

BUREAU OF MEDICINE AND SURGERY

STANDARDIZED AFLOAT BASELINE

INDUSTRIAL HYGIENE

SURVEY REPORT FORMAT



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STANDARDIZED AFLOAT BASELINE INDUSTRIAL HYGIENE
SURVEY REPORT FORMAT**

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ELEMENT I

BACKGROUND INFORMATION

AFLOAT BASELINE INDUSTRIAL HYGIENE SURVEY PLAN

Prior to actual survey ...

1. Meet with Safety Officer and MDR
Provide Pre-survey Package to ship
2. Review Completed Pre-survey Package Information

During survey ...

3. In-brief with CO/XO (IH should request)
4. Reviewing the following items will be helpful:
 - a. Past IH Survey Report (if present)
 - b. OPPE inspection report (Heat and Hearing sections only)
 - c. INSURV report and follow-up recommendations (NAVOSH section only)
 - d. Safety Training Schedule and Records (LRTP)
 - e. TYCOM Medical Readiness Inspection
 - f. IMA Inspection
 - g. LOE; PEB; LOA (ISIC OR TYCOM)
 - h. ATG Assist visit results
 - i. EHS Surveys (e.g., pesticide use, storage, handling, PPE)
 - j. CSMP (1 Delta Option)
 - k. 3M System on CD
 - l. Temperature logs and heat stress surveys (one year)
 - m. Any heat stress injury reports (NAVMED 6500/1 (Rev 9-92) for past year
 - n. List of personnel in medical surveillance programs (i.e. hearing, sight, respiratory, lead, asbestos, etc.)
 - o. List of HAZMAT storage spaces/lockers
5. Interview (if necessary):
 - a. NAVOSH program managers (RPO, HM Coordinator, etc.)
 - b. Heat stress monitors
 - c. Respirator fit test/issue personnel
 - d. Workcenter supervisors
 - e. Medical Department Representative (MDR)
 - f. Deck Plate Personnel (compliance and awareness training)
6. Do a walk-through IH Survey in all work spaces
7. Conduct noise survey and develop list of noise hazardous areas/processes (if required)

AFLOAT BASELINE INDUSTRIAL HYGIENE SURVEY PLAN (continued)

8. Develop list of eye hazardous areas/processes (if required)
9. Conduct Workplace Assessments (exposure monitoring)
10. Develop list of areas/processes requiring respiratory protection
11. Develop a list of Medical Surveillance Requirements
12. Evaluate ventilation used for control of contaminants
13. Meet ships needs (e.g. training, help with SOP's)
14. Out-brief CO/XO (IH request)
15. Provide informal summary report of findings to the Safety Officer.
16. Complete Industrial Hygiene Survey Report. In general, this should be done within one month of on-site survey completion or whenever sampling results are available.

INDUSTRIAL HYGIENE PRE-SURVEY INFORMATION

(IH PRE-SURVEY MSG EXAMPLE)

RTTUZYUW 5400 1641135-UUUU--RUCBSUU.
ZNR UUUUU
R 131135Z JUN 94 ZYB
FM NAVY ENVIRONMENTAL AND PREVENTIVE MEDICINE UNIT 2 or
(NAVHOSP)
TO USS SHIP
BT

UNCLAS //N05100//

MSGID/GENADMIN//

SUBJ/BASELINE INDUSTRIAL HYGIENE SURVEY

REF/A/LTR/USS SHIP/SER N45/0392/13JUN94//

REF/B/DOC/OPNAV/19JAN94//

NARR/REF A IS REQUEST FOR IH SURVEY. REF B IS OPNAVINST

5100.19C NAVOSH PROGRAM MANUAL FOR FORCES AFLOAT.//

POC/HORN D./LCDR/PRIPHN:(804) 444-3860/-/-/SECPHN:DSN

564-3860//

RMKS/1. A BASELINE IH SURVEY IS SCHEDULED FOR 01-28 MAR 95 AS REQUESTED BY REF A. SURVEY CONSISTS OF AN EVALUATION OF WORKCENTER PROCESSES AND RELATED VENTILATION SYSTEMS TO QUANTIFY HAZARDOUS EXPOSURES (E.G., TO CHEMICALS AND NOISE), RECOMMEND PERSONAL PROTECTIVE EQUIPMENT AND ASSIST IN CORRECTING OCCUPATIONAL HEALTH PROBLEMS. THE SURVEY TEAM CAN ALSO PROVIDE ASBESTOS IDENTIFICATION SERVICES, AUDIOMETRIC BOOTH CERTIFICATION, RESPIRATORY FIT TESTING, ASSISTANCE IN WRITING INSTRUCTIONS (SOPS), AND NAVOSH TRAINING UPON REQUEST (TIME PERMITTING). THIS IS NOT AN INSPECTION AND SURVEY RESULTS DO NOT GO TO HIGHER AUTHORITY.

2. THE SURVEY TEAM CONSISTS OF:

LCDR D.S. HORN 012-34-5678 SECRET

CLEARANCE

LT C.J. JONES 123-45-6789 SECRET

CLEARANCE

HM2 P.O. TUBE 234-56-7890 SECRET

CLEARANCE

3. TO MAXIMIZE SURVEY BENEFITS WE SUGGEST THE PROGRAM MANAGERS IDENTIFY YOUR PARTICULAR NEEDS AND QUESTIONS PRIOR TO THE SURVEY AND BE AVAILABLE TO WORK WITH SURVEY TEAM. THIS WILL ALLOW US TO FOCUS ON FIXING PROBLEMS AND ANSWERING YOUR QUESTIONS. THE BEST WAY TO IDENTIFY NEEDS IS THROUGH THE SELF EVALUATION CHECKLISTS IN REF B.

4. **(Notes to IH:)** UNDERWAY TIME WILL BE NEEDED AND SHOULD BE MENTIONED HERE WITH AN EXPLANATION OF WHAT NEEDS TO BE DONE. IF FEMALE IS TO BE PART OF TEAM, IDENTIFY IN PARA 2.

5. CONTACT POC TO CONFIRM SURVEY DATES, SCHEDULE AN INBRIEF WITH CO/XO, AND IDENTIFY ANY SPECIAL NEEDS FOR WHICH WE SHOULD PREPARE.

BT

#5400

NNNN

INDUSTRIAL HYGIENE PRE-SURVEY INFORMATION

(Notes to IH:) This information can be hand delivered or sent to the ship under separate cover.

Ref: (a) OPNAVINST 5100.19C
(b) 29 CFR 1910.1030

1. We will conduct the following NAVOSH Program Reviews if applicable to your ship:

<u>PROGRAM</u>	<u>CHAPTER</u>
a. Asbestos	B1
b. Heat Stress	B2
c. Hazardous Material	B3
d. Hearing Conservation	B4
e. Respiratory Protection	B6
f. Lead	B10
g. Personnel Protective Equipment	B12
h. Mercury	B13 (Tenders Only)
i. Polychlorinated Biphenyls	B14
j. Man-made Vitreous Fibers	B15
k. Bloodborne Pathogens	29 CFR 1910.1030

Note: Examples of other areas that will be included in the survey are Medical Surveillance, NAVOSH Training, Reproductive Hazards and Cadmium.

2. During the survey we will need to have available:

- a. POC's for each program area
- b. Pertinent ship's NAVOSH instructions.
- c. NAVOSH appointment letters and collateral duty list.
- d. Training records and rosters for Respiratory Protection.
- e. The last NAVOSH program self-evaluation (OPNAVINST 5100.19C checklists). We will use this to identify items we can help fix during the survey.

