

Joint Standing Committee on Treaties  
Inquiry into Nuclear non-proliferation and disarmament  
Parliament House  
Canberra ACT 2600

David Swaby

20<sup>th</sup> January 2009

Dear Honorable members,

I has come to my attention through Greenpeace and Friends of the Earth, that a review of our current treaties with countries to whom we export Uranium will shortly be undertaken by the Australian government.

I have strong reservations about the current treaty and many countries who are recipients of Australian Uranium (or Uranium mined and enriched in Australia), in particular with China, India and Russia. All of these countries have a poor environmental record vis-a-vis the production of Uranium (within their borders). Numerous industrial accidents involving high levels of contamination of radioisotopes have occurred, which have contaminated the aquifers and food chain of the communities living in the vicinity of the plants enriching Uranium there. Additionally, who can forget infamous meltdown accidents such as the Chernobyl disaster?

An argument that Australia could safely enrich Uranium to offset the effects of environmental degradation of poor Uranium enrichment in China, India and Russia is ultimately erroneous (argued by nuclear weapons proliferation and nuclear waste storage). While processing Uranium here could offset radiological sickness and birth defects by the thousand in these countries, exporting enriched Australia Uranium is not a guarantee of their peaceful use by these countries. Incidentally, any other country receiving enriched Australian Uranium, which has a startup programme in nuclear technology such as Taiwan, is also not in compliance with the use of this Uranium for peaceful purposes either.

Nuclear (fission) technology is a double use, double-edged sword. Its initial development as technology in World War II was for manufacturing the world's first atomic bombs (the Manhattan Project), and the world now understands the awful effects of the use of these terrible weapons on Hiroshima and Nagasaki. In the late 1940s it was realised that the fission reactor could also be used (“peacefully”) to generate electricity, which has been used as an excuse (by many nations) to subsequently develop this technology for good or ill. Ironically, the development of fission electrical generation also dovetails with the same technology that can manufacture nuclear weapons, by breeder reactors.

The nations with developed nuclear technology has bloomed since the 1940s. The nations (now) with nuclear weapons include: United States, United Kingdom, France, Russia, China, India, Pakistan, Iran (likely), Israel (not publically admitted), North Korea. All have electrical power generating fission reactors (with the possible exceptions of Pakistan

and Iran). Additionally, five of the countries in the above list (Israel, North Korea, Russia, Pakistan and China) violently or covertly repress large populations within their borders. The countries known to not have developed nuclear weapons (but have developed nuclear power generation) are Canada, Belgium, Finland, Netherlands, Sweden, South Korea, Germany and Japan. Another dozen countries could appear on this list who generate nuclear power (or are developing fission power reactors) but I remain unsure whether they have also covertly developed nuclear weapons or could be totally relied upon not to sell on the excess enriched Uranium stock in their hands. Many of the above countries, mentioned (and not mentioned) in this paragraph, Australia sells Uranium to.

Australia has nearly one-quarter of the worlds Uranium resources (after Canada) and is one of the worlds leading exporter of this dangerous fissile metal to the rest of the world. Although we have signed the nuclear non-proliferation pact, we may be violating it by supplying the bulk of enriched Uranium (along with Canada) to many countries, some with nuclear fission technology startup programmes. Taiwan is a poignant example, because the startup development of nuclear fission technology there (using Australian Uranium) is likely to ultimately threaten the Peoples Republic of China with nuclear weapons by a neighboring nation which has been historically hostile to it. Guarantees on paper (with Taiwan for example), that the enriched Uranium will only be used for “peaceful purposes” remain a “paper guarantee”. There are no rigorous, methodical and independent checks on the total use of Australian supplied Uranium to this nation state for example, or for any other nation state that we supply Uranium to that I can discern under the current treaty.

Unlike global warming in which we cannot avoid but can only can mitigate the effects, nuclear weapons (and nuclear fission technology in general) is almost *immediately* avoidable for the survival of our species into the future. Let me emphasise this: nuclear power technology (because nuclear weapons manufacture can quite easily dovetail with it), is the most prominent threat to the existence of humans (and all multi-celled life) on this planet, regardless of whose hands it is in. Why? Ultimately because of nuclear proliferation, which is going apace since the 1940s, increasingly threatens the world with the likelihood of nuclear war. The majority of the ten known countries mentioned (having nuclear weapons) acquired them in the last four decades. Any country (including Australia) with nuclear technology can quickly and easily convert nuclear fuel to nuclear weapons. We graphically saw this in the case of North Korea recently. Nuclear war (starting however small, since other countries are likely to join in with their own nukes) will ring the final curtain down on the human race (along with most other plants and animals in Earth's biosphere). The more countries with nuclear weapons *and* nuclear power technology, logic dictates, the more likely that this dreadful scenario will happen. The argument (sometimes supplied) that nuclear weapons are the ultimate deterrent, and are therefore defensive, are spurious. Nuclear weapons are the ultimate (doomsday) offensive weapon and any government (openly or secretly) wielding them is hostile or contemptuous to the survival of the human race.

