

SUBMISSION TO  
AUSTRALIAN SENATE COMMUNITY AFFAIRS  
REFERENCES COMMITTEE

SENATE COMMUNITY AFFAIRS REFERENCES COMMITTEE  
INQUIRY INTO WORKPLACE EXPOSURE TO TOXIC DUST

ISSUE

On 22 June the Senate referred to the Senate Community Affairs Reference Committee a range of matters relating to workplace toxic dust for inquiry and report by 1 December 2005. The Workers' Compensation (Dust Diseases) Board has been invited by the Committee to provide a written submission on any issues addressed within the terms of reference that are of relevance to the Workers' Compensation (Dust Diseases) Board.

BACKGROUND

The Dust Diseases Board provides an efficient and effective no-fault statutory compensation system to NSW workers who have developed a dust disease through the course of their employment. This system of compensation has been put into place by the NSW Government under the direction of the Minister for Commerce, the Hon. John Della Bosca. The Dust Diseases Board has the exclusive jurisdiction to determine all matters in respect of a claim for compensation including question of identity, dependency and fact of disablement and whether an award of compensation should be made.

RESPONSE TO TERMS OF REFERENCE

**a) the health impacts of workplace exposure to toxic dust including exposure to silica in sandblasting and other occupations;**

The Dust Diseases Board Research and Education Unit has compiled information on the various diseases that can be caused by exposure to toxic dust in the workplace. Information on some of these diseases is set out below:

Asbestosis:

Asbestosis is scarring of the lungs due to asbestos exposure. The asbestos fibres cause inflammation and fibrosis of the lung tissue resulting in restricted lung volume and decreased oxygen intake. In cases with extensive scarring shortness of breath can be quite severe. The development of asbestosis is seen people with high asbestos exposures with a latency period of 15-30 years. Asbestosis has accounted for 14% of cases compensated by the Dust Diseases Board in the last decade.

### Asbestos Related Pleural Disease (ARPD):

Diffuse pleural thickening is the development of fibrosis of the pleura over a wide area. It is seen less commonly than pleural plaques but it is more clinically significant due to the large area it affects. It can cause mild chest pain and shortness of breath. Development is around 15 years after exposure.

Benign asbestos related pleural effusion can develop after asbestos exposure, although there are several other causes. Chest pain is the main symptom although there are often no symptoms. The latency period ranges for 10-20 years after exposure. ARPD is the second commonest disease compensated by the Dust Diseases Board in the past 10 years accounting for 30% of all awarded cases.

### Mesothelioma:

Mesothelioma is a cancer of the pleura and the peritoneal lining. It is an invasive tumour related almost exclusively to asbestos exposure. Pleural effusion is a common symptom resulting in chest pain and breathlessness. Unfortunately prognosis is usually poor with a typical survival time after diagnosis of 9-12 months. The latency is much longer than most other asbestos related diseases being 20 to 30 years. Internationally, Australia has one of the highest incidences of mesothelioma due to substantial usage of asbestos products throughout the 1900's. The incidence in New South Wales is expected to increase for another 10-15 years. Mesothelioma has been the most frequently compensated disease in the last decade, accounting for 40% of all newly awarded cases.

### Lung Cancer:

Lung cancer is a malignant tumour of the bronchi that invades the surrounding tissue. Cigarette smoking can be linked to most lung cancers, however asbestos exposure may also result in carcinoma of the lung. Lung cancer due to asbestos exposure is more likely to occur if asbestosis has developed. People who smoke and have asbestos exposure have an increased risk of developing lung cancer. There is a long latency period of 20 or more years. Symptoms include chronic cough, chest pain through to hoarseness, wheezing, loss of appetite and weight loss in more advanced cases. Once symptoms present prognosis is usually poor.

