

## Chapter 2 – Industrial Hygiene Surveys and Survey Reports

### 1. General

Industrial hygiene (IH) surveys are conducted to accurately assess personnel exposures to chemical, physical and biological agents in the workplace; to provide recommendations for their reduction or elimination; recommend controls; and to recommend enrollment in specific medical surveillance programs. Periodic workplace evaluations are made to assure the effectiveness of the implemented controls and determine the need for continued medical surveillance. If there is a significant production, process, material or control change for a particular work operation, that operation must be reevaluated. The procedures in this chapter, along with chapters 3, 4, and 5 should be followed to evaluate employee exposures, determine compliance with standards regulating occupational exposures, and to assess the effectiveness of controls. An exposure assessment strategy, detailed in Chapter 4, should be developed to define acceptable and unacceptable exposures as related to exposure standards and guidelines.

**NOTE:** Bureau of Medicine and Surgery (BUMED) field industrial hygienists and other Navy medicine occupational health personnel do not determine personnel exposures to chemicals from an environmental source (except during spill events where first responder safety is the primary medical concern (as specified in reference 2-1). See section 3.g., Areas Specifically Excluded from IH Surveys, of this chapter for more information.

### 2. Definitions

- a. Action Level (AL). One-half the 8-hour Time Weighted Average (TWA) value designated as the Occupational Exposure Limit (OEL) unless a specific AL is established in an Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL) adopted by the Navy (e.g., 60% of the OSHA standard for inorganic lead). The AL may initiate the implementation of specific actions, such as periodic monitoring, training or medical surveillance if specified by a Navy Safety and Occupational Health (SOH) or OSHA standard.
- b. Employee Exposure. Exposure that occurs without consideration of the use of personal protective equipment (PPE).
- c. Experienced Industrial Hygienist. For the purposes of this chapter, an experienced industrial hygienist is a civil service General Schedule 0690 Series employee GS-12 and above, or a military Industrial Hygiene Officer (IHO) (Medical Service Corps subspecialty 1861) Lieutenant (O-3) and above. Additionally, a Certified Industrial Hygienist (CIH®) is considered experienced at any grade or rank.
- d. Industrial Hygienist. Those professionals classified in the civil service as General Schedule 0690 Series, or military IHO (Medical Service Corps subspecialty 1861).



- e. Occupational Exposure Limit (OEL). Limits established to protect workers from workplace exposure to certain chemical substances or physical agents. An exposure assessment cannot be made without an OEL.
- f. Occupational Exposure Limits for Chemical Contaminants. It is recognized that OSHA PELs may be less protective than exposure standards that reflect more recent medical evidence and promulgated by reputable organizations devoted to occupational health. Industrial hygienists are ethically bound to evaluate all recognized occupational health risks and provide professional recommendations to minimize or eliminate those risks. The Navy shall use the following hierarchy of OELs:
  - (1) OSHA PELs.
  - (2) Navy developed or adopted OELs. When both the Navy and OSHA have standards applicable to a given situation, commands, activities, and units will use the more stringent of the two.
  - (3) American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values® (TLVs) where OSHA PELs or Navy OELs do not exist. Use of TLVs represent best practices, i.e., risk management goals to achieve using risk management practices. When the OSHA PEL is less stringent, the ACGIH TLVs will be included in reports of data to supplement the OSHA PEL and provide additional context to aid the risk management process. However, the OSHA PEL remains the legally binding standard.
  - (4) Nationally recognized IH best practices may be used to supplement the OEL hierarchy. The industrial hygienist will use professional judgement to recommend OEL guidelines, when appropriate, to aid the risk management process in a given situation. Sources include but are not limited to:
    - (a) California Occupational Safety and Health Administration (Cal/OSHA) PELs.
    - (b) National Institute for Occupational Safety and Health (NIOSH) recommended exposure limits (RELs) or risk management limits for carcinogens (RMLs-CA).
    - (c) Occupational Alliance for Risk Science (OARS) Workplace Environmental Exposure Levels (WEELs).

For further guidance on the appropriate applications of OELs, Industrial Hygiene Program Offices (IHPO) should contact their respective regional command or Navy and Marine Corps Public Health Center (NMCPHC) for assistance.

- g. Occupational Medical Surveillance (OMS). A system of programs to assist in either assessing an individual's ability to perform specific job functions and tasks and/or to assess and monitor employees exposed or potentially exposed to occupational stressors. It is based on the systematic collection, analysis and evaluation of the data necessary to assess an individual's current state of health with respect to employment requirements and to define the presence of disease patterns that may be associated with exposure to chemical, biological and physical stressors in the workplace. The various OMS exposure program assessments monitor individuals for adverse health effects and determine the effectiveness of control measures. An OMS program includes



the analysis of both individual health and aggregate surveillance data over time in order to reduce or prevent occupational illness and injury.

h. OMS and Controls Criteria Based on the Navy OEL Hierarchy.

- (1) The OSHA PEL is regulatory and the BUMED industrial hygienist lists required (vice recommended) controls and medical surveillance. Medical surveillance is required in accordance with the OSHA substance specific standards or for Tables Z-1, Z-2, and Z-3 when an employee is exposed at or above the PEL for more than 30 days per year. When the IHPO does not have sufficient sampling data to determine the 95<sup>th</sup> percentile, then one-half of the PEL (AL) will be used as the medical surveillance criteria. IHPOs will prioritize sampling efforts to collect the additional samples necessary to determine the 95<sup>th</sup> percentile and will then use the PEL as the criteria.
- (2) TLVs are the required OEL when OSHA PELs are not available. The BUMED industrial hygienist lists required (vice recommended) controls and medical surveillance. Medical surveillance is required when an employee is exposed at or above the TLV for more than 30 days per year.
- (3) When the OSHA PEL is less stringent, the ACGIH TLVs will be included in reports of data to supplement the OSHA PEL and provide additional context to aid the risk management process. These exposure assessments should include the following wording:

"An alternate OEL exists for this stressor (give alternate OEL). Whenever possible, work to reduce exposures to this level through the use of engineering and work practice controls. See Control Section for recommendations. Contact your IH program office for assistance as needed."

Since these are supplemental, best practice OELs, the BUMED industrial hygienist lists recommended (vice required) controls. OMS will be based on the OSHA PEL. Recommending medical surveillance for exposures below the OSHA PEL or at the supplemental TLV will be addressed on a case-by-case basis where situations may require medical surveillance to protect workers (e.g., employee health effects at lower concentrations), or where due to lack of data a 95<sup>th</sup> percentile of exposures cannot be calculated, but professional judgement determines recommending OMS. This decision will be made in consultation with the occupational medicine physician.

- i. Shop Walk-through Survey Date. The date the walk-through survey is performed for a particular shop.
- j. Significant Hazard. A hazard is considered significant based on the level of harm it will cause to workers in the occupational setting due to exposure level, route(s) of entry, and/or frequency and duration of exposure. A significant hazard can be chemical, physical, or biological. Industrial hygienists shall deem a hazard significant based on acute and/or chronic effects. Common significant hazards can include:
  - (1) Inhalation and physical hazards that have an expanded OSHA health standard.
  - (2) Hazards that could reasonably exceed 10 percent of the OEL.



- (3) Corrosives.
  - (4) Quantifiable physical hazards such as noise.
  - (5) Blood and body fluids.
  - (6) Hazardous drugs.
  - (7) Have special notations such as:
    - (a) Carcinogen
    - (b) Ototoxin
    - (c) Reproductive/developmental designation
    - (d) Respiratory and/or dermal sensitizer
    - (e) Skin notation
- k. Survey. A workplace evaluation to determine employee exposures to chemical, biological and physical hazards and to recommend procedures for reducing or eliminating those exposures. The following categories of IH surveys exist:
- (1) Initial IH Survey. The first comprehensive survey of a workplace. A workplace will have only one initial survey.
  - (2) Periodic Industrial Hygiene Survey (PIHS). Scheduled cyclic surveys following an initial survey.
  - (3) Shop Specific Supplements to a Periodic Industrial Hygiene Survey (SPIHS). Shop specific supplements are used for shop-specific evaluations that are reported independently of the PIHS to ensure that all shops are evaluated at the required frequency based on Defense Occupational Environmental Health Readiness System-Industrial Hygiene (DOEHRS-IH) shop priorities.
  - (4) Other (Special) IH surveys. Surveys that focus on a specific hazard evaluation or generated in response to a customer's special request (e.g., indoor air quality survey, illumination survey).
- l. Survey Completion Date. The date the cover letter of the survey is signed out. This date is used as the survey completion date for initial, periodic, shop specific supplements, and special IH surveys for the purpose of metrics and determining periodic survey due dates; and as the master schedule shop survey close date in DOEHRs-IH.
- m. Work Operation/Process. A specific job, duty or function. In each work operation/process, the location, ventilation, materials and equipment used should be considered. For example, welding in a confined space is a different exposure situation than in the open air. A work operation/process might include specific tasks.

For years, Navy IH Operations/Operation Codes (OPCODEs) have been used to denote work operations and have been documented on IH sampling forms. These OPCODEs were provided in tabular format as the Navy IH Operation Codes Dictionary. With the advent and use of DOEHRs-IH, processes now need to be defined in two basic ways: a user defined Process Name and the DOEHRs-IH Process Category/Common Process/Process Method pick lists. DOEHRs-IH requires the choice of a Process Name for each work operation. The Process Name is user defined and is what the user typically sees. Since Process Name is user defined, care must be taken to use a business practice



that ensures accurate and consistent Process Names are created. The DOEHRS-IH Process Category/Common Process/Process Method pick lists are in the form of a three tiered process pull down pick list. The DOEHRS-IH Process Methods from the pick list are the equivalent of the old OPCODEs. It is very important that proper selections are made from these DOEHRS-IH pick lists and that they are accurate and consistent for the process under consideration in order to facilitate future data mining. A spreadsheet of the entire DOEHRS-IH Process pick list is available on the [NMCPHC DOEHRS-IH webpage](#). While the old OPCODEs can be used in house by IH groups, the applicable DOEHRS-IH Process Name and the Process Method picklist choice should be included on any sampling forms in the Operation field.

n. Workplace.

