Dissenting Report by Senator Andrew Bartlett, Joint Standing Committee on Treaties, China Australia Uranium Agreement

Senator WORTLEY – *Would it be possible for Australian uranium to end up being used in other ways under this sort of a treaty? Are we relying on trust here?*

Mr Carlson – *Obviously, there is a degree of trust in any international treaty…...(27)*

If we want to "put teeth", real teeth, into the nuclear arms control regime, then not only must we examine the structure of the regime, but equally important, we must examine the social and security environment in which this regime operates.

International Atomic and Energy Agency(IAEA)

Director Dr. Mohamed ElBaradei[1]

1.1 The Democrats believe the majority report failed to provide a compelling argument that the sale of uranium to China is in the national or global interest. The ease with which Australian uranium could find its way into Chinese nuclear weapons was not addressed by the Committee report. I agree with the Australian Conservation Foundation observation that:

[1] Putting Teeth in the Nuclear Non-Proliferation and Disarmament Regime, speech by IAEA Director General Dr. Mohamed ElBaradei, 25/03/06, http://www.iaea.org/NewsCenter/Statements/2006/ebsp2006n004.html

> The central claim of this treaty that Australian uranium can only be used for peaceful purposes in China is invalidated by serious shortcomings in both the IAEA safeguards and Australian bilateral agreement safeguards regimes.[2]

1.2 The committee report outlined China's lack of accountability and track record but had no answer to the concerns outlined. China has not demonstrated that it can be trusted on sticking to agreements and continues its nuclear proliferation. China is not alone in this regard, but this proposed Treaty action only relates to China.

1.3 The economic, social and environmental arguments given in favour of exporting uranium to China were unconvincing. The risks (security, social and environmental) of selling uranium to China far outweigh the economic benefits. It makes more sense to engage with China on renewable energy to avoid those risks.

1.4 Using Australia's National Interest as the sole criterion by which to assess whether to sell uranium to China is a fundamentally flawed approach. Selling uranium to China has global implications. I believe this agreement is not in the net national interest of Australia in any case, but the risk to humanity worldwide and Australia's responsibility as a good global citizen should be the ultimate test. This was not addressed by the Committee's report. Given the increasing tensions around the world and appropriate concerns about weapons of mass destruction, increases the risk of the proliferation on nuclear weapons is clearly not in the global interest.

1.5 Contributing to Chinas development, through the development of clean safe energy is far more responsible.

Recommendation 1:

1. ***The proposed China uranium exports treaty is not in Australia's national interest or in the global interest and recommend that the Australian Parliament should not ratify the proposed treaty.***

[2] ACF and MAPW, submission No. 26, p.1.

Nuclear Proliferation

Global

1.6 The strong link between the use of uranium for civil and nuclear purposes and the dangers of a nuclear arms race led to the international community putting in place the Nuclear Non-Proliferation Treaty (NPT) aimed at halting the spread of nuclear weapons and providing a framework for disarmament by the nuclear weapons states.

1.7 The NPT has 189 members - an almost universal membership - with the notable exceptions of India, Israel and Pakistan. The NPT provides important security benefits - by giving assurance that, in the great majority of non-nuclear-weapon States, enriched uranium is not being used for weapon purposes.

1.8 The NPT is the only legally binding agreement in which the five nuclear-weapons states have committed to disarmament.

1.9 However in the 60 years since the UN called for the elimination of all nuclear weapons, they have been taken up by Israel, India, Pakistan and North Korea, disarmament has stalled and there are almost as many nuclear weapons around the world now as there were when the NPT was first signed.

1.10 IAEA Director General Dr. Mohamed ElBaradei has said that much has changed since the introduction of the NPT which has undermined the regime and the ability to prevent nuclear proliferation:

> But much has changed since the NPT came into being. In the area of security, in addition to the renewed drive to acquire nuclear weapons on the part of States and extremist groups, globalization has brought with it two unwelcome developments: (1) the spread of nuclear technology and know-how; and (2) the emergence of clandestine nuclear procurement networks. These trends make the current challenges to the regime quite acute.[3]

1.11 The IAEA has recorded over 650 confirmed incidents of trafficking in nuclear or other radioactive material since 1993. In 2004, there were

[3] Putting Teeth in the Nuclear Non-Proliferation and Disarmament Regime, speech by IAEA Director General Dr. Mohamed ElBaradei, 25/03/06, http://www.iaea.org/NewsCenter/Statements/2006/ebsp2006n004.html

almost 100 such incidents. Much of the nuclear smuggling is from civil nuclear programs.

1.12 The Report *Nuclear Power No Solution to Climate Change* notes that of the 60 countries that have built research reactors or nuclear power plants, over 20 are known to have used their 'peaceful' facilities for covert weapons research and/or production. In some cases nation states have succeeded in producing nuclear weapons under cover of a peaceful nuclear program – India, Pakistan, Israel, South Africa and North Korea.[4]

1.13 In November this year, former UN weapons inspector Dr Blix took Britain and the other permanent members of the UN Security Council - USA, China, Russia and France - to task for failing to comply with their obligations under the NPT by failing to do more to eliminate their nuclear arsenals.

1.14 Dr Blix expressed his frustration at the way nuclear nations are in the process of developing new types of weapons rather than examining how they could manage defence needs with non-nuclear weaponry.

1.15 The Australian Democrats support calls from Dr Blix for the UN General Assembly to call a world summit on disarmament to revive the NPT efforts to reduce the risk of a nuclear war.

