



Division of Energy Employees Occupational Illness (DEEOIC)

Assessing Exposure by Industrial Hygienist

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Lesson Objectives

- Science of Industrial Hygiene in performing exposure analysis
- Purpose of Industrial Hygienist (IH) assessment
- Process for obtaining IH assessment of chemical or biological exposure
- Use of the IH exposure data in the claim decision-making process





Expertise of Industrial Hygienist (IH)

- Industrial hygiene is a science devoted to the evaluation and control of occupational environmental factors that may cause illness or impact the well-being of workers
- DEEOIC Industrial hygienists are credentialed experts in assessing chemical and biological hazards that exist in the workplace that can result in worker harm
 - Use established scientific principles to assess occupational health hazards
 - Evaluate exposure data to ascertain health risk by labor type - work process – or other occupational factors



Purpose of IH Assessment

- The Act requires a finding that exposure to a toxic substance at a Department of Energy (DOE) facility resulted in an illness. To make such a finding, it is necessary to obtain:
 1. Understanding of the extent of likely exposure to a toxic substance; and
 2. A medical opinion from a physician about whether the extent of such exposure was “at least as likely as not” a significant factor in causing, contributing to, or aggravating a claimed illness
- Characterization of exposure by IH accurately informs a physician about the likely extent of contact with a particular material to produce a credible medical opinion about the work-relatedness of an illness



Organizational Structure

- Two Federal Certified IH's – Managed within DEEOIC Policy Branch
 - IH referral intake screening
 - Coordinate case referrals to external IH contractor or handled internally
 - Quality assurance review of contractor produced IH assessments
 - Staff engagement & Pre-Screen Consultation
- Five contracted Certified IH's
 - Process a bulk of IH assessment
 - Report preparation within 21 days of receipt
- One Contractor Officer Representative (COR)
 - Federal overseer of the contract and contractor performance
 - Invoice processing



Case Referrals to IH

- Originate from Claim Examiner review of case filed under Part E
- Claim relates to non-radiogenic chemical (including metals) or biological material
- Medical or scientific evidence links a toxic substance to the claimed illness (health effect)
- Exposure to targeted toxic substance(s) likely occurred - CE uses employment records and program resources like the Site Exposure Matrix (SEM) to decide
- Claims Examiner prepares IH referral package to include:
 - Referral summary worksheets identifying targeted toxic substances for IH characterization
 - Statement of Accepted Fact (SOAF) – factual outline of the claim
 - Occupational History Questionnaire
 - Exposure records (if any) from the employment records
 - Claimant supplied data such as EE-3, affidavits, or physician opinion



IH Work Product

- Narrative report is prepared characterizing extent of likely exposure to targeted toxic substance(s). Components of narrative:
 1. **Issues for Determination** – summary of referral reason
 2. **Background** – discussion of employee work/medical history
 3. **Discussion** – narrative IH analysis of labor, work processes or toxic substance data that shapes the IH's assessment of likely exposure
 4. **Conclusion** – description of the IH assigned extent of exposure to targeted toxic substance(s)
- Contractor performance standard is for report to be completed within 21 days of referral



IH Exposure Interpretation

- Conclusion generally represents a professional estimate of the likely maximal exposure reasonably encountered
 - Explicit monitoring data is usually unavailable
 - IH must rely on the description of work activities from case evidence, and knowledge of work processes to inform characterization
- Exposure levels:
 1. Significant (high – moderate – low): routine frequency of likely exposure through inhalation, ingestion or absorption
 2. Incidental: intermittent, infrequent contact with a substance without a connection to a normal function of a particular job or work process
 3. Exposure did occur but not in a manner IH can conclude was significant or incidental: no evidence of workplace safety violation – proper use of safety mitigation parameters – lack of any basis to assign significant exposure. Applies frequently to more recent work activities occurring after the mid-1990s.



IH Report Conclusion Example

IV. Conclusion

It is highly likely that Mr. Claimant, in his capacity as a Maintenance Mechanic at the Paducah Gaseous Diffusion Plant (PGDP), was significantly exposed to multiple toxins. Please refer to the following table for the claimant's position, toxins, nature of exposures, exposure frequencies, and exposure levels.

Maintenance Mechanic (01/01/1977 - 12/31/1979)			
Toxin	Direct/ Area	Frequency	Exposure level
Asbestos	Both	Occasional (i.e., a biweekly basis)	Low to moderate
Lead	Direct	Occasional (i.e., a biweekly basis)	Low to moderate
Mercury	Both	Occasional (i.e., a biweekly basis)	Very low to low
Tetrachloroethylene	Both	Occasional (i.e., a biweekly basis)	Low to moderate
Trichloroethylene	Both	Occasional (i.e., a biweekly basis)	Low to moderate



Post - IH Report Publication

- IH characterization communicates accurate exposure data for a physician to consider in reaching an opinion of causality
 - Applies to referrals to a Contract Medical Consultant or opinions presented by a claimant's chosen physician
- A physician evaluating the evidence has discretion to assess the exposure levels in deciding if the extent of exposure resulted in the claimed illness
- For credibility, the physician must offer a compelling, convincing argument about extent of IH reported exposure having reasonably been a “significant” factor in causing, contributing to, or aggravating an illness



Industrial Hygiene Reports

- IH Performance for FY 2023
 - 4483 IH reports completed in FY 2023
 - 98.30% completed within 30 days
- Quality Control Efforts
 - Federal IH staff screening of contactor work products
 - Quarterly contractor evaluation – Quality Assurance Surveillance Plan (QASP)
 - Bi-weekly case adjudication reviews by internal Quality Assurance Team including review of IH assessment and causation outcome
 - Internal supervisory review and sampling of case adjudication



Questions



Questions can also be submitted to DEEOIC-Outreach@dol.gov

Thank you very much for attending the DEEOIC Webinar