



DEPARTMENT OF THE NAVY
NAVAL MEDICAL ADMINISTRATIVE UNIT
PRESIDIO OF MONTEREY HEALTH CLINIC
MONTEREY, CALIFORNIA 93944-5012

IN REPLY REFER TO
6260
04M/009
18 Jan 00

From: Officer in Charge, Naval Medical Administrative Unit, Monterey
To: Commanding Officer (Code 120), Fleet Numerical Meteorology and
Oceanography Center, Monterey Bay, 7 Grace Hopper Avenue, Stop 1,
Monterey CA 93943-5501

Subj: PERIODIC INDUSTRIAL HYGIENE SURVEY OF FLEET NUMERICAL METEOROLOGY AND
OCEANOGRAPHY CENTER, MONTEREY BAY

Ref: (a) OPNAVINST 5100.23E, Section 0803.a

Encl: (1) Industrial Hygiene Survey Report ET-0041

1. As required by reference (a), a periodic industrial hygiene survey of Fleet Numerical Meteorology and Oceanography Center, Monterey Bay was conducted on 11 January 2000 by the Naval Medical Administrative Unit, Monterey Industrial Hygienist. The survey report ET-0041 is forwarded as enclosure (1).
2. Due to the size and complexity of your command, separate reports will be issued as surveys of individual areas are completed to ensure the timeliness of the information. This survey is a service provided under the overall Occupational Health Program. It is not an inspection report but is designed to assist your Command's Occupational Safety and Health Program by identifying and evaluating actual and potential occupational health hazards and the status of their controls.
3. The Navy Oversight Inspection Unit and other inspection teams rely on these surveys and the corrective actions taken as indicators of an aggressive and comprehensive Navy Occupational Safety and Health (NAVOSH) Program. In order to provide more effective surveys and allow us to better support your NAVOSH Program, responses to this survey are needed. It is requested that a copy of enclosure (1), Section III with corrective actions annotated be returned to the Industrial Hygienist within 60 days of receipt of this report.
4. Further clarification or consultation with respect to these findings and recommendations is available from Eric Thurston at commercial (831) 656-2822.

S. E. Thurston
S.E. THURSTON
By direction

Copy to:
Industrial Hygiene Department, NAVHOSP Lemoore
Administrative Support Department, NAVHOSP Lemoore
Army Medical Clinic, POM/DLI, Occ Med Div

NAVAL MEDICAL ADMINISTRATIVE UNIT, MONTEREY

INDUSTRIAL HYGIENE SURVEY

of

FLEET NUMERICAL METEOROLOGY AND
OCEANOGRAPHY CENTER, MONTEREY BAY

SURVEY # ET-0041

11 JANUARY 2000

Survey Conducted By:

Eric Thurston,
Industrial Hygienist

Enclosure (1)

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EXECUTIVE SUMMARY

This survey was limited to a review of the Supply Warehouse, Engraving Area, and occupational health programs administered by the activity's Safety Manager.

The only problem noted involved the failure to implement a new requirement for the Hazardous Material Control Program, which can be easily fixed.

Specific details of these findings can be found in sections II and III of this report. The cooperation of your staff was greatly appreciated.

COMMON ABBREVIATIONS AND GLOSSARY

(The following abbreviations may be used in this report)