China's Track Record

1.16 China's nuclear arsenal is not considered as modern as the other states, but it is reported to be modernising.

1.17 The Committee report notes that China currently sources the majority of its uranium domestically. China has made it quite clear that Australian uranium will free up China's domestic supplies for military purposes.

1.18 Of the five declared nuclear weapon states, only China has not yet officially declared that it is no longer producing fissile material for weapons purposes for weapons.[5]

1.19 The ACF/MAPW report *An Illusion of Protection* argues that China's large stockpile of fissile material is a proliferation concern:

[4] Dr Jim Green (2006) *Nuclear Power No Solution to Climate Change*, p.4.

[5] *An Illusion of Protection*, ACF and MAPW, p.37.

> China's large stockpile of weapons-usable fissile material is of proliferation concern – it is estimated to have produced between 3-7 tons of weapons-grade plutonium (requiring an average of 3-4 kg per Pu weapon); and 15-15 tons of HEU, on which Chinese weapons are believed to rely heavily (using 20-30 kg per HEU weapon).[6]

1.20 The report *An Illusion of Protection* also raises concerns about Chian's nuclear protection, control and accounting:

> Little is known about the state of China's nuclear material protection, control and accounting system, but it is considered vulnerable to insider theft, "questions remain about the level of protection at China's nuclear facilities", and the China National Nuclear Corporation "produces, stores, and controls all fissile material for civilian as well as military applications".[7]

1.21 There is substantive evidence to show that China has provided nuclear weapons technology, materials and designs to Pakistan; stolen US nuclear weapons designs; proliferated WMD missile technology, weapons systems and components to countries including Iran, Pakistan, Libya, Syria, and North Korea; and has provided assistance to Iran's nuclear program.[8]

1.22 ASNO in its submission to the committee argued that China has improved upon its past proliferation record since it joined the NPT in 1992 and became obligated under the treaty to not assist any non-nuclear weapons state to manufacture or acquire nuclear weapons:

> There have been no adverse findings by the IAEA or NPT Parties at NPT review Conferences of non-compliance by China with its NPT obligations, or by Nuclear Supplier Group (NSG) members that China has not complied with NSG guidelines.[9]

[6] *An Illusion of Protection*, ACF and MAPW, p.37.

[7] *An Illusion of Protection*, ACF and MAPW, p.37

[8] Dr Jim Green (2006) *Nuclear Power No Solution to Climate Change*, p.4.

[9] ASNO, Submission No.30, p.5.

1.23 However, the ACF and MAPW submission cited evidence from a 1999 US House of Representatives investigation into commercial and military concerns with China:

> In 1999 a US House of Representatives investigation, the "Select Committee On U.S. National Security and Military/Commercial Concerns With The People's Republic of China", also called the Cox Report, found that:
>
> (i) China had stolen design information on the US's most advanced thermonuclear weapons
>
> (ii) China was responsible for repeated thefts of the most sophisticated US nuclear weapons technology and that this practice likely continued
>
> (iii) China had proliferated such military technology to a number of other countries, including regimes hostile to the US, and
>
> (iv) China's actions posed a direct threat to the US and its friends and allies.
>
> The "Overview" to the Cox Report (p.xxxvi-xxxvii) stated that:
>
> "The Peoples Republic of China is one of the leading proliferators of complete ballistic missile systems and missile components in the world.
>
> The PRC has proliferated military technology to Iran, Pakistan, and North Korea. In 1991, the PRC agreed to adhere to the April 1987 Missile Technology Control Regime (MTCR) guidelines, but the PRC has not accepted the revisions to those guidelines issued in 1993. The 1993 MTCR guidelines increase the kinds of missile systems subject to controls and call for a "strong presumption to deny" both sales of complete missile systems and components that could be used in ballistic missiles.
>
> The PRC has provided Iran with ballistic missile technology, including guidance components and the recent transfer of telemetry equipment. The PRC reportedly is providing Iran with solid-propellant missile technology. Additionally, the PRC provided Iran with the 95-mile range CSS-8 ballistic missile. Since the mid-1980s, the PRC has transferred C-802 anti-ship cruise missiles to Iran. The PRC has also provided assistance to Iran's nuclear programs.

> Pakistan. The PRC has provided Pakistan with a wide range of assistance. The PRC reportedly supplied Pakistan with CSS-X-7/M-11 mobile missile launchers and reportedly has provided Pakistan with the facilities necessary to produce M-11 missiles. The PRC provides Pakistan with assistance on uranium enrichment, ring magnets, and other technologies that could be used in Pakistan's nuclear weapons program."[10]

1.24 Mr James Courtney from ANAWA also cited a criticism by the US Department of State in its August 2005 report that China had broken its article 1 commitment, which is a ban on sharing nuclear technology.[11]

1.25 The report *An Illusion of Protection* cited further evidence of ongoing proliferation concern:

> The 2005 *Deadly Arsenals* report from the Carnegie Endowment for International Peace documents how China's behaviour, both in the past and in an ongoing way, has been of significant proliferation concern. Despite commitments in 1992, 1994 and 1998 to uphold the non-proliferation regulations of the Missile Technology Control Regime, Chinese state-owned corporations continued to engage in illicit nuclear arms transfers to Pakistan, Iran, North Korea and Libya. *Deadly Arsenals* states "the continuing nature of China's role as an international supplier of nuclear technology for weapons programs is in question." The authors point out that a 2004 US intelligence survey concluded "the proliferation behaviour of Chinese companies remains of great concern."[12]

1.26 ACF, MAPW and FOE argued that the unacceptable proliferation record should invalidate China for consideration as a potential customer for exports of Australian uranium.