- (1) Command (major/parent). The entire unit, command or activity where a type of work is performed, typically under one Unit Identification Code (UIC). Examples include shipyards, fleet readiness centers (FRCs) and naval facilities (NAVFAC) activities/public works centers. Workplace for afloat commands is defined as the entire ship. In this chapter the term command will also be used generically for unit, command or activity.
- (2) Detachments. There may be instances where a local IHPO provides support to a detachment (e.g., Construction Battalions) from a parent command that receives IH services from a different IHPO (i.e., parent IHPO). The detachment may or may not have a unique UIC from its parent command. Detachments should receive their IH services and support from the nearest Navy IHPO that is within the Area of Responsibility (AOR) in which the detachment is located. There may also be instances in which IH services are needed to support DoD personnel that are deployed on a rotational basis to a non-U.S. facility. In these instances, coordination between services and development of a Memorandum of Agreement (MOA) may be required in order to establish IH support requirements and responsibilities. The local IHPO (providing support to a detachment), and the parent IHPO (that provides support to the detachment's parent command), should effectively communicate and coordinate so that the detachment and personnel receive the necessary IH support and so that necessary data is collected and correctly entered in to DOEHRS-IH per section 3.h. below. The local IHPO shall be responsible for:
  - (a) Entering "detachment" data in to DOEHRS-IH
  - (b) Informing the detachment to provide a copy of their survey assessment reports, exposure monitoring results, and medical surveillance recommendations to their parent command
  - (c) Providing (upon request) a copy of survey assessment reports, exposure monitoring results, and medical surveillance recommendations that have been given to the supported command, to the IHPO that supports the detachment's parent command.



- o. Worksite. The shop, code or workcenter where a specific work operation/process is performed within a workplace. In this chapter the term shop will also be used generically for shop, code or workcenter.

### 3. Surveys

Workplace evaluations to identify and quantify health hazards are accomplished through IH surveys and will be completed under the supervision of an experienced industrial hygienist. IH technicians or exposure monitors (both military and civilian) may assist in the monitoring portion of a survey as long as technical direction is provided by an industrial hygienist. Under no circumstances will they independently conduct IH surveys, interpret IH data or recommend control methods.

Copies of all technical assist visits and/or IH surveys shall also be forwarded to the appropriate Regional IH by the cognizant BUMED activity or the carrier/tender IHO.

- a. Initial IH Survey. Since all subsequent surveys will be compared to this survey, it is critical that all aspects of the workplace are evaluated and findings are fully documented.
  - (1) The initial walk-through survey gathers information for workplace characterization. This typically includes documenting information for each shop in the command, including:
    - (a) Based on best practices and requirements from references 2-2, 2-3, and 2-4:
      - 1. Location information for work operations/processes, equipment and controls, including shop diagrams, as needed.
      - 2. Personnel assigned, including total number, number of males and females, numbers by worker classification and numbers for each work operations/process. Rosters need to be obtained from the shop so that individual personnel can be associated to the particular shop and to the specific processes within the shop, and to the particular Similar Exposure Groups (SEGs).
      - 3. Work operation/process descriptions, including tasks, work practices and procedures, locations, frequencies and durations of the work operations/processes, material and equipment usage, hazards involved, controls used, number of personnel assigned and individual personnel assigned to the specific processes.
      - 4. Equipment descriptions for significant equipment used by the shop. Associate any equipment to all work operations/processes.
      - 5. Potential chemical hazards in the workplace that present significant risk, including those used, stored, handled or produced, as well as a description of how they are used, amount on hand, and estimated consumption rates. (The command's Hazardous Materials Authorized Use List (HM AUL), as required by reference 2-2, provides some of this information.) Also, specifically identify hazards that are reproductive or developmental hazards,



carcinogens, or ototoxins, as such. Associate any chemical hazards and hazardous materials to any work operations/processes.

**NOTE:** Per references 2-2 and 2-3, industrial hygienists shall have access to a copy of the authorized use list for the workplaces being surveyed.

6. Potential physical hazards (e.g., noise, ionizing and non-ionizing radiation, ergonomic risks, temperature, vibration) in the workplace that present significant risk, including a brief description of their source(s). Also, specifically identify hazards that are reproductive or developmental hazards or carcinogens, as such. Associate any physical hazards and sources to any work operations/processes.
  7. Biological/infectious agents (e.g., in laboratories) in the workplace that present significant risk. Also, specifically identify hazards that are reproductive or developmental hazards or carcinogens, as such. Associate any biological hazards and sources to any work operations/processes.
  8. Existing controls such as substitution, isolation, engineering controls, administrative controls and PPE. Include evaluations of the controls' effectiveness. Associate any controls to any work operations/processes and specific hazards, as appropriate.
- (b) Other information gathered, as appropriate:
1. Direct reading screening measurements for each shop or work area where applicable.
  2. Interviews with any employees reporting complaints, symptoms or related safety and health problems.
  3. Any other information necessary to accurately describe command and shop conditions.
- (2) Exposure assessments are to be performed and documented for all significant hazards based on its health effects, likelihood of exposure, and regulatory requirements. See the definition of significant hazards in section 2(i) for examples. Exposure assessments are to be made by an industrial hygienist who is familiar with the shops and work operations/processes being evaluated. Details on exposure assessment can be found in chapter 4. Based on best practices and requirements from references 2-2 and 2-3:
- (a) Identify/Define SEGs. Definition of a SEG includes associating specific shops, processes, hazards and personnel to the SEG.
  - (b) Characterize each SEGs exposure profile, estimating personal exposures using qualitative or quantitative data. Representative personal exposure monitoring is the primary means of quantifying exposures for use in assessing exposure profiles.
  - (c) Perform qualitative or quantitative exposure assessments for hazards in each SEG. For quantitative exposure assessments, consult Chapter 4 for information on statistical tests (e.g., 95<sup>th</sup> percentile, Upper Tolerance Limit 95/95). Judge the



SEG's exposure profile as unacceptable, acceptable or uncertain. An unacceptable determination indicates personnel exposures exceed (or are expected to exceed) the OEL. An acceptable determination indicates that personnel exposures do not exceed (or are not expected to exceed) the OEL for current/normal or foreseeable operating conditions. An acceptable determination is not permitted if personnel are required to wear respirators to control exposures to the hazard being assessed. All determinations must be fully and accurately documented to support the decisions. Any designated ALs should also be taken into consideration. Lastly, exposure assessment could lead to the decision of uncertain. (i.e., there is insufficient information available for an immediate unacceptable or acceptable determination with high confidence.) In that case, further information gathering is needed to assess exposures.

**NOTE:** DOEHRs-IH does not have the option of choosing uncertain for the SEG assessment. The IH will need to use professional judgment based on the observations and limited data available to choose unacceptable or acceptable with Needs More Data when completing a SEG assessment in DOEHRs-IH.

- (d) Evaluate and determine the effectiveness of existing controls.
  - (e) Make medical surveillance recommendations based on the outcome of the SEG assessment.
- (3) Make appropriate control strategy recommendations based on the exposure assessments, using accepted IH practices, which comply with appropriate regulatory requirements. (Per references 2-2 and 2-3.)
- (4) Further information gathering may be quantitative or qualitative. This might be performed as part of the initial IH survey or later. Based on best practices and requirements from references 2-2 and 2-3:
- (a) Representative quantitative exposure monitoring, especially personal exposure monitoring, is the primary means of assessing personnel exposures, the need to control exposures, and the effectiveness of controls. If exposure monitoring is to be conducted, an exposure assessment strategy should be developed (see chapter 4).
  - (b) Qualitative exposure decisions might involve using exposure modeling, professional judgement, etc.
- (5) Reports and records of workplace characterizations, exposure profiles, exposure assessments, findings, control recommendations or other recommendations (including medical surveillance) are critical elements of the exposure assessment process. Reports and records are needed to ensure effective communication of workplace findings and successful continuity of the IH survey, per references 2-2 and 2-3. The basic elements of IH survey reports are detailed in Appendix 2-A, and summarized in Appendix 2-B. DOEHRs-IH is the mandated system of record for IH survey information, sampling, exposure assessments, and recommendations per references 2-2 and 2-3.



- (6) The recommendation to enroll an individual in to a medical surveillance program should be based on OSHA regulatory requirements, and/or the qualitative/quantitative exposure assessments of the various occupational chemical, biological, and/or physical hazards. Although enrollment in an exposure based medical surveillance program can occur based on qualitative assessment results, it usually occurs once a quantitative exposure assessment has been performed where results indicate exposures above action level or OEL, or if OSHA has identified specific requirements in their substance specific standards.

**NOTE:** The industrial hygienist's role is to recommend stressor/hazard based medical surveillance and exposure based respirator user certification examination. It is not the role of the industrial hygienist to recommend medical surveillance for job certifications unrelated to IH exposure assessments since it is a command supervisor or human resources' responsibility to provide that information. To help commands identify medical surveillance requirements for job certifications, this section could include a reference to the [Medical Surveillance Procedures Manual and Medical Matrix," NMCPHC-TM OM 6260.](#)

- (7) Exposure Monitoring Plans (EMP) are prepared and implemented to collect sampling/measurements required by regulation, or necessary to statistically assess exposures, determine trends or validate professional judgement of unchanged exposure assessments, per reference 2-2. The plan should also include monitoring necessary to document the need for controls and the effectiveness of existing controls (e.g., ventilation measurements or other sampling/measurements to assess engineering or administrative controls). Reference 2-3 requires the establishment of EMPs and completion of monitoring by industrial hygienists and industrial hygiene officers (for ships with industrial hygiene officers assigned).
  - (8) Detachments will receive their IH support directly from the nearest IHPO that is within the AOR in which the detachment is located. This initial survey shall be considered the baseline for the detachment. A copy of the survey should be provided to the parent IHPO and added as an addendum to the parent command's initial IH survey.
  - (9) NMCPHC established a ship IH survey repository. Initial and periodic afloat IH surveys should be forwarded by the cognizant BUMED activity to NMCPHC IH Department to assist enterprise IH technical and policy solutions. Such reports should also be forwarded to the Regional IH and TYCOM IHOs. Available afloat IH surveys for specific ships can be obtained by e-mailing [NMCPHC IH Department](#).
- b. PIHS. Once the initial survey has been completed, it is updated on a regular basis with the PIHS (in combination with shop specific supplements discussed in paragraph 3.c). The PIHS process provides a review of available exposure monitoring results, information on new work operations/processes/hazards, changes in on-going work operations/processes/hazards, and evaluates and documents the current effectiveness of existing controls (e.g., PPE, ventilation). Changes in personnel associated to the



particular shop, processes and SEGs are documented. Additionally, findings of other surveys or consultations made during the specified period are summarized. Exposure assessments need to be performed for hazards in each new SEG, or updated for existing SEGs based on further information gathering or changes in policy or OELs. Monitoring may not be needed for the PIHS. If no sampling/measurements are needed in the EMP and there are no additional work operations/processes or significant changes to existing work operations/processes, a walk-through survey documenting these findings is adequate. Requirements for periodic surveys are discussed in references 2-2 and 2-3. Command hazard categories are outlined in Appendix 2-C.

