DIAB
DEEOIC INTERIM ADVISORY BOARD
Citizen Volunteers Providing Transparency & Accountability for EEOICPA Claimants
DIABoard.org . 970-620-5279 . P.O. Box 555 . Yellow Springs, Ohio 45387

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Adjudication of Hearing Loss Claims

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BACKGROUND

Over the years since the Energy Employees Occupation Illness Compensation Program Act was reformed in 2004, there have been calls for an independent oversight committee to review the Department of Labor Division of Energy Employees Occupational Illness Compensation (DEEOIC) implementation of the legislation. Those recommending the creation of such a board include the National Academies of Sciences' Institute of Medicine (IOM), the Government Accountability Office and Econometrica. Legislation was introduced to create such a board and amendments have been accepted in the 2015 FY National Defense Authorization Act legislation.

A decision to create a shadow board was made in February of 2014. The DEEOIC Interim Advisory Board (DIAB) is comprised of volunteers from the advocate community, including former nuclear weapons workers, sick worker family members, and members from various professions who are familiar with the EEOICPA program. DIAB also has a number of experts who have volunteered to review DIAB's reports.

This report analyzes DEEOIC's practice of requiring that the worker be exposed for a minimum of ten years to certain specific toxic substances while working in certain specific labor categories before accepting a claim for hearing loss.

DISCUSSION

Numerous discussions have been held between DIAB board members and DEEOIC concerning how hearing loss claims are adjudicated by DEEOIC. DIAB disagrees with DEEOIC's restrictive criteria when considering hearing loss as a covered illness under the Energy Employee Occupational Illness Compensation Act, (EEOICPA or the Act).

The statute requires that a covered illness be accepted for compensation if it is at least as likely as not that exposure to a toxic substance was a significant factor in aggravating, contributing to or causing the claimed illness AND if it is at least as likely as not that the exposure was work related.

In implementing the statute, the Secretary of Labor established the definition of at least as likely as not, the definition of significant factor, the definition of toxic substance, the definition of "aggravating, contributing to or causing", and the definition of work related. Final regulations issued 12/ 29/2006.

Additionally, DEEOIC published the following policy related to hearing loss claims in their Procedure Manual:

Chapter 2-1000 18 Hearing Loss 32 04/13 13-04

18. Hearing Loss. Hearing loss can be compensable under Part E of the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) if such loss arises as a result of exposure to one or more of the organic solvents listed below in conjunction with employment in at least one of certain specified labor categories during a prescribed timeframe.

a. Conditions for Acceptance. To be compensable, all of the following conditions must be satisfied for the employee:

(1) Exposure to certain specific organic solvents for 10 consecutive years; and

(2) Verified covered employment within at least one specific job category for a period of

10 consecutive years, completed prior to 1990; and

(3) Diagnosed sensorineural hearing loss in both ears (conductive hearing loss is not known to be linked to toxic substance exposure).

If an employee has a diagnosis of sensorineural hearing loss in both ears, and the employee was exposed to one of the listed chemical solvents, and worked in one of the listed labor categories for the required concurrent and unbroken 10-year period, then the claim can be accepted for the covered illness of hearing loss.

b. Organic Solvents. Compensable claims for sensorineural hearing loss due to organic solvent exposure must have evidence in the case file that the employee was concurrently exposed to certain specific organic solvents and worked within a certain job category for a consecutive and unbroken period of ten years, completed prior to 1990. Experts have determined that at least one of these organic solvents would likely have been used in covered facilities prior to 1990. Currently, the only organic solvents shown in research literature to contribute to sensorineural hearing loss are the following:

- *Toluene*
- *Styrene*
- *Xylene*
- *Trichloroethylene*
- *Methyl Ethyl Ketone*
- *Methyl Isobutyl Ketone*
- *Ethyl Benzene*

(1) Evidence (either from the Site Exposure Matrices or some other, probative source of exposure information) must establish exposure to at least one of the above listed solvents. Exposure to derivatives of the listed solvents does not create a presumption of causation for hearing loss, regardless of labor category or duration of exposure.

c. Labor Categories. To be compensable, the employee must have worked in one of the following labor categories for a continuous 10-year period, completed prior to 1990.