1.27 The Committee report states that "in addition to IAEA safeguards, Australia was relying on trust that AONM would not be diverted to non-peaceful uses by China"

[10] ACF and MAPW, *Submission No. 26*, p.3.

[11] Mr James Courtney, Transcript of Evidence, 6 October 2006, p.2.

[12] *An Illusion of Protection*, ACF and MAPW, p.37

1.28 The Democrats agree with ACF and MAPW in their assertion that given China's track record on proliferation and concerns about China's own protection control and accounting system, Australia can not be confident in this or future Chinese Governments' compliance with key international non-proliferation norms on weapons of mass destruction and associated military technology. Trust alone just won't cut it.

Safeguards

IAEA and the NPT

1.29 The IAEA is a United Nations organisation created in 1957, tasked with promoting safe, secure and peaceful global cooperation in nuclear technology. The IAEA is charged with verifying through its inspection system that member states comply with their obligation under the NPT and other non-proliferation agreements.

1.30 The IAEA safeguards system still suffers from flaws and limitations, despite improvements over the past decade.

1.31 The Report *Nuclear Power No Solution to Climate Change* notes that at least eight NPT member states have carried out weapons-related projects in violation of their NPT agreements, or have carried out permissible (weapons-related) activities but failed to meet their reporting requirements to the IAEA – Egypt, Iraq, Libya, North Korea, Romania, South Korea, Taiwan, and Yugoslavia.[13]

1.32 As noted earlier, the Director of the IAEA has acknowledged that much has changed since the introduction of the NPT, which has undermined the regime.

1.33 The IAEA is charged with verifying that for a given period no significant quantity of nuclear material has been diverted or that no other items subject to safeguards have been misused by the State, and that this is to be done in a timely manner.

1.34 In their report *An Illusion of Protection*, ACF and MAPW argue that the definitions of significant quantity and timeliness are now out of date. Advances in technology mean that smaller quantities of plutonium

[13] Dr Jim Green (2006) *Nuclear Power No Solution to Climate Change*, p.4.

can be used to make a devastating weapon, and countries have the means and technology to move and convert in shorter periods of time:

> For plutonium, a significant quantity is defined as eight kilograms; for highly enriched uranium (enriched to 20 per cent or more in the isotope uranium-235) it is defined as 25 kilograms; for low-enriched uranium (enriched to less than 20 per cent in uranium-235) it is 75 kilograms; and for uranium-233 it is 8 kilograms. The significant quantities are, on today's standards, far too high. There is no difficulty in fabricating a nuclear weapon with an explosive power equivalent to that of 20,000 tonnes of TNT using about 4 kilograms or less of suitable plutonium. A country with access to medium level technology could do so. A good designer could get an explosive power equivalent to that of about 1,000 tonnes of TNT with just one kilogram of such plutonium. To be credible, the 'significant amounts' used by the IAEA should be redefined and considerably reduced.
>
> In the concept of IAEA safeguards, the timeliness of detection of the diversion of nuclear material from peaceful to military purposes is crucial. The Agency's objective is defined as "the timely detection of diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices or for purposes unknown, and deterrence of such diversion by the risk of early detection".
>
> The guidelines established for effective safeguards are that the diversion of a significant quantity should be detected, with a 90-95 per cent probability, within a 'conversion time' with a false-alarm rate of no more than 5 per cent. The concept of a conversion time is based on the time likely to be required to convert diverted fissile material into a form that could be used in a nuclear weapon.
>
> The times are: for each of plutonium and highly-enriched uranium, 7-10 days; for plutonium in spent nuclear-reactor fuel, 1-3 months; for low-enriched and natural uranium 12 months; and for plutonium oxide 1-3 weeks. Again, on today's standards these times are too long. In fact, the cases

> of Iraq, North Korea, and South Africa have put paid to the expectation of timely detection.
>
> The fact is that the IAEA cannot ensure timely detection. If a country decided to divert plutonium or highly enriched uranium from its civil nuclear programme to fabricate nuclear weapons, it could assemble nuclear weapons very quickly. The country could first produce all the non-nuclear component of nuclear weapons. The diverted fissile material could be fabricated into the nuclear components for the weapons and these components assembled into the weapons in a short time. The Agency's timeliness goal is simply not attainable, even with the best will in the world.[14]

1.35 ACF and MAPW warn that the most serious problem facing the IAEA regime is reprocessing plants, where it is almost impossible to detect the diversion of quantities of weapon-usable plutonium from a reprocessing plant:

> But undoubtedly the most serious problem facing a nuclear safeguard system is that the most sensitive plants so far as the diversion of weapon-usable materials - particularly plutonium reprocessing plants (in which plutonium is chemically separated from unused uranium and fission products in spent nuclear-power reactor fuel elements) – are impossible to safeguard effectively. Using existing and foreseeable safeguards technology, it is not possible for a safeguards agency to detect the diversion of quantities of weapon-usable plutonium from a reprocessing plant that could be used to fabricate one or more, or even many, nuclear weapons.[15]

1.36 IAEA Director General, Dr. Mohamed ElBaradei, acknowledged that the verification system is inadequate and that, even with the newly expanded verification rights under the "additional protocols", until all countries sign on to the additional protocol this cannot come into force:

> The discovery of a clandestine nuclear programme in Iraq after the 1991 Gulf War made it painfully clear that the IAEA verification system was inadequate. At that time, IAEA

[14] *An Illusion of Protection*, ACF and MAPW, p.ii-iii.