- (1) Category I (CAT I) PIHS reports will include all Priority 1 shop evaluations every year as a minimum, and any applicable Priority 2 and 3 shops as determined by the IHPO so as to ensure these reassessments do not exceed the two/three and four year shop survey periodicity cycles, respectively. In some cases it might be administratively simpler to include all category shops (i.e., Priority 1, 2 and 3 shops) in the annual report every year for smaller CAT I commands with predominantly Priority 1 shops. However, workload and administrative efficiencies should be realized by using the shop specific supplemental approach for larger CAT I commands (e.g., shipyards, FRCs).
- (2) Category II (CAT II) PIHS reports will include all Priority 2 shop evaluations every two years for ashore commands and every three years for afloat commands as a minimum, and include applicable Priority 3 shops as determined by the IHPO so as to ensure Priority 3 shop evaluations do not exceed the four year shop survey periodicity. Additionally, all Priority 1 shops shall be reassessed annually and reported as discussed in paragraph 3.c below as part of the shop specific supplement to the PIHS. When an IHPO sub-categorizes CAT II command survey to apportion workload, the IHPO will ensure Priority 1, 2 and 3 shops are evaluated and results reported in accordance with applicable intervals.
- (3) Category III (CAT III) PIHS reports will include all Priority 3 shop evaluations every four years as a minimum. In addition, Priority 1 shops shall be reassessed annually and Priority 2 shops biennially (ashore) or triennially (afloat), respectively, and reported per the shop specific supplement report discussed in paragraph 3.c below. When an IHPO sub-categorizes CAT III command survey to apportion workload, the IHPO will ensure Priority 1, 2 and 3 shops are evaluated and results reported in accordance with applicable intervals.
- (4) Detachments will receive their IH support directly from the nearest IHPO that is with the AOR in which the detachment is located to include surveys and any workplace monitoring. A copy of the detachment's PIHS along with any exposure monitoring results, and associated letters of notification should be provided to the parent IHPO and added as an addendum to the parent command's PIHS. The local IHPO should also provide the local supporting Occupational Health office with copies of any notification letters associated with personal exposure monitoring results.



**NOTE:** Priority 1, 2 and 3 shop classification guidance and re-evaluation frequencies are contained in Appendix 2-D.

- c. SPIHS. SPIHS are used for shop-specific evaluations that are reported independently of the PIHS to ensure that all shops are evaluated at the required frequency based on the shop's priority. For example, this type of report would be used annually for Priority 1 shop evaluations conducted at CAT II or CAT III commands during the non-periodic survey year. See Appendix 2-B for a summary of the basic elements for both PIHS and SPIHS reports.
- d. Notification of Changes. A statement should be included in the executive summary of IH survey reports asking that the cognizant IHPO be notified of any changes in the shops (e.g., location, facility) or processes (e.g., process procedure, materials or equipment used, work practices, personal protective equipment, engineering controls such as ventilation system performance issues or degradation) between surveys.
- e. Design Review Requests. A statement should be included in the executive summary of IH survey reports which requests that new engineering designs, operating procedures, purchasing transactions/contracts relevant to IH be sent to the cognizant IHPO for review.
- f. Shop Priority Exceptions. All afloat command shops will be designated as Priority 2 shops but will receive a singular command-based PIHS every three years as outlined in Appendix 2-C. All Reserve Center shops will typically be designated as Priority 3 shops and will receive a singular command based PIHS every four years as outlined in Appendix 2-C. Reserve Centers with industrial work operations/processes, work operation/process changes, changes to work practices, or other occupational health concerns should contact their supporting IHPO for consultation or possible evaluation outside of the four year periodicity.
- g. Areas Specifically Excluded from IH Surveys.
  - (1) Industrial hygiene personnel that certify BSCs need to be properly trained and equipped. Especially in CONUS, such personnel also need to be accredited under the National Sanitation Foundation (NSF) International Field Certification of BSC Program. Unless personnel are specifically trained, equipped and preferably certified, IH surveys should not include evaluation of BSCs. Refer to Chapter 6 for a more detailed discussion of BSC ventilation measurements.
  - (2) BUMED field industrial hygienists and other Navy medicine occupational health personnel do not determine personnel exposures to chemicals from an environmental source (except during spill events where first responder safety is the primary medical concern (as specified in reference 2-1)).
    - (a) Environmental exposure assessments and sampling are based on environmental (generally Environmental Protection Agency (EPA)) standards, screening levels and risk assessment processes and not on occupational health standards, OELs and exposure assessment strategies.



1. Occupational health standards and OELs are intended to protect adult employees from workplace health hazards eight hours a day, five days a week for 20-30 years. Environmental standards and screening levels may be produced looking at risk for exposure across the entire general population for a lifetime. These differences in assessment can result in an environmental standard or screening level being several orders of magnitude lower than an OEL for the same chemical.
  2. Since environmental and occupational exposure assessments and standards are so different, sampling and analytical methods to quantify those exposures are also different.
  3. Certification differs for laboratories performing analyses for environmental versus occupational sampling.
  4. Environmental concerns regulated by the EPA such as: concerns from environmental source exposures, environmental restoration situations, etc. shall not be treated as occupational exposures using occupational health standards and OELs to measure risk and determine compliance.
- (b) Navy Medicine assets are not intended, prepared, equipped or funded for assessments of exposures to chemicals from an environmental situation regulated by the EPA. Such situations are best addressed by qualified environmental professionals.
- (c) When medical support for environmental issues (other than spills) is requested by Installation Commanders, Naval Facilities Engineering Command (NAVFAC)/Public Works Center (PWC), or base tenants, Medical Treatment Facility (MTF) Commanding Officers and Officers-In-Charge need to inform the appropriate Navy Medicine Region Environmental Program Manager (NAVMED REPM) before committing to a response.
1. The NAVMED REPM shall assist the MTF in coordinating the response, ensuring the participation of all needed subject matter experts.
  2. Early coordination is exceptionally important because environmental issues might involve the health of family members, union employees, the public and media.
- h. Survey Report Format. Appendices 2-A, 2-B and 2-E provide guidance for survey report organization and content. The composition of survey reports for a command (i.e., what shops are included) might vary each year depending upon the DOEHRS-IH priorities of individual shops. Criteria for assigning DOEHRS-IH shop priorities is summarized in Appendix 2-D.
- i. Survey Report Tracking. Survey report completion will be tracked according to DOEHRS-IH shop priorities. Survey reports for each shop will be considered current if the last survey completion is within 12, 24 (36 for all afloat command shops) or 48 months of the current date for Priority 1, 2 and 3 shops, respectively. Appendix 2-F provides guidance to identify and define IHPO responsibility for performing IH surveys, creating IH survey reports and entering data into DOEHRS-IH. This appendix also provides



guidance for managing or transferring DOEHRS-IH data between BUMED IHPOs when a command/organization relocates from one IHPO's AOR to a different IHPO's AOR.

- j. Data Collection in DOEHRS-IH. DOEHRS-IH is a DoD/Defense Health Agency (DHA), tri-service, multi-agency, comprehensive, automated information system for assembling, comparing, using, evaluating, and storing IH survey data on shops, processes, SEGs, hazards, personnel, controls, observations, monitoring, recommendations, occupational exposure assessments and environmental health surveillance. DOEHRS-IH is a key enabling technology within the presidentially mandated Force Health Protection Plan and is further supported by Public Law 105-85. Reference 2-4 mandates the use of DOEHRS-IH for BUMED IHPOs. Local IHPOs that provide support to detachments will be responsible for entering all unit information including, but not limited to, shops, processes, SEGs, rosters, and sample results. A copy of the survey and/or sampling results should be provided to the parent IHPO and added as an addendum to the parent command's initial/PIHS.
- k. Records Retention. Records of surveys, evaluations, and monitoring shall be retained for a minimum of 40 years, as required in reference 2-2, except where specific applicable standards require retention for a longer time. Also, refer to reference 2-5, which dictates longer retention times for some records. For example, Section SSIC 6200.2a of reference 2-5 dictates some occupational health, industrial and environmental control program records not be destroyed until after 75 years.
- (1) Because of turnover and the transfer of personnel, records should be maintained in a manner to ensure that an industrial hygienist who is unfamiliar with the workplace can access the records and be reasonably confident he/she has all the pertinent information (past and present) on the command, individual shops and the work operations/processes being performed therein.
  - (2) Reference 2-5 provides guidance in the disposition of all records, including records no longer in active use, records of disestablished shore activities, records of decommissioned ships and records of armed conflicts. This reference provides information on naval records retention standards (by standard subject identification code (SSIC) or type of record) and procedures for record disposition, including: disposal, local record retirement (to a storage area within a command) and record transfer (for storage outside a command, as in a Federal Records Center). Occupational health, industrial and environmental control records are specifically discussed in Section SSIC 6200.2 of reference 2-5. Additional information on Federal Records Centers can be found at <http://www.archives.gov/frc/>.
  - (3) Reference 2-6 dictates that personnel are personally and individually responsible for properly creating/marketing, safeguarding, transmitting, and destroying classified information and controlled unclassified information (CUI) under their custody and control. Anyone finding classified information out of proper control shall, if possible, take custody of and safeguard the material and immediately notify the appropriate security authorities. It is also important to monitor the aggregation of CUI, both paper and electronic, due to the potential of generating classified information. In



addition, all records and notes of submarines and aircraft carriers must be monitored for the potential of aggregated CUI that generates classified Naval Nuclear Propulsion information (NNPI) for both paper and electronic records per reference 2-7.

I. Training

(1) Ensure required initial and annual security training complies with all the security requirements within reference 2-6 and its associated references. All staff responsible for providing IH services to submarines and aircraft carriers must be trained and understand the criteria in reference 2-7, Chapter 1, sections 3.a and 3.b and the importance of not aggregating elements.

#### 4. Creating and Updating EMPs.

- a. Per reference 2-2, as part of the IH survey, an EMP (OPNAV Form 5100/14 or equivalent or as part of the IH survey report) will be completed for required or necessary sampling/measurements. This includes sampling/measurements required by regulation, or samples necessary to statistically assess exposures, determine trends or validate professional judgement of unchanged exposure assessments. The plan should also include monitoring necessary to document the need for controls and the effectiveness of existing controls (e.g., ventilation measurements or other sampling/measurements to assess engineering or administrative controls). Reference 2-3 requires the establishment of EMPs and completion of monitoring by industrial hygienists and industrial hygiene officers (for ships with industrial hygiene officers assigned).
- (1) Monitoring required by regulation includes such sampling/measurements as OSHA required initial, quarterly, or semiannual substance specific monitoring is to be listed as required on the EMP.
  - (2) Monitoring results necessary to assess exposures are typically used in statistical quantitative exposure assessment. However, even if a certain number of results for the statistical assessment are needed, it is not necessary to collect them all at once during a year's exposure monitoring; they can be gathered over time. For example, rather than stating to collect the needed six samples on the EMP, it might be more realistic and attainable to include only one or two of the samples for the work operation/process or SEG as required on the yearly EMP, and then continue to have that sampling as required on the subsequent yearly EMPs, until enough results to statistically assess the exposures for the SEG for that work operation/process have been collected.
  - (3) The EMP should generally contain just the required or necessary sampling/measurements. If additional monitoring is included for informational purposes or to add to existing statistical assessments, those should be marked as "Optional". Such optional monitoring should not be included when determining counts for required sampling/measurements for the EMP annual self-reported fiscal year (FY) IH metrics. If the optional monitoring is completed, it can be counted with



- completed sampling/measurements conducted outside the EMP in the annual self-reported FY IH metrics.
- (4) When creating an EMP, the way the individual sampling task items are written should be reflective of the way you will need to count your EMP or outside EMP sampling tasks when your IHPO reports their annual self-reported FY IH metrics. (Consult the latest BUMED self-reported FY IH metrics purpose, definitions and directions document for the counting directions.)
- b. During the periodic survey (either shop-based or command-based) the EMP must be updated to reflect current findings. Qualitative or quantitative negative determinations will permit the EMP to be amended to eliminate unnecessary monitoring and redirect resources. New work operations/processes; significant changes to existing work operations/processes; or changes to standards, instructions, or directives might necessitate new evaluations and possible additions to the EMP.
- c. It is important to remember that the EMP is to reflect an annual FY timeframe, as opposed to the timeframe of the survey based on shop priority or command hazard category.

