CEMENT CONCRETE & AGGREGATES AUSTRALIA

SENATE COMMUNITY AFFAIRS REFERENCES COMMITTEE

INQUIRY INTO WORKPLACE EXPOSURE TO TOXIC DUST

SUBMISSION BY

CEMENT CONCRETE & AGGREGATES AUSTRALIA

5th August 2005

EXECUTIVE SUMMARY

Cement Concrete and Aggregates Australia is the peak industry body for the heavy construction materials industry including the cement, pre-mixed concrete and quarry industries. CCAA member company operations can give rise to potential exposure to respirable crystalline silica (RCS) dust, a recognised hazardous substance.

CCAA members companies and their employees and contractors are well aware of the potential health effects of excessive exposure to RCS such as silicosis.

While there are examples of disease caused by excessive exposure to RCS, the incidence of silicosis in the cement, concrete and quarry industries is very low. We believe that this is because our industry has taken its obligation to provide a safe and healthy workplace for employees and contractors very seriously.

While the level of data available on the incidence of disease resulting from excessive exposure to RCS is limited, it is clear that the incidence is extremely low in our industry.

The recent reduction in the Occupational Exposure Standard (OES) for RCS, which was supported by CCAA, is set to further reduce the incidence of the disease into the future.

We believe that while there have been some industries with unsatisfactory prior histories of RCS exposure such as the sand blasting industry, the cement, concrete and quarry industries have, through self regulatory processes, brought the incidence of disease related to exposure to dusts to extremely low levels.

Accordingly, we submit that the existing regulations and controls are entirely adequate to prevent over exposure to silica dust.

We thank the Senate Community Affairs References Committee for the opportunity to make this submission.

INTRODUCTION

Cement Concrete & Aggregates Australia (CCAA) is the peak industry body for the heavy construction materials industry in Australia including the cement, pre-mixed concrete and extractive (quarry) industries.

CCAA's members account for over 90% of the $6 billion in revenues generated by these industries which between them employ 18,000 Australians directly and a further 80,000 indirectly.

CCAA's members operate quarries, sand and gravel extraction sites, cement production and distribution facilities and concrete batching plants throughout the country and are therefore vitally concerned with the management of exposure to dust, particularly respirable crystalline silica (RCS), in the workplace.

We have structured our submission in line with the terms of reference of the Inquiry. Our comments are confined to exposure to RCS as we understand that this is the principle issue of interest to the Inquiry.

1 THE HEALTH IMPACTS OF WORKPLACE EXPOSURE TO TOXIC DUST INCLUDING EXPOSURE TO CRYSTALLINE SILICA IN SANDBLASTING AND OTHER OCCUPATIONS

The health implications of exposure to excessive levels of Respirable Crystalline Silica (RCS) have been published widely and are well understood by our industry. As a consequence of this long involvement, exposure to RCS for employees and contractors in CCAA member company operations is tightly managed and controlled within the requirements of the National Occupational Exposures Standard (OES) for RCS dust.

Excessive exposure to RCS is known to cause silicosis, a disorder which may range in effect from minor changes in the lungs with little effect on health to a very serious and debilitating disease of the lungs.

The risk of developing the dust disease of silicosis has been guarded against by our industry over recent decades to the extent that even very early or mild cases have been very rarely seen in this industry over the past 10 years. Those which have been diagnosed in that time all result from exposures from at least 10 years ago.

Silicosis does not arise from community exposure to ambient levels of silica dust, only to occupational types of exposure.

2 ADEQUACY AND TIMELINESS OF REGULATION GOVERNING WORKPLACE EXPOSURE, SAFETY PRECAUTIONS AND THE EFFECTIVENESS OF TECHNIQUES USED TO ASSESS AIRBORNE DUST CONCENTRATIONS AND TOXICITY

Current Australian legislation comprehensively covers all “Hazardous Substances”, including all dusts which can be categorized as “toxic”.