[15] *An Illusion of Protection*, ACF and MAPW, p.iii

> verification activities were performed under legal agreements that focused IAEA verification primarily on the nuclear activities that a country had "declared" to the Agency. The limited rights of access to information and nuclear sites were not adequate for the IAEA to investigate whether there were "undeclared" activities.
>
> The lessons learned in Iraq in the early 1990s prompted the international community to significantly expand the IAEA´s verification rights. These new rights were incorporated into a 1997 "additional protocol" to the basic verification agreement between each State and the Agency. This additional protocol gave IAEA inspectors expanded access to a country´s nuclear activities. Most importantly, it gave the Agency better verification tools to uncover possible "undeclared" activities.
>
> But the introduction of the "model additional protocol" did not automatically solve the problem. The protocol only applies to those countries that actually subscribe to it. Today, out of the 189 countries that are party to the NPT, 118 still do not have additional protocols in force.[16]

1.37 It is significant to note that although China has signed on to voluntary application of the 'additional protocol', it has restricted it to a few facilities.

1.38 China has also failed to ratify the Compressive Test Ban treaty (CTBT). The CTBT aims to ban all nuclear weapons testing. China is one of the countries (along with the USA) that must ratify the Treaty in order for it to come into effect.

1.39 Dr Elbaradei, has argued that a lot more needs to be done to address nuclear proliferation. In a speech earlier this year he outlined 5 key measures that should be done to strengthen the existing order for preventing the spread of nuclear weapons and move towards nuclear disarmament:

- Tighten Controls for Access to Nuclear Fuel Cycle Technology
- Accelerate Global Efforts to Protect Nuclear Material
- Support Effective Nuclear Verification

[16] Putting Teeth in the Nuclear Non-Proliferation and Disarmament Regime, speech by IAEA Director General Dr. Mohamed ElBaradei, 25/03/06, http://www.iaea.org/NewsCenter/Statements/2006/ebsp2006n004.html

- Reinvigorate Disarmament Efforts
- Increase the Effectiveness of the United Nations Security Council

1.40 Dr Elbaradei emphasised that international support would be needed for the implementation of such measures.

1.41 Australia is undermining the current NPT agreement by allowing the USA to sell Australian Uranium to Taiwan, which is not a signatory to the NPT:

> The NPT is being undermined by Australian agreement to export uranium to a non-NPT signatory state, Taiwan, and by Australian support for the US-India nuclear agreement to put aside NPT and other restrictions on nuclear trade with India and to accept India's nuclear weapons status.
>
> This discriminatory US practice will be seen to sanction and reward countries developing and testing nuclear weapons against international norms.[17]

1.42 There seems to be little motivation by key countries to do anything and. as noted earlier, inaction has drawn criticism from ex-weapons inspector Hans Blix.

1.43 One of the key problems for the IAEA however is the severe lack of funding.

1.44 The Friends of the Earth in their submission note that:

> The IAEA's verification program operated under conditions of a zero real growth budget for more than 15 years, then there was an increase in the regular budget by 12.4% for 2004, with a further 3.3% increase foreseen for 2005. The total regular budget spent on safeguards for the year of 2005 amounts to $119,854,787.[18]

1.45 In a speech this year Dr ElBaradei stated that the IAEA is severely under funded:

> IAEA verification today operates on an annual budget of about €100 million - a budget comparable to that of a local police department. With these resources, we oversee approximately 900 nuclear facilities in 71 countries. When

[17] ACF and MAPW, *Submission No. 26*, p.7.

[18] Friends of the Earth, *Submission No. 24*, pp.10-11.

> you consider our growing responsibilities - as well as the need to stay ahead of the game - we are clearly operating on a shoestring budget.[19]

1.46 The Democrats support the majority committee report's recommendation to increase funding to the IAEA, but note that funding alone will not fix the flaws in the system outlined above.

1.47 The system is far weaker for declared Nuclear Weapons States (NWS) than for Non-Nuclear Weapons States.

> Therefore, a decision by the Chinese regime to remove a facility from voluntary safeguards would in no way be a breach of IAEA safeguards commitments. It would only amount to a breach of the Australia-China bilateral agreement. There would be no UN/IAEA involvement in resolving a situation whereby a facility using AONM was withdrawn from IAEA safeguards. [20]

Australia and China Agreement

1.48 As a Declared Nuclear State, China is not obliged to conclude safeguard agreements with the IAEA, although they have agreed along with the other states that IAEA safeguards ***may be*** applied to all ***or part of*** their civil nuclear programs.

1.49 ACF and MPAW noted in their submission that:

> China has only a voluntary and limited safeguards agreement with the IAEA and can in future withdraw from any tier of safeguards, or withdraw any facility or nuclear materials from the coverage of IAEA safeguards. Australian's are being asked to trust in the decisions of this and of every future Chinese government to continue to comply with today's voluntary IAEA agreement and the Australian bilateral agreement.[21]

[19] Putting Teeth in the Nuclear Non-Proliferation and Disarmament Regime, speech by IAEA Director General Dr. Mohamed ElBaradei, 25/03/06, http://www.iaea.org/NewsCenter/Statements/2006/ebsp2006n004.html

[20] Friends of the Earth, *Submission No. 24*, p.12.