### Silicosis:

Silicosis is caused by exposure to crystalline silica dust. There are three types of silica – quartz, tridymite and cristobalite. Silica is deposited in the air sacs resulting in fibrosis of the lung. Symptoms include breathlessness and a dry cough. There are three types of silicosis:

1. Chronic – this is the most common form occurring over 20-40 years after long-term exposure to low and moderate levels;
2. Accelerated – occurring 5-10 years following high exposure levels;
3. Accute silicosis – occurring up to 2 years after short-term high exposure levels. It is often fatal, sometimes within a few months.

### Silicotuberculosis:

People with silicosis can develop a combined disease that has a very poor prognosis. Silicosis impairs the lymphatic drainage of the lung, which is important in controlling tuberculosis infection. Although it is now quite rare, this is still the most common complication of silicosis. Symptoms include cough, sputum, night sweats, malaise and weight loss.

### Lung Cancer:

There is an increased lung cancer risk for those people exposed to silica. However, it is not clear whether silicosis is a pre-requisite to the development of these particular cases of lung cancer.

### Farmers' Lung:

This disease is caused by exposure to mouldy hay, straw or grain. It occurs more commonly in areas where rainfall is high and crops are not able to be completely dried before storage.

### Bagassosis:

This disease is caused by mouldy bagass which is the fibrous cellulose residue of sugar cane. This disease is uncommon.

### Mushroom Worker's Lung:

This disease is caused by the inhalation of microbial spores living in the compost used to cultivate mushrooms. Due to changes in cultivation practices (and specifically the introduction of mechanical spawning) the incidence of this disease has greatly decreased.

### Bird Fancier's Lung:

This disease is caused by exposure to bird excreta and bloom.

### Byssinosis:

Byssinosis is an occupational airways disease seen in textile workers due to the inhalation of certain textile dusts. The symptoms include chest tightness, wheezing and shortness of breath. Initial symptoms appear several hours after arriving at work on the first day of the working week or the first day back from a holiday. They generally improve over the course of the week and do not recur until the beginning of the following week after the individual has had at least two days of no exposure to textile dust. With prolonged and intense exposure the individual's symptoms may progress to become continuous throughout the week, both at work and home. This continuous irritation of the airways can lead to permanent irreversible impairment of a worker's lung function.

The products known to cause byssinosis are: cotton fibres, hemp fibres and flax fibres. The disease is relatively rare nowadays due to improvements in workplace conditions. No new cases have been compensated by the Dust Diseases Board in the last 10 years.

#### Siderosis:

Siderosis is caused by the long-term inhalation of iron oxide fumes and is generally assumed to be a benign condition, not associated with respiratory symptoms or functional impairment. Chest x-rays of affected workers show small opacities uniformly distributed throughout the lungs. These may disappear once exposure to the iron compound ceases. Exposure to asbestos or silica in combination with iron exposure however, can cause a more harmful form of disease referred to as mixed dust fibrosis.

#### Aluminosis:

Aluminosis is the occupational lung diseases seen in workers exposure to the fine aluminium powder or dust. The disease is characterized by a scarring of lung tissue after prolonged inhalation. The degree of scarring is related to the duration of a workers exposure to the dust, the concentration of the dust in the air and the fineness of the particles.

#### Berylliosis:

Berylliosis is an inflammatory disease of the lung caused by the inhalation of dust or fumes containing beryllium. Symptoms can include a cough, weight loss and shortness of breath. The disease differs from other occupational lung diseases in that it only occurs in workers who are sensitive to beryllium (about 2% of workers). Beryllium metal and several beryllium compounds have been found to be cause cancer in animals and as a consequence since 1994 the substance has been classified as a human carcinogen.

#### Hard Metal Pneumoconiosis:

This disease is the consequence of the inhalation of cobalt containing dust, either in the manufacture of hard metals or the sharpening of tools made from hard metals. Hard metal material contains mostly tungsten carbide together with varying amounts of cobalt. Symptoms may include shortness of breath, tightness of the chest and with prolonged exposure, scarring of the lungs. Development of the disease does not appear to be dependant on duration of exposure as the disease has been reported in young workers with only short exposures. This may suggest that genetic susceptibility may play a role.