3. If you would like special assistance in the following areas, please let us know so that we may be prepared. Specific training, fit testing, SOP's, **(Note to IH: modify this list to reflect the services you provide).**

(Notes to IH:)

COMMAND INBRIEF

1. POSITIVE FIRST IMPRESSION (ITS YOUR ONLY CHANCE).

a. Uniform (dry-cleaned and/or well ironed w/military press), reg haircut, shoes shined (no corframs), collar devices, ribbons not grubby. If civilian, dress in proper attire, don't wear jump suits used for entering tanks/voids etc.,. In other words, look sharp!

b. Be on time, preferably 15 minutes in advance. By the time you get from the quarterdeck, logged in and to the wardroom it may take awhile. Never keep CO/XO waiting!! Sometimes ships require a message to confirm dates, security clearance, berthing (female) and other additional information during your visit. Be sure that is handled before your visit with your point of contact. Because of female berthing constraints on some classes of ships, make sure you have properly coordinated in advance. Advance planning - the five P's!

c. Make sure you are familiar with wardroom etiquette. Military courtesy and protocol is important.

d. After senior member introduces him/herself, then introduce yourself.

e. Agenda printed up paraphrasing the basic elements of an IH survey and time frame outlining the progression of the survey.

2. THIS IS AN INDUSTRIAL HYGIENE SURVEY.

a. **Not an inspection.** The survey is the ship's and doesn't go to higher authority (group/TYCOM). Briefly explain to the skipper what it is, why it is required and how long it will take. Remember the CO/XO has a lot on his/her mind and doesn't want a long winded dissertation... Be brief and concise. Explain this survey report may be asked for, and viewed by, subsequent inspection teams. Focus on the fact that you are there to help fix problems on-site, if possible.

b. Explain other support that you can provide to the ship:

- (1) Training in NAVOSH areas
- (2) Analysis of suspected materials (e.g., asbestos)
- (3) Other additional support.

c. Ask if there are any particular areas the CO wants you to look at. Tell him/her at this time who you want to accompany you, and whether he wants you to check in with anybody else before or during the course of the survey.

3. IH SURVEY PROCESS.

a. A walk-through survey of each shop to evaluate the exposures from various types of chemicals, work processes/operations and substances, and flammable liquid storerooms. For ship-wide evolutions, evaluate as a part of the responsible work-center (e.g., helo ops-deck division, fire drills-DC division, etc.,).

b. Sampling is conducted to quantify any adverse exposures, and from that evaluation recommendations for control are formulated.

c. List of eye/noise hazardous areas

d. List of processes where respiratory protection is required

e. Ventilation evaluation of local exhaust systems

f. Medical surveillance based upon sampling or professional judgement

g. Recommendations

4. STATUS REPORTS.

a. Most ships like to find out as soon as possible the results of the survey so they can correct the discrepancy. Periodic debriefs may be desirable. Make arrangements at in-brief on how often and to whom status reports should be made.

5. CONDUCTING SURVEY.

a. As you go through each work center, ensure a ship representative is with you at all times. Check in with work center supervisor first.

b. While conducting your survey of each work center, try to do as much awareness training as possible and explain the details of your work to interested as well uninterested observers. Do as much public relations as you can. Ask neutral questions to facilitate knowledge and information flow but keep moving.

c. Personnel sampling. Put the people at ease and explain what you are doing and why you are doing the sampling. Don't alarm workers with too many facts about various occupational diseases. Shipboard rumor control spreads faster than wild fires.

d. Remember you're perceived to be the expert. Set the example. Wear PPE required for each individual shop you observe.

e. Consult with Safety Officer (MDR for Subs) regarding how out-brief will be handled (e.g., daily field notes or written synopsis). Safety Officer should keep a running list of notes as well.

f. Make sure you are aware of the CO's "sensitivities" prior to the debrief.

COMMAND DEBRIEF

1. Debrief the Division Officers, Department Heads, Command Master Chief, and Safety Officer well in advance so he/she has the opportunity to fix things that require minimal correction. This also allows the Safety Officer to develop plan of action/corrective measures, if needed.

2. You don't want any surprises at debrief for the CO/XO.

3. Explain highlights of survey.

4. This is an ideal time to offer further services to the ship.

5. Provide a written debrief summary for all attendees. Hit the high points and keep the debrief short (<10 minutes). CO/XO needs only the big ticket items. However, the Safety Department Head needs shop by shop list of findings.

(EXAMPLE)
COVER LETTER

5100
Ser 05/405025
19 Jan 1994

From: Officer in Charge, Navy Environmental and Preventive
Medicine Unit No. 2 (or NAVHOSP/BRMEDCLINIC etc.,)
To: Commanding Officer USS SHIP (CVN 80)

Subj: BASELINE INDUSTRIAL HYGIENE SURVEY

Ref: (a) Your ltr 6240 Ser Medical:jjp/340 of 07 Dec 93
(b) OPNAVINST 5100.19C

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

1. In response to reference (a), and in accordance with reference (b), a Baseline Industrial Hygiene (IH) Survey of the USS SHIP (CVN 80) was conducted both pier side and underway during the period 1-28 March 1995.

2. The purpose of this survey is to provide you with:
a. An evaluation of the occupational health aspects of your Navy Occupational Safety and Health (NAVOSH) Program;
b. A detailed evaluation of work processes and associated health hazards in each workcenter (where applicable); and,
c. Assistance in resolving occupational health problems.

3. Major findings are summarized in enclosure (1). Enclosure (2) provides details concerning occupational health programs and recommendations for improvement.

4. Retain this baseline survey report on-board indefinitely. It is likely that portions of it or the entire report will be needed for review by various authorities, such as INSURV, TYCOM (reporting requirement), OPPE, or NAVSAFECEN.

5. **FOLLOW-UP ASSISTANCE.** This was an assist visit, not an inspection. We want to help **correct** the problems identified. For example, we will be glad to provide the needed hearing conservation and lead control training. We also need to be notified of any changes which might affect personnel exposures so that we can re-evaluate. We appreciate the support and cooperation of your entire staff. My point of contact is **LT Andy Schmidt** who can be reached at (804) 444-7671. O. I. C.

EXECUTIVE SUMMARY GENERAL GUIDANCE

1. The purpose of the executive summary is to focus the CO's attention on the most important issues and suggest ways to fix problems (how other ships handled it). If you want to ensure action on these issues, you must capture the CO's interest here. Assume this is the only part of the report the CO will read. You must make it count.

2. Follow these rules:

- 2 PAGES, MAX! **PREFERABLY 1 PAGE.**
- MENTION ONLY MOST IMPORTANT ISSUES! Resist temptation to say who did what where when. Give "bottom line" info.
- BE CONCISE. Explanations go in the body of the report.
- AVOID OR DOWNPLAY REFERENCES. They're distractions here.
They belong with explanations in body of report.
- USE SHORT PARAGRAPHS. Long ones swamp ideas.
- RELY ON EVERYDAY WORDS (use **PLAIN ENGLISH**): "use" vice "utilize", "start" vice "commence", "best" vice "optimum".
See Navy Correspondence Manual for further examples.
- USE DISCIPLINED SHORT SENTENCES (like FITREP's). Most important part should be at beginning or end of sentence.
- USE ACTIVE VICE PASSIVE WRITING.
- TARGET WRITING TO CO/XO
- USE KUDOS. If some area/person/program was great, say So here. But beware of trite, hollow praise. It Weakens your impact.