[21] ACF and MAPW, *Submission No. 26*, p.6.

1.50 The Committee report notes that while China would have the right to choose which facilities are eligible for IAEA inspections under its agreement with the IAEA, any facilities using Australia Originated Nuclear Material (AONM) must be jointly agreed by ASNO and the CAEA, and must be subject to the China-IAEA nuclear material safeguards agreement.

1.51 ASNO told the Committee that there are ten facilities on the IAEA's list of agreed facilities for inspection.

1.52 Evidence suggests that while there might be ten facilities agreed for inspection, the reality is that last year only 3 of those facilities were examined by the IAEA in 2005.[22]

1.53 It's also important to point out that Australia does not have the capacity or systems in place to directly inspect and monitor China's facilities. Australia relies purely on the under resourced IAEA to undertake the inspections.

1.54 ACF and MAPW pointed out that when Australia's safeguards are reliant on an inadequate and under resourced system they are not foolproof:

> Australia's uranium exports are the equal of, or better than, safeguards applied by other uranium exporting nations. This claim ignores the problem that all uranium-exporting nations are reliant on the inadequate and under-resourced safeguards system of the IAEA, and it cannot be credibly advanced to justify Australian uranium exports.[23]

1.55 ASNO told the Committee that Australia would withdraw sale of Australian uranium if China reneged on the safeguard agreements.

1.56 However, the ACF noted that while Australia could cancel its sales, they have no inspection capacity and have no ability in practice to recover nuclear materials. Australia will then be powerless to stop its uranium from ending up in nuclear weapons.

> …….in our view, no capacity in any real sense to intervene post an event of diversion or indirect facilitation of the weapons program in China through our uranium exports.[24]

[22] FOE, Submission no. 24, p.15.

[23] *An Illusion of Protection*, ACF and MAPW, p. 5.

[24] Mr David Noonan, *Transcript Evidence*, 5 October 2006, p.8.

1.57 China will not be reliant solely on Australia for uranium. They currently have agreements with Canada and Kazakhstan. There are other countries that also export uranium, so there is no real threat to China from Australia withholding supply.

1.58 This raises the question; if this treaty were to go ahead and Australia significantly expanded its uranium mining operations, would Australia really then take the commercial risk and cancel its sale to China? This point was also made by ACF to the Committee:

> We believe it is also nonsensical of ASNO to have claimed to you that Australia could require return of nuclear materials from China should there be evidence to doubt the honorary peaceful use of Australian uranium in China. We believe that commercial considerations will prevail and that the Australian safeguards are inadequate, and may be watered down over time. We believe this is partly demonstrated by the secretive nature of the administrative arrangements that apply in detail that put into practice the proposed Australian bilateral treaty. We find that unacceptable.[25]

1.59 A critical loophole in the agreement is that Australian uranium will not be subject to safeguards when it first arrives in China and enters the uranium conversion. At this stage Australian uranium could be diverted for use in nuclear weapons:

> Australian uranium will disappear off the safeguards radar soon after its arrival in China as it enters a uranium conversion facility that is outside of IAEA safeguards and inspections, and run by the Chinese National Nuclear Corporation for joint military and nuclear power purposes. Thereafter only a nominated 'equivalent' amount of nuclear material will be subject to an Australian safeguards accounting process.
>
> Some of our exported uranium could then be used for military purposes, potentially directly for weapons production or as fuel for military and research reactors. China has also been implicated in export of uranium hexafluoride gas to Iran to facilitate their uranium enrichment program

[25] Mr David Noonan, *Transcript Evidence*, 5 October 2006, p.8.

> which is recognised as having potential to produce fissile materials for nuclear weapons production.[26]

1.60 ASNO argued that an "equivalent" amount of uranium is tracked and that the outcome is the same as if AONM has been tracked through the conversion part.

1.61 While this might be the case at a purely semantic level, the Australian Government cannot claim that Australian uranium will only be used for peaceful purposes. On a practical level, while an equivalent amount will only be used for peaceful purpose, Australian uranium frees up domestic and other imported materials for use in nuclear weapons. Either way, Australia is facilitating China to increase their nuclear material potential for domestic or international use.

1.62 Another area of concern is the reprocessing of uranium for further use. Reprocessing facilities in China are dual use facilities (domestic and military) with capability for production of fissile materials for nuclear weapons.

> A large majority of the uranium separated at reprocessing plants around the world is not used; it is just stockpiled. According to the IAEA, uranium from reprocessing plants accounts for just one per cent of all uranium usage. Only two countries use uranium from reprocessing and the other 29 nuclear power countries do not. Likewise, large amounts of plutonium separated at reprocessing plants are not reused but are stockpiled such that the global stockpile of civil plutonium is a staggering 270 tonnes, which is enough to build roughly 27,000 nuclear weapons. As I mentioned before, at least one director of the World Nuclear Association, Steve Kidd, describes reprocessing as being 'environmentally dirty' and less than satisfactory. The reference for that is *Nuclear Engineering International*, 11 May 2004. He was specifically referring to the common PUREX reprocessing technology employed in France and the UK, so the question would be: if reprocessing is environmentally dirty in France and the UK according to the World Nuclear Association, what on earth is it going to be like in China? It is unnecessary

[26] ACF and MAPW, *Submission No. 26*, p.6.

