

**ABTSWH comments on OWCP's response to recommendation #3 from the April 2017 meeting regarding the causal link between COPD and VGDF**

OWCP did not accept the Board's recommendation to add a section on reported exposure to vapors, gases, dust, and fumes (VGDF) based on the following reasoning:

1. EEOICPA specifically states that a condition can only be accepted as a compensable covered illness if it is at least as likely as not that exposure to a specific toxic substance was related to employment at a Department of Energy facility.
2. The program has defined a "toxic substance" -- as "any material that has the potential to cause illness or death because of its radioactive, chemical, or biological nature".
3. VGDF lexicon is a broad reference that encompasses many different specific toxic substances that exist in either occupational or non-occupational settings.
4. The current presumption for COPD requires 20 years of exposure to asbestos while the Board recommended that five years of exposure to VGDF should be sufficient in a presumption. OWCP stated that this recommendation conflicts with the literature on which OWCP developed its presumption, and requested additional documentation
5. OWCP also requested clarification of the labor categories, which is being addressed in response to recommendation #1 from April 2017

Regarding (1) and (2) above: The Board agrees that VGDF exposure can contain a range of different individual toxic agents. The Board notes that OWCP does accept claims for disease resulting from exposure to complex mixtures such as welding fume and wood dust, and from work processes that do not contain one specific toxic substance, such as: Blast, drill, remove, or crush rock; Dry clean with organic solvents; Clean equipment with solvents; Paint or varnish, oil-based. The Board notes these examples to point out that OWCP has found ways to accommodate exposure to complex mixtures.

Regarding (3), to be responsive to the request to provide a narrower list of toxic exposures, we have added a list to the presumption recommended in October 2016; see below

Regarding (3) above, the intent of the Board's recommendation is to have OWCP compensate workers with occupational exposure to VGDF that occurred during their work in the DOE weapons complex, not from more general non-occupational exposure. The Board stands behind the opinion that the literature provided to OWCP shows a clear causal link between VGDF exposure and COPD in an occupational setting, and this causal link is accepted by the American Thoracic Society, the premier US organization of professionals in the area of respiratory disease.

Regarding (4) above, the Board would need to review the research referenced by OWCP. However, that review would not change the recommendations made here.

The Board recommends that DOL adopt the following:

- 1) A determination by DOL that significant chronic occupational exposure to toxic substances or vapors, gases, dusts, or fumes (VGDF) at DOE sites where toxic substances were or are used can cause, contribute, or aggravate COPD

- 2) Presumption of Significant Chronic Exposure to Toxic Substances

Claimants will be presumed to have had significant chronic occupational exposure to one or more toxic substances at a Department of Energy facility that was sufficient to aggravate, contribute to, or cause COPD if they meet any one of the following conditions:

- a) 5 years of work at a DOE site with exposure to one or more of the following toxic substances, as identified on the EE-3 or the OHQ: asbestos; silica; cement dust; engine exhausts; acids and caustics; welding, thermal cutting, soldering, brazing; metal cutting and grinding; machining aerosols; isocyanates, organic solvents, wood dust, molds and spores; and particulates not otherwise regulated (PNOR<sup>1</sup>), or
- b) 5 years of work in any one of the job titles at a DOE site encompassed by SOC Major Categories 47 (Construction) and 49 (Installation, Maintenance, and Repair ), if the claimant's job title(s) is linked to one or more toxic substances in the SEM, or
- c) 5 years of exposure to VGDF during DOE employment as reported in a revised OHQ that assesses VGDF exposures and the SEM shows that his/her job title or tasks are linked to agents in one or more of the following SEM toxic substance groups:

- (a) Acids/caustics/reducing and oxidizing agents
- (b) Dusts and fibers
- (c) Gases
- (d) Metals
- (e) Solvents

- 3) Timing of exposure: Because exposures to toxic substances continue to take place at DOE sites and many of them are unregulated, it should be presumed that reported exposures to toxic substances that cause, contribute to or aggravate COPD at any period of employment covered by EEOICPA, up to the present time, are contributory exposures.
- 4) Duration of exposure. Based on the evidence presented in the Dement 2015 study, a duration 5 years of reported exposures to VGDF can be presumed to aggravate, contribute to, or cause COPD. The 5 years can be accumulated by a combination of DOE employment and employment outside of DOE.