| | |
|---------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| ACM | Asbestos Containing Material. |
| AL | Action Level. Normally ½ PEL. Exposure level at which air sampling, employee training, medical surveillance are required. |
| ANSI | American National Standards Institute. A national consensus standards developing organization. |
| Ceiling | A toxic material exposure level which cannot be exceeded for any length of time. |
| CFM | Cubic feet per minute. Air flow rate. |
| dBA | A sound level reading in decibels as measured on the A-weighted network of a sound level meter. |
| EL | Excursion Limit. Is a concentration limit which cannot be exceeded at any time. |
| EPA | Environmental Protection Agency. |
| f/cc | Fibers per cubic centimeter. A means for expressing airborne asbestos fiber concentrations. |
| FPM | Feet per minute. |
| HAZCOM | Hazard communication. A system for training employees about job hazards through the use of chemical inventories, MSDSs, labels, and personnel training. |
| HCP | Hearing Conservation Program. A program to prevent hearing loss from exposure to noise through the use of hearing protection, training, and medical surveillance. |
| HEPA | High-efficiency particulate air filter. A filter capable of trapping and retaining 99.97% of 0.3 micron diameter, or larger, particles. |
| HM | Hazardous material. A material which is a physical or health hazard per 29 CFR 1910.1200. |
| HW | Hazardous waste. Any discarded or abandoned hazardous substance as defined in 40 CFR 261. |
| LEV | Local exhaust ventilation. Exhaust system at source of contamination. |
| mg/m3 | Milligrams per cubic meter of air. A means for expressing concentrations of dust and metal fumes in air. |
| MMVF | Man made vitreous fibers. (Fiberglass, mineral wool, ceramics) |
| MSAL | Medical Surveillance Action Level. A concentration of an air contaminant at which medical surveillance examinations must be provided to exposed personnel. |
| MSDS | Material Safety Data Sheet. A form used by manufacturers to communicate to users the chemical and physical properties of their products. |
| NAVOSH | Navy Occupational Safety and Health |
| NFPA | National Fire Protection Association |
| NIOSH | National Institute for Occupational Safety and Health. Recommends safety and health standards for OSHA. |
| NPEL | Navy Permissible Exposure Limit. |
| OSHA | Occupational Safety and Health Administration. |
| OV | Organic vapors. |
| PCB | Polychlorinated Biphenyl |

COMMON ABBREVIATIONS AND GLOSSARY

| | |
|----------|---|
| PEL | Permissible Exposure Limit. The maximum permissible allowable exposure level of a toxic chemical or harmful physical agent (normally averaged over 8 hours) to which an employee may be exposed. |
| PPE | Personal Protective Equipment. Clothing or devices furnished to protect employees in performance of work in potentially hazardous areas or conditions. |
| ppm | Parts per million. A means for expressing the concentration of gases and vapors in air. |
| RFR | Radiofrequency/Microwave Radiation. |
| RPPM | Respiratory Protection Program Manager. |
| SCBA | Self Contained Breathing Apparatus. |
| SOP | Standard Operating Procedures. |
| STEL | Short term exposure limit. A 15 minute time weighted average exposure which should not be exceeded at any time during a workday. |
| Stressor | Potential Hazard (e.g. Noise, Chemicals, Dusts) |
| TLV | 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 day after day basis without adverse effect. |
| TWA | Time Weighted Average. A method for averaging varying concentrations over a specified period of time (usually 8 hours). |
| WC | Work Center |
| WMP | Workplace Monitoring Program. A program to evaluate workplace health hazards through surveys and exposure measurement. |

SECTION I

INTRODUCTION

This activity provides oceanographic and meteorological services to the Fleet, Air Force, and private customers throughout the world.

If an operation has been overlooked or significant changes made which are believed to put personnel at serious risk, the industrial hygienist should be contacted, and an evaluation requested.

REPORT ORGANIZATION

Reference: (a) OPNAVINST 5100.23E, Section 0803.f

Section I - contains the background information associated with this report and the schedule for follow-up surveys.

Section II - addresses the status of the command's occupational health programs and hazards specific to individual codes. This section contains a short overview of each program's status and then a listing (Finding, Recommendation, Reference) of specific problems found in the program. Findings are identified by "Finding Numbers" such as "ET-0041-A, ET-0041-B, etc.".

Section III - Contains industrial hygiene assessments of specific work areas. These assessments address the status of workplace hazards and required control procedures. Any deficient conditions or recommended improvements in specific work areas are addressed here and are also identified by "Finding Numbers" such as "ET-0041-1, ET-0041-2, etc.".

Section IV - contains the results of all the sampling/monitoring data conducted in support of this survey. This appendix is arranged in a tabular format showing the date, location, operation sampled, results and the applicable standard.

Section V - identifies the occupational health medical surveillance requirements for each work area based on survey findings.

Section VI - details the sampling required to be conducted for OSHA or NAVOSH regulated stressors or stressors which have been found to result in personnel exposures equal to or in excess of the MSAL. Unless otherwise noted, sampling will be performed by Bureau of Medicine and Surgery (BUMED) industrial hygienists.