The legislation is both at Commonwealth and State levels, with Regulations and Codes of Practice covering all aspects of the control of RCS and other dust. The NOHSC website states the following:

“The National Occupational Health and Safety Commission has declared a package of standards and codes of practice that, in conjunction with guidance materials, comprises the National Hazardous Substances Regulatory Package. The Package is a blueprint for the legislative control of hazardous substances used in the workplace. All jurisdictions have given legislative effect to it.”

http://www.nohsc.gov.au/ohslegalobligations/hazsubstancesanddnggoods/regulatorypackage.htm

In summary there are extensive regulatory provisions in Australia in 2005 intended to control worker exposure to silica dust, and thus prevent silicosis. All these instruments are aimed at the minimisation of unprotected exposure of workers to RCS and cover all necessary duties and actions required of employers, suppliers, manufacturers and employees.

CCAA is actively engaged in further practicable and productive measures to be voluntarily adopted to control any risks from member’s products, including the control of exposures to RCS dust. Such initiatives could include Guidelines developed on an industry by industry basis.

Self-regulation, as provided for in Australian OH&S Acts, is the key to progress. Appendix 1 provides further information regarding the Australian legislative framework covering toxic dusts and a listing of the regulatory documents followed by our industry in Australia.

3 EXTENT TO WHICH EMPLOYERS AND EMPLOYEES ARE INFORMED OF THE RISK OF WORKPLACE DUST INHALATION

Central to managing the level of exposure to RCS in our industry is the awareness of the risks of inhalation of RCS.

The industry has worked hard to minimise exposure to RCS and has been supportive of initiatives to reduce exposure standards to safe levels, most recently in 2004 when NOHSC proposed that the Occupational Exposure Standard for RCS be reduced from 0.2 mg/m^3 TWA to 0.1mg/m^3 TWA.

The control of exposures to RCS dust, as with many other industrial hazards, has continually progressed throughout the latter half of the twentieth century.

Within CCAA member companies, dust controls advanced in the early nineties from basic controls and awareness, to a comprehensive management systems approach focusing on prevention of exposure through engineering, changing work technologies, and backed by improved Personal Protective Equipment (PPE) systems where exposures cannot be controlled entirely by engineering or administrative means.

Our industry has a good record of product stewardship and has developed Material Safety Data Sheets (MSDS) in accordance with the National Code of Practice on Preparation of MSDS developed by the National Occupational Health and Safety Commission (NOHSC), product warnings and labels consistent with the National Code on Labelling, and product information sheets which have been widely available to the users of its products.

As one example of greater awareness of the hazard, in the mid 90's a National industry/trades union cooperative awareness program was introduced. In Victoria the AWU and building unions worked together with employer and industry associations to build awareness of the health risks associated with unprotected exposure to RCS.

The program involved the development of a number of training and awareness resources that were used throughout industry and included:

- a Safe Work Video,
- a safe handling of silica products brochure,
- communications programs for use on production sites throughout employers organisations,
- training in work practices designed to reduce RCS dust generation, and correct use and maintenance of PPE.

Around this time, the concept of product stewardship was embraced by many companies in the industry, resulting in:

- MSDS's for RCS prepared and broadly distributed throughout the quarry and pre-mixed concrete industry. These were distributed to all customers and related suppliers and were included in all trade account approvals.
- Product warning labels were incorporated on pre-mixed concrete and quarry materials delivery documentation.

With the movement towards quality management systems approaches in the early to mid nineties, hazards such as silica dust were increasingly managed in a more systematic manner.

Companies in the industry implemented management systems that were developed in alignment with Australian and International Standards such as:

- AS/NZS 4801: 2001 Occupational Health and Management Systems-Specification with guidance for use;
- AS/NZS 4804: 2001 Occupational Health and Management Systems-General Guidelines on principles, systems and supporting techniques.
- AS/NZS 4360:1999 Risk Management
- ISO 14001:1996 Environmental management Systems-Specification with guidance for use
- AS/NZS ISO 14004:1996 Environmental management Systems-General Guidelines on principles, systems and supporting techniques.