#### Hexavalent Chromium associated Lung Cancer:

Chromium is a hard silvery white metal used in electroplating and the manufacture of a wide range of steel products. Only the hexavalent compound of chromium is believed to be carcinogenic and it is also corrosive and toxic to the skin. Heavy inhalation can cause coughing, wheezing, pain and weight loss.

## Occupational Asthma:

Asthma is an inflammatory disorder of the lungs and is the result of a hypersensitive reaction to an inhaled foreign substance. It is characterized by episodic contraction of smooth muscle in the lungs, causing difficulty with breathing with symptoms of wheezing and shortness of breath. It occurs in up to 3% of all people at some stage in their life.

Occupational Asthma is the most common occupational lung disease in Australia. It is no different to non-occupational asthma except it is provoked by agents in the workplace. In order to develop occupational asthma a worker must first become sensitized to the agent at work. Sensitization generally occurs in the first 6 months of work, so workers who do not become sensitized within this timeframe are unlikely to go on and develop the disease, unless they suffer an incident of high exposure. Asthmatic reactions can be immediate, occurring within 10-20 minutes of exposure to the agent at work or they can be delayed, presenting in some cases after the worker has returned home. Episodes of asthma can last for several hours but symptoms can be treated with medication. Occupational rhinitis can occur in combination with occupational asthma. Occupational rhinitis symptoms can include sneezing, nasal discharge and nasal obstruction. There are over 200 substances known to cause occupational asthma and rhinitis.

### **d) the availability of accurate diagnoses and medical services for those affected and the financial and social burden of such conditions;**

The Dust Diseases Board is able to test for a range of possible diseases, including asbestosis, asbestos related pleural disease, mesothelioma and silicosis. The Board's diagnostic equipment is of the same standard as that available at leading hospitals. The service includes a clinical examination by a respiratory physician, X-rays and lung function tests. This service is provided free of charge to New South Wales workers who fall under the Dust Diseases Board compensation protocol.

In addition, the Board offers an on-going **commercial screening service to industry** to facilitate compliance with Occupational Health and Safety legislation. Employers can elect to have their employees screened at the Respiratory Assessment Centre located in the Sydney CBD or on the Lung Bus.

The Lung Bus is a mobile respiratory assessment service that is capable of screening up to 65 employees per day. Screenings take place "on-site" to provide a cost effective respiratory screening service that provides minimal disruption to the work environment.

Section 6(2A) of the Workers' Compensation (Dust Diseases) Act 1942 authorises the Dust Diseases Board to fund research into dust diseases.

The Board has established a Research Grants Scheme with the aim of developing early detection methods and improved treatments that will have major clinical and public health implications for the prevention and treatment of lung disease in New South Wales Workers. Submissions for funding undergo a rigorous assessment process with the final decisions on the award of grants being made by the Board of Directors.

The Dust Diseases Board Research Grants Scheme funded Dr Rhonda Hawley, of the University of Sydney, to develop strategies to meet the needs of patients with malignant mesothelioma, family carers and health care professionals involved in their care.

Other projects funded by the Dust Diseases Board Research Grants Scheme include:

<b>Name of Institution</b>	<b>Description of Project</b>
1. Prof. Bruce Robinson, University of WA	Biology of Mesothelioma as a basis for new Treatment
2. Prof. Judith Black, University of Sydney	Recent advances in Chronic Pulmonary Fibrosis and Mesothelioma
3. Dr Deborah Yates, St Vincent's Hospital	Exhaled Nitric Oxide and Carbon Monoxide in Asbestos related Pleural Disease
6. Dr Kwun Fong, Prince Charles Hospital Qld	Molecular Aspects of Asbestos Related Malignancy
7. St Vincent's and Liverpool Hospitals	Meso-1 Trail: Treatment of Mesothelioma: an international trial
8. Drs Anthony Johnson & Deborah Yates, Dust Diseases Board Occupational Respiratory Health Centre	Analysis of current and future trends in the incidence of mesothelioma and predictions of mortality and morbidity in New South Wales
10. Drs Nick Pavlakis and Helen Wheeler, Royal North Shore Hospital	Thalidomide studies in mesothelioma
11. Dr Juri Neuzil	Apoptosis in meso cells