## 5. References.

- 2-1. [OPNAV M-5090.1 Series](#) Environmental Readiness Program Manual
- 2-2. [OPNAVINST M-5100.23](#) Navy Safety and Occupational Health Manual
- 2-3. [OPNAVINST 5100.19 Series](#) NAVSOH Program Manual for Forces Afloat
- 2-4. [BUMEDINST 5100.13 Series](#) BUMED Safety and Occupational Health Program
- 2-5. [SECNAV M-5210.1 Series](#)
- 2-6. [SECNAVINST 5510.36B](#) Department of the Navy Information Security Program
- 2-7. [OPNAVINST N9210.3](#) Safeguarding of Naval Nuclear Propulsion Information (NNPI) Unclassified portion
- 2-8. [PubChem](#), U.S. National Library of Medicine. Bethesda, MD
- 2-9. [NMPHC Technical Manual NMCPHC-TM-OEM 6260.01D](#). Reproductive and Developmental Hazards: A Guide for Occupational health Professionals. 2019.
- 2-10. ACGIH. TLVs® and BEIs®, Threshold Limit Values for Chemical Substances and Physical Agents and Documentation of the TLVs® and BEIs®. Cincinnati, OH: American Industrial Hygiene Association. Latest edition.
- 2-11. [Preventing Hearing Loss Caused by Chemical \(Ototoxicity\) and Noise Exposure](#), Occupational Safety and Health Administration Safety and Health Information Bulletin 03-08-2018.
- 2-12. [DoDM 6055.18](#) Safety Standards for Microbiological and Biomedical Laboratories



## Appendix 2-A – Industrial Hygiene Survey Reports

### 1. General

IH survey reports document the interpretation of data collected during the walk-through survey, the quantification phase of a comprehensive IH survey, and the resultant exposure assessment. The survey reports also provide a command with the current status of occupational health hazards, recommendations for: hazard control, PPE, administrative controls and enrollment in exposure-based medical surveillance programs. The survey report is a historical document that shows the work operations/processes conducted at given locations and the hazards present at the time of the survey. A survey report must be able to withstand close scrutiny and, as much as possible, be a self-supporting document. Comprehensive initial IH survey reports should be issued within 90 calendar days after the last day of the walk-through portion of the survey. PIHS reports should be issued within 45 days after the last day of the walk-through portion of the survey. Every effort should be made to meet these timeframes so that the serviced command can get the reports in a timely manner.

### 2. Style

IH survey reports are technical in nature and use terms and language characteristic of the profession. However, each part of the survey report has a target audience who will have varying degrees of IH background. Consider your target audience when writing reports.

### 3. Survey Report Types

There are essentially four principle types of IH survey reports: initial (or baseline) surveys, periodic surveys, shop specific supplements and special surveys. The basic elements of the initial and periodic survey reports are presented in Section 5 of this appendix. The SPIHS are for specific shops that are reported independently of the main PIHS. An example where a SPIHS report might be used is for a Priority 1 shop in a CAT II command in a year when the reports for the Priority 2 shops in the command are not due. The purpose of the SPIHS is to ensure that all shops are evaluated at the required frequency as discussed in Section 4. The SPIHS reports may include fewer elements than the PIHS, as outlined in Appendix 2-B. Special IH surveys are used to capture other IH related evaluations for specific hazards, subjects, engineering systems, etc., and may have variable survey formats.

### 4. Survey Report Periodicity, Composition, Distribution and Tracking

- a. IH surveys will be performed, reported and tracked at periodicities according to both command hazard categories as outlined in Appendix 2-C, and DOEHS-IH shop priorities as outlined in Appendix 2-D.

- b. The composition of each survey report (i.e., which shops are included) may vary according to the shop priorities. The basic elements of IH survey reports are detailed in Section 5 of this appendix and summarized in Appendix 2-B.
- c. Survey reports for a command may be distributed in a single document or in separate documents based upon organizational sub-unit (e.g., directorate, department, division). If the survey reports are in separate documents in the applicable reporting period, a command IH survey report index should be prepared. This index references the provided IH survey reports and lists the included shops in each report, as discussed in Section 6 of this appendix. Detachments will receive their IH support directly from the nearest IHPO that is within the AOR in which the detachment is located. The local IHPO will enter the necessary data into DOEHS-IH for the detachment. A copy of the survey should be provided to the parent IHPO and added as an addendum to the parent command's initial or PIHS.
- d. Survey report completion will be tracked according to DOEHS-IH shop priorities. Survey reports for each shop will be considered current if the last survey completion date is within 12, 24 (36 for all afloat command shops) and 48 months of the current date for Priority 1, 2 and 3 shops, respectfully.

## 5. Survey Report Elements

The comprehensive initial and periodic IH survey reports contain the following elements:

- a. Cover Letter. A concise letter designating the survey as initial or periodic, naming the command where the survey took place, and giving the range of walk-through survey dates. This letter also identifies the individual(s) responsible for the survey report and credits contributions to the report, including the surveyed command's efforts.
- b. Table of Contents.
- c. Executive Summary. This one to two page summary gives the Commanding Officer of the surveyed workplace an overview of the status of command occupational health programs, and identifies those problems that need command level attention for resolution. If it is a periodic survey, ensure that repeat findings are annotated.
- d. Program Findings and Recommendations. This is a sub-section of the executive summary and can summarize overall findings and recommendations to the command's major occupational health programs. Per reference 2-2, the respiratory protection program of ashore commands requires formal written evaluation by BUMED IH. Reviews of other Occupational Health programs (e.g., lead, asbestos, hearing conservation, engineering controls, ergonomics and medical surveillance) may also be summarized in this section at the discretion of the IHPO. Applicable references should be provided when noting significant findings. The purpose of this section is to provide information for the Safety Office to effectively manage the occupational health aspects of the Navy and Marine Corps SOH programs. The command receiving the survey report is



encouraged to ensure the report is reviewed and recommendations incorporated into command hazard tracking system (hazard abatement logs) for documented follow-up actions. Information presented should come from the survey. (Detailed command-wide summary tables, rolled up from information from individual shop survey sections that support the program findings and recommendations can be presented here or included as appendices to the survey report.)

- e. Worksite Evaluations, Exposure Assessments, Findings and Recommendations and References, and EMP. This section documents the field findings from the walk-through survey; discusses monitoring results; evaluates health risk and exposure assessments; and provides recommendations for improvement, suggestions for enrollment in medical surveillance programs, and exposure monitoring required for each shop. If it is a periodic survey, this section also documents changes to the initial survey for each of the sub-sections, as appropriate. Based on best practices and requirements from references 2-2, 2-3, and 2-4, include at least the following information:

(1) Worksite Evaluation by Shop.

- (a) Location. Identify the shop location and the locations of the work operations/processes, equipment, controls or contaminant sources. When appropriate (e.g., for clarifying or detailing the locations of the work operations/processes, engineering controls or contaminant sources), create a diagram. Make the diagram detailed enough to graphically describe the locations of the work operations/processes, engineering controls or contaminant sources (by room number or work station) and the physical relationship of the shop and work operations/processes to the surroundings. For periodic surveys, update the previous information with any changes such as relocated equipment, hazards or controls.
- (b) Personnel Assigned. The number of personnel, including total assigned to the shop, number of males and females, numbers by worker classification and numbers for each work operations/process. Individual personnel need to be associated to the particular shop and to the specific processes within the shop, and to the particular SEGs. Make any updates as needed for periodic surveys.
- (c) Work Operations/Processes Descriptions. The descriptions must detail the work operations/processes by task, work practices and procedures, locations, frequencies and durations of the work operations/processes (including the amount of time spent on each task [time course of events]), material and equipment usage, hazards involved, controls used and number of personnel assigned. Include individual personnel assigned to the specific processes and worker classification if appropriate (e.g., welder, carpenter, etc.). The work operations/processes descriptions would also include a description of the equipment used in the shop for the work operations/processes. For periodic surveys, if a work operation/process changes, the description must detail the changes, including additions of any new work operations/processes or changes in personnel.



(d) Chemical Hazards. List chemical hazards in the workplace that present significant risk associated with each work operation/process. Make any updates as needed for periodic surveys.

1. Hazards that are reproductive or developmental hazards, carcinogens, or ototoxins must be specifically identified and annotated in the survey. Compare the hazards present with the reproductive and developmental hazards found in references 2-8 and 2-9. Compare the hazards present with the carcinogen listings published by OSHA, National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) and ACGIH. For the carcinogens, specifically include those listed as OSHA Carcinogens; NTP Known and Reasonably Anticipated to be Human Carcinogens; IARC Groups 1-Carcinogenic to Humans, 2A-Probably Carcinogenic to Humans, and 2B-Possibly Carcinogenic to Humans; ACGIH Categories A1-Confirmed Human Carcinogen and A2-Suspected Human Carcinogen. Additionally, compare the hazards present with the ototoxins listed in references 2-8 and 2-9.

**NOTE:** References 2-8 and 2-9 do not identify all known ototoxicants and additional research may be necessary. Additionally, these ototoxin references are currently recommended to be used only to aid the industrial hygienist in identifying ototoxins for annotation in the IH survey. This manual is not directing the implementation of any additional medical surveillance or other policies and guidance specific for ototoxins from these references.

2. Chemicals that are skin sensitizers, respiratory sensitizers, or absorbed through the skin should also be specifically identified and annotated in the survey.