- *Boilermaker*
- *Chemical Operator*
- *Chemist*
- *Electrician/Electrical Maintenance/Lineman*
- *Electroplater/Electroplating Technician*
- *Garage/Auto/Equipment Mechanic*
- *Guard/Security Officer/Security Patrol Officer (i.e. firearm cleaning activities)*
- *Instrument Mechanic/ Instrument technician*
- *Janitor*
- *Laboratory Analyst/Aide*
- *Laboratory Technician/Technologist*
- *Lubricator*
- *Machinist*
- *Maintenance Mechanic*
- *Millwright*
- *Operator (most any kind)*
- *Painter*
- *Pipefitter*
- *Printer/Reproduction clerk*
- *Refrigeration Mechanic/HVAC Mechanic*
- *Sheet Metal Worker*
- *Utility Operator*

d. Nonconforming circumstances. Claims for other conditions based on exposure to the listed organic solvents must be verified using the Site Exposure Matrices, a medical report from a qualified physician, or review by the National Office (NO) toxicologist.

(1) Other hearing loss claims based on rationalized medical evidence asserting a causative link between covered employment and exposure to other solvents not listed in this Chapter should be forwarded to the NO for specialist review.

In an e-mail from John Vance to Garry Sexton and Dr. David Manuta (8/29/2013 4:26PM), John Vance, DEEOIC, stated that *" The science relied on to established the 10 yr requirement is derived from a toxicology assessment done using a variety of scientific references. These were referenced in a memo that is in your case dated January 24, 2013"*. It should be noted that memos are internal discussions and do not create a policy change. These memos and internal discussions have no effect in the adjudication of the claim until it is in the public domain. (Rachel Leiton June 2013 letter, as well as the Administrative Procedure Act, APA).

The scientific references used in the memo are:

1) Rosenberg J, Katz EA. Solvents (Chapter 29) In: Current Occupational & Environmental Medicine, 4th Edition, Joseph (eds.) New York: McGraw-Hill, 2007 (p.490-491)
This reference source only discusses that

> "*…there is increasing evidence that solvent exposure can result in sensorineural hearing loss, particularly in combination with noise. Some aromatic solvents (e.g., toluene, p-xylene, styrene, and ethylbenzene) show, in the rat, ototoxicity characterized by an irreversible hearing loss. The loss was measured by behavioral or electrophysio-logic methods and was associated with damage to outer hair cells in the cochlea of the exposed animals..Sensory conduction velocities and sensory action potential amplitude are the most sensitive...Hearing may be assessed using standard techniques but has not been shown to be related to individual exposure…." Kim J etal: Combined effects of noise and mixed solvents in the aviation industry. Indust Health 2005;43:567 (PMID; 16100934)"*

   The study does not mention a time frame, such as 10 years of exposure, which DEEOIC asserts is required for a successful hearing loss claim. In fact, the Chapter on solvents confirms the claimed illnesses of neuropathy, central nervous disorders, skin disorders, respiratory disorders, effects on the heart, liver, kidney, blood, reproductive system, cancer potential, dementia, etc.

2) Robinowitz PM, Rees TS. Occupational Hearing Loss-hearing loss due to chemicals (Chapter 20.2) In: Textbook of Clinical Occupational and Environmental Medicine, 2nd Edition, Linda Rosenstock, Mark Cullen, Carl Brodkin, Carrie Redlich (eds), Philadelphia: Elsevier Daunders, 2005 (p 435).

   DIAB reviewed this chapter. This chapter discusses that a hearing impairment may be reflected not only in a sensitivity loss, but also by an impairment of the ability to understand speech. Noise induced hearing loss (NIHL) is related to significant sensory cell loss within the cochlea. Nerve fiber degeneration also occurs. The development of NIHL is dependent on a number of factors, including the sound intensity, the length of time a person is exposed to the noise, and the individual susceptibility to NIHL. NIOSH has identified 37 chemicals that have been reported to induce auditory effects. Solvents and metals are most likely to provoke a hearing loss because they have well-established neurotoxic effects. Many chemicals agents are known to be ototoxic, such as lead, methylmercury, and arsenic. Solvents including ethanol, may also pose a hazard to workers' hearing. Nowhere does the article mention the number of years of exposure or otherwise support the ten year exposure policy.

3) Meyer JD, McCunney RJ. Occupational Exposure to Noise-risk factors for hearing loss (Chapter 85) IN: Environmental And Occupational Medicine 4th Edition, William Rom, Steven B Markowitz (eds) Philadelphia: Lippincott Williams & Wilkins, 2007 (p 1296).

This reference source has an example of audiometric thresholds obtained on a worker who exhibited progressive NIHL. There was a reference source from both ears measured in decibels using the softest intensity level annually. The beginning of a threshold shift was in the third year of exposure, with substantial shift in hearing. The beginning of having compromised understanding of speech is between the fourth and fifth year. The physician is charged with catching the hearing loss early to prevent the loss of understanding speech.