3. Chapter one of the Navy Correspondence Manual has great guidance on simple, direct writing. Review it often.

SPECIFIC GUIDANCE

1. First paragraph must provide concise overall assessment of command's program. This is what the CO wants to know. You can use whatever words you're comfortable with but try to avoid sounding like an inspection grade.

2. Then list program/stressors and their major findings in order of importance. Mention most important issues first. A list of programs with no major findings should be mentioned last or not at all.

3. Then mention any worksite findings or trends which merit the CO's attention (if any). Include kudos for particularly outstanding areas. These are optional items to include only if significant.

4. Describe any employee notification requirements and the mandatory time frames. This only applies if survey included air sampling for chemicals with specific OSHA notification requirements.

(EXAMPLE)
USS SHIP
EXECUTIVE SUMMARY
BASELINE INDUSTRIAL HYGIENE SURVEY
01-28 MAR 1995

1. In general the industrial hygiene aspects of your NAVOSH program are satisfactory (outstanding, fine, fully implemented, marginal, not fully implemented, etc.,). Lead Control and Hearing Conservation Programs are, however, in need of improvement.

2. **HAZARDOUS MATERIAL CONTROL:** Outstanding!

3. **LEAD CONTROL:**

a. Medical surveillance program not in place for some people in Deck Division who are exposed 30 or more days per year.(requires semi-annual blood tests)

b. Training not being provided.

c. Proper work procedures not being followed (e.g. sanders used to remove paint vice needle guns). This causes much higher personnel exposures to toxic chemicals.

d. Adequate personal protective clothing and equipment (e.g., HEPA respirators)is not available.

4. **HEARING CONSERVATION:**

a. Not all personnel in the Hearing Conservation Program have had their annual audiogram.

b. Hearing protection was unavailable or in poor condition in many locations.

c. Documentation for required training unavailable.

d. Noise survey results do not support all personnel being placed in this program.

5. **RESPIRATORY PROTECTION:** Not enough HEPA respirators onboard for paint removal operations.

6. **Other Programs Evaluated** with less significant or no findings include: Asbestos, Mercury, Heat Stress, Man-Made Vitreous Fibers, Medical Surveillance, Personal Protective Equipment, and OSH Training.

7. **EMPLOYEE NOTIFICATION:** (If applicable) Within five days of your receipt of this report, you are required to notify all employees monitored for lead of the results of that monitoring. Enclosure () contains those results. Notification must be in writing either individually or by posting in the affected employees work area. We suggest you simply post pages _____ to _____ of enclosure (2) in the (applicable workcenter area) and provide copies of it to all personnel monitored.

INTRODUCTION

GENERAL GUIDANCE:

The cover letter, title page, table of contents, and executive summary will precede the Introduction Element of the Industrial Hygiene Survey report.

The table of contents may include the following but must be inclusive of all survey elements actually in the report:

TABLE OF CONTENTS

Executive Summary
Table of Contents
Introduction
OH Administrative Program Evaluations
Index of Shops/Spaces
Workplace Assessments
Ventilation Evaluations
Medical Surveillance Requirements
List of Eye Hazardous Areas/Processes
List of Noise Hazardous Areas/Equipment
List of Respiratory Protection Areas/Processes
List of Recommended OSH Training
Attachments for Technical Information (SOP's)

(Notes to IH:) The report introduction element could include the following statements:

1. As required by OPNAVINST 5100.19C, NAVENPVNTMEDU 5 conducted a baseline industrial hygiene survey on-board the USS SHIP (CVN 80) during 01-28 MAR 1995. An IH survey will be required again in **18 months**. The purpose of the survey was to assist you in improving your NAVOSH Programs and evaluate potential health hazards to the crew. This involved verifying work conditions and evaluating any changes to work processes and operations since the last industrial hygiene survey.

2. After completion of the field portion of this survey, _____ (Commanding Officer, Executive Officer, applicable department heads, etc.) were briefed on preliminary survey findings. The following documents (instructions, SOP's, etc.) were left with _____ (Safety Officer, Medical Officer, Respiratory Protection Program Manager, etc.) at the completion of the survey.

3. This survey report is organized into two main parts: evaluations of occupational health programs and assessments of individual workcenters. The program evaluations are designed to be separated and distributed to responsible program managers. The workplace assessments are designed to be separated from each other and distributed to cognizant supervisory personnel for action.

4. Specific medical surveillance requirements are provided in each workplace assessment. A synopsis of the required medical surveillance for each division is identified in the **Medical Surveillance Program Summary**.

5. A **Risk Assessment Code (RAC)** was assigned to each **correctable** worksite deficiency using the guidelines in OPNAVINST 5100.19C, Chapter A4. The RAC's are noted in the workplace assessments. The RAC is a number, 1 through 5, that expresses the combination of hazard severity with the probability that a mishap might occur. A RAC of 1 indicates a catastrophic hazard with a high probability of occurrence, while a RAC of 5 is a negligible hazard with a very low probability of occurrence. In some cases, a potential hazard is not associated with the work task, resulting in a RAC of N/A, not applicable. If a deficiency cannot be corrected within 30 days, a Ship's Maintenance Action Form (OPNAV 4790/2K) shall be prepared with a Safety Hazard Code entered into Block 15, Safety Hazard IAW para A0404 of OPNAVINST 5100.19C. Certain deficiencies can be entered into your CSMP. If requested, we can assist with the preparation of 2-kilos for engineering control changes.

6. **Supporting documentation** concerning the types of instruments used in the survey, calibration records, detailed worksite notes and supporting data are kept at the NAVENPVNTMEDU (or NAVHOSP).

7. **(Optional) A Workplace Monitoring Plan** is provided. It is based on the results of sampling data collected on your ship during this baseline survey as well as data collected in the past on your ship and from other ships of similar class. Implementation of the monitoring plan is the ship's responsibility. The ship's Safety Officer must coordinate with the supporting IH/IHO.

ELEMENT II

ADMINISTRATIVE EVALUATION OF

OCCUPATIONAL HEALTH ASPECTS

OF THE NAVOSH PROGRAM

(OPTIONAL)

OCCUPATIONAL HEALTH
PROGRAMS SUMMARY

The following program elements were evaluated. Those with an asterisk need improvement.