> because most of the plutonium and uranium is simply not reused.[27]

1.63 ACF, MAPW, and FOE argued that reprocessing should be removed from the treaty text:

> Australian should not allow reprocessing of spent nuclear fuel in any bilateral uranium exports agreement. This treaty proposes a programmatic approval to a 30 year reprocessing program for separation and stockpiling of weapons usable plutonium derived from the use of Australian uranium in China's nuclear power program.[28]

1.64 The Democrats are also concerned with the failure of the Government to provide public access to the "Administrative arrangements" that underpin the deal. As ACF and MAPW argued in their submission, how can Parliament or the public know if the proposed practices of safeguards can match the claims?

> ACF consider that it is contrary to the proper exercise of public and Parliamentary scrutiny of the proposed treaty, and an unacceptable practice of secrecy by ASNO, to fail to make public the key "Administrative Arrangements" to enact the Australian bilateral safeguards agreement in China. Without this public access no one can independently know if the proposed practice of safeguards can match the claims. Or if the ASNO accounting practices of 'equivalence' and of 'proportionality' are to be credibly or otherwise applied to Australian Obligated Nuclear Materials in China.[29]

1.65 International and Australian safeguards are inadequate to guarantee that Australian uranium to China will not end up in nuclear weapon material. The Democrats are concerned that the current international and national regime is not effective in preventing nuclear weapon proliferation, and that as a major uranium exporter Australia should use its influence to strengthen safeguards and stop nuclear weapons proliferation.

[27] Dr Jim Green, *Transcript Evidence*, 25 October 2006, p.10.

[28] ACF and MAPW, *Submission No. 26*, p.1.

[29] ACF and MAPW, *Submission No. 26*, p.7.

Recommendations:

2. ***IAEA safeguards should be strengthened through universal, mandatory and permanent application, including the full application of Additional Protocols, to Nuclear Weapon States including China in the same degree as to Non-Nuclear Weapon States.***

3. ***Australia should withdraw uranium sales from all Nuclear Weapon States that continue to fail to comply with their nuclear disarmament obligations under the Non-Proliferation Treaty or that fail to ratify and abide by the Comprehensive Test Ban Treaty including verifiable closure of nuclear weapons testing facilities.***

4. ***Australia should withdraw from agreements to export uranium to Taiwan and fully enforce and maintain restrictions against nuclear trade, including uranium exports to any non Non-Proliferation Treaty signatory states such as India and Pakistan.***

5. ***Proposed "Administrative Arrangements" to enact the Australian bilateral safeguards agreement in China must be made public and be subject to Parliamentary scrutiny as part to the process of formal consideration of the proposed Nuclear Cooperation Treaty with China.***

6. ***Australia should not enter into additional bilateral agreements allowing for conversion and enrichment of Australian uranium in countries including China and India where such arrangements are not in place.***

7. ***The Australian Government should withdraw its agreement to reprocessing in existing bilateral treaties, and not provide any future agreements or consent including to China, for reprocessing of Australian Obligated Nuclear Materials or for any use of such materials in MOX or other Plutonium based fuels***

8. ***Australia should require support for a Fissile Materials Cut-Off Treaty that prohibits reprocessing and the separation of weapons capable fissile materials, from all countries with which Australia currently has bilateral nuclear cooperation treaties.***

China: Trust and Accountability

1.66 Given that nuclear safeguards are based, to a large degree, on the ability of China to set up effective and independent regulators of Australian uranium, China's track record on accountability should be considered.

1.67 The Friends of the Earth argued that China is considered one of the most undemocratic nations on earth. Friends of the Earth further argued that:

> If China was a stable, democratic country with no WMD programs, and no foreseeable likelihood of pursuing WMD, uranium sales might be contemplated regardless of the flaws in the safeguards system.[30]

1.68 Mr Aran Martin, from La Trobe University, in the *Paper Nuclear Safeguards and Chinese Accountability*, outlined China's abuses of World Trade Organisation (WTO) agreements. The paper identifies a lack of enforcement of intellectual property rights (IPR), lack of transparency, poor adoption of international product standards, and hidden import barriers and industry subsidies. The paper argues that non-compliance with WTO agreements has implications for Australia's agreement with China on uranium:

> China's WTO compliance record has the following implications for nuclear safeguards signed with China.
>
> Firstly, given that lack of transparency and its associated problems are so prevalent within China, a nuclear safeguard system based upon the existence of independent, effective regulatory bodies will be flawed. Regulatory bodies will not, in all probability, be independent from political pressures, and their ability to regulate will be hampered by the culture of opacity throughout Chinese industries.
>
> Secondly, mindful that China has a dreadful record of WMD proliferation activities, the opacity criticised by the WTO, combined with the clear examples of China breaching its trade obligations in pursuit of other policy objectives, creates a scenario whereby China has the ability to breach Australian

[30] Friends of the Earth, *Submission No. 24*, p.7.