DEEOIC went on to state,

> *"We established the 10 year standard based on our best assessment of a "reasonable" causal threshold. You are arguing that 5.5 years of exposure to organic solvents is sufficient to have a contributory effect to hearing loss. It is perfectly acceptable argument to make, but the critical issue is NOT whether you were exposed. ...Merely producing documentation that X chemical can contribute to hearing loss isn't sufficient – it must speak to the extent or duration factors…the issue is not the exposure – it's the science… produce individual medical evidence from a qualified physician that explains how the unique features of your exposure and diagnosed hearing loss is such that he or she feels that there is a work related affiliation – absent a clearly established scientific association. The doctor has to offer something more than simply citing a causal connection – there has to be an explanatory justification. "…… "The DEEOIC is taking the position that YES organic solvents can do this, but it takes 10 years of exposure. You have to produce the science to show otherwise…Now for the NAT referrals…All hearing loss claims <10 years of exposure or not meeting other criteria had to come for specialist review. This proved unnecessary....most claims did not present with that sort of (scientific data) evidence… it was futile to have them all reviewed by my office."*

However, Dr. Elizabeth Masterson of the National Institute for Occupational Safety and Health and the University of Cincinnati provided a DIAB board member with these two peer-reviewed papers on hearing loss.

1. *Occupational exposure to chemicals and hearing impairment, Ann-Christin Johnson and Thais Morata, 2009*

2. *National Research Agenda for the Prevention of Occupational Hearing Loss, Part 1, Christa Themann, M.A., Alice H. Suter, Ph.D., and Mark R. Stephenson, Ph.D., 2013*

Neither paper limits the number of exposure years a worker must have to qualify for hearing loss under the program, nor do they suggest that the exposure must have occurred prior to 1990.

It appears that DEEOIC has largely ignored these two scientific studies, despite the fact that these reports are more current scientific studies than the reports relied upon by DEEOIC. By ignoring these most recent references, DEEOIC can continue to perpetrate the myth that a worker would need to be exposed to the offending solvents for at least ten years.

Conclusion

DEEOIC appears to be selective in connection with the scientific evidence that they will use to support claim acceptance. The Program appears to be more restrictive than the law requires. DIAB requests that DEEOIC reevaluate the policy on hearing loss and issue a policy that conforms to federal regulations, the Administrative Procedure Act, and the current scientific peer-reviewed information. DIAB also requests that exposure to the solvents be acknowledged as aggravating or contributing to the hearing loss.

The following individuals are members of DIAB or members of the expert advisory team. They have all supported nuclear worker justice. However, listing here does not indicate review of or agreement with every statement made by DIAB

DEEOIC Interim Advisory Board volunteer board members

Faye Vlieger Chair
Cold War Patriots Advisory Committee Member
einvlieger@aol.com

Hugh Stephens Vice-Chair
Attorney at Law
Stephens and Stephens, LLP
hstephens@stephensstephens.com

Terrie Barrie Secretary
Founding Member Alliance of Nuclear Worker Advocacy Groups
tbarrieanwag@gmail.com

D'Lanie Blaze
CORE Advocacy for Nuclear and Aerospace workers
speak@COREadvocacy.org

Stephanie Carroll
Energy Employee Research Consultant
Energyhealth1@hotmail.com

Maurice Copeland
Former worker Kansas City Plant
mauriceacs@aol.com

Donna Hand
Claims by Hand
ctdhkk@aol.com

Deb Jerison
Director, Energy Employees Claimant Assistance Project
deb@eecap.org

Dr. David Manuta
Fellow, Membership Chair, and President, American Institute of Chemists (AIC) Board of Directors
Member, Association of Consulting Chemists and Chemical Engineers (ACC&CE) Board of Directors
Member, Heritage Council, Chemical Heritage Foundation
Mc2@dmanuta.com

Janet Michel
Founding Member Alliance of Nuclear Worker Advocacy Groups
jrmichel@tds.net

Dr. Ken Silver
Associate Professor of Environmental Health
East TN State University's College of Public Health

Current Special Advisers to the DIAB

Dr. Laurence Fuortes
Professor of Occupational and Environmental Health and Internal Medicine
University of Iowa
College of Public Health

Dr. Karen B. Mulloy
Visiting Associate Professor
Department of Environmental Health Sciences
Case Western Reserve University
School of Medicine

Dr. Steve Wing
Associate Professor
Department of Epidemiology
University of North Carolina

Dr. Kathleen Burns
Director**,** Sciencecorps.org
Lexington, MA