The Dust Diseases Board, jointly with WorkCover NSW, is currently funding the position of an Outreach Worker whose role will be to disseminate information to the general community within New South Wales about asbestos in the built environment.

**e) the availability of accurate records on the nature and extent of illness, disability and death, diagnosis, morbidity and treatment.**

The Dust Diseases Board maintains statistical information gathered from and about individuals who have attended a medical screening or who have applied for compensation. Information collected includes:

- new certificates of disablement issued categorized by dust disease;
- workers certified as suffering from an increase in disability;
- workers with pleural plaques, a non compensable disease under the Workers' Compensation (Dust Diseases) Act 1942;
- workers certified as not having contracted a dust disease under the Act;
- deaths catergorised by causation and average age;
- statistics relating to mesothelioma, including period of latency, length of survival and average age at death;

- medical data on individuals such as x-rays, lung function test results, etc.

Drs Anthony Johnson & Deborah Yates of the Dust Diseases Board Research and Education Unit also operates the Surveillance of Australian Workplace Based Respiratory Events (SABRE) project, a voluntary, anonymous notification scheme of occupational lung diseases that was launched in 2001. This project is being undertaken in collaboration with the team in London who developed the original Surveillance of work-related Occupational Respiratory Disease scheme (SWORD) and with a similar scheme based in Victoria. A range of respiratory physicians, occupational physicians and WorkCover GP's are currently participating. SABRE has had abstracts published in the Thoracic Society of Australian & New Zealand and American Thoracic Society conference programs.

The aim of the SABRE project is to determine the incidence of work related respiratory disease and inhalation injury in New South Wales and to disseminate information about the burden of occupational respiratory disease in New South Wales. SABRE produces a newsletter containing up-to-date results of the scheme to all participating physicians on a 2 monthly basis. The results are also published on the SABRE website for the general community to access.

The Dust Diseases Board jointly with Central Sydney Area Health are funding the Asbestos Diseases Institute which will be located at the Concord General Repatriation Hospital. The Institute will be focusing on areas of concern that are currently not covered by the Dust Diseases Board jurisdiction. These areas are:

- medical screening available for New South Wales residents who do not fall under the Board's jurisdiction eg. Individuals self employed, commonwealth employees, non-occupational exposure, etc;
- research into the social impact of asbestos on families and the broader community;
- research into the economic consequences of asbestos disease.

**f) access to compensation, limitations in seeking legal redress and alternative models of financial support for affected individuals and their families.**

It was recognised by New South Wales Parliament that legislation was required for New South Wales to compensate workers employed in dusty trades. As a result the workmen's Silicosis Act (NSW) 1920 was enacted. The Act was repealed when the McKell Labor Government introduced a more comprehensive Act on 1 July 1942. Major amendments to the 1942 legislation occurred in 1945, 1953, 1957, 1958 and 1967. The Workers' Compensation (Dust Diseases) Act 1942, which replaced the Workmen's Silicosis Act, extended the scope of the Act's coverage to provide compensation for workers in any employment in NSW with the exception of coal mines and Broken Hill mines which were covered by separate legislation.

The Dust Diseases Board, under the direction of the Minister for Industrial Relations, administers the act. The Dust Diseases Board provides statutory no-fault workers

compensation to New South Wales workers who have developed a dust disease in the course of their employment. The Board has the exclusive jurisdiction to determine all matters in respect of a claim for compensation including questions of identity, dependency and fact of disablement and whether an award should be made. The Board and its activities are funded by a dust diseases levy on all workers compensation premiums.