I consider that Australia can choose to play a major global part in reducing the threat of nuclear weapons by denying the material (Uranium) from Australia to the rest of the world. The likely alternative is pursuing a path to human extinction (as previously

mentioned). I do not consider that I am exaggerating, unless the force of my argument is watered down by dishonest political or economic expediency, to the ultimate cost of us all (or to subsequent generations). Furthermore, the economic “damage” to Australia by closing Uranium mining and enrichment, is fairly minimal with only a few hundred jobs affected, and is certainly minuscule compared to the scale of the threat that the world and Australia faces from the fissionable products of Uranium. Importantly, there is evidence that countries like China, India and Russia, supplement their weapons stockpile programme by using Australian Uranium for power generation, where they would otherwise use their own resource of Uranium for this (if they were not now making nuclear weapons with it).

I suggest that Australia begins to help “disarm” the world by: 1. Halting any growth of Uranium exports immediately. 2. Revisit treaties with *all* countries we export to by winding down rapidly the Uranium (enriched and non-enriched) exports. 3. Dismantle the Lucas Heights fission reactor. The radioisotope products made there for industry and medicine can be sourced more cheaply from other countries or can be made in a proton synchrotron reactor, which should be given government grants to build a substantial one instead of rebuilding Lucas Heights. 4. Work on a new diplomatic initiative in the United Nations to begin disarming nuclear weapons in the world, using Australia's Uranium reserves as a bargaining chip, which would work more effectively if we could get Canada on side. 5. Support a movement away from nuclear power renewal in the United States with the agreement of the new Obama administration, and importantly, begin discussions to reduce the American tactical and strategic nukes stockpile by disarmament. Same with Britain, France and Russia and eventually every other nation with nuclear weapons. 6. A definite statement by the Australian government against supporting the Strategic Defense Initiative (or “Star Wars” under Regan). A extremely expensive and largely useless technical chimera, which undermines disarmament by encouraging nuclear powers aligned against the United States (China and Russia) in increasing their own nuclear stockpile to ensure penetration in case of war. 7. Public support for advertising campaigns against nuclear weapons and nuclear power (possibly through Greenpeace or Friends of the Earth) to be televised in North America and Europe, and through the internet. Australia rejected acquiring or making nuclear weapons in the 1960s. Why should we let other nations immorally carry on secretly making them for our short term profit?

Finally, what other substitute could there be to mitigate the effects of global warming through coal combustion? Substituting nuclear power for coal is not the answer. It is true that a single nuclear power plant generates gigawatts of power continuously and the dollar costs of nuclear power production appears at first glance to be less per gigawatt generated, than the cheapest renewable energy source (per gigawatt); wind. However, construction and running of a nuclear plant is expensive in manpower hours. Furthermore, nuclear power generation is not as carbon neutral than wind power, as the enrichment of Uranium is an energy intensive process (using coal generated electrical power) and the setting of thousands of tonnes of concrete surrounding the nuclear core, containment vessel and cooling towers produces carbon dioxide. Additionally, steam coming from the cooling towers could contribute to global warming (water vapour is global warming gas, much more potent than carbon dioxide). Finally, the costs of using nuclear power generation massively overshadows that of renewable energy when the

costs of safe nuclear waste storage for 300 million years (the half life of the waste products), needs to be taken into account. It is the last issue of safe nuclear waste storage of an enormous length of time (thousands of times longer than the existence of civilisation) that puts the final nail into the coffin for nuclear power generation.

The only electrical power generation technology to mitigate the effects of global warming is renewable energy (wind, solar, geothermal and sea waves), and this nascent industry should be supported vigorously by government grants. Australia is rich in renewable energy resources (in all previously mentioned) and could rapidly take a leading part in developing this industry, only with significant government support (certainly more than it is receiving currently). On the other hand, a worldwide substitution to nuclear power would be extremely alarming; increasing nuclear weapons proliferation (as mentioned) and subsequently increasing the chance of at least another Chernobyl scale nuclear meltdown disaster.

Although I am a Physicist, I am also a pacifist and I believe in the sanctity of life and for decent human existence, in which all nuclear (neutron) fission technology (in my opinion) undermines. I believe I am following in the footsteps of other scientists such as Bertrand Russell, Joseph Rotblat, Mordechai Vanunu, Robert Oppenheimer and the venerable Albert Einstein, when I oppose nuclear weapons *and* nuclear power (as the two can be interconnected) and Australia's role in exporting Uranium to support this insidious technology.

Yours Sincerely,

David Swaby