Typical management systems elements for control of RCS risks include:

- Identification of RCS dust hazards.
- Establishment of an RCS dust action level (typically at half the National Occupation Exposure Standard).
- Monitoring of RCS dust exposures.
- Minimisation of employee exposures by applying control measures increasingly where the Action Level is reached.
- Provision of training in RCS dust hazards and their control.
- Provision of protective respirators and supervision of their use.
- Provision of Health Surveillance (medical monitoring) for employees potentially exposed to RCS at or in excess of the action level in accordance with the National Guideline developed by NOHSC (1995).
- Requiring contractors potentially exposed to RCS to comply with the program.
- Provision of resources for materials, equipment, work methods and practices, with the goal of improving control measures.
- Establishing responsibility and accountability associated with implementing and enforcing the RCS Program
- Continual review the RCS Program

Engineering controls are the principal methods to minimise exposure and the following approaches are regularly employed by our industry:

- Adoption of methods aimed at minimising the generation of dust
- Climate-controlled environmental cabs or booths for heavy equipment operators.
- Dust collectors, drill steel skirts, and water sprays around drilling machines.
- Enclosed spouts in bagging and other operations where sand, rock, or other dusty materials are dumped.
- Enclosed hoods and other general or local exhaust ventilation for dust capture at the source.
- Automation of high-exposure jobs to avoid personnel exposure
- Water, mist, or fog (including foam and wax based) sprays to keep dust from escaping at the source such as roadways, stockpiles, primary crushers, secondary crushers, screens or conveyor ends.

Improved work practices are extensively applied in our industry, examples of which are:

- Using properly maintained local exhaust ventilation systems and high-pressure vacuums for work area cleaning.
- Preventing operations, such as dry sweeping or use of compressed air, that increases airborne dust levels and potential exposures to respirable crystalline silica-containing dusts.

To support and underpin improved practices, the following are examples of administrative controls used in our industry:

- Using job and/or employee rotation to minimize exposures in work areas and/or during operations that are visibly dusty and pose higher potential exposures to respirable crystalline silica-containing dusts. Automation of some high exposure tasks.
- Moving an employee to an alternate job assignment if they have developed early signs and symptoms of respirable crystalline silica-containing dust exposure. Note this has been a very rare event in the past 10 years.
- Training employees who are potentially exposed to RCS dusts in legislative requirements, specific nature of the operation(s) which could result in exposure, health effects, engineering controls and work practices, housekeeping requirements and understanding product MSDS, labels, or other forms or warning, the purpose, proper selection, fitting, use and limitation of PPE, purpose and description of the medical surveillance program, including information concerning the health effects associated with excessive exposure.
- In recent years CCAA member companies have provided information on RCS hazards and safe use of products on company websites and through computer based training, video training and improved MSDS's.

4 AVAILABILITY OF ACCURATE DIAGNOSES AND MEDICAL SERVICES FOR THOSE AFFECTED AND THE FINANCIAL AND SOCIAL BURDEN OF SUCH CONDITIONS

It is accepted and recommended internationally that the earliest and best indicators of any signs of effects of RCS relate to scar tissue in the lung detectable by chest x-ray. A screening chest x-ray can reveal fibrosis caused by silica particles in the lung tissue. As the amount of silica retained in the lung increases, the number and frequency of these opacities also increases and the changes on x-ray become more prominent, before any other effect on health becomes evident.

Lung function tests can also be used to measure the effect of silica in the lungs. In the early stages there may be no change in lung function. However, if exposure continues and the condition becomes clinically evident, lung function tests can show deficits before the sufferer becomes aware of any symptoms or signs.

In the early stages of silicosis, the diagnosis may be uncertain, even with the extensive medical diagnostic facilities available today such as computerized tomography (CAT scanning) and lung biopsy. Removal from further exposure is the rule and usually prevents further development of the condition.

CCAA submits that the only rational approach to diagnosis of silicosis and other pneumoconioses (occupational dust diseases) is to follow established international criteria for these diagnoses. To do otherwise would be to prevent any contribution of Australian information to international efforts to control occupational lung disease and distort Australian health information. Australia has been an important contributor to work in this area of UN agencies such as the International Labour Organisation and World Health Organisation.

The present international recommendations on diagnosis of silicosis and screening of workers potentially exposed to silica dust are appropriate for use in Australia. These are presently established in Australia under "Hazardous Substances" Regulations and NOHSC Guidelines on Health Surveillance (1995). These are consistent with comparable economies including the USA, UK and Western Europe.

