Senator the Hon Kim Carr

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ADDRESS TO THE ACTU O&HS AND WORKERS' COMPENSATION SEMINAR ON NANOTECHNOLOGY

Canberra, ACT

Nanotechnology may deal with small things, but it is a big issue for the Australian community.

It is an especially big issue for Australian workers, who can expect to encounter more and more nanomaterials in the production environment and in workplaces more generally.

The Australian Government understands the importance of occupational health and safety.

We understand the concerns people have about new technologies.

And we are determined to get the balance right.

On the one hand, we want to see Australia leading the way in the development and application of technologies that will:

- underpin the jobs and industries of the future
- increase our standard of living
- and improve our quality of life.

On the other hand, we are determined to address any potential health, safety and environmental risks that might be associated with these technologies.

Progress

You don't have to be a socialist to recognise that human development goes hand in hand with technological development.

There is simply no denying the power of technology to transform society …

- not just by making us richer, safer and healthier
- but also by altering the relations between individuals and groups.

Technological progress has both fuelled the demand and created the conditions for democracy and equality.

Even the OECD points out that:

"Most of the rise in material standards of living since the industrial revolution has been the consequence of innovation. New or improved products and services – and new and improved ways of producing them – have for a long time been the main motor of economic growth." (*Going for Growth*, 2006, p. 56)

This is my starting point.

I'm about giving Australian workers a stake in the future by modernising Australian industry, building its capacity to innovate, and focusing squarely on the high-tech, high-value, high-wage end of the international market.

I'm about improving living standards and expanding working people's opportunities in life.

That means I'm about achieving the highest possible degree of material progress we can – consistent with our obligations to protect the environment, and the wellbeing of individuals and communities.

It is these values and aspirations that define my attitude to new technologies, including nanotechnology.

I don't begin by saying "this is too strange" or "this is too hard".

I don't begin by saying "no".

I begin by asking, "what's in it for Australia?" – "what's in it for the people we serve?" – and "how can we make this work?"

We are already getting answers to the first two questions.

Nanotechnologies are being used to develop:

- sensors to make workplaces safer
- clean energy solutions – from solar cells to carbon storage
- new treatments for disease, including cancer and AIDS
- and new techniques to increase agricultural productivity in the face of dwindling water supplies.

There is no doubt that nanotechnology has a lot to offer.

Dialogue

But that still leaves us with the third question – how do we make this work while protecting the health and safety of humans and the environment?

We are developing answers to this question through an active and open dialogue with the community.

The trade union movement is playing a critical part in that dialogue.

Unions are represented on:

- Safe Work Australia's Nanotechnology OH&S Advisory Group
- the National Industrial Chemicals Notification and Assessment Scheme's Community Engagement Forum
- the NICNAS Nanotechnology Advisory Group
- and the soon-to-be-convened National Enabling Technologies Strategy Stakeholder Council.

The ACTU and the Construction, Forestry, Mining and Energy Union also provided input to the Safe Work Australia report, *Engineered Nanomaterials: Evidence on the Effectiveness of Workplace Controls*, which was published in November last year.

National Enabling Technologies Strategy

At the same time, the Australian Government is working on many fronts to determine the potential environmental, health and safety impacts of nanotechnologies.

This includes:

- supporting research that will improve our understanding of how nanoparticles behave
- examining the adequacy of the existing regulatory framework
- and determining whether our workplace control measures are equal to the challenge of dealing with nanomaterials.

Australia was one of the first governments in the world to start thinking about the regulation of nanotechnology.

That process began when we commissioned *A Review of Possible Impacts of Nanotechnology on Australia's Regulatory Framework* – better known as the Monash Report.

This report found that while we are in pretty good shape, it will take a long-term, whole-of-government effort to ensure that the regulatory framework remains responsive and strong.

This is one focus of the Government's four-year, $38.2 million National Enabling Technologies Strategy.

The strategy is being funded through the Future Industries component of the Super Science Initiative, which is investing in cutting-edge biotechnology, nanotechnology, and ICT research infrastructure.