(e) Physical Hazards. List any physical hazards that present significant risk, including a brief description of their source(s), associated with each work operation/process. Physical hazards include but are not limited to noise, ionizing or non-ionizing radiation, ergonomic risks, temperature, and vibration. Make any updates as needed for periodic surveys. Hazards that are reproductive or developmental hazards, or are carcinogens must be specifically identified and annotated in the survey. Compare the hazards present with the reproductive and developmental hazards found in references 2-8 and 2-9, and with the carcinogen listings published by OSHA, NTP, the IARC and ACGIH. For the carcinogens, specifically include those listed as OSHA Carcinogens; NTP Known and Reasonably Anticipated to be Human Carcinogens; IARC Groups 1-Carcinogenic to Humans, 2A-Probably Carcinogenic to Humans, and 2B-Possibly Carcinogenic to Humans; ACGIH Categories A1-Confirmed Human Carcinogen and A2-Suspected Human Carcinogen.

(f) Biological Hazards. List any biological/infectious agents (e.g., in laboratories), that present significant risk associated with each work operation/process. Make any updates as needed for periodic surveys. Hazards that are reproductive or



developmental hazards, or are carcinogens must be specifically identified and annotated in the survey. Compare the hazards present with the reproductive and developmental hazards found in references 2-8 and 2-9, and with the carcinogen listings published by OSHA, NTP, IARC and ACGIH. For the carcinogens, specifically include those listed as OSHA Carcinogens; NTP Known and Reasonably Anticipated to be Human Carcinogens; IARC Groups 1-Carcinogenic to Humans, 2A-Probably Carcinogenic to Humans, and 2B-Possibly Carcinogenic to Humans; ACGIH Categories A1-Confirmed Human Carcinogen and A2-Suspected Human Carcinogen.

- (g) Existing Controls. Describe any controls, their use, and their effectiveness for each work operation/process. Controls can be hazard specific. Controls can include substitution, isolation, engineering controls, administrative controls and PPE. Include any sampling/measurements (e.g., ventilation measurement), comparing the results to any standards or guidelines. Reference any standards or guidelines used when discussing the controls' adequacy. For periodic surveys, record any changes in the controls, their use, or effectiveness.
  - (h) Any other information or issues noted during the survey necessary to accurately describe command and shop conditions.
  - (i) HM AUL. List any hazardous materials used in the work operations/processes that are not on the command's HM AUL. This will provide the command with the information needed to update the HM AUL. For a periodic survey, any changes in the HM AUL triggers an update in listed hazards and an updated comparison with the reproductive and developmental hazard, carcinogen, and ototoxin listings.
- (2) Exposure Assessments by Shop and SEG. Exposure assessments are to be performed and documented for all significant hazards to the worker based on its health effects, likelihood of exposure, and regulatory requirements. See the definition of significant hazards in section 2(i) for examples. The exposure assessment section documents the analysis of the collected data and the health risk of affected personnel for each work operation/process and hazard by SEG for each shop. For periodic surveys, if there are previous monitoring results, the survey should include the analysis of collected data relative to previous surveys. Also, for periodic surveys, if the assessment changes, make a statement about the resultant change in personnel exposure. Additionally, for periodic surveys, if there are SEG definition changes, the description must detail the changes, including changes or additions of any shops, work operations/processes, hazards, or personnel for the SEG, and make a statement about the resultant change in personnel exposure. Periodic surveys must also include description and assessment of any new SEGs.
- (a) Present qualitative and quantitative exposure assessments, the basis of the exposure assessment, the determination, the rationale for the determination, any data used, any statistical tests used and the OELs or guidelines used, as appropriate. Consult Chapter 4 for information on qualitative and quantitative exposure assessments and statistical tests used for quantitative assessments.



1. If monitoring is performed, discuss the results as part of the quantitative exposure assessment. Tables summarizing monitoring results should be included, especially sound pressure levels, personal noise dosimetry and personal air sampling.
  2. If historical monitoring results from the same location or results from similar operations at other locations are used as part of the assessment, the source of the monitoring results need to be cited.
  3. Include appropriate citations of any referenced standards or guidelines.
  4. Include a thorough discussion of the basis of the exposure assessment, the determination and the rationale of the determination.
    - a. An exposure assessment can be based on:
      - (1) Sample results of the actual work operation/processes.
      - (2) Results from similar work operations/processes at other commands or locations.
      - (3) The hazards of the materials used, amounts used, frequency and duration of the work operation/process, work practices and available engineering controls, etc.
    - b. However, an acceptable determination cannot be based on respiratory protection provided.
    - c. Short duration of the work operation/process is usually not a valid rationale for substances with ceiling or short term exposure limits.
- (b) Ensure that thorough hazard assessments of all identified and annotated reproductive or developmental hazards and carcinogens are also included. Reference 2-2 requires that the industrial hygienist specifically address a reproductive or developmental hazard assessment (including acceptable determinations) as part of the routine evaluation in the IH survey.
- (c) Exposure assessments should be summarized in a list that shows the current exposure assessment status for each significant work operation/process. The list should (as a minimum) contain the following elements: shop, SEG, work operation/process, pertinent tasks, hazard, exposure assessment status and basis, and rationale for the determination.
- (3) Findings, Recommendations, and References by Shop and SEG.
- (a) Findings. Present the field findings for each work operation/process by SEG for each shop. Findings can be hazard specific. Findings may be positive or negative. For periodic surveys, make any updates as needed regarding the findings and any resultant change in personnel exposure. Also, for periodic surveys, annotate whether the finding is a repeat from any previous survey and cite the source.
    1. Monitoring results, in most cases, are best presented in tables to provide a summary of the data that is easily understood.
    2. Discuss workplace assessments, evaluation of controls, exposure assessments and any monitoring; make a definite positive or negative statement as to exposure of personnel relative to established standards or guidelines.



3. Each finding showing non-compliance with a standard or guideline must include an appropriate citation of the referenced standard or guideline.
  4. Best practices should be documented and shared.
- (b) Recommendations. In sequential order, include at least one feasible recommendation for improvement that corresponds to each finding showing non-compliance with a standard or guideline. Some recommendations might be made even if it is not a non-compliance situation (e.g., some PPE). For periodic surveys, make any updates as needed regarding the recommendations.
1. Recommendations might include controls such as: substitution, isolation, engineering controls, administrative controls and PPE.
  2. Cite the reference or source of each recommendation.
  3. A recommended PPE chart by shop and work operation/process is often useful for the shop personnel.
  4. If engineering controls are not installed or used properly, identify them for inclusion in the surveyed command's Navy Occupational Safety and Health Hazard Abatement Log.
  5. Additionally identify those work operations/processes and hazards where employees require enrollment in medical surveillance programs based on OSHA regulatory requirements and/or the qualitative/quantitative exposure assessments.

**NOTE:** The industrial hygienist's role is to recommend stressor/hazard based medical surveillance and exposure based respirator user certification examination. It is not the role of the industrial hygienist to recommend medical surveillance for job certifications unrelated to IH exposure assessments since it is a command supervisor or human resources' responsibility to provide that information. To help commands identify medical surveillance requirements for job certifications, this section could include a reference to the [Medical Surveillance Procedures Manual and Medical Matrix," NMCPHC-TM OM 6260.](#)

- (c) References. Findings that document non-compliance with a standard or guideline and recommendations needing action are based on cited references. Follow the guidance of reference 2-2 to select appropriate references. For example, when citing the lack of respirator standard operating procedures (SOPs), use OPNAVINST 5100.23G, paragraph 1513.a.(2). When citing references, be specific enough to assist with improvements without limiting creative responses to problems found in the field.
- (4) EMP by Shop and SEG. Identify any required monitoring for each work operation/process and hazard by SEG for each shop. Per reference 2-2, an EMP will be completed for required or necessary sampling/measurements, as part of the IH survey or using OPNAV Form 5100/14 or equivalent. This includes sampling/measurements required by regulation, or necessary to statistically assess



- exposures, determine trends or validate professional judgement of unchanged exposure assessments. The plan should also include monitoring necessary to document the need for controls and the effectiveness of existing controls (e.g., ventilation measurements or other sampling/measurements to assess engineering or administrative controls). Reference 2-3 requires exposures needing monitoring and specifically routine ventilation system evaluation be included on the EMP. Reference 2-2 requires EMPs to include what must be sampled and how often the sampling should be performed.
- f. Command-wide Summary Tables and Other Appendices. Summary Tables can be beneficial to the customer. However, not all are required by references 2-2 or 2-3 or other policy. If the IHPO chooses to use command-wide Summary Tables, the NMCPHC recommends including information that enhances or complements the workplace evaluation in an appendix, as appropriate or required. These summary tables and appendices can include:
- (1) Respiratory Protection Recommendations Summary. This command-wide summary table is required for afloat commands per reference 2-3 and lists areas and processes requiring respiratory protection. It should list the recommended respiratory protection by shop or SEG, work operation/process, location (as appropriate), and hazard. It should detail the minimum type of respirator required for adequate protection.
  - (2) Eye Hazardous Areas and Processes Summary. This command-wide summary table is required for afloat commands per reference 2-3 during the initial IH survey, and lists eye hazardous areas and processes shop and/or location. It should list the recommended eye protection by shop or SEG, work operation/process, location (as appropriate) and hazard. It should detail the type of eye protection required for adequate protection.
  - (3) Eye Wash and Deluge Shower Areas Summary. This command-wide summary table is required for afloat commands per reference 2-3 during the initial and PIHS and lists areas where emergency eyewashes and deluge showers are present or recommended by shop and/or location. It should detail the type of eyewash or shower, whether it is required for that location, any referenced standard, a brief description of any corrective action required and any other comments.
  - (4) Noise Hazardous Processes and Areas Summary. This command-wide summary table is recommended, and lists the areas and equipment designated as noise hazardous. It should list the recommended hearing protection and signage by shop (and SEG as appropriate) and/or location, noise source, and work operation/process and/or equipment. It should detail the range of sound pressure levels measured, the type of hearing protection required for adequate protection, and the required labeling (single or double hearing protection required) as noise hazardous.
  - (5) Medical Surveillance Recommendations Summary. This command-wide summary table is recommended and lists medical surveillance recommendations by shop or SEG, work operation/process, and hazard, based upon OSHA regulatory



requirements, and/or the qualitative/quantitative exposure assessments. The summary is particularly useful for presentation to designated medical surveillance program managers. It should detail the recommended medical surveillance program, and estimated number of personnel. A recommended format for listing medical surveillance recommendations is provided in Appendix 2-E.