In the event that health surveillance by x-ray (as currently required by Regulation) indicates the possibility of silicosis or fibrosis, several medical diagnostic techniques may be appropriate, including high-resolution computerised tomography, lung biopsy and others. All such facilities are widely available in Australia and are currently used. Such in-depth and invasive techniques are not appropriate for health surveillance of workers.

Specialist and Hospital facilities and diagnostic facilities such as pulmonary function laboratories and x-ray diagnostic facilities are available to all members of the Australian community who require them, through the Commonwealth National Health Insurance Act (Medicare) and health insurance arrangements.

Silicosis and other toxic dust diseases are at such low levels in Australia that no additional or special facilities are warranted in the context of public health priorities.

Reference has been made to the lesser standard of diagnosis used by compensation bodies in Australia. CCAA supports the basis of “no fault” and the claimant being given the benefit of any reasonable doubt in compensation law. However, it would be inappropriate to base any regulatory or industry changes on compensation evidence, because of the limited accuracy of compensation information.

5 AVAILABILITY OF ACCURATE RECORDS ON THE NATURE AND EXTENT OF ILLNESS, DISABILITY AND DEATH, DIAGNOSIS, MORBIDITY AND TREATMENT

CCAA, in the short time available for submissions, has attempted to obtain information on numbers of cases of silicosis and numbers of deaths from silicosis.

In summary, the numbers appear to be extremely low, but accurate numbers were unobtainable by CCAA. Member companies reported a handful of claims, but information is known to be incomplete and included claims of ill-health which were subsequently proven to be due to other medical causes. CCAA understands that diseases such as chronic bronchitis and emphysema, and chronic obstructive pulmonary disease which are common in Australian men have been incorrectly claimed as being due to silicosis.

The identification of silica dust as a serious problem, and efforts to control it and prevent lung disease has a long history in Australia. A Royal Commission in 1905 inquired into the health of Western Australian gold miners, and Regulations and Acts to control dust disease were enacted in WA and New South Wales by the 1920’s. Dust disease was largely due to silica dust and the infection of tuberculosis which was common in those times.

There was continuous improvement in dust control, and medical advances over the decades of the 20th century in Australia, until by the 1980s silicosis had been almost eradicated, in that it was not being caused by then current exposures to dust.

Government medical authorities in WA stated in 1994:

"There have been no cases of silicosis in Western Australia since implementation of the current exposure standard of 0.2 mg/m³ for respirable crystalline silica" (*Silicosis In Western Australia From 1984 To 1993* Wan K C; Lee E; WorkSafe Western Australia).

NOHSC studies in the early 1990s attempted to predict the occurrence of silicosis in the Australian labour force then exposed to crystalline silica dust, and with predicted future lower exposures (*Prediction of silicosis and lung cancer in the Australian labour force exposed to silica*. Nurminen M, Corvalan C, Leigh J, Baker G Scand J Work Environ Health 1992;18:393-399).

This was anticipating the introduction of a revised OES by NOHSC, which finally occurred in January 2005 when the OES was halved.

However, it is CCAA's view, based on information from member companies, that dust exposures in the CC&A industries did fall progressively from 1990 onwards, thus supporting the NOHSC predictions.

In addition to lowering of potential exposure, actual exposure of workers was further reduced or prevented by the improved wearing of PPE respiratory protection (respirators).

The NOHSC research showed that "*approximately 1,010* " silicosis cases were predicted for the next 40 years (1990-2030) among the estimated 136,400 men exposed at the then current silica dust levels. NOHSC estimated that lowering the NES as has happened would reduce that estimate to *approximately 440* cases over the next 40 years.

Of the workers diagnosed as having silicosis in Australia, few if any, will die of this condition, although some will have varying levels of disability from it.

For various technical reasons, explained in a research paper published recently by the same principal author, the NOHSC estimates contained uncertainties which may have created over-estimates of the risk. (*Methodologic Issues in Epidemiologic Risk Assessment* Markku Nurminen,' Tuula Nurminen, ' and Carlos F. Corvalan2 Epidemiology *1999;10:585-593)*
In that research paper, it was stated that certain methods were adopted by NOHSC researchers "*because the silicosis risks were small*" (in Australia).