We expect the strategy to give us the timely and accurate information we need for sound decision-making.

We expect it to give us an effective regulatory framework that will enable us to manage the impact of enabling technologies on health, safety and the environment without unreasonably inhibiting innovation.

We expect it to make Australia more competitive by encouraging the development and application of products, processes and services based on new technologies.

And we expect it to build public confidence in enabling technologies by giving people a clearer idea of their risks and benefits, and how these can be managed – not least by making governments, researchers and industry aware of the public interests at stake.

OH&S

Nearly half of the funding for the strategy – $18.2 million – will be used to build world-class biometrology and nanometrology capabilities at the National Measurement Institute.

Developing appropriate measurement infrastructure, standards and skills is a critical precondition for regulating these technologies effectively and using them safely.

It is essential for measuring the exposure of workers to nanomaterials.

Australia is already closely involved in the international effort to develop reliable techniques and benchmarks for exposure measurement – including through the OECD.

For example:

- we are leading an OECD project on the measurement of airborne nanoparticles
- we are co-sponsoring OECD research into the human health and environmental safety effects of zinc oxide, cerium oxide, nano-silver and other nanomaterials
- and we are validating a recently published OECD procedure for nanomaterials emission assessment.

In all of this, the Government is guided by the precautionary approach outlined in Principle 15 of the 1992 Rio Declaration on Environment and Development.

This states that a "lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

We are also guided by what we have learnt over many years:

- about managing industrial chemicals
- and about managing exposure to nanomaterials from more familiar sources, including welding and vehicle exhausts.

The National Enabling Technologies Strategy also supports Safe Work Australia's Nanotechnology Work Health and Safety Program.

The findings of research undertaken as part of the program will be reported at a forum in September.

Participants in the forum – including unions – will be asked to consider the implications of these findings and provide advice on future directions.

Carbon nanotubes

We already have enough research to tell us that some nanomaterials – especially carbon nanotubes – should be handled with great care.

We don't yet know the whole story, but this is where the precautionary principle comes into play.

The only responsible course is to remain vigilant until we know more.

That's why we have asked the National Industrial Chemicals Notification and Assessment Scheme to assess whether carbon nanotubes should be classified as hazardous substances.

The NICNAS assessment is expected to be completed by August, and its conclusions will be given regulatory effect as soon as possible after that.

Australia is likely to be the first country anywhere to take this step.

Dr Roshini Jayawardene from NICNAS is here today and will be able to give you more information on that.

At the same time, we have asked CSIRO to develop guidelines on the safe handling and disposal of carbon nanotubes.

This should also be completed by August.

We are also sponsoring research that will:

- improve our ability to detect carbon nanotubes in the workplace
- and establish the persistence of carbon nanotubes in lung fluid.

The results of these research projects are being written up now.

Labelling

More generally, we are pushing nationally and internationally to improve the information available to workers about the nanomaterials they are handling.

This includes work through Safe Work Australia to clarify the treatment of nanomaterials in the National Code of Practice for the Preparation of Safety Data Sheets.

It includes work through the International Organization for Standardization to develop guidelines on the preparation of Safety Data Sheets for nanomaterials.

And it includes work through the United Nations to strengthen the Safety Data Sheet requirements for engineered nanomaterials under the Globally Harmonized System of Classification and Labelling of Chemicals.

The whole issue of labelling and Safety Data Sheets will be considered by Safe Work Australia's Nanotechnology OH&S Advisory Group next month.

The future

The most recent independent tracking study of public attitudes towards nanotechnology shows that …

- while 80 per cent of the Australian public have at least some level of concern about nanotechnology safety …
- a similar percentage, 81 per cent, feel excited or hopeful about the benefits nanotechnology could bring.

The study concluded, and I quote, that “most people in the Australian community feel that nanotechnology will improve their quality of life”.

This is where we came in.

The community is right to think that nanotechnology is a good thing.

That is certainly my view.

The challenge is to figure out how we can benefit from it in the fullest, safest and most sustainable way.

Our best chance of answering this challenge is by facing it together.