Appendix A - contains the OPNAV 5100/14 forms which are required by reference (a). These forms detail the occupational exposures of employees by work center or functional group.

Appendix B - is a copy of the Change In Operation Notification form, which should be filled out whenever a major operational change occurs. By returning the completed forms to the industrial hygienist, all new operations can be evaluated as required by reference (a). This form can be copied as needed for your use.

SURVEY SCHEDULE

References: (a) OPNAVINST 5100.23E, Chapter 8, Sections 0803.b and c
(b) OPNAVINST 5100.23E, Chapter 8, Paragraph 0803.g

In accordance with reference (a), each workplace must be thoroughly evaluated to identify and quantify potential occupational hazards. To document these evaluations, an initial comprehensive (baseline) survey is needed, followed by periodic updated surveys. Reference (b) requires workplaces with recognized potential health hazards to be evaluated annually, and other workplaces to be evaluated periodically. Medical surveillance recommendations and a workplace monitoring plan are developed from the findings of these surveys. Any comments or suggestions regarding these survey schedules should be forwarded to the industrial hygienist. The year of the last survey appears after each work center listing.

WORKPLACE SURVEY SCHEDULE

| <u>Annual Required</u> | <u>2 Year Schedule</u> | <u>4 Year Schedule</u> |
|------------------------|--|------------------------|
| None | 181 Supply(2000) Engraving Area(2000) | All others(1998) |

Change of Operations Notification:

Reference (b) requires an industrial hygiene re-evaluation when workplace changes occur. Please notify the industrial hygienist via your Safety Office whenever major changes occur in a workplace. Examples of major changes include:

- Exposure times have changed.
- New types of equipment are used.
- New chemical/chemical product usage.
- New operations are performed.
- Increase in major chemical usage.
- Changes in exhaust ventilation.

A "CHANGE OF OPERATIONS NOTIFICATION" form is provided in Appendix B and can be used for this purpose. Copy the form as needed for your use.

SECTION II

NAVY OCCUPATIONAL SAFETY AND HEALTH

PROGRAM REVIEWS

The following programs are not required to be maintained by the Fleet Numerical Meteorology and Oceanography Center, Monterey Bay because these hazards are not present:

- Asbestos Control
- Bloodborne Pathogens Control
- Hearing Conservation
- Lead Control
- Manmade Vitreous Fibers Control
- Polychlorinated Biphenyls (PCB's) Control
- Process Control Ventilation
- Respiratory Protection

ERGONOMICS PROGRAM

Reference: (a) OPNAVINST 5100.23E, Chapter 23, paragraph 2306

Per reference (a), training on office ergonomics, back injury prevention, and proper lifting procedures has been provided to all command personnel. The training is also conducted for new hires. Ergonomic problems involving office environments have been resolved through proper body and equipment positioning. Reported injuries are documented on mishap reports, which are reviewed by the command's Safety Manager before being sent to the Human Resources Office. When appropriate, the Safety Manager has consulted the industrial hygienist for specific ergonomic evaluations of injured personnel, and has ordered furniture and equipment to better allow proper body mechanics during computer operation. The warehouseman uses a forklift and pallet jacks to move items over 40 pounds.

Recommendations: None. Provided for your information and records.

HAZARDOUS MATERIALS CONTROL PROGRAM

References: (b) OPNAVINST 5100.23E, Chapter 29, paragraph 0702f(4)

(c) OPNAVINST 5100.23E, Chapter 29, paragraph 0702f(2)

Hazardous materials other than office and cleaning products are not used in great quantities by this command. Many supplies, e.g., battery acid for backup electrical generators, are kept on hand in case they may be required in an urgent or emergency situation, but are not used routinely. The Supply Department Warehouse serves as the issuer of hazardous materials. Hazardous materials authorized use and inventory lists, which are cross-referenced to MSDSs, are being maintained as required by reference (b).

HAZARDOUS MATERIALS CONTROL PROGRAM (con'd)

Finding ET-0041-A: The activity has not implemented a new requirement for this program outlined in reference (c), namely that the hazardous materials authorized use list (AUL) include processes for which the materials are to be used.