A. ASBESTOS CONTROL PROGRAM (OPNAVINST 5100.19C, Chap. B1)

- | | |
|--------------------------------------|-------------------------|
| 1. Identification | 6. Rip-out Team |
| 2. Control Procedures | 7. Medical Surveillance |
| 3. Emergency Repairs Only | 8. Disposal |
| 4. AEL/Personal Protective Equipment | 9. Records Report |
| 5. Training | 10. Self Evaluation |

B. HEAT STRESS PROGRAM (Chap. B2)

- | | |
|-----------------------------------|--------------------|
| 1. Engineering Controls/PMS | 4. Exposure Limits |
| 2. Monitoring & Daily Reports | 5. Training |
| 3. Injury Investigation/Reporting | 6. CSMP Current |

C. HAZARDOUS MATERIAL CONTROL & MANAGEMENT PROGRAM (Chap. B3)

- | | |
|--------------------------------|---------------------------|
| 1. HM/HW Coordinator | 8. HICS Implementation |
| 2. Purchasing Controls | 9. Mishap Reports |
| 3. Storage | 10. HM Spills/Emergencies |
| 4. Inventory | 11. Disposal |
| 5. HMIS/MSDS | 12. Training |
| 6. Labeling | 13. Safe Usage |
| 7. Spot Checks/Self Evaluation | |

D. HEARING CONSERVATION PROGRAM (Chap. B4)

- | | |
|---------------------------------------|--------------------------|
| 1. Noise Survey | 6. Training |
| 2. Ear Plugs/Muffs | 7. Medical Surveillance |
| 3. Roster | 8. Labeling |
| 4. List of Noise Hazard Areas | 9. Spot Checks/Self Eval |
| 5. Engineering Fixes of Noise Hazards | 10. Recordkeeping |

E. **RESPIRATORY PROTECTION PROGRAM** (Chap. B6)

- | | |
|------------------------------------|---------------------------|
| 1. Respiratory Protection Officer | 7. Roster |
| 2. Command Guidance | 8. Medical Surveillance |
| 3. Respirator Selection/IH Survey | 9. Fit-testing |
| 4. Respirator Cleaning/Maintenance | 10. Training |
| 5. Respirator Availability & Use | 11. Breathing Air Testing |
| 6. Central Control Points | 12. Self Evaluation |

F. **LEAD CONTROL PROGRAM** (Chap. B10)

- | | |
|----------------------------------|----------------------------|
| 1. IH Evaluation | 5. Medical Surveillance |
| 2. Paint Removal Restriction | 6. Training |
| 3. Control Procedures | 7. Signs |
| 4. Personal Protective Equipment | 8. Env Prot/Waste Disposal |

G. **PERSONAL PROTECTIVE EQUIPMENT** (Chap. B12)

- | | |
|------------------------------------|-----------------|
| 1. Proper Selection & Quantity | 3. Use/Training |
| 2. Strg/Maintenance and Inspection | |

H. **BLOODBORNE PATHOGENS (29 CFR 1910.1030)**

I. **POLYCHLORINATED BIPHENYLS (Chap. B14)**

Ref: (a) NAVSEA PCB ADVISORY 94-1 AND 94-2

J. **MERCURY CONTROL (TENDERS/REPAIR SHIPS ONLY)** (Chap. B13)

- | | |
|------------------------------|-------------------------|
| 1. Mercury Control Officer | 5. Stowage |
| 2. Designated Handling Areas | 6. Medical Surveillance |
| 3. Work Practice Controls | 7. Training |
| 4. Spill Clean-up | |

K. **MAN-MADE VITREOUS FIBERS** (Chap. B15)

- | | |
|----------------------------------|-------------------------|
| 1. IH Evaluation | 5. Medical Surveillance |
| 2. Control Procedures | 6. Disposal |
| 3. Training | 7. Self Evaluation |
| 4. Personal Protective Equipment | |

GENERAL GUIDANCE

(Notes to IH:)

1. If a program does not apply delete it.
2. Many of the elements above cover more than one specific requirement; e.g., HM "Storage" includes: Designation of storage locations, adequacy of storage locations (ventilation/fire suppression), DCA/Safety Officer/MDR/GFE notified of storage locations, segregation of chemicals, restricted access, list of locations reviewed annually, etc.,.
3. This section is for listing "program" findings as opposed to "worksite" findings. Program findings are either:
 - a. Administrative type findings, or ...
 - b. Significant worksite trends (e.g., no eyewash PMS would be listed under the work center findings if it was noticed only a few times, but would be listed here if it was a problem through- out the ship).
4. When writing up worksite trends in this section, be sure to list exactly where you saw these problems. Don't say things like "numerous eyewashes were not receiving PMS".
5. Minimize writing the same findings here and in worksite discrepancies. Write them up only once.
6. List findings (discrepancies) in the order they are mentioned in the summary list.
7. Every item with an asterisk by it in the summary list must have at least one finding explaining what is wrong.
8. All findings/recommendations/references MUST be very specific.
9. Each finding should specify only one discrepancy. If there are several different problems related to one element, mention each problem separately, with its own recommendation and reference.
10. Immediately after the above summary (which will be on one page, except for tenders) continue to the next page.
11. Use a separate page for each program unless two programs can fit entirely on one page.

(EXAMPLE)

PROGRAM DEFICIENCIES AND RECOMMENDATIONS

- A. ASBESTOS CONTROL PROGRAM (No findings)
B. HEAT STRESS PROGRAM Ref (a): OPNAVINST 5100.19C, Chap B2

1. Finding: The dry bulb thermometers in the scullery are hung directly on metal surfaces. (Ref (a), par. B0204c(1))

Recommendation: Hang the thermometers so they are not in direct contact with structural surfaces, are as close as possible to actual work stations, and are not in or at the opening of the supply ventilation. Specific locations were discussed with SKC Langford during the survey.

2. Finding: Outside temperature readings are not being taken during WBGT monitoring. (Ref (a), par. B0204d(4))

Recommendation: Outside dry and wet bulb temperatures should be taken with each set of WBGT readings. Elevated inside temperatures (10⁰ for dry bulb or 5⁰ for wet bulb) may indicate ventilation deficiencies or steam/water leaks.

- C. HAZARDOUS MATERIAL CONTROL & MANAGEMENT PROGRAM
Ref (a): OPNAVINST 5100.19C, Chap B3 & C23 (D15 for subs)

(b): NAVSEA 0938-LP-018-0010

1. Finding: Ventilation in the Hazardous Material Issue room had an 8 minute rate of change which does not meet the required 4 minute rate. An investigation as part of this survey discovered the fan was wired backwards, the ducts needed cleaning, and material was blocking the air intakes. These problems were corrected and the ventilation provided a 3.7 minute rate of change. A 4 minute rate of change requirement is equivalent to 15 air changes per hour. (Ref (a): OPNAVINST 5100.19C, par. B0304g & C2303b, Ref (b) NAVSEA 0938-LP-018-0010, Heating, Ventilation & Air Conditioning Design Criteria for Surface Ships of US Navy)

Recommendation: Ensure ventilation system PMS is conducted and that air intakes are not blocked with supplies. Though not specifically required, our industrial hygiene office would be glad to re-evaluate the ventilation system after any repairs or routine maintenance. This would have quickly caught the problem with the fan wiring.

D. HEARING CONSERVATION PROGRAM
Reference: OPNAVINST 5100.19C, Chap B4

1. Finding:

XX
XX
XX

Recommendation:

XX
XX
XXXXXX

E. RESPIRATORY PROTECTION PROGRAM (No Findings)

F. LEAD CONTROL PROGRAM Reference: OPNAVINST 5100.19C,
Chap B10

1. Finding:

XX
XX
XX

Recommendation:

XX
XX
XXXXXX

2. Finding:

XX
XX
XX

Recommendation:

XX
XX
XXXXXX

G. MAN-MADE VITREOUS FIBERS (No findings)

H. PERSONAL PROTECTIVE EQUIPMENT (No findings)

ELEMENT III

WORKPLACE ASSESSMENT

(Example)

INDEX OF SHOP/SPACES

(Note to IH: Organize this section by department/division. This section of workplace assessments are designed to be separated from another and to be distributed to responsible supervisory personnel (Department Head, Division Officer, Workcenter Supervisor) for action.)