> safeguards in pursuit of other objectives and escape accountability by arguing a lack of capacity.
>
> Lastly, it is clear from Chinese behaviour that the government has only implemented its obligations in many areas of trade through a system of pressure exerted by extremely powerful external organisations. On difficult issues, China seems to do little to meet its obligations that it is not directly pressured into.
>
> Business and industry groups also raise concerns over China's accountability.
>
> Groups as diverse as the Department of Foreign Affairs and Trade (DFAT), Australian Industry Group (AIG), Insurance Australia Group (IAG), AVCARE, United States Trade Representative (USTR), United States Committee for International Business (USCIB), and the EU commission have criticised elements of China's accountability.[31]

1.69 ACF and MAPW in their submission noted that:

> China has a record of willingness to break its signed word in order to pursue other policy objectives. China's capacity to implement its agreements is hampered by serious governance issues, including opacity and corruption. China has a practice of enabling breaches though a strategy identified by the United States Trade Representative as *"delay, partial implementation, and creation of new barriers"* which prevents the international community from effectively holding China to account.[32]

1.70 ACF and MAPW also noted that China has a track record of failure to sign and comply with international norms and international treaties and conventions on a range of issues.[33]

1.71 A number of submissions to the inquiry raised concerns about human rights abuses and freedom of expression in China. Many of these submissions argued that Australia should not sell uranium to China unless Australia addresses these human right and other abuses.

[31] ACF and MAPW, *Submission No.26*, pp.21-22.

[32] ACF and MAPW, *Submission No.26*, p.2.

[33] ACF and MAPW, *Submission No.26*, p.2.

1.72 The Committee report notes the evidence from DFAT explaining that the Australian Government's approach to pursuing human rights issues with China is through direct discussion and practical cooperation.

1.73 The Democrats believe that Australia has a responsibility to protect human rights both at home and abroad; that we need to make it clear that our commitment to human rights is non-negotiable and that we should not ignore human rights abuses for the sake of trade, economic or security deals with other countries. Clearly Australia should be doing more than we currently are to address human rights abuses in China.

1.74 Friends of the Earth argued that the lack of civil society safeguards such as lack of labour and human rights and whistleblower protections, and press freedom, actually impact on the potential to safeguard Australian uranium.

1.75 Friends of the Earth questioned the Prime Minister's willingness to rely on faith that Australia's uranium will not end up in nuclear weapons, when China has not earned this trust:

> Prime Minister John Howard has conceded that ultimately Australians must put our faith in the Chinese regime not to use Australian uranium in nuclear weapons. He did not explain what the repressive, militaristic, secretive Chinese regime has done to earn that trust.[34]

1.76 China's Government is considered by many countries, organisations and individuals as undemocratic, secretive and has a poor international track record on compliance and accountability. The majority Committee report acknowledges this and provides no convincing evidence that contradicted accountability and transparency concerns raised during this inquiry, and yet still recommended the approval of the treaty. The Democrats believe given China's lack of accountability and transparency, no dependable guarantees can be given that Australia's uranium will not end up in nuclear weapons.

[34] Friends of the Earth, *Submission No. 24*. p.7.

Environmental Case

1.77 The Committee report argues that one of the benefits of selling uranium to China was the assistance it would give to China in reducing greenhouse gas emissions.

1.78 The Minerals Council told the committee that nuclear power would be a great benefit to China:

> A key reason for the current interest in developing nuclear power is the role it can play in climate change management. The maths here is quite simple. Every 22 tonnes of uranium used saves the emission of about one million tons of CO_2 relative to coal fired generators producing the same amount of energy. On a life cycle basis, nuclear power plants emit less CO_2 than other energy production mechanisms.[35]

1.79 In making this claim the Minerals Council has not taken into account the greenhouse gas emissions released as a result of mining, transport, enrichment, reprocessing and waste disposal. While nuclear power may produce less greenhouse gas than coal, other energy sources such as renewable energy are far superior.

1.80 Renewable energy sources such as wind, hydro, geothermal, wind and wave produce less than a third of the CO_2 emissions of nuclear.

1.81 The nuclear industry leaves a huge environmental waste legacy. Thousands of tonnes a year of radioactive waste is the result across the nuclear fuel cycle, whether mine tailings, chemical waste from enrichment, or spent nuclear fuel and the waste from reprocessing plants.

1.82 Uranium mining in Australia has a poor environmental track record. Uranium mining creates waste in the form of mine tailings. Tailings can contain up to 80% of the radioactivity of the original ore.

1.83 In Australia, tailings are stockpiled and the run-off stored on the mine site in large dams. Ranger mine has so far produced over 30 million tonnes of radioactive tailing waste. Olympic Dam has produced over 60 million tonnes, growing at 10 million tonnes annually. There have been many recorded leaks from tailings dams at Australia's existing mines. In 2002 a Democrats initiated and chaired Senate inquiry examined the regulation, monitoring and reporting of environmental

[35] Mr Peter Morris, Minerals Council, *Transcript of Evidence*, 16 October 2006, p.2.

impacts at Ranger and Beverly mines in response to numerous leaks and spills. The majory report of that inquiry concluded that changes were necessary in order to protect the environment and its inhabitants from serious or irreversible damage. Despite the report, questions about the long-term management of toxic tailing waste remain.

1.84 Uranium enrichment also produces a massive amount of chemical waste. Every tonne of natural uranium mined and enriched for use in a nuclear reactor produces about 130 kg of enriched fuel, leaving 870 kg of waste. The bulk (96%) of this waste is depleted uranium (DU), for which there are few applications; the United States Department of Energy alone has 470,000 tonnes in store. There is about 1.2 million tonnes of DU now stored around the world.

1.85 A typical power plant produces 25-30 tonnes of spent fuel annually. About 12,000 to 14,000 tonnes of spent fuel are produced by power reactors worldwide. This waste is radioactive for hundreds and thousands of years.