**NOTE:** The industrial hygienist's role is to recommend stressor/hazard based medical surveillance and exposure based respirator user certification examination. It is not the role of the industrial hygienist to recommend medical surveillance for job certifications unrelated to IH exposure assessments since it is a command supervisor or human resources' responsibility to provide that information. To help commands identify medical surveillance requirements for job certifications, this section could include a reference to the [Medical Surveillance Procedures Manual and Medical Matrix," NMCPHC-TM OM 6260.](#)

- (6) EMP. This command-wide summary table or the OPNAV 5100/14 form (or equivalent) is recommended, and lists what must be sampled, and how often the sampling should be performed. Additionally, any other clarifying comments or details should be included. It should be grouped by shop or SEG, work operation/process, location (as appropriate) and hazard for the needed monitoring. EMPs should cover all required or necessary sampling/measurements.
- (7) Reproductive/Developmental Hazard Summary. This command-wide summary table is recommended, and lists the particular identified and annotated reproductive or developmental hazards by shop or SEG, and work operation/process.
- (8) Carcinogen Summary. This command-wide summary table is recommended, and lists the particular identified and annotated carcinogens by shop or SEG, and work operation/process.
- (9) Ototoxin Summary. This command-wide summary table is recommended, and lists the particular identified and annotated ototoxins by shop or SEG, and work operation/process.
- (10) Hazardous Material Storage Locations Summary. This command-wide summary table lists the shops and/or locations where the hazardous material is stored, detailing the type of hazardous material.
- (11) Ventilation Measurements Summary. This command-wide summary table lists the existing industrial ventilation systems (i.e., for contaminant control, but also including flammable and hazardous materials storerooms and laundry, scullery and galley exhaust systems) by shop (and SEG as appropriate) and/or location, and work operation/process. It should detail system location; hazard controlled; system type, system measurements; any referenced standard, guideline, or design criteria for that system; whether the system meets the standard, guideline or design criteria; a brief description of any corrective action needed; and any other comments.



- (12) Repeat Technical Findings Summary. For periodic surveys, if there are multiple repeat findings, it might be useful to include a command-wide summary table listing the findings by shop or SEG, work operation/process, location and hazard.
- (13) Monitoring Results Documentation. Supporting documentation for all sampling/measurement results used to make the workplace evaluations during that IH survey can be included as an appendix to the survey report. For example, include copies of field data sheets used to record the results of direct reading instruments such as sound levels, ventilation, radio frequency and illumination. Also include copies of laboratory reports for personal and general area air samples, and bulk and wipe samples.
- (14) SOPs for Specific Programs. "Boiler plate" SOPs can be included to assist the SOH manager in organizing and operating the occupational health programs, (e.g., any particular SOPs for lead control, asbestos abatement, etc.).
- (15) Glossary. A glossary of terms common to IH can be included. Technical terms used in the report are listed with a plain English definition.
- (16) Customer Satisfaction Survey. A customer satisfaction survey can be included. However, inclusion with the survey report alone is not often effective in eliciting responses. Specifically asking for response in the Executive Summary and also in communications with the serviced command or shops might improve response rate.

## 6. Command IH Survey Report Index

If the IH survey reports for a command are provided in multiple documents (e.g., by directorate, department, division, etc.) during the applicable reporting period, then a command IH survey report index needs to be prepared. This index references all of the previously provided IH survey reports and includes a list of all the shops surveyed in each individual report. The shop list should include the shop name, priority (per Appendix 2-D), and walk-through survey date.

## Appendix 2-B – Survey Report Element Requirements for Initial/Periodic Industrial Hygiene Survey Reports and Shop Specific Supplements to a Periodic Industrial Hygiene Survey Report

Report Element	Initial/Periodic Industrial Hygiene Survey Report Elements	Shop Specific Supplement to Periodic Industrial Hygiene Survey Report Elements
Cover Letter	Required	Required
Table of Contents	Required only when MORE than 4 shops are included	Required only when MORE than 4 shops are included
Executive Summary	Required	Required
Overall Program Findings and Recommendations as part of the Executive Summary	Required, for respiratory protection program for ashore commands  Recommended, as needed for others	Required, as applicable for those shops surveyed, for respiratory protection program for ashore commands  Recommended, as applicable for those shops surveyed, for others
Worksite Evaluations, Exposure Assessments, Findings and Recommendations and References, and Exposure Monitoring Plan	Required	Required, but only for those shops surveyed
Respirator Protection Summary	Required for afloat commands Recommended for others	Required, if applicable for those shops surveyed, for afloat commands  Recommended, if applicable for those shops surveyed, for others

Report Element	Initial/Periodic Industrial Hygiene Survey Report Elements	Shop Specific Supplement to Periodic Industrial Hygiene Survey Report Elements
Eye Hazardous Areas and Processes Summary	Required for afloat commands initial survey Recommended for others	Optional
Eye Wash and Deluge Shower Summary	Required for afloat commands initial and periodic survey Recommended for others	Required, if applicable for those shops surveyed, for afloat commands  Recommended, if applicable for those shops surveyed, for others
Noise Hazardous Processes and Areas Summary	Recommended	Recommended
Medical Surveillance Recommendations Summary	Recommended	Recommended, if applicable for those shops surveyed
Exposure Monitoring Plan Summary	Recommended	Recommended, if applicable for those shops surveyed
Reproductive/Developmental Hazard Summary	Recommended	Recommended, if applicable for those shops surveyed
Carcinogen Summary	Recommended	Recommended, if applicable for those shops surveyed
Ototoxin Summary	Recommended	Recommended, if applicable for those shops surveyed
Other Command-Wide Summary Tables and Appendices	Optional	Optional

## Appendix 2-C – Periodic Industrial Hygiene Survey Report Frequency

Command Hazard Category	Periodic Industrial Hygiene Survey Report Frequency	Command Examples
I High Hazard	Annual, but focused on Priority 1 shops and other Priority 2 and 3 shops that are due that year	Marine Aviation Logistics Squadrons (MALS), Marine Corps Logistics Base Maintenance Centers (e.g., Barstow, CA and Albany, GA), MEF Corrosion Control, Marine Corps Maintenance Logistics Group Maintenance Battalions, Naval Shipyard, Ship Repair Facility, Fleet Readiness Centers (formerly Naval Aviation Depots), Shore Intermediate Maintenance Activity, Aircraft Intermediate Maintenance Department, Public Works Center, Weapons Ordnance Station, Naval Intermediate Maintenance Facility, Test Center or Laboratory, Medical Centers and Hospitals, Assault Craft Unit, Beach Masters Unit, Amphibious Construction Battalion, Naval Undersea Warfare Center and Naval Surface Warfare Center (NSWC)
II Moderate Hazard	Every 2 years, command-wide with Priority 1 shops evaluated annually thereafter	Marine Corps Bases, Marine Corps Air Stations, Marine Corps Community Services (MCCS), Marine Corps Ground Battalions (e.g., Infantry, Artillery, Tanks, Reconnaissance, and Engineers), Naval Stations, Air Stations, Naval Computer and Telecommunications Area Master Station, Fleet and Industrial Supply Center, Sea Air Land Commando Teams, Aviation Squadrons, Submarine Learning Facility, Fleet Imaging, Naval Facilities Engineering Command Engineering Field Division, Naval Criminal Investigative Service, Naval Base, Exchange, Explosive Ordnance Disposal, Naval Computer and Telecommunication Station, Naval Communication Unit, Fleet Training Center, Fleet Aviation Specialized Operational, Naval Education and Training Command, Fleet Area Control and Surveillance Facility, Naval Ophthalmic Support and Training Activity, NSWC Detachment, and Health Clinic and Branch Clinics.
	Every 3 years, command-wide, all shops	All Navy and Military Sealift Command PM1 and PM4 Ships and Submarines
III Low Hazard	Every 4 years, command-wide with Priority 1 & 2 shops included in supplement	Reserve Centers and all other activities with primarily office or classroom work, such as: administrative headquarters staffs and administrative support commands

**EXCEPTIONS :** All **afloat** command shops will be designated as Priority 2 shops but will receive a singular combined command/shop based periodic IH every **3 years** as outlined in COMNAVSAFECEN NORFOLK VA 111457Z Jan 16 (ALSAFE 16/002). All **Reserve Center** shops will typically be designated as Priority 3 shops and will receive a singular combined command/shop-based periodic IH every **4 years**. Reserve Centers with industrial work operations/processes, work operation/process changes, changes to work practices, or other occupational health concerns should contact their supporting IHPO for consultation or possible evaluation outside of the four year periodicity.



## Appendix 2-D – Assigning Shop Priorities in Defense Occupational Environmental Health Readiness System-Industrial Hygiene (DOEHRS-IH)

Minimum Assessment Frequency <sup>1</sup>		
Priority 1 – Annual	Priority 2 – Every two years (Every three years for all Afloat command shops)	Priority 3 – Every four years
GENERAL DESCRIPTION <sup>2</sup> - Shops needing complex IH assessment or significant monitoring.	GENERAL DESCRIPTION <sup>2</sup> –Shops where work is of moderate to low hazard.	GENERAL DESCRIPTION <sup>2</sup> - Shops where work is primarily in an administrative environment.
Hazards are poorly defined or controlled. Work environment or processes are unstable.	Hazards well defined and controlled. Work environment and processes are stable.	Insignificant or no hazards. Work environment and processes are stable.
<p>Except as noted below, a recommendation/requirement for exposure based or OSHA required occupational health exams for all chemical and physical hazards, all mixed exposures and when IH recommends respirator use based on their exposure assessment<sup>3</sup>.</p> <p><u>Exceptions:</u> Noise 503 or 512; Blood or Body Fluids – 178; Radiation-Ionizing 505; Radiation - Laser 506; Animal Associated Disease 207; Hazardous Drugs 110; and Specialty exams<sup>4</sup>.</p>	<p>No exposure-driven occupational health exam recommendations/ requirements, other than annual audiograms. Refer to the weapons qualification exposure discussion in the Priority 3 Shop column.</p> <p><b>NOTE:</b> The IH must document their rationale for classifying a shop other than Priority 1 if they recommend other exposure based or OSHA required medical surveillance for a chemical, physical, or mixed exposure hazard or if respirator use is recommended based on their exposure assessment.</p>	<p>No occupational health exam requirements.</p> <p><u>Exception:</u> Weapons qualification noise exposure typically occurs at a range separate and distinct from the employee’s primary workcenter; therefore, Priority 2 Shop categorization is not required when inclusion of employees in the HCP is solely due to weapons qualification. Applicable employees in this Priority 3 Shop will still be recommended for audiometric testing and inclusion in the HCP. In summary, the shop should be categorized as Priority 2 if a biennial shop reassessment is considered professionally more appropriate.</p>



Minimum Assessment Frequency <sup>1</sup>		
Priority 1 – Annual	Priority 2 – Every two years (Every three years for all Afloat command shops)	Priority 3 – Every four years
Highest rated SEG in shop has a Health Risk Rating (HRR) <sup>5</sup> of 12 or greater or there are high exposures (e.g., 95th percentile > or equal to 50% OEL, other than noise).	Highest rated SEG in shop has an HRR <sup>5</sup> less than 12 and greater than 4 or exposure assessment is moderate to low (e.g., 95th percentile >detectable and < 50% OEL).	Exposure assessment is negligible (e.g., insignificant or negligible exposure).
OSHA regulatory exposure assessment or monitoring requirements (OSH Act Section 6b rulemaking).	Minimal potential for hazards to go out of control or create significant risk.	
All DoD biomedical and biological research settings, microbiology teaching laboratories, environmental and public health laboratories, veterinary laboratories, and nonclinical microbiological laboratories that use, handle, transport, transfer, store, or dispose of infectious agents and toxins <sup>6</sup> .		