<u>Division</u>	<u>Shop Name</u> <u>Compartment #</u>	<u>Page</u>
R-1	HT Shop (2-72-2-L)	1
	Weld Shop (3-64-3-L)	12

(EXAMPLE)

NAME OF ORGANIZATION THAT PERFORMED IH SURVEY
BASELINE INDUSTRIAL HYGIENE SURVEY OF
USS SHIP (HULL #)
WORKPLACE ASSESSMENT

SECTION 1

SHOP, LOCATION: Name of shop, location of shop [Use FRAME #]

DATE OF SURVEY: Day/Month/Year

REFERENCES: (a) OPNAVINST 5100.19C
(b) 29 CFR 1910.1000

[FOLLOWED BY ANY OTHER REFERENCES YOU CITE, LISTED IN ALPHA ORDER]

ATTACHMENT: (1) Personal Protective Equipment (PPE) Checklist

[IF YOU DO NOT HAVE AN ATTACHMENT, IN THIS CASE A PPE CHECKLIST, FOR THIS REPORT SECTION, THEN THIS LINE IS UNNECESSARY]

1. [INTRODUCTORY PARAGRAPH: TEXT INDICATES NUMBER OF PERSONNEL IN THIS SHOP, BY GENDER, FOLLOWED BY A BRIEF DESCRIPTION OF WHAT THE SHOP DOES].

2. Operations - A summary of the work tasks reported by shop personnel and the potential health hazards associated with them is presented below; a more detailed evaluation of each of the tasks follows this paragraph:

Controls Work task adequate? <u>Yes/No/Unk</u>	Potential health hazard	Number of personnel involved	Frequency & duration of work task	Controls in use	
[EXAMPLE:] Shop work	Noise	12	Daily/Up to 4 hours per day	PPE	Yes
Paint removal Unknown using power tools	Dust, lead*, chromates	5	4 times a month/Up to 4 hrs per day	PPE	
Electrical soldering	Lead*	1	Daily/One hr per day	None	Yes
SMA welding	Metal fume	2	Once per wk/ 2 hrs per day	PPE	Yes

*The asterisked potential health hazard(s) has been classified as a known occupational reproductive hazard in Appendix B of NEHC TM-92-2. Work practices to minimize employee exposures to the asterisks stressors should be followed to the maximum extent practicable. Individuals with questions concerning reproductive issues are encouraged to consult with the [LOCATION OF MEDICAL PROVIDER, Occupational Health Physician,].

[IN FOLLOWING PARAGRAPHS, DISCUSS THE TASKS LISTED IN PARAGRAPH 2, IN THE SAME ORDER THEY WERE LISTED, FOR EXAMPLE:]

3. **SHOP WORK:** OBSERVATION: Sound pressure level (SPL) measurements have been collected during work tasks performed by shop personnel and the measurement results are provided in **TABLE 1.1**. Chapter B4 of reference (a) classifies SPL measurements above 84 dBA as "noise hazardous", and dictates the use of hearing protection devices under such conditions. Personnel routinely wear hearing protection when operating "noise hazardous" equipment. Noise dosimetry measurements were obtained in order to evaluate exposures of shop personnel to noise, and the measurement results are provided in **TABLE 1.2**. Evaluation of the data indicates personnel exposures to noise above the "noise hazardous" criteria established in Chapter B4 of reference (a) are expected. Personnel are currently included in the Command's Hearing Conservation Program.

RECOMMENDATIONS:

a. Continue to wear single hearing protection during "noise hazardous" conditions which may be encountered while working in the shop.

b. Continue to include personnel in the Command's Hearing Conservation Program.

4. **PAINT REMOVAL USING POWER TOOLS:** OBSERVATION: Paint is removed from the ship's exterior by power tools such as pneumatic sanders and needle guns, four times a month for up to four hours per day. Personnel wear goggles, cotton and leather gloves, and hearing protection when removing paint. Personnel wear disposable paper dust/fume/mist respirators issued by the Medical Department. Personnel have been medically evaluated for respirator use, but have not been fit tested for disposable respirators (RAC = 3). Air samples have not been collected at this Command during paint removal operations; personnel were not removing paint during the survey period. This operation cannot be adequately evaluated for personnel exposures to dust, lead, and chromates until air samples have been collected.

RECOMMENDATIONS:

- a. Contact [THE IH PROVIDING FACILITY] prior to the next paint removal operation to schedule sampling.
- b. Continue to wear respirators until a sufficient number of air samples are collected during paint removal operations.
- c. Fit test individuals with disposable respirators prior to their wearing one. For additional information on respirators, consult the **Respiratory Protection Program Summary**, provided elsewhere in this report.
- d. Continue to train all personnel who remove paint IAW Chapter B10 of reference (a).
- e. Prohibit eating, drinking and smoking during paint removal and clean up operations, and wash hands thoroughly after paint removal operations, to prevent the accidental ingestion of lead.
- f. Dispose of paint chips as lead containing waste.
- g. For additional information on lead, consult the **Lead Control Program Summary**, provided elsewhere in this report.
- h. Although not mandated by Chapter B6 of reference (a), we recommend that shop specific respirator SOP's be developed for, and posted in, this shop.

5. **ELECTRICAL SOLDERING:** OBSERVATION: One individual in this shop performs electrical soldering daily for one hour a day. Air samples have been collected during electrical soldering in a wide variety of other Navy work centers. Based on these sampling results, and the short duration of this operation, personnel exposures to lead in excess of the levels established in Chapter B10 of reference (a) are not expected.

RECOMMENDATION:

- a. Continue to train all personnel who perform electrical soldering IAW Chapter B10 of reference (a).
- b. Wash hands thoroughly after electrical soldering, to prevent the accidental ingestion of lead.
- c. For additional information on lead, consult the **Lead Control Program Summary**, provided elsewhere in this report.

6. **SMA WELDING:** OBSERVATION: Two individuals in this shop perform shielded metal arc (SMA) welding one day per week for two hours a day. Personnel wear welding helmets and single hearing protection when welding. The local exhaust ventilation used during welding processes is a fume exhauster. The fume exhauster did not provide the required 100 fpm capture velocity at the point of welding (RAC = 2). Air samples were collected during a SMA welding process that was performed outdoors, and the sampling results are provided in TABLE 1.3. During the sampled task, personnel welded on painted metal items, a practice discouraged by reference (a) (RAC = 3). Based on these sampling results, and the short duration of this operation, personnel exposures to lead in excess of the levels established in Chapter B10 of reference (a), metal fume in excess of the levels established in reference (b) are not expected.

RECOMMENDATION:

- a. Repair the flexible duct and perform routine maintenance on the fume exhauster system. Contact us after this is completed and we can reevaluate the system.
- b. Continue to wear welder's goggles or a welder's helmet when performing SMA welding.
- c. Continue to train personnel who weld on painted items IAW Chapter B10 of reference (a).
- d. In the future, do not weld painted items. Paint should be removed from the area to be welded first, preferable by manual (hand sanding or wire brushing) means.

PERSONAL PROTECTIVE EQUIPMENT (PPE) CHECKLIST:

1. A listing of PPE that should be worn during certain shop processes is provided as Attachment (1). It is recommended that a copy of this checklist be posted in the shop in the vicinity of the operation(s).

MEDICAL SURVEILLANCE RECOMMENDATION:

1. Personnel exposed above 84 dBA TWA should be medically evaluated for exposures to noise (Program 503).

2. Personnel who remove paint using power tools should receive the respirator screening required by Chapter B6 of OPNAVINST 5100.19C. If further evaluation is required use the respirator user certification exam (Program 716).