It is CCAA's view that in the heavy construction material industries, substantial reduction of potential exposure has occurred, with predicted and proven advances in dust control. In addition, the improved use of personal respiratory protection has also reduced the risk of silicosis to workers to its present extremely low level in Australia. This preventive factor was not taken into account in the NOHSC 1990 predictions. We also refer to the following paper commissioned by NOHSC:

A REVIEW OF THE AUSTRALIAN OCCUPATIONAL EXPOSURE STANDARD FOR CRYSTALLINE SILICA
December 2002
NICHOLAS H DE KLERK Adjunct Professor, School of Population Health, University of Western Australia. GINA L AMBROSINI Research Fellow, School of Population

Health, University of Western Australia. AW (BILL) MUSK Clinical Professor, School of Population Health and Department of Medicine, University of Western Australia, Department of Respiratory Medicine, Sir Charles Gairdner Hospital, Perth.

Background
In May 1998, the Occupational and Respiratory Epidemiology Group at the Department of Public Health (University of Western Australia) was commissioned by NOHSC to review the Australian occupational exposure standard for crystalline silica.

That paper stated on bottom of page 81

"the commissioned study of compensation for silicosis in Western Australia (*Appendix 2 and (de Klerk et al., 2002b)*) concluded that under the current exposure standard, the rate of onset of silicosis was zero and almost certainly less than 48 per 82 million. "

the paper went on to comment…

"Such a rate could well be acceptable but acceptance requires a collective decision of all interested parties". (end quote)

We agree that it is "unacceptable" to have any cases of silicosis, but we also agree that in terms of a disease affecting Australian workers, there is no requirement for any new regulation or change in arrangements for medical diagnosis, record keeping or other control measures.

6 ACCESS TO COMPENSATION, LIMITATIONS IN SEEKING LEGAL REDRESS AND ALTERNATIVE MODELS OF FINANCIAL SUPPORT FOR AFFECTED INDIVIDUALS AND THEIR FAMILIES

All Australian workers are covered by compensation Acts in every state and territory. CCAA supports the current scheme of workers compensation and believes that it provides adequate access to compensation.

7 POTENTIAL OF EMERGING TECHNOLOGIES, INCLUDING NANOPARTICLES, TO RESULT IN WORKPLACE RELATED HARM

Existing Acts in particular are structured to cover any emerging technologies, and all Acts can, where necessary, be used to promulgate Regulations for specific hazards.

However the modern view of legislation is to aim for broader, performance-based legislation, self-regulation and co-operation between the parties in any operations and avoidance of over-prescriptive detailed regulation.

Thus the States e.g. NSW, Tasmania, have been trying in recent years to consolidate many older sets of detailed Regulations into much more manageable and understandable Regulation based on the above principles.

Nanotechnology or nanoparticles have no particular or special relationship to silica dust, but any ultra fine particles may be considered as nanoparticles.

CONCLUSION

In conclusion, CCAA submits that the incidence of RCS dust related disease, particularly in the cement, concrete and quarry industries, has reduced dramatically in recent decades and can be expected with confidence, to remain at extremely low levels with virtually no new cases arising from recent exposures.

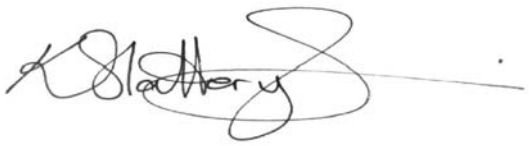
We submit that in the cement, concrete and quarry industries the incidence of silicosis is now largely historical and any further cases will almost certainly be due to exposures long since passed.

We further submit that Australia's performance in minimising occupational exposures and the minimisation of incidence of disease, particularly silicosis, is in line with the best performances around the world.

While there may be some industries, such as the sand blasting industry, where practices may not have been to the standards applied by the cement, concrete and quarry industries where ongoing scrutiny by State and Territory inspectors may be warranted, there is little justification for further general strengthening of regulation.

CCAA member companies have an ongoing program of improvement activities designed to ensure that the industry will continuously improve the already high level of performance in this area.

We thank the Senate Community Affairs References Committee for the opportunity to make this submission.