Recommendations: The activity is included in the Naval Postgraduate School, Monterey's Hazardous Materials Control Program; their Hazardous Materials Control and Management (HMC&M) Coordinator is in the process of implementing this requirement in her program. Coordinate identifying processes which hazardous materials are used on the AUL with her.

REPRODUCTIVE HAZARDS CONTROL PROGRAM

References: (d) OPNAVINST 5100.23E, Chapter 29, Appendix 29-A
(e) Navy Environmental Health Center Technical Manual NEHC-TM92-2

Material that poses a potential reproductive hazard (as defined by reference (d)) is limited to carbon monoxide present in the exhaust of the forklift used by the Supply Warehouse. Significant exposure is not expected as discussed in section III of this report.

Recommendations:

In order to properly control reproductive hazards in the workplace, employees are encouraged to:

- Inform the supervisor as soon as possible that they are pregnant, completely fill out the questionnaire provided by reference (e), and request an evaluation by the Safety Manager, Industrial Hygienist, and the Presidio of Monterey Occupational Health Nurse.
- Follow all recommendations from the Safety Office to limit exposure to reproductive hazards in the workplace.

SECTION III

INDUSTRIAL HYGIENE ASSESSMENTS

INDUSTRIAL HYGIENE ASSESSMENT

ACTIVITY: FNMOC Monterey Bay FILE NO.: ET-0041 DATE: 11 Jan 00

DEPARTMENT: Code 181, Supply Dept, Warehouse POC: Dennis Farber

LOCATION: Bldgs 700,701,703,704,708 IND. HYG: Eric Thurston

FUNCTION:

Receives, stores and distributes supplies used by the command. Maintains hazardous materials storage lockers for the command. Coordinates shipment of excess property to the local Defense Reutilization and Marketing Office (DRMO).

INDUSTRIAL HYGIENE ASSESSMENT

The following operations will not expose personnel to hazardous occupational stressors in excess of established health standards:

1. Ergonomics, heavy lifting. Personnel use a propane-powered forklift or pallet movers to move items over 40 pounds. The worker has received back injury prevention training and training on proper lifting procedures.
2. Carbon monoxide and noise during use of the propane forklift. Propane burner exhaust is diluted by outdoor air and rollup doors are kept open during forklift operation inside the warehouse. The measured noise level of the forklift does not exceed the Navy noise criterion level of 84 dBA outlined in reference (a).
3. Chemical containers issue: significant exposure is unlikely because the material is stored in sealed containers.

The following operations potentially expose personnel to stressors identified by OPNAVINST 5100.23D, Chapter 29, Appendix 29-A as reproductive hazards:

2. Carbon monoxide during operation of the propane forklift. Minimal exposure is expected as discussed above. Personnel who wish reproductive hazards counseling should contact the Occupational Health Nurse of the Presidio of Monterey medical clinic.

RECOMMENDATIONS: None.

FINDINGS: None.

REFERENCES:

(a) OPNAVINST 5100.23E, Chapter 18, paragraph 1803.a

INDUSTRIAL HYGIENE ASSESSMENT

ACTIVITY: FNMOC Monterey Bay FILE NO.: ET-0041 DATE: 11 Jan 00

DEPARTMENT: Command Senior Chief, Engraving Area POC: Dennis Farber

LOCATION: Bldg 700, Room 171 IND. HYG: Eric Thurston

FUNCTION:

Two Petty Officers in the command use this area approximately twice per month to engrave plastic or brass nametags and signs using an engravograph machine.

INDUSTRIAL HYGIENE ASSESSMENT

The following operations will not expose personnel to hazardous occupational stressors in excess of established health standards:

Noise, and copper, zinc oxide, and plastic dust, during engraving. Only minimal amounts of dust are created during this process. The measured noise levels of the engravograph are below the Navy noise criterion level of 84 dBA outlined in reference (a).

There are no operations that potentially expose personnel to stressors identified by OPNAVINST 5100.23D, Chapter 29, Appendix 29-A as reproductive hazards.

RECOMMENDATIONS: None.

FINDINGS: None.

