to all exposure limits, to include: DoD standards from DoD 6055.1, Occupational Safety and Health Administration (OSHA), Permissible Exposure Limits (PELs), DoD Component standards, military deployment environmental health limits, American Conference of Governmental Industrial Hygienists (ACGIH[®]), Threshold Limit Values[®] (TLVs[®]), National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limits (RELs), and other exposure limits reviewed for potential use.

Occupational Health: That multidisciplinary field of preventive medicine that is concerned with the promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations, and the prevention and/or treatment of illness or injury induced by factors in the workplace. The major disciplines involved are: occupational medicine, occupational health nursing, epidemiology, toxicology, audiology, industrial hygiene, ergonomics, and health physics. Activities include the design, implementation and evaluation of 30 Dec 05 G-19 comprehensive health and safety programs that promote employee health and safety in the workplace.

OEL: See Occupational Exposure Limit

OSHA: (a) Occupational Safety and Health Act, or

(b) Occupational Safety and Health Administration, Department of Labor (DOL), the federal agency which adopts and enforces health and safety standards.

Peak Noise Level: The true peak value is the maximum value of the noise waveform. The impulse measurement is an integrated measurement. The true peak reading should only be used when determining compliance with OSHA's 140 dB peak sound pressure level [1910.95(b)(1) or 1926.52(e)].

Note: The user should *not* use "impulse" response when measuring true peak sound pressure levels.

PEL: **Permissible Exposure Limit** – The maximum permissible concentration of a toxic chemical or exposure level of a harmful physical agent (normally averaged over an 8-hour period) that an employee may be exposed. This term is applied to OSHA regulated limits.

Potentially Hazardous Noise: Exposure to greater than the Navy Occupational Exposure Limit of 85 dBA sound level or 140 dB peak sound pressure level for impulse noise. The safe exposure time (T) in any 24-hour period may be determined by using the equation:

$$T = 8/2^{((L-85)/3)}$$

Where T = time in hours
L = effective sound level in dBA

Potentially Hazardous Noise Area: Any work area where the A-weighted sound level (continuous or intermittent) is greater than 85 dBA or any work area where the peak sound pressure level exceeds 140 dB.

PPE: **Personal Protective Equipment** – See *Protective Clothing and Protective Equipment*.

ppb: **Parts Per Billion** – A measure of concentration used much like percent. One part per billion represents 0.000001% and conversely, one percent is equivalent to 10,000,000 ppb.

ppm: **Parts Per Million** – A measure of concentration used much like percent. One part per million represents 0.001% and conversely, one percent is equivalent to 10,000 ppm.

Protective Clothing: An article of clothing furnished to an employee at government's (as the employer's) expense and worn for personal safety and protection in the performance of work assignments in potentially hazardous conditions.

Protective Equipment: A device or item to be worn, used, or put in place for the safety or protection of an individual or the public at large, when performing work assignments in or entering hazardous areas or under hazardous conditions. Equipment includes hearing protection, respirators, electrical matting, barricades, traffic cones, lights, safety lines, life jackets, etc.

Prudent Practice: Generally accepted reasonable and prudent practice. "A prudent or good practice" involves not only accepted customary practices, but also prudent behavior in terms of the risks of violation of law or regulation, that is, the risk of adverse publicity for the institution and the risk of injury and/or damages.

PVC Filter: **Poly Vinyl Chloride** filters – a type of sampling media used to collect specific particulates as a part of Industrial Hygiene evaluation.

Reproductive Hazard: Any occupational stressor (biohazard, chemical, or physical) that has the potential to adversely affect the human reproductive and/or developmental process.

RPP: **Respiratory Protection Program**

SCBA: A type of Positive pressure respirator, **Self-Contained Breathing Apparatus** – a form of respiratory protection which relies on bottled breathing air (worn by the user) as the source of air to be breathed by the wearer. Most typically, these devices are equipped with a full face mask which also serves to protect the wearer's face and eyes from incident splash and or gas/vapor contact.

SLM: **Sound Level Meter** – a device for measuring sound or noise levels.

SPL: **Sound Pressure Level** – a term used in discussion of sound or noise measurements.

STEL: **Short-Term Exposure Limit** – Type of Threshold Limit Value, (workplace exposure limit) recommended by the American Conference of Governmental Industrial Hygienists® (ACGIH®). A concentration to which workers can be exposed for a short periods of time (15 min.) without adverse affect. The STEL supplements the TLV® and is recommended where toxic effects have been reported for short-term exposures. *See also Threshold Limit Value (TLV®).*

TLV®: **Threshold Limit Values®** are established by the American Conference of Governmental Industrial Hygienists® (ACGIH®). TLVs refer to airborne concentrations of a substance and represent conditions under which it is believed that nearly all workers may be exposed day after day without adverse effect. *See also TWA, STEL and Ceiling Limits.*

TLV-C: *See Ceiling Limit - TLV*

TWA: **Time-Weighted Average** – Occupational exposure limit guideline - An average value weighted in terms of the actual time that it exists during a given time interval. That is, across a sampling period, an 8-hour work day, etc. *See also OEL, PEL, REL, and TLV®.*

Unacceptable: (in the context of exposure assessment) Exposure estimate of similar exposure group is greater than (100%) of the occupational exposure limit (OEL). *See OEL.*

Uncertain: (in the context of exposure assessment) Additional data is needed to clarify the exposure. Measurements, further fact-finding or sample collection may be necessary in order to resolve an exposure assessment.

UV: **Ultra Violet light** – Ultraviolet rays have wavelengths shorter than visible rays. So short that they are not part of the visible light spectrum.

WBGT: The **wet-bulb globe temperature** is considered the most practical heat stress index, characterizing the effect of a heat stress environment on the individual. WBGT was developed because the dry-bulb temperature alone does not provide a realistic guide to the effects of heat, inasmuch as it does not take humidity and heat radiation into consideration. The WBGT is used in setting the weather “Flag” (white, green, yellow, red, or black) conditions used to communicate the relative risk of heat stress during outdoor work or exercise.