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Appendix 1: Australian Legislative Framework

Australian occupational health & safety legislation comprehensively covers all "Hazardous Substances", including toxic dusts, and specifically Silica dust. The NOHSC website detailing legislative instruments states as follows:

"The National Occupational Health and Safety Commission has declared a package of standards and codes of practice that, in conjunction with guidance materials, comprises the National Hazardous Substances Regulatory Package. The Package is a blueprint for the legislative control of hazardous substances used in the workplace. All jurisdictions have given legislative effect to it."

Following extensive consultation and Parliamentary Inquiries in the 1980s, Australia decided in the early 1990s to broadly follow the European Community approach to the control of risks from "toxic" (hazardous or dangerous) materials. The reasons for this were complex, but it was recognised that:

- Australia did not have the capacity to undertake toxicological assessment of all materials used in industry;
- Australia was already using, and for some decades had adopted UK, European, or USA standards and safe practices for such materials;
- Australia needed an approach which was consistent with the international harmonization on controls and practices, which was developing through bodies such as the International Labour Organisation (ILO), World Health Organization (WHO), the International Program on Chemical Safety (IPCS) United Nations Environment Program (UNEP) and World Trade Organisation (WTO).
- Australia had adopted new "Robens-style" Occupational Health and Safety Acts in the 1970s, which were essentially based on the concepts of self-regulation and co-operation between employees and employers to control risks, with inspectors and regulations supporting that approach. Regulation of "toxic" dusts (Hazardous Substances) therefore had to be assimilable within the overall legislative approach to health & safety at work.

The *National Strategy on Chemicals* issued by NOHSC in 1993 covered all physical forms of "chemicals" (more commonly referred to in Australian legislation as "Hazardous Substances"). This includes whether the Hazardous Substance is in the form of a dust, liquid, vapour, fume, gas, or solid.

A dust is classified in Australia as "hazardous" or "non-hazardous" by reference to the Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)] document Within that classification it may be further defined as "irritant", "harmful" or "toxic" or "very toxic".

It is assumed for the purposes of the Inquiry that all dusts classified as "hazardous" are of interest to the Senate Inquiry, which would include those which are "irritant", "harmful" or "toxic", these sub-classes are often overlapping. Silica dust is properly classified according to the Australian Approved Criteria as "harmful" rather than "toxic" or "very toxic".

The primary role of the Commonwealth is to facilitate a common approach and comparable and compatible legislation in all Australian States and Territories. This federal-State approach is achieved through the National Occupational Health and Safety Commission (NOHSC), under the NOHSC Act 1985 which brings together the stakeholders in a tripartite Commission including the employees represented by the ACTU, employers represented by ACCI, and each State and Territory.

NOHSC has produced a full range of National models for Regulations and Codes of Practice, National Standards, and guidance documents (the "package" referred to above) covering all aspects of the safe use of Hazardous Substances. These are either used to assist States draft their State Regulations, or are "called up" (established) within State Acts, Regulations and Codes of Practice. At the present time (2005), all States and Territories have enacted or call up all the National instruments covering the control of risks from "Hazardous Substances" including "toxic dusts".

The instruments include:

- State and Territory Occupational Health and Safety Acts

- State Hazardous Substances Regulations (following NOHSC National Model Regulations) and accompanying Code of Practice.

- National Model Regulations for the Control of Workplace Hazardous Substances [NOHSC:1005(1994)]. The following Commonwealth Government explanation of these Regulations is from the website:

"The national model regulations apply to all workplaces in which hazardous substances are used or produced and to all persons with potential exposure to hazardous substances in those workplaces".

The two principal components of the national model regulations are:

- Information provisions - which address the delivery of specific information, for example, labels and Material Safety Data Sheets (MSDS), that the supplier of a workplace hazardous substance has to provide through the employer to employees. These provisions also ensure that employee representatives, relevant public authorities and emergency services are provided with access to relevant information as well;

- Assessment and control provisions - which require employers to identify hazardous substances in the workplace, make an assessment of those hazards, which arise out of the work activity and then take appropriate control action.

- The National Code of Practice for the Control of Workplace Hazardous Substances [NOHSC:2007(1994)] provides a practical guide on how to comply with the national model regulations.