REFERENCES:

(a) OPNAVINST 5100.23E, Chapter 18, paragraph 1803.a

SECTION VI
INDUSTRIAL HYGIENE SURVEY DATA

This Section contains the sampling/monitoring conducted in support of this survey. It should be noted that the measured levels of chemical and physical hazards are compared to the standards without regard to any personal protective equipment that may be worn or the protection afforded by it. The goal of the NAVOSH Program is to reduce workplace hazard levels by other means so that personal protective equipment is not required.

The sampling and analyses performed in support of this survey follow methods approved and validated by OSHA, NIOSH, or by other appropriate Naval instructions. When such methods are either unavailable or not applicable, other consensus methods may be used. In all cases, accepted professional industrial hygiene practices are followed. Documentation concerning the types of instruments used and their calibration records are held by the Naval Medical Admin Unit, Monterey Bay industrial hygienist.

SECTION V

MEDICAL SURVEILLANCE MATRIX

The Medical Surveillance Matrix is provided to assist your command in assigning personnel to required medical surveillance. Medical surveillance for a work group must be based on exposure levels at or above the MSAL and exposure frequency of ten days per quarter or thirty days per year or as required by regulations or instruction

| | | WORKER GROUP | | | | | | | |
|--|--|---------------------------------------|----------------------|-------------------------|---------------|--|--|--|--|
| N O H I M S C O D E | F O R M E R C O D E | EXAM | Supply, Warehouseman | Bldg 700 Engraving Area | All Others | | | | |
| | | | 601 | 217 | ACIDS/ALKALIS | | | | |
| 114 | 02 | ASBESTOS CURRENT WORKER > MSAL | | | | | | | |
| 178 | --- | BLOOD AND/OR BODY FLUIDS | | | | | | | |
| 124 | 24 | CADMIUM | | | | | | | |
| 127 | --- | CARBON MONOXIDE | | | | | | | |
| 133 | 08 | CHROMIC ACID/CHROMIUM VI | | | | | | | |
| 156 | 14 | CYANIDE SALTS/HYDROGEN CYANIDE | | | | | | | |
| 148 | 25 | ETHYLENE OXIDE | | | | | | | |
| 212 | 101 | FIBROUS GLASS | | | | | | | |
| 150 | 14 | FLUORIDES | | | | | | | |
| 718 | --- | FREON | | | | | | | |
| 711 | 230 | HAZARDOUS WASTE WORKER/SPILL RESPONSE | | | | | | | |
| 502 | 208 | HEAT | | | | | | | |
| 196 | 07 | ISOCYANATES | | | | | | | |
| 506 | 212 | LASER RADIATION - CLASS IIIb & IV | | | | | | | |
| 161 | 04 | LEAD (INORGANIC) | | | | | | | |
| 162 | --- | MACHINE OIL MISTS/CUTTING FLUIDS | | | | | | | |
| 212 | --- | MANMADE MINERAL FIBERS | | | | | | | |
| 163 | 05 | MERCURY | | | | | | | |
| 602 | 218 | METAL FUMES | | | | | | | |
| 168 | 03 | METHYLENE CHLORIDE | | | | | | | |
| 172 | 23 | NICKEL (INORGANIC) | | | | | | | |
| 174 | 14 | NITROGEN OXIDES | | | | | | | |
| 503 | 209 | NOISE | | | | | | | |
| 179 | 06 | ORGANOPHOSPHATE/CARBAMATE COMPOUNDS | | | | | | | |
| 180 | 19 | ORGANOTIN COMPOUNDS | | | | | | | |
| 184 | 22 | POLYCHLORINATED BIPHENYLS (PCB) | | | | | | | |
| 507 | 213 | RADIOFREQUENCY & MICROWAVE RADIATION | | | | | | | |
| 716 | 235 | RESPIRATOR USER CERTIFICATION EXAM | | | | | | | |
| 187 | 01 | SILICA, CRYSTALLINE | | | | | | | |
| 603 | 219 | SOLVENTS, MIXED | | | | | | | |
| 189 | --- | STYRENE | | | | | | | |
| 197 | 10 | 1,1,1 TRICHLOROETHANE | | | | | | | |
| 508 | 214 | VIBRATION, SEGMENTAL | | | | | | | |
| 702 | 221 | WASTEWATER/SEWAGE WORKER | | | | | | | |
| 133 | 08 | ZINC CHROMATE | | | | | | | |
| 710 | | OTHER: FORKLIFT OPERATOR | 710 | | | | | | |
| 510 | | OTHER: SIGHT CONSERVATION | | 510 | | | | | |
| ////////// | | NONE REQUIRED | | | X | | | | |