[NOTE: THESE PROGRAMS ARE FULLY DESCRIBED IN NEHC TM-95-5, THE MEDICAL SURVEILLANCE PROCEDURES MANUAL AND NOHIMS MATRIX.]

(Note to IH:) The PPE Checklist and TABLE 1.1 needs to be created via your word processor. The subsequent tables, TABLE 1.2 and TABLE 1.3, are created by a computerized data handling system, IHIMS; These tables are printed at the touch of a button, and do not have to be word processed. The ease of data manipulation, and data presentation via computer generated TABLES cannot be overemphasized.

**PERSONAL PROTECTIVE EQUIPMENT
CHECKLIST EXAMPLE**

COMMAND: USS SHIP	SUPERVISOR: Name
HULL #: (CVN 80)	TELEPHONE: ###-####
SHOP: DA01, Deck Division	IND. HYG.: Name of IH
DATE: Day Month Year	TELEPHONE: IH phone #

WORK TASK COMMENTS	EYE AND HEARING PROTECTION	CLOTHING AND HAND PROTECTION	MINIMUM RESPIRATORY PROTECTION
Shop work during "noise hazardous operations;	g; h*;		*When working within 6' of the air intake
Paint removal using power tools;	a; g;	i;	a4;
SMA welding;	e or f;	k;	

EYE AND HEARING PROTECTION	CLOTHING AND HAND PROTECTION	RESPIRATORY PROTECTION
-------------------------------	---------------------------------	------------------------

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> a. safety glasses or safety goggles b. chemical splash goggles c. non-ventilated goggles d. face shield e. welding goggles f. welding helmet g. single hearing protection h. double hearing protection i. other | <ul style="list-style-type: none"> a. Tyvek coveralls b. cloth coveralls c. long sleeve shirt d. Tyvek hood e. cloth hood f. leather jacket or vest g. chemical resistant apron g. SCBA i. chemical resistant gloves j. heat resistant gloves k. barrier creams l. other | <ul style="list-style-type: none"> a. 1\2 face b. full face c. hood d. helmet e. powered air purifying f. air supplied 8. with escape h. other 1. organic vapor 2. paint (prefilter) 3. pesticide 4. dust/fume/mist 5. HEPA 6. continuous flow 7. pressure 9. other |
|---|--|---|

demand

(EXAMPLE #1)

TABLE 1.1
SOUND PRESSURE LEVEL MEASUREMENTS

COMMAND: USS SHIP (CVN 80)

SHOP: DA01, Deck Division

EQUIPMENT TYPE	SERIAL OR ID #	WORK TASK/ OPERATION	SOUND LEVELS*		HAZARD RADIUS (FEET)	COMMENTS
			dBA	dBC		
Black & Decker electric drill	8101020	Removing rust from deck	96	94	10-15	
Air intake fan vent	--- Double HP required within 6'	01 level above B1 while operating engines	106	---	15	

--- = Not obtained
N/A = Not applicable

* All measurements were performed with a Type II Sound Level Meter set on slow response; calibrated prior to and after the survey. Measurements made at ear level and at the operator's position, unless otherwise noted.

NOTE: THIS TABLE IS PRODUCED AS PART OF THE WORD PROCESSING TEXT

(EXAMPLE #1)

TABLE 1.2
RESULTS OF NOISE DOSIMETRY FOR
SMAW, CVN 80, HT SHOP, 12-14

SAMPLE#/DATE	EMPLOYEE/ID	OCCUPATION/ JOB TITLE	SAMPLE TIME	8-HR TWA	WORKTASK/ OPERATION CODE	PREDOMINANT NOISE SOURCE	WORKSITE
GG93-0003 11/03/93	X . ANCHOR 5555	HT2	392	87.0 *	SMAW ON MILD STEEL IND-011-08	WELDER SHIP NOISE	12-14
GG93-0001 11/03/93	X . JONES 3333	HT3	395	88.0 *	SMAW ON MILD STEEL IND-011-08	WELDER SHIP NOISE	12-14

NOTE: Sample time expressed in minutes; 8 Hour TWAs are expressed in units of db(A)
The asterisk (*) indicates the time weighted average exceeded the NAVOSH standard of 84 db(A)

CURRENT SURVEY TIME WEIGHTED AVERAGE SUMMARY
SAMPLES COLLECTED ON 3 NOVEMBER 93

NAVY 8-HR TWA EXPOSURE LIMIT (dba)	NUMBER OF SAMPLES	MEASUREMENT RANGE (dba)	GEOMETRIC MEAN (dba)	95th PCTL (dba)	PN %
84	2	87.0- 88.0	-	-	-

(EXAMPLE #1)

TABLE 1.3
RESULTS OF AIR SAMPLING FOR
SMAW & FIRE WATCH SAMPLES(IND-011-08 AND IND-011-16)
CVN 80, HT SHOP, FRAME 12-14

EMPLOYEE NAME ID	TASK/ OPERATION CODE	STRESSOR NAME/ WORKSITE	SAMPLE# DATE	SAMPLE TIME	RESULT (mg/m3)	8-HR TWA (mg/m3)
X. ROGERS 4444	SMAW FIRE WATCH IND-011-16	MANGANESE FUME (As Mn) 12-14	GG93-0005 11/03/93	115 115**	<0.005	0.0009
X. ROGERS 4444	SMAW FIRE WATCH IND-011-16	LEAD 12-14	GG93-0005 11/03/93	115 115**	<0.0020	0.0003
X. ROGERS 4444	SMAW FIRE WATCH IND-011-16	IRON OXIDE DUST AND FUME (As Fe) 12-14	GG93-0005 11/03/93	115 115	<0.0050	0.0009
X. JONES 3333	SMAW ON MILD STEEL IND-011-08	MANGANESE FUME (As Mn) 12-14	GG93-0004 11/03/93	83 83**	0.0510	0.0088
X. JONES 3333	SMAW ON MILD STEEL IND-011-08	LEAD 12-14	GG93-0004 11/03/93	83 83**	0.0030	0.0005
X. JONES 3333	SMAW ON MILD STEEL IND-011-08	IRON OXIDE DUST AND FUME (As Fe) 12-14	GG93-0004 11/03/93	83 83**	0.3500	0.0605
X. ANCHOR 5555	SMAW ON MILD STEEL IND-011-08	MANGANESE FUME (As Mn) 12-14	GG93-0006 11/03/93	85 85**	0.0650	0.0115
X. ANCHOR 5555	SMAW ON MILD STEEL IND-011-08	LEAD 12-14	GG93-0006 11/03/93	85 85**	0.0030	0.0005
X. ANCHOR 5555	SMAW ON MILD STEEL IND-011-08	IRON OXIDE DUST AND FUME (As Fe) 12-14	GG93-0006 11/03/93	85 85**	0.5300	0.0939