- The national model regulations require manufacturers and importers to determine whether a substance is hazardous to health, before supply is made. They are also required to provide labels and MSDS's for all hazardous substances, containing appropriate information about the hazards of these substances. Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)] is a national standard for determining whether a substance is a hazardous substance, and to assist in preparing labels and MSDS's. The 3rd edition is in force as at 31 December 2004. It is

based on the classification system used in the European Communities. A copy of the superceded 2nd edition is still available.

- The Hazardous Substances Information System (HSIS) is an Internet database that provides hazard classification information on over 3,500 substances that are classified as hazardous according to the Approved Criteria.

- The National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)] is a flexible system of labelling whereby manufacturers and importers can meet the labelling requirements of the national regulations and other national systems (for example, the Australian Code for the Transport of Dangerous Goods by Road and Rail, and the Standard for the Uniform Scheduling of Drugs and Poisons).

- The National Code of Practice for the Preparation of Material Safety Data Sheets [NOHSC:2011(1994)] provides guidance on the preparation of a MSDS to enable manufacturers and importers to meet their responsibilities and recognises certain overseas MSDS formats which provide equivalent or a better standard of information.

Treatment of Specific Substances

The National Hazardous Substances Regulatory Package provides a risk-based framework for determining the workplace requirements for all substances hazardous to health. This outcomes-focused framework is complemented by specifying requirements to be applied to specific substances or groups of substances. The requirements include substances subject to:

- prohibitions on use - as set out in Schedule 2 of the national model regulations for hazardous substances.

- health surveillance requirements - as set out in Schedule 3 of the national model regulations for hazardous substances.

- limitations on exposure - as set out in the Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)].

A variety of guidance material has been prepared to support the national hazardous substances regulatory package, including:

- Guidance Note for the Assessment of Health Risks Arising from Hazardous Substances in the Workplace [NOHSC:3017(1994)]

- Guidance Note for the Control of Workplace Hazardous Substances in the Retail Sector [NOHSC:3018(1994)]

- Core Training Elements for the National Standard for the Control of Workplace Hazardous Substances

The National Hazardous Substances Regulatory Package also incorporates other materials developed by NOHSC. Most of these were released before the national model regulations. They are included in the Regulatory Package Index. “(end quote)

All the above Commonwealth instruments and complementary State and Territory legislation cover Crystalline Silica, and several have specific reference or documentation on Crystalline Silica and its dust.

Under the Hazardous Substances Regulations in each State or Territory, Crystalline Silica is scheduled as requiring Health Surveillance to be implemented for workers potentially exposed to respirable crystalline silica. These Regulations were promulgated, together with Codes of Practice, by all States by 1999, following issue of the National Model by NOHSC in 1994. All other aspects of these Regulations are applicable where a material or product being used contains Crystalline Silica and is thereby classifiable as "hazardous" under the Approved Criteria.

A Guideline on Health Surveillance for respirable Crystalline Silica was issued in 1995. It has mostly been adopted by States with W.A. having, in addition, specific Regulation on Health Surveillance.

In the National Exposure Standards (NES) List of Atmospheric Contaminants Crystalline Silica is listed and a revised NES was promulgated in January 2005. That NES was developed within the NOHSC framework over a period of several years and represented a much stricter standard for workplace dust than previously applied. The previous NES introduced 30 years previously was considered to be protective for Australian workers, based on evidence from epidemiological surveys that incidence of silicosis had declined substantially.

Approved methods for measurement of Silica dust have been published as Australia/New Zealand Standards and have been sanctioned by NOHSC, with the latest revision in 2004.

A full description of the working of these legislative controls cannot be given here, because the legislation and documentation runs to many hundreds of pages.

In summary there are extensive Regulatory provisions in Australia in 2005 intended to control worker exposure to dust and thus prevent silicosis. All these instruments are aimed at the minimizing of unprotected exposure of workers to respirable crystalline silica, and cover all necessary duties and actions required of employers, suppliers, manufacturers and employees.

The existing documentation and legislative controls are so extensive that a major difficulty for industry is in comprehension of the breadth and depth of government requirements.