SECTION VI

WORKPLACE MONITORING PROGRAM

The attached Workplace Monitoring Plan presents stressors and/or systems which need to be evaluated periodically during the coming year. Items included on the plan are based on regulations, professional knowledge and information obtained from supervisors. The plan should be reviewed to ensure operational information is correct. The industrial hygienist will have to be contacted when operations are scheduled so your Command's sampling can be completed. Changes or deletions of operations should also be communicated to the industrial hygienist so that the Workplace Monitoring Plan can be amended.

Fleet Numerical Meteorology and
Oceanography Center, Monterey Bay

WORKPLACE MONITORING PLAN
11 January 2000

| <u>LOCATION/JOB</u> | <u>STRESSOR</u> | <u># MEAS.</u> <u>REQUIRED</u> | <u>MEAS.</u> <u>METHOD¹</u> | <u>MEASURING</u> <u>FREQUENCY</u> | <u>MAN HRS.</u> <u>PER YEAR</u> |
|---------------------|-----------------|-----------------------------------|---|--------------------------------------|------------------------------------|
|---------------------|-----------------|-----------------------------------|---|--------------------------------------|------------------------------------|

None required.

Air samples for each chemical stressor will be collected using sampling methods listed in the Industrial Hygiene Sampling Guide for Consolidated Industrial Hygiene Laboratories, Navy Environmental Health Center Technical Manual NEHC-TM6290.91-2, Revision B, March 1999. Asbestos monitoring will include EL and area sampling.

1: Use the following codes to indicate sampler and sampling location:

SAMPLER:

DR-direct reading instrument
DT-detector tube
AT-adsorption tube
IM-impinger/bubbler
FI-filter
ND-noise dosimeter
PD-personal dosimeter
OT-other (specify)

SAMPLING LOCATION:

GA-general area
BZ-breathing zone
HZ-hearing zone
SZ-source zone
OT-other (specify)

APPENDIX A

OPNAV 5100/14s

Reference: (a) OPNAVINST 5100.23E, paragraph 0803.f

This appendix contains the OPNAV 5100/14 forms which are required by reference (a). These forms detail the occupational exposures of employees by work center or functional group. These forms are used to develop the workplace monitoring program in Section VI. They also describe the type of work done in each area and can be used to verify that all work areas were included in the survey.

WORKPLACE INFORMATION

Activity: FNMOC Monterey Bay **Supervisor:** SKC Perez **Phone:** (831)656-4680

Bldg#: 700,701,703,704,708 **Shop:** 181, Supply Dept, Warehouse

Total Personnel: 2 **Male:** 2 **Female:** 0

Shop Operation: Receives, stores and distributes supplies used by the command. Maintains hazardous materials storage lockers for the command. Coordinates shipment of excess property to the local Defense Reutilization and Marketing Office (DRMO). Consists of one warehouseman and one receiving clerk, who maintains paperwork.

| Potential Hazard | Inter or Cont. | # Workers Exposed | Exposure > MSAL? | Controls in Use |
|---|-------------------------|-------------------|------------------|-----------------|
| Chemicals issue | Once/ 3 mos., 5 mins | 1 | No | None |
| Carbon monoxide, noise, propane-powered forklift | Daily, 2 hrs | 1 | No | None |
| Ergonomics, heavy lifting | Varies, as needed | 1 | No | None |

If no exposure > MSAL, provide rationale:

Chemical exposure is expected to be below the MSALs and PELs during issue because the material is stored in sealed containers. Carbon monoxide exposure is expected to be below the MSAL because propane forklifts do not inherently generate large amounts of carbon monoxide, and because the forklifts are operated either outside or indoors with warehouse rollup doors open. Noise exposure during forklift operation is expected to be below the NPEL because its measured noise level is below the noise criterion level of 84 dBA. Ergonomics during heavy lifting: items over 40 pounds are moved with a forklift or pallet movers. The warehouseman has received back injury training and training on proper lifting procedures.