1.86 ACF noted that the agreement between China and Australia does not include any information or agreement on how China manages its nuclear waste.

> It is also known that China is planning to use, or may already use, deep well injection to dispose of liquid radioactive waste. Yet, according to the School of Engineering at Vanderbilt University:
>
> *"There are large uncertainties in our knowledge of the behaviour of liquid wastes in geological strata, and as a result there is a potential for migration of substances from the place of its disposal to the accessible environment."*
>
> China's injection of nuclear waste into geological strata adds to the dilemma posed by the nuclear industry's overall waste management problems. Disposal of nuclear waste in this way creates difficulties into the future both for production of food safe for human consumption and for water supply/resources.[36]

1.87 There is concern that China would consider using untested and highly risky technology to dispose of a deadly form of waste.

[36] *WILPF, Submission 29, p.4.*

1.88 ASNO in its submission to the Committee noted that China had recently joined the *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*, and therefore will be subject to international scrutiny.

1.89 The Democrats argue that until China develops an internationally acceptable waste management plan that Australia should not sell uranium to China.

1.90 The nuclear cycle also uses a lot of water. Australia is one of the driest continents on earth, and scientists predict that because of climate change our rainfall will decrease by 15%. Uranium mining uses a large quantity of water. Olympic Dam uranium mine in one of the driest parts of Australia extracts over 30 million litres of water from the Great Artesian Basin which has an adverse impact on the fragile mound springs. Expanding uranium mining will place an extra burden on our already fragile water resources.

1.91 The negative environmental impact of the nuclear cycle, whether it is here in Australia, Chian or else where in the world, cannot be uncoupled from Australia's decision to contribute to its creation by expanding mining and export.

Economic case

1.92 The Committee report argues in its conclusions that the sale of uranium to China will provide economic benefits to Australia. As the Committee report notes, ASNO told the committee that it is estimated an additional $250 million per annum could be derived from sale of uranium to China.

1.93 The Committee report also noted the evidence provided by Friends of the Earth, ACF, MAPW and ANAWA that the export value of uranium to China is equivalent to only 0.33 per cent of the value of current Australian exports to China in 2005.

1.94 Mr Noonan from ACF told the committee that compared to a recent renewable energy sale to China, the value of uranium exports is small:

> If you are looking at Australia's national interests—and there has been a focus, without disrespect, on economic and trade matters in this uranium sales proposal—ASNO made clear to you that the value of Australian uranium exports to China might be some $250 million a year by 2020. A company from

> Tasmania—the Roaring Forties—has recently sold three wind farms to China valued at $300 million. That is one renewable sale worth more than the maximum in accrued uranium sales to China that may be realised within 15 years. If the Australian community, the commercial world and government, with respect, gave fulsome support to the renewables industry, we could be gaining far greater access to the Chinese market—the 15 per cent mandatory renewable energy renewables market—and far greater innovation, job creation and export value for Australia than ever can be realised at the maximum extent of the nuclear power expansion there through uranium sales.[37]

1.95 Labor MP, Mr Wilkie, appeared to argue that Mr Noonan's argument was a false choice when both uranium and renewable export can be had. The Democrats agree with Mr Noonan's response that renewable energy is clean and sustainable and does not contribute to unresolved nuclear hazards and weapons proliferation:

> One is sustainable and we can have confidence in it and the other brings serious and unresolved nuclear hazards.[38]

1.96 I agree with the views expressed by environment and nuclear groups, highlighted in the majority Committee report, that "for such a small return, Australia was risking the misuse of its uranium (namely weapons manufacture) and contributing to the environmental and social problems associated with nuclear waste management".

1.97 I agree that in the case of uranium the risks (security, social and environmental) clearly outweigh any economic benefit.

Conclusion

1.98 The evidence presented to the committee as outlined in this report has led me to a different conclusion to other Committee members.

[37] Mr David Noonan, Transcript Evidence, 5 October 2006, p.8.

[38] Mr David Noonan, Transcript Evidence, 5 October 2006, p.8.

1.99 I remain concerned that the international safeguards remain flawed and there appears to be little political will to address the issues. I agree with the sentiments reflected by ACF and MAPW that:

> There is much that could be done to improve the international safeguards system, however its fundamental flaws and the pervasive interconnections between the civil and military applications of nuclear technologies and materials mean that the most prudent and responsible position is to phase out the mining and export of uranium.[39]

1.100 The Democrats believe that nuclear industry is not necessary, it poses unacceptable proliferation, security and health risks, and there is no solution to the intractable waste problem.

1.101 If Australia is concerned about how China will meet its increasing energy needs, the Government should be doing more to promote gas and renewable energy. Renewable energy is cleaner, safer, sustainable, does not lead to nuclear weapons proliferation and does not leave behind an environmental legacy.

1.102 I am concerned that, while the Committee report suggests that the Government should promote renewable energy, it does not include this in its recommendations, whilst including a recommendation to investigate Thorium reactors.

Recommendations:

9 In recognition that the global nuclear industry is contrary to the principals of sustainability, the Democrats call for a phase out of the nuclear industry including Australian uranium mining and exports; and

10 That significantly increased resources and Government support be directed to research and development into alternative, safe, clean, renewable energy resources of energy.

[39] An Illusion of Protection, ACF and MAPW, p. 5.

Senator Andrew Bartlett

Australian Democrats