"*" The reported value exceeded an OSHA or ACGIH standard

"**" The exposure time used to calculate 8-HR TWA

CURRENT SURVEY TIME WEIGHTED AVERAGE SUMMARY
SAMPLES COLLECTED ON 3 NOVEMBER 93

STRESSOR NAME	NUMBER OF SAMPLES	TWA RANGE (MG/M3)	PEL 8-HR TWA (MG/M3)	PEL STEL (MG/M3)	PEL CEILING (MG/M3)	TLV 8-HR TWA (MG/M3)	TLV STEL (MG/M3)	TLV CEILING (MG/M3)
IRON OXIDE DUST AND FUME (As Fe)	3	0.0009-0.0939	10	-----	-----	5	-----	-----
LEAD	3	0.0003-0.0005	0.05	-----	-----	0.15	-----	-----
MANGANESE FUME (As Mn)	3	0.0009-0.0115	1	3	-----	1	3	-----
HISTORICAL TIME WEIGHTED AVERAGE SAMPLE SUMMARY SAMPLES COLLECTED 3 NOVEMBER 93 TO 3 NOVEMBER 93								
IRON OXIDE DUST AND FUME (As Fe)	1	0.0009-0.0939	10	-----	-----	5	-----	-----
LEAD	1	0.0003-0.0005	0.05	-----	-----	0.15	-----	-----
MANGANESE FUME (As Mn)	1	0.0009-0.0115	1	3	-----	1	3	-----

(EXAMPLE #2)

AIR MONITORING RESULTS
USS SHIP
20 Mar 95

1. PROCESS & LOCATION Installing stanchions. Stick welding on mild steel pipe using rod # 8720. Ear plugs were worn. No respirators were worn because work was outside in open area and was of short duration. Location: Fo'c'sle, starboard side, frame 12-14.

2. EXPOSURE STANDARDS These limits are considered safe for nearly all workers for 8 hours per day forty hours per week. Unless marked with a "C", the limits are 8 hour time-weighted average (8 hour TWA) values. This means it is safe to go above the limit during part of the work day if this is compensated by periods with exposures lower than the limit. A "C" next to an exposure limit indicates that limit is a "ceiling" limit which should not be exceeded without respiratory protection.

Lead (Pb)	0.05 mg/m ³
Iron oxide (Fe)	10 mg/m ³
Manganese (Mn)	5 mg/m ³ C
Noise	84 DBA

3. RESULTS

CHEMICAL MONITORING

TABLE 1.1

SAMPLE DATE: (NOTE TO IH: If more than one sample date, add a date column to the table)

Name or Location/ Sample #	Process	Sample Time (mins)	Actual Results (mg/m3)	8-hr TWA Results (mg/m3)	Over Limit? Yes/No
HT3 Jones 93-0005	Stick Welding	83	Pb 0.003 Mn 0.051 Fe 0.35	Pb 0.0005 Mn 0.009 Fe 0.06	no no no
SN Rogers 93-0006	Fire Watch	115	Pb<0.002 Mn<0.005 Fe<0.005	Pb<0.0005 Mn<0.001 Fe<0.005	no no no
HT2 Anchor 93-0007	Stick Welding	85	Pb 0.003 Mn 0.065 Fe 0.53	Pb 0.0005 Mn 0.012 Fe 0.094	no no no

(Example #2)

NOISE MONITORING

TABLE 1.2

SAMPLE DATE: (NOTE TO IH: If more than one sample date, add a date column to the table)

Name or Location/ Sample #	Process	Sample Time (mins)	Results (DBA)	Over Limit? Yes/No
HT3 Jones 93-0008	Stick Welding Shop work	395	88	yes
SN Rogers 93-0010	Fire Watch Shop work	287	80	no
HT2 Anchor 93-0011	Stick Welding & Shop work	392	87	yes

4. **HAZARDS** (Why we monitored this process)

a. Lead is a very toxic metal. Continued exposures above the safe limit can damage the kidneys, blood-forming system, reproductive organs (in both men and women), central nervous system and respiratory system. Extremely high level overexposures (which are very rare in adults) can cause fatigue, sleep disturbances, headache, aching bones and muscles and digestive problems.

b. Iron oxide has low toxicity and may cause minor symptomless lung changes.

c. Manganese is a metal of moderate toxicity. High level exposures can cause a short-term, generally reversible, flu-like illness called "metal fume fever". Immediate symptoms may include dryness and irritation of the throat. After a few hours delay, chills, fever, nausea and other flu-like symptoms may develop. This condition usually lasts for approximately 6 to 48 hours. Continued lower level overexposure can damage the lungs.

d. Noise can permanently damage hearing and cause people to continuously hear a sound like ringing in the ears.

5. **CONCLUSIONS & RECOMMENDATIONS**

a. Hearing protection is required and was worn.

b. Chemical exposures were well within safe limits.

c. Although respirators were not necessary for this process, they should be worn when welding in areas with less ventilation.

6. **EMPLOYEE NOTIFICATION** It is required that people monitored for exposure to lead be notified of the results of the monitoring. Notification must be in writing and done within 5 days of the command's receipt of the results. This may be done by posting this enclosure in the work area or giving it to the individuals.

7. **POINT OF CONTACT** LTJG Jaskin, 123-4567 at NEPMU-1.

ELEMENT IV

VENTILATION EVALUATIONS

(EXAMPLE)

VENTILATION SURVEY RESULTS

SHIP NAME

Date

(General Compartment Requirements)

SPECIFIC LOCATION	MEASURED RATE OF CHANGE (MINS)	REQUIRED RATE OF CHANGE (MINS)*	EVALUATION SAT/UNSAT
Paint mixing & issue (1-464-2-K) COMMENTS: 1. Exhaust is adequate. Supply air flow is satisfactory.	3.8	4	SAT
Flammable Storeroom (3- 410-0-K) COMMENTS: 1. Exhaust airflow is inadequate	5.2	4	UNSAT
CHT Sewage Pump Room (4- 300-0-E) COMMENTS: 1. Exhaust airflow is inadequate 2. Minimum negative pressure differential of -0.25 inches of water gauge pressure is not maintained when access doors are closed	8.2	6	UNSAT

* Reference: NAVSEA 0938-LP-018-0010 "Heating, Ventilation & Air Conditioning Design Criteria Manual for Surface Ships of the United States Navy" (March 91)

(Notes to IH:)

1. Key to this is simplicity & specificity of comments!
2. When using this in Wordperfect 5.1/5.2 format, cells will expand vertically to whatever size you need. Jump from cell to cell using the "TAB" key.
3. This form is only for general ventilation measurements. See other form for local exhaust ventilation.
4. Your files should have all the necessary measurements and calculations to back up these results.

(EXAMPLE)

VENTILATION SURVEY RESULTS
SHIP NAME
Date
(Local Exhaust Ventilation)

SPECIFIC LOCATION	IS DESIGN O.K.?	VELOCITY MEASURED AT DUCT/FACE/SLOT	MEASURED AVERAGE VELOCITY (FPM)	REQUIRED* AVERAGE VELOCITY (FPM)	EVALUATION SAT/ UNSAT	COMMENTS
Carpentry Shop Table Saw	yes	duct	3500	3600	SAT	Duct was initially clogged but worked well when cleaned out.

* Reference: (specify the reference used e.g., NAVSEA 0938-LP-018-0010/ACGIH Industrial Ventilation Manual, VS-xxx)

(Notes to IH:)

1. Comments must be specific!
2. When using this in Wordperfect 5.1/5.2 format, cells will expand vertically to whatever size you need. Jump from cell to cell using the "TAB" key.
3. Your files should have all necessary measurements and calculations to back up these results.