Schedule 1 of the Workers' Compensation (Dust Diseases) Act 1942 lists the following dust diseases as falling within the jurisdiction of the Dust Diseases Board:

- Aluminosis
- Asbestosis
- Asbestos induced carcinoma
- Asbestos related pleural disease
- Bagassosis
- Berylliosis
- Byssinosis
- Coal dust pneumoconiosis
- Farmers' lung
- Hard metal pneumoconiosis
- Mesothelioma
- Silicosis
- Silico-tuberculosis
- Talcosis

The Board provides a compensation screening service for workers who have long term or extensive exposure to dusts such as asbestos or silica. As a general rule, because dust diseases are of slow onset, applicants need to have had exposure to dust for a minimum of fifteen years prior to their application. This ensures that there are X-ray signs that will enable proper diagnosis of a dust disease. No legal representation is required and there is no fee for this service.

### Who is covered

Anyone who believes that their employment in New South Wales exposed them to dust inhalation that caused one of the diseases listed in Schedule 1 of the Act may apply for compensation. Some workers who are not covered by the Dust Diseases Board may be covered by other forms of compensation, such as New South Wales legislation relating to coal miners or employees of the Australian Commonwealth Government. Those workers not covered by the Dust Diseases Board are:

- Workers whose exposure occurred in the course of employment outside of New South Wales and Australia
- Commonwealth employees
- Persons who were exposed to dust whilst self employed
- Workers employed by coal or shale mines



- Workers receiving compensation from another source (excluding common law through the Dust Diseases Tribunal)

Many workers had employment in New South Wales prior to becoming self employed or working inter-state. Individuals in these circumstances may still have an entitlement to compensation under the Workers' Compensation (Dust Diseases) Act. Individuals employed by New South Wales companies but working in other states may also have an entitlement to benefits under the Workers' Compensation (Dust Diseases) Act.

### Compensation

Workers diagnosed with an asbestos related disease can get a range of benefits, including weekly benefits, medical expenses and home care nursing.

There are two types of categories of injured worker applicants prescribed by the Dust Diseases Act:

- Those still working
- Those who have retired

Retired workers certified by the Board as being disabled by a dust disease as a result of employment in New South Wales receive a compensation payment for the actual disability suffered, rather than for loss of earnings caused by the dust disease. These workers are paid according to the level of disability experienced, as assessed by the Medical Authority. Workers who are below retirement age or still in the workforce and who have been certified as being disabled by a dust disease will be paid according to the economic loss suffered.

Workers are entitled to receive the following:

- Weekly benefits which include an amount to acknowledge dependants, if any.
- Medical, hospital, ambulance, home care, palliative care and any other associated costs reasonably and properly incurred in the treatment of a dust disease.

The weekly amount varies, according to degree of disability, as certified by the Medical Authority. This normally ranges from 10% disablement to 100% disablement and is based upon the medical evidence provided. The Dust Diseases Board has a policy of reviewing the medical condition of all workers on a two to three year basis to monitor the level of their disability and ensure that the correct compensation entitlements are being distributed. Workers whose condition has deteriorated and who are able to produce supporting medical evidence can have their level of disability reviewed by the Medical Authority at their request.

The partner of a worker may also be eligible for benefits upon the death of the worker, in the form of a one-off lump sum and weekly benefits that are payable up until the partner either remarries, enters into a de facto relationship or dies. Dependent children under the age of 16 or full-time students aged under 21 years may also have an entitlement to weekly benefits.

Dependency is a question of fact and varies from individual to individual. Factors that determine dependency include income derived by the partner from other sources, the level of the worker's disability and the age of the worker at time of death. The Board considers claims for compensation in a non-judicial setting.

A claim for compensation under common law through the Dust Diseases Tribunal does not preclude a worker from access to statutory no fault compensation in New South Wales.

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