**EXCEPTIONS:** All **afloat** command shops will be designated as Priority 2 shops but will receive a singular combined command/shop based periodic IH every **3 years** as outlined in COMNAVSAFECEN NORFOLK VA 111457Z Jan 16 (ALSAFE 16/002). All **Reserve Center** shops will typically be designated as Priority 3 shops and will receive a singular combined command/shop-based periodic IH every **4 years**. Reserve Centers with industrial work operations/processes, work operation/process changes, changes to work practices, or other occupational health concerns should contact their supporting IHPO for consultation or possible evaluation outside of the four year periodicity.

<sup>1</sup> The required routine assessment frequency establishes a minimum requirement. Shops should be assessed as frequently as necessary to adequately identify, evaluate, and control the occupational health hazards present.

<sup>2</sup> Shop Complexity Categories (A, B, C) established for the 2009 NMAT IH staffing study in Data Call1A may be used as a starting point for revalidating Shop Priority (1, 2, 3) codes as outlined in this appendix for DOEHS-IH.

<sup>3</sup> IH respirator use recommendations typically indicate employee overexposures, or are recommended as a control for uncertain exposures needing additional monitoring/characterization. Concurrently, exposure-based medical surveillance would likely be recommended due to exposures exceeding the OEL or action level (AL). Therefore, more frequent visits (i.e., annually) are warranted by the IH to monitor these higher risk shops/processes or to gather additional monitoring data. Conversely, there are some situations where an IH respirator use recommendation in and to itself **may not** warrant Priority 1 shop designation or annual shop reassessments.

**Potential Exceptions:** 1. When respirator use by shop personnel **is not** based on the IH’s exposure assessment and respirator use recommendation(s), **and** there are no IH exposure-based medical surveillance recommendations.



Some examples might include: local or higher authority directives/SOPs that automatically mandate respirator use; command RPPM (vice IH) respirator use requirement. 2. When the IH recommends SCBA use by firefighters or respirator use by Squadron Emergency Response Teams (ERTs) because annual shop reassessments typically do not provide additional respirator use exposure characterization information. 3. When the IH recommends respirator use by shop personnel as a precautionary/conservative best practice for NAVFAC/PWD/Facility Dept. maintenance employees or welders for intermittent/variable work operations/processes when all corresponding IH monitoring has consistently documented exposures less than applicable OELs and there are no exposure-based medical surveillance recommendations. **In summary, with respect to these noted potential exceptions, a Priority 1 shop should not be categorized as a Priority 2 shop if an annual shop reassessment is considered professionally more appropriate. Shop categorization and periodic reassessments should be conducted as frequently as necessary to adequately identify, evaluate, and control the occupational health hazards present.**

<sup>4</sup> Per Navy and Marine Corps Public Health Center Technical Manual NMCPHC-TM OM 6260 Medical Surveillance Procedures Manual and Medical Matrix (Edition 12).

<sup>5</sup> HRR for a SEG is calculated by multiplying the Exposure Effects Rating (EER) by times the Health Effects Rating (HER), according to the guidance presented in the NMCPHC IHFOM, Chapter 4.

<sup>6</sup> Per reference 2-12, the annual PIHS requirement (i.e., Priority 1 shop categorization) does not apply to clinical laboratories and chemical, biological, radiological and nuclear medical contingency response laboratories that: 1. Routinely grow and manipulate Risk Group 2 or higher bacteria, viruses, and fungi that comply with the requirements of Section 49F2-113.1101(d) of Title 42, Code of Federal Regulations (CFR); Section 1910.1030 of Title 29, CFR; and DoD Manual 6440.02. 2. Import IAT into the United States in accordance with Section 71.54 of Title 42, CFR and Part 122 of Title 9, CFR.

**Table 1-Health Risk Rating Calculation (per DOEHS-IH Exposure Assessment Strategy)**

Health Risk Ratings						
		Exposure Effects Rating/Category				
		1/Negligible	2/Low	3/Moderate	4/High	5/Very High
Health Effect Rating/Category	5/Very High	5	10	15	20	25
	4/High	4	8	12	16	20
	3/Moderate	3	6	9	12	15
	2/Low	2	4	6	8	10
	1/Negligible	1	2	3	4	5

**Table 2-Exposure Effects Rating Categorization (per DOEHS-IH Exposure Assessment Strategy)**

Exposure Effects Rating/ Category	IH Exposure Hypothesis based on 95 <sup>th</sup> Percentile Exposure Point Estimate	Exposure Profile
<b>5/Very High</b>	Expected to be at or above the OEL	Gross frequent contact with agents at very high concentrations; Materials have high vapor pressure or dustiness
<b>4/High</b>	Likely to be an exposure, but between 50% OEL and OEL	Likely contact with agent at high concentrations or infrequent contact at very high concentrations; Materials have significant vapor pressure or dustiness
<b>3/Moderate</b>	Exposure frequently < 50% OEL, or generally between 10-50% of OEL	Occasional contact with agent at moderate concentrations or infrequent contact at high concentrations; Materials have low vapor pressure or dustiness
<b>2/Low</b>	Exposure infrequent, < 10% of OEL	Infrequent contact with agents
<b>1/Negligible</b>	No detectable exposure	Current science cannot determine that there is exposure to agent

**Table 3-Health Effects Ratings Categorization (per DOEHS-IH Exposure Assessment Strategy)**

Health Effects Rating/Category	Health Effect	Health Effects Codes
<b>5/Very High</b>	Acute life-threatening or disabling injury or illness	<p><b>Health Hazard:</b> HE1 - Regulated carcinogens; HE2 – Chronic (cumulative) toxicity - known or suspect human (IARC Group1 &amp; Group 2A, ACGIH A1 &amp; A2) carcinogens, mutagens; HE17 - Chemical asphyxiants, anoxiants; HE11 – Respiratory effects - acute lung damage, edema</p> <p><b>Safety:</b> Death, Loss of facility or asset</p> <p><b>Noise:</b> Immediate hearing loss, impulse noise</p>
<b>4/High</b>	Chronic irreversible health effects of concern	<p><b>Health Hazard:</b> HE3 – Chronic toxicity - long term organ toxicity other than nervous, respiratory, hematologic, or reproductive; HE5 – Reproductive hazards - teratogens, or other impairment; HE7 – Nervous system disturbances - other than narcosis; HE10 - Respiratory effects (other than irritation) - cumulative lung damage; HE9 - Respiratory effects (other than irritation) – respiratory sensitization – asthma or other</p> <p><b>Safety:</b> Major property damage</p> <p><b>Noise:</b> Noise induced hearing loss, permanent and temporary threshold shifts, will eventually lead to permanent hearing loss</p>
<b>3/Moderate</b>	Severe reversible health effects of concern	<p><b>Health Hazard:</b> HE14 – Irritation of eyes, nose, throat, skin – marked; HE6 - Nervous system disturbances - cholinesterase inhibition; HE12 - Hematologic disturbances – anemias; HE13 - Hematologic disturbances – methemoglobinemia, anemias; HE4 - Acute toxicity - Short-term high risk effects (non-IDLH)</p> <p><b>Safety:</b> Minor property damage</p>
<b>2/Low</b>	Reversible health effects of concern	<p><b>Health Hazard:</b> HE15 – Irritation of eyes, nose, throat, skin – moderate; HE16 – Irritation of eyes, nose, throat, skin – mild; HE8 - Nervous system disturbances - narcosis</p> <p><b>Safety:</b> Minimal threat to personnel, property, first aid, minor supportive medical treatment, but still a violation of a standard.</p>
<b>1/Negligible</b>	Nuisance health effects (Reversible health effects of little concern or no known or suspected adverse health effects)	<p><b>Health Hazard:</b> HE19 - Generally low risk health effects - nuisance particulates, vapors or gases; HE 20 - Generally low risk health effects – odor</p> <p><b>Safety:</b> No violation of a standard.</p>



## Appendix 2-E – Recommended Formats for Medical Surveillance Summaries

Shop: CODE 123 AIR OPS DEPARTMENT (SHOP SUMMARY)

SEG: FLIGHTLINE

Work Operation/Process Task	Recommended Medical Program	Medical Program Number	Estimated Number Of Workers
Flight Line Operations	Noise	503	10

Medical Surveillance Table (Command Summary)

Command: XYZ Squadron/12345

Shop/SEG	Work Operation/ Process/Task	Recommended Medical Program	Medical Program Number	Estimated Number Of Workers
Air Ops Department (Code 123) / Flightline	Flightline Operations	Noise	503	10
Maintenance Department – Aircraft Division - Corrosion Control Shop (Code 456) / Corrosion Control	Spray Painting	Respirator User-Full Face	716	2
Maintenance Department – Material Control (Code 789) / Supply	Materials Handling And Storage	Forklift	210	12

MEDICAL SURVEILLANCE TABLE (AOR SUMMARY)

AOR: NHC ANYWHERE

Command/ UIC	Shop/SEG	Work Operation/ Process/Task	Recommended Medical Program	Medical Program Number	Estimated Number Of Workers
XYZ SQUADRON/1 2345	Air Ops Department (Code 123) / Flightline	Flightline Operations	Noise	503	10
XYZ SQUADRON/1 2345	Corrosion Control Department (Code 456) / Corrosion Control	Spray Painting	Respirator User-Full Face	716	2
XYZ SQUADRON/1 2345	Maintenance Department – Material Control (Code 789) / Supply	Materials Handling And Storage	Forklift	210	12
ABC SQUADRON/9 8765	Air Ops Department (Code 123) / Flightline	Flightline Operations	Noise	503	12



Command/ UIC	Shop/SEG	Work Operation/ Process/Task	Recommended Medical Program	Medical Program Number	Estimated Number Of Workers
<b>ABC SQUADRON/9 8765</b>	Corrosion Control Department (Code 456) / Corrosion Control	Spray Painting	Respirator User-Full Face	716	3
<b>ABC SQUADRON/9 8765</b>	Maintenance Department – Material Control (Code 789) / Supply	Materials Handling And Storage	Forklift	210	8



## Appendix 2-F – Procedures for Managing and Transferring Data Between Industrial Hygiene Program Offices

### 1. Background

Managing data for commands/organizations transferring between IHPOs' AOR needs coordination between the involved IHPOs and Region industrial hygienists. However, additionally managing the data for such relocating commands/organizations within DOEHRS-IH needs even more coordination and cooperation between IHPO, Region and NMCPHC points of contact (POCs).