ELEMENT V

MEDICAL SURVEILLANCE REQUIREMENTS

MEDICAL SURVEILLANCE PROGRAM SUMMARY

(NOTES TO IH: Specific medical surveillance requirements should be provided in the Workplace Assessment Section of the Industrial Hygiene Report. If personnel are removed from a medical surveillance program, justification should be provided in this section also. It is not necessary to list the specific clinical tests to be performed, but only the name of the medical surveillance program or stressor, as listed in the Medical Surveillance Procedures Manual and Medical Matrix, (current edition), NEHC Technical Manual or OPNAVINST 5100.19C. An occupational health nurse, physician or Preventive Medicine Technician PMT (with occupational health support and guidance) will determine the exact medical surveillance protocol.)

The following is a list of medical surveillance recommendations summarized from the workplace assessments. The recommendations are based on the results of air sampling, regulatory requirements, and professional judgement of the industrial hygiene personnel performing your Baseline Industrial Hygiene Survey. **It should be noted that medical surveillance may not be necessary for all members of a shop or work center.** Only those individuals performing the identified task in the particular workplace assessments and recommended for medical surveillance are to be medically evaluated. Division Officers should identify the individuals who perform the listed tasks for medical surveillance and provide this information to the Medical Department. Scheduling of personnel for examination will be accomplished through the Medical Department.

<u>DIVISION</u>	<u>SHOP/GROUP</u>	<u>WORK TASK</u>	<u>RECOMMENDED MEDICAL SURVEILLANCE</u>	<u>NUMBER OF PERSONNEL</u>
R-1	All	Shop work	Audiometric testing	57
R-1	Lag shop	Asbestos Insulation removal	Asbestos worker (Program 113)	6
			Respirator user certification exam (Program 716)	6

ELEMENT VI

EYE HAZARDOUS AREAS AND PROCESSES

(EXAMPLE)

LIST OF EYE HAZARDOUS

AREAS AND PROCESSES

<u>DIVISION</u>	<u>SHOP</u>	<u>LOCATION</u>	<u>WORK TASK</u>	<u>RECOMMENDED PPE</u>
R1	HT	11-11-2	SMA welding	Welders helmet or goggles
R1	Wood- workers	1-2-3	Cutting wood	Safety glasses
R2	31A	3-4-5	Dip tank use	Chemical splash goggles

(Notes to IH:) The IH/IHO can make this list if the Safety Officer has difficulty making this determination. Clarifying statement: these are in addition to, but not all encompassing; PPE recommendation here better coincide with workplace assessment PPE recommendation and make sure that roving work parties wear PPE regardless of location.

ELEMENT VII

NOISE HAZARDOUS AREAS AND EQUIPMENT

(EXAMPLE)

LIST OF NOISE HAZARDOUS

AREAS AND EQUIPMENT

<u>DIVISION</u>	<u>SHOP</u>	<u>LOCATION</u>	<u>WORK TASK</u>	<u>RECOMMENDED PPE</u>
R1	17A	1-2-3	Power tool use	Single hearing protection

AREAS GREATER THAN 84 dBA CONTINUOUS OR INTERMITTENT BUT LESS THAN 104 dBA REQUIRE SINGLE HEARING PROTECTION; or

AREAS GREATER THAN 104 dBA REQUIRE DOUBLE HEARING PROTECTION; or

AREAS GREATER THAN 104 dBA (IMPACT OR IMPULSE) REQUIRE SINGLE HEARING PROTECTION

OPTIONAL: AREAS LESS THAN 84 dBA BUT NOT IN COMPLIANCE WITH GENSPECS 073 OR SHIPSPECS (WHICHEVER IS APPLICABLE)

ELEMENT VIII

OSH TRAINING

LIST OF REQUIRED OSH TRAINING

(Notes to IH:) (Optional) This example training list is to be used by ship's safety officer to identify program training areas.

Reference: OPNAVINST 5100.19C

<u>NAVOSH PROGRAM</u>	<u>TRAINING</u>	<u>PERIODICITY</u>	<u>REFRESHER</u>
ASBESTOS	EXPOSURE SPECIFIC	ANNUAL	YES
ASBESTOS RIPOUT TEAM (3 PERSON)	NESHAP	INITIAL	BIANNUAL
BACK INJURY PREVENTION	ALL HANDS	INITIAL	YES
HEAT STRESS	ALL HANDS	ANNUAL	YES
HEAT STRESS	MONITORS	ANNUAL	YES
HAZARDOUS MATERIAL	ALL HANDS	ANNUAL	YES
HM COORDINATOR	JOB SPECIFIC	PER ASSIGNMENT	NO
HM SUPERVISORS	ALL SUPS.	ANNUAL	YES
HM HANDLERS	SUPPLY	ANNUAL	YES
HM SPILLS	DC TEAMS	ANNUAL	YES
HEARING CONSERV.	NOISE	ANNUAL	YES
SIGHT CONSERV.	EYE HAZARDS	ANNUAL	YES
RESPIRATOR PROT.	RESP. USERS	ANNUAL	YES
RESP. PROT. OFF.	MANAGER	INITIAL	RECOMMENDED
RESP. PROT.	ISSUERS	ANNUAL	YES
ELECTRICAL SAFETY	ALL HANDS	ANNUAL	YES
ELECTRICAL SAFETY	ISSUERS	ANNUAL	YES
CPR	RATING SPEC.	ANNUAL/BIANNUAL	YES
GAS FREE ENG.	SHIP'S FORCE	ANNUAL	YES

<u>NAVOSH PROGRAM</u>	<u>TRAINING</u>	<u>PERIODICITY</u>	<u>REFRESHER</u>
GFE (CPR) PERSONNEL	JOB SPEC.	ANNUAL/BIANNUAL	YES
GFE (NSTM-074 V3)	GFE PERS.	ANNUAL	YES
RADIATION PROT.	ALL HANDS	ANNUAL	YES
RF RADIATION	RFR WORKERS	ANNUAL	YES
LASER	LSSO	INITIAL	NO
LASER	PERS.	INITIAL	NO
LEAD	PERSONS EXP/ SUPERVISORS	ANNUAL	YES
TAG-OUT	ALL HANDS	ANNUAL	YES
TAG-OUT	TAG-OUT PERSONNEL	ANNUAL	YES
TAG-OUT	AUTH. OFF.	ANNUAL	YES
PPE	WEARERS	ANNUAL	YES
MERCURY	HG WORKERS/ SPILL TEAM	ANNUAL	YES
PCB (NAVSEA)	WORKERS	BIANNUAL	YES
MAN-MADE VIT. FIBERS	WORKERS/ EXPOSURE	ANNUAL	YES
ENVIRONMENTAL PROTECTION (5090.1B)	ALL HANDS	ANNUAL	YES
ENVIRONMENTAL MANAGER (5090.1B)	COORDINATOR	INITIAL	NO

ELEMENT IX

RESPIRATORY PROTECTION

RESPIRATORY PROTECTION PROGRAM SUMMARY

The following is a listing of locations and tasks where respiratory protection is recommended. The recommendations are based on the results of air sampling, regulatory requirements and judgement. It is likely that in some cases where respiratory protection was not considered necessary, certain individuals may request them for reasons of individual susceptibility, odor control or simply peace of mind. These requests should not be dismissed arbitrarily, but should be considered on a case by case basis.

<u>DIVISION</u>	<u>SHOP</u>	<u>LOCATION</u>	<u>WORK TASK</u>	<u>RECOMMENDED PPE</u>
Deck	DA01	1-2-3	Paint removal using power tool	1/2 face/HEPA