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<sup>1</sup>PNOR includes all mineral and inorganic "inert or nuisance dusts" without specific individual U.S. Occupational Safety and Health Administration Permissible Exposure Limits (PEL). See OSHA. *Chemical Sampling Information: Particulates Not Otherwise Regulated (Total Dust)* Washington, DC. 2015; *NIOSH Pocket Guide to Chemical Hazards: Particulates not Otherwise Regulated*. Atlanta, GA, 2015.

- 5) Time since last exposure: The committee does not recommend specifying any minimum or maximum time since last exposure to a toxic substance. COPD is a slowly progressive disease and individuals are often not diagnosed until the disease is advanced, or an intervening infection makes the diagnosis more apparent. Since it would not be possible to determine in retrospect when a case of COPD could have been first diagnosed, and since exposure to VGDF involving toxic substances is a contributory cause to COPD, it is reasonable to assume that VGDF exposure contributed to any diagnosed case even if the disease is diagnosed after the worker has left employment
- 6) Additionally, claims examiners should not deny claims for COPD if the worker had fewer than 5 years of exposure; for example, a claimant who has experienced high intensity exposures to VGDFs involving toxic substances during work in a covered facility would have an equivalent exposure. Claims that do not meet the requirements set forth here but do have reported exposure to VGDF should be sent for IH and/or CMC review under the policy established in Bulletin 16-03.

## Rationale

Substantial medical literature has investigated the etiology of COPD among general populations in the U.S., Italy, New Zealand, Poland, Australia, Spain, and elsewhere (see reviews in ATS Statement, Balmes 2003; ATS Statement, Eisner 2010).

In 2003 the American Thoracic Society, which is the preeminent respiratory disease organization in the United States, published the enclosed paper concluding that occupational exposures were responsible for a substantial fraction of COPD in the United States (Balmes 2003). Another paper from the American Thoracic Society published in 2010, with Eisner as the lead author and the title “An Official American Thoracic Society Public Policy Statement: Novel Risk Factors and The Global Burden of Chronic Obstructive Pulmonary Disease,” (Eisner 2010) describes that there is a very strong and well accepted relationship between occupational exposures to vapors, gases, dusts and fumes (VGDF) and COPD; [see the section starting on page 704]. This document states that it is a strong causal relationship and describes other literature that has identified some specific agents that are part of the overall occupational exposures to vapors gases dust and fumes. Table 5 in this paper lists some studies that have identified specific agents, including asbestos and quartz (quartz is another name for as crystalline silica).

Other primary research studies have defined the causative occupational exposures as a combined exposure VGDF. These large studies of varying study designs have consistently shown that occupational exposures defined as “gases, dusts, vapors, and fumes” increase the risk of COPD. A dose-response relationship has been seen (Weinmann 2008, Mehta 2012), and the effect is observed among both smokers and non-smokers (Blanc 2009, Dement 2010). The effect of smoking and occupational exposures appears to be additive. A recent study by Dement et al looked at COPD and occupational risks in DOE facilities specifically, and found that VGDF significantly increased the risk for COPD (Dement 2015).

The specific agents listed in 2(a) have been shown to cause COPD with these studies:

- asbestos** [ATS, 2004; Dement et al., 2010; Glencross et al., 1997];
- silica** [Dement et al., 2010; Hnizdo and Vallyathan, 2003; Oliver and Miracle-McMahill, 2006; Rushton, 2007b; Tse et al., 2007]
- cement dust** [Abrons et al., 1988; Dement et al., 2010; Fell et al., 2010; Mwaiselage et al., 2004; Rushton, 2007a]
- diesel exhausts** [Hart et al., 2009; Hart et al., 2006; Tuchsén and Hannerz, 2000; Ulvestad et al., 2000; Weinmann et al., 2008]
- welding and cutting gases and fumes** [Balmes, 2005; Bradshaw et al., 1998; Dement et al., 2010; Hunting and Welch, 1993; Koh et al., 2015; Mastrangelo et al., 2003; Szram et al., 2013]
- metal cutting, grinding, and machining aerosol**
- paint-related aerosols** [Glindmeyer et al., 2004; Hammond et al., 2005; Mastrangelo et al., 2003; Pronk et al., 2007]
- organic solvents** [Ebbehoj et al 2008; Heederik et al 1989; Melville 2010; Post et al 1994; Suadicani P, 2001; Valcin M, et al. 2007; Alif et al, 2017]

**wood dust** [Jacobsen et al., 2008; Dement et al., 2010]  
**molds,spores** and biological aerosols [Matheson et al., 2005; Dement et al., 2010; Sunyer et al., 1998]

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