### 2. Purpose

This appendix provides guidance to identify and define IHPO responsibility for performing IH surveys for stationary shore based commands/organizations or mobile commands/organizations such as air squadrons, wings, fleet squadrons, ships, submarines, etc., creating IH survey reports and entering data into DOEHRS-IH. This appendix also provides guidance for managing or transferring DOEHRS-IH data between BUMED IHPOs when a command/organization relocates from one IHPO's AOR to a different IHPO's AOR.

### 3. IHPO Responsibility for Entering Command/Organization Data into DOEHRS-IH

- a. Stationary Shore Based Commands/Organizations Or Mobile Commands/Organizations Such As Air Squadrons, Wings, Fleet Squadrons, USN Ships, Submarines, Etc. The assigned AOR IHPO is responsible for entering the initial data into the DOEHRS-IH database and then for entering all subsequent necessary/applicable DOEHRS-IH data. This includes data for any PIHS conducted by the AOR IHPO, or data provided by another non-AOR IHPO service provider. The assigned AOR IHPO maintains ownership until such time as the command/organization relocates to a new IHPO's AOR. For example, when a ship changes homeports or a squadron relocates from the west to the east coast.
- b. USNR Ships. The assigned AOR IHPO is responsible for entering the initial ship data into the DOEHRS-IH database and then for entering all subsequent necessary/applicable DOEHRS-IH data. This includes data for any PIHS conducted by the AOR IHPO, or data provided by another non-AOR IHPO service provider.

### 4. Managing and Transferring Paper and Electronic Surveys and Data

Follow all records retention requirements as discussed earlier in this chapter. Communication between the gaining and losing IHPOs is essential to ensure any needed data is transferred or copies provided to the gaining IHPO.

## 5. Managing and Transferring DOEHRS-IH Data

Managing or Transferring DOEHRS Data between BUMED IHPOs When a Command/Organization Relocates from One IHPO's AOR to a Different IHPO's AOR. An example of this scenario is when a ship changes homeports. Another example would be when a stationary shore based command/organization completely relocates to another distant area. When a command/organization geographically relocates, it typically changes servicing IHPOs. Therefore, a decision needs to be made about how to handle the existing data in DOEHRS-IH. The gaining IHPO needs to discuss what data is already in DOEHRS-IH with the losing IHPO, and a gaining IHPO POC should be allowed to temporarily join the losing IHPO to see what data they would be receiving and how it is named and organized. Both IHPOs need to discuss and agree upon what will be the best option for transferring the data. The losing IHPO should initiate an MCR by sending an email to the DHA and DOEHRS-IH Help Desks ([dhagsc@mail.mil](mailto:dhagsc@mail.mil) and [doehrs\\_helpdesk@beatllc.com](mailto:doehrs_helpdesk@beatllc.com)) and copying (CCing) both the gaining IHPO and the Navy DOEHRS-IH SLA at NMCPHC. The DOEHRS-IH help desk will ask the Navy DOEHRS-IH SLA to approve the request. The Navy DOEHRS-IH SLA will usually verify the MCR with both IHPOs.

**NOTE:** Depending on the situation the DOEHRS-IH vendor will ask for clarification or verification of the MCR; please be very specific and detailed, as the DOEHRS-IH vendor personnel are not industrial hygienists. Also, depending on what data is already in the gaining IHPO and available in the losing IHPO, the MCR can specify what exactly should be moved or copied where, or specify changes in naming, etc.

**NOTE:** Any data transfer should be performed before the losing IHPO stop dates (archives) the data in their IHPO. This keeps the data from having to “un-stop dated”. Data transfer options include:

- a. Moving Command/Organization DOEHRS-IH Data to Another IHPO.
  - (1) Advantage of moving the data is that it keeps the continuity of the data and there is no data duplication in the system that might show up when querying historical (archived) data.
  - (2) Disadvantage of moving the data is that there is no reference (besides the MCR itself) that the command/organization was ever serviced by the losing IHPO.
  - (3) When applicable, a shop and all of its processes and data associated with those processes can be moved to the gaining IHPO. If a SEG is solely associated with processes from that shop, it can also be moved to the gaining IHPO. However, if there are processes that exist in SEGs with other data not associated with the shop being moved (i.e., in Super-SEGs with processes from other shops not being moved), then the DOEHRS-IH vendor will have the requester (losing IHPO) verify details all of the data that they would like moved. It is important the both the losing and gaining IHPOs coordinate on this.

- (a) The requestor can opt to only move SEGs where all of the data is from shops being moved, and then the gaining IHPO would need to recreate from scratch a SEG for shop/processes that were originally part of a Super-SEG with data from shops not being moved.
- (b) Otherwise, in the case of such a Super-SEG where not all of the processes are from shops being moved, and the requester decides the SEG needs to be copied over to the gaining IHPO, the requestor will need to determine what data is in that SEG for the moved shop/processes which needs to be moved/copied as well.
  1. Any child records in the SEG will need to be verified by the requestor as to whether they want that data copied to the new SEG at the new PO.
  2. The one type of data that cannot be copied is samples. Samples in the database are unique and cannot exist in two places (even if one is stop dated) with the same sample ID. Therefore, if samples need to go to the gaining IHPO, they must be moved and NOT copied.

**NOTE:** Only the samples from the moved shop/processes will exist in the new SEG at the gaining IHPO.

3. Of particular concern here would be assessment data. The requester would need to determine if the assessment in a SEG associated with a process from the moved shop needs to be moved (if not associated to other shop/processes not being moved) in the SEG or copied to the new SEG in the gaining IHPO. Here the requester would need to determine if the assessment is tied to a sample that is being moved to the receiving IHPO.
  - a. If the assessment only contains processes from the shop being moved, then no conflicts should exist.
  - b. If the assessment crosses over the shop/processes being moved as well as shop/processes not being moved, then the assessment should not be moved to the new SEG in the gaining IHPO, and the gaining IHPO will need to assess the process based on the moved or new data. For the losing IHPO, the existing completed assessments which crossed over the shop/processes being moved as well as shop/processes not being moved would remain, even if they are based on moved samples or other data related to the moved shop/processes. However, the moved data would not be available when the process assessment is reassessed

**NOTE:** Moving all the data for a relocating command/organization works well for mobile commands/organizations where the entire facility moves. However, a stationary shore based command/organization is typically influenced by the facility; the new building and location will not be identical and might differ in ambient conditions, size, equipment, supplies/materials, engineering controls (type and efficacy) (e.g., ventilation), personnel, etc. These differences could greatly affect the data and exposure assessments for the

command/organization; so previous shops, processes, SEGs, hazards, controls, personnel, shop equipment, sampling, assessments, recommendations and master schedule entries, etc. would not necessarily apply. Therefore, if a stationary shore based command/organization moves to a location within a different IHPO's AOR, moving all the data would not work as well, and perhaps just copying the pertinent data from the losing IHPO to the gaining IHPO would work better.

**NOTE:** In certain situations (e.g., if data is moved from the losing IHPO to the gaining IHPO and the gaining IHPO already has some data entered for that relocating command/organization and wants to merge the moved data into their existing data), the move would have to be specifically described in the MCR. This is a case where the gaining IHPO needs to write/help write the MCR for losing IHPO to submit.

b. Copying Command/Organization DOEHS-IH Data to Another IHPO.

- (1) Advantage of copying the data is that the original data would remain archived in the losing IHPO for historic reference.
- (2) Potential Issues
  - (a) It would cause data duplication in the system that might show up when querying historical (archived) data.
  - (b) The one type of data that cannot be copied is samples. Samples in the database are unique and cannot exist in two places (even if one is stop dated) with the same sample ID. Therefore, if samples need to go to the gaining IHPO, they must be moved and NOT copied.

**NOTE:** Copying the pertinent data from the losing IHPO to the gaining IHPO may work well for a relocating stationary shore based command/organization. As mentioned previously, a stationary shore based command/organization is typically influenced by the facility; the new building and location will not be identical and might differ in ambient conditions, size, equipment, supplies/materials, engineering controls (type and efficacy) (e.g., ventilation), personnel, etc. These differences could greatly affect the data and exposure assessments for the command/organization; so previous shops, processes, SEGs, hazards, controls, personnel, shop equipment, sampling, assessments, recommendations and master schedule entries, etc. would not necessarily apply. However, for mobile commands/organizations where the entire facility moves, moving all the data for a relocating command/organization may work better.

**NOTE:** In most situations (e.g., where only certain pertinent data would be desired to be copied, or where the gaining IHPO already has some data entered for that relocating command/organization and wants to merge the copied data into their existing data), the copy would have to be specifically described in the MCR. This is a case where the gaining IHPO needs to write/help write the MCR for losing IHPO to submit.

**NOTE:** After the information is copied for the relocating command/organization to the gaining IHPO, the losing IHPO would need to then stop date (archive) their data for that command/organization.

**NOTE:** Copying existing data can also be useful to create a template for a new or relocating command/organization in an IHPO. Shops, processes, and perhaps SEGs can be copied from another IHPO or from within an IHPO as a template, when the new command/organization is of the same class or type and has a matching structure (e.g., ships, submarines, wings, squadrons, etc. of the same class and type) as an existing command/organization.

- c. Command/Organization Data Transfer Conclusions. When an existing mobile command/organization relocates/changes homeport to a different IHPO AOR, moving any existing data is likely the best option. A mobile command/organization is its own self-contained facility; so it makes sense to move the data from one IHPO to another if the command/organization receives IH services from a different IHPO. However, the individual situation also needs to be considered. There may be cases where the gaining IHPO might want to start from scratch or use only what data they have already entered themselves. (e.g., the losing IHPO has very little shop, process or SEG data (perhaps organized in a manner the gaining IHPO does not want) and has no sampling or assessments.) Also, there may be cases where both IHPOs might want to just copy some or all of the data to the gaining IHPO, with the losing IHPO then stop dating (archiving) all their data for that command/organization afterwards. (e.g., the data in the losing IHPO is so structured that the gaining IHPO prefers to only use some of the existing data and start from scratch with the rest and so archiving the losing IHPO's complete data is useful from a historic perspective; or a mobile command/organization is undergoing a major change in conjunction with the relocation where existing data, sampling and assessments would no longer be applicable, and it is better from a historic perspective to archive the losing IHPO's complete data before the change and relocation.)  
When an existing stationary shore based command/organization relocates to a different IHPO AOR, copying pertinent existing data is likely the best option, since not all the data will be pertinent at the new location, and it is better from a historic perspective to archive the losing IHPO's complete data before the change and relocation. Copying existing data from a matching command/organization to a new command/organization is useful and a timesaver for creating templates for shops, processes, and perhaps SEGs when the new command/organization is of the same class or type and has a matching structure (e.g., ships, submarines, wings, squadrons, etc. of the same class and type) as an existing command/organization.

**For Additional Information:** Please see topic "UIC/Command/Shop/Processes" in the [DOEHRS-IH Frequently Asked Questions](#).