Signature/Title: _____ **Date:** 11 January 2000
S.E. Thurston,
Industrial Hygienist

MONITORING PLAN

| Stressor to be Sampled | # of Meas. Required | * Measure. Method | **Measure. Location | Frequency per Yr. | Man Hrs. per. Yr. |
|------------------------------------|----------------------------|--------------------------|----------------------------|--------------------------|--------------------------|
| None | | | | | |
| Engineering Controls in Use | | | | | |
| None. | | | | | |

* Use the following Codes:
DR-direct reading instrument
DT-detector tube
AT-adsorption tube
IM-impinger/bubbler
FI-filter
PD-personal dosimeter
ND-noise dosimeter
OT-other (specify)

** Use the following Codes:
GA-general area
BZ-breathing zone
HZ-hearing zone
SZ-source zone
OT-other (specify)

WORKPLACE INFORMATION

Activity: FNMOC Monterey Bay **Supervisor:** AGCS O'Brien **Phone:** (831)656-4452

Bldg#: 700, Room 171 **Shop:** Command Senior Chief, Engraving Room

Total Personnel: 2 **Male:** 2 **Female:** 0

Shop Operation: Two Petty Officers in the command use this area approximately twice per month to engrave plastic or brass nametags and signs using one engravograph machine.

| Potential Hazard | Inter or Cont. | # Workers Exposed | Exposure > MSAL? | Controls in Use |
|---|--------------------------|-------------------|------------------|-----------------|
| Noise, copper, zinc oxide, plastic dust | Twice/month, 1 hour/time | 2 | No | None |

If no exposure > MSAL, provide rationale:

The measured noise levels of the engravograph are below the Navy noise criterion level of 84 dBA. Exposure levels of copper, zinc oxide, and plastic dusts are not expected to exceed the MSALs because the engraving process inherently generates only minimal amounts of dust.

Signature/Title: S.E. Thurston,
Industrial Hygienist **Date:** 11 January 2000

MONITORING PLAN

| Stressor to be Sampled | # of Meas. Required | * Measure. Method | **Measure. Location | Frequency per Yr. | Man Hrs. per. Yr. |
|------------------------------------|----------------------------|--------------------------|----------------------------|--------------------------|--------------------------|
| None | | | | | |
| Engineering Controls in Use | | | | | |
| None. | | | | | |

* Use the following Codes:
DR-direct reading instrument
DT-detector tube
AT-adsorption tube
IM-impinger/bubbler
FI-filter
PD-personal dosimeter
ND-noise dosimeter
OT-other (specify)

** Use the following Codes:
GA-general area
BZ-breathing zone
HZ-hearing zone
SZ-source zone
OT-other (specify)

APPENDIX B

CHANGE OF OPERATION NOTIFICATION

Please use this form to notify the industrial hygienist of any changes to operations conducted by your department. The notification form may be copied as needed. The completed forms can be returned to:

NAVAL SUPPORT ACTIVITY, MONTEREY BAY
CODE N15, SAFETY OFFICE (ATTN: INDUSTRIAL HYGIENIST)
1 UNIVERSITY CIRCLE
MONTEREY CA 93943

FOREMAN/SUPERVISOR:

EXT:

BLDG:

COMMAND/SHOP: FNMOC Monterey

WORK AREA:

SURVEY REPORT: ET-0041

INSTRUCTIONS TO FOREMAN/SUPERVISOR:

The industrial hygiene survey evaluated the potential hazards to your employees based on the operations existing at the time. When your operations change, the potential hazards can also change, and these new conditions must be evaluated. Please contact the industrial hygienist if any of the following occur:

- a. Exposure times have changed.
- b. New operations are performed.
- c. New types of equipment are used.
- d. An increase in major chemical usage.
- e. New chemicals or chemical products are used.
- f. A change in existing exhaust ventilation.

List any changes below.

Date Forwarded: