



**Australian Government**

**Australian Safeguards and Non-Proliferation Office**

29 September 2006

Dr Andrew Southcott MP  
Chair  
Joint Standing Committee on Treaties  
Parliament House  
CANBERRA ACT 2600

Dear Dr Southcott,

On Monday 4 September 2006, I along with colleagues from the Department of Foreign Affairs and Trade (DFAT) and the Australian Nuclear Science and Technology Organisation (ANSTO) appeared before the Joint Standing Committee on Treaties (JSCOT) in relation to the Australia-China nuclear safeguards agreements. At the close of proceedings the Deputy Chair, Mr Kim Wilkie MP, handed over a series of questions from the Australian Conservation Foundation (ACF). Attached is the joint ASNO/DFAT response to these questions.

During the hearing the Committee asked about the size of Australia's funding contribution to the International Atomic Energy Agency. I gave an off-the-cuff answer of around \$5 to 6 million. I wish to take this opportunity to provide the Committee with an exact figure: Australia is the 10<sup>th</sup>-largest contributor to the IAEA's Regular Budget. In 2005 Australia's contribution, assessed in accordance with the IAEA's funding schedule, was \$US 4.135 million. In addition, Australia made a voluntary contribution of \$US 1.505 million to the IAEA's Technical Cooperation Fund. At current exchange rates these amounts were approximately \$A 5.5 million and \$A 2.0 million respectively, or a total of \$A 7.5 million.

Yours sincerely

A handwritten signature in black ink that reads 'John Carlson'. The signature is written in a cursive, flowing style.

John Carlson  
Director General

**Australia-China nuclear agreements – JSCOT hearing 4 September 2006**  
**Response to questions from ACF raised on notice by Mr Kim Wilkie MP**

*Q.1: Does DFAT & ASNO claim a separation of military and so called civilian nuclear facilities in the Chinese nuclear industry, if so please explain the manner and extent of this separation, and why is it that only 3 nuclear facilities in China are listed as covered under the IAEA's VOL ?*

IAEA safeguards in China are applied on the same basis as in other nuclear-weapon states (NWS). A NWS may include any civil facility in a list of facilities eligible for IAEA inspection. There is no obligation to include all civil facilities in this list. The IAEA is entitled to select any facility(ies) from this list for the conduct of inspections – it is up to the IAEA to decide which facilities it will inspect in a given year.

It is not correct to suggest that China has offered only three facilities for the application of safeguards under its safeguards agreement with the IAEA. The belief this is the case might be based on a misunderstanding of the IAEA's 2005 Annual Report, which shows that the IAEA carried out safeguards inspections at three facilities in China in that year. In fact to date China has offered more than 10 facilities for IAEA inspection – see following response.

*Q.2: How can DFAT/ASNO guarantee that all Chinese facilities where AONM (Aust Obligated Nuclear Materials) are held will in future be covered by IAEA safeguards, and what is the schedule of proposed application of the IAEA VOL to other facilities in China, and which are these facilities?*

Before any nuclear facility in China can be eligible to use, process or store Australian Obligated Nuclear Material (AONM) it must be included in the list of facilities eligible for IAEA safeguards, and must also be included on the Delineated Nuclear Fuel Cycle (“Capsule”) agreed between the Australian Safeguards and Non-Proliferation Office (ASNO) and the China Atomic Energy Authority (CAEA), in accordance with Annex B of the Nuclear Material Transfer Agreement. Neither party can unilaterally add or remove a facility from the Capsule.

The facilities that China has offered for the application of IAEA safeguards include French/UK, Canadian and indigenous power reactors, a research reactor and two enrichment facilities. Australia has no information on China's plans to add to these facilities.

*Q3: A facility listed under an IAEA VOL is supposed to be covered by a "Subsidiary Arrangement" (SA) which in practice and in detail enact the IAEA VOL, why is it that in China not all of the 3 listed facilities have SA, on what basis can DFAT/ASNO guarantee that all facilities where AONM will be held will also have due IAEA SA coverage in place?*

This question appears to be based on a misunderstanding about the way subsidiary arrangements (SAs) operate. SAs are concluded for the state as a whole, and relevant parts of the SAs are applied to specific facilities through Facility Attachments (FAs). FAs set out procedural matters relating to the day-to-day application of safeguards at a specific facility. These are detailed documents and often take some time to finalise. Safeguards procedures are not dependent on the conclusion of FAs and are commonly applied in the absence of FAs.

*Q4: What arrangements, process and capacity does DFAT/ASNO have to credibly respond to the scenario that China (or any other country) we export uranium to may in future in part withdraw facilities or nuclear materials including AONM from IAEA safeguards ?*

As explained in the response to Q2 above, facilities cannot be unilaterally withdrawn from the Capsule – which effectively means they cannot be unilaterally withdrawn from the eligible facilities list. To unilaterally remove a facility from the list or remove AONM from safeguards would constitute a breach of the Agreement.

Article XIII of the Nuclear Material Transfer Agreement sets out robust dispute resolution arrangements, which could be used in the event of a breach of the Agreement. Also, were a breach to take place, Australia has the right to suspend further transfers.

*Q5: How does DFAT/ASNO propose to provide verification arrangements in China?*

This question was addressed in detail during the JSCOT Hearing of 4 September 2006, namely pages TR 27 and TR 30-31. In short, all facilities using AONM must be on China's voluntary offer list with the IAEA. Therefore, the IAEA is entitled to inspect any of these facilities and to carry out the full range of inspection procedures.

*Q6: How would DFAT/ASNO provide verification arrangements in China (or in any other country) in the full or partial absence of IAEA safeguards?*

This is covered by Article VII of the Nuclear Material Transfer Agreement. In the event that IAEA safeguards ceased to apply in China, the Parties are to arrange for the application of safeguards which conform with IAEA safeguards principles and procedures and provide equivalent reassurance. A similar provision is contained in all of Australia's bilateral safeguards agreements.

### **IAEA Additional Protocols:**

*Q7: Why are the Additional Protocols of such limited application in China?*

*Q8: Why does the AP only apply at listed sites in China, and so far to only 3 sites?*

Each state concluding an Additional Protocol (AP) with the IAEA concludes only one such protocol, not a number as the question implies. It is not correct that China's AP applies only to "listed sites" and "so far only three sites".

Non-nuclear-weapon states (NNWS) party to the NPT are obliged to place all their nuclear material and activities under safeguards. The AP is primarily intended to strengthen the IAEA's capability to detect any nuclear material or activities outside safeguards. By definition, a nuclear-weapon state (NWS) has some nuclear material and activities outside safeguards.

NWS determine what they will include in the coverage of their AP. The principal benefit to the IAEA of NWS APs is with respect to information on nuclear transfers to and cooperation with NNWS, which can assist the IAEA with safeguards implementation in NNWS. China has included these matters in its AP.

*Q9: How does this restriction affect IAEA and DFAT/ASNO capabilities to provide assurance against potential diversion of AONM in China, in comparison to in other countries where the AP has full mandatory application?*

There is no adverse effect - as outlined above, the AP is primarily concerned with possible undeclared material/activities, not detection of diversion of declared nuclear material, which is covered by “traditional” safeguards.

**Aspects of the Australian bilateral agreement:**

*Q10: In the absence of IAEA safeguards coverage of Aust uranium in the Chinese uranium conversion facility why should Aust be assured that AONM can not be processed and diverted as fuel for Chinese military and/or research reactors or for potential direct use in a resumed Chinese nuclear weapons program ?*

This question was covered in the opening address by Mr Carlson during the JSCOT Hearing of 4 September 2006 (page TR 21), and in subsequent discussion.

Under traditional IAEA practice, conversion facilities are before the “starting point” for safeguards inspection procedures. Furthermore, as safeguards do not apply to “atoms”, there is no way of identifying individual atoms as being “Australian”. As soon as uranium from Australia is mixed with uranium from other sources in conversion and other processes, its “national identity” is lost, and the principles of equivalence and proportionality apply to determine which batches of nuclear material are identified as being subject to the Agreement.

The Nuclear Transfer Agreement requires that on receipt of Australian uranium in China, an equivalent quantity of uranium in the form of uranium hexafluoride will be added to the inventory of a facility designated for safeguards – e.g. an enrichment plant. The practical effect will be exactly the same as if the uranium had been tracked through the conversion plant.

*Q11: The Aust bilateral agreement is to enacted in practice through "Administrative Arrangements" (AA) decided on jointly by Aust & China, given that these AA are fundamental to any implementation of and confidence in an Aust bilateral agreement, why are these AA kept secret by DFAT/ASNO ?*

*Q12: At what stage and schedule is the preparation of the AA up to?*

*Q13: Will DFAT/ASNO provide the JSCT with the AA and release them for public and Parliamentary scrutiny? If not why not?*

Questions 11 – 13 were addressed during the JSCOT Hearing of 4 September 2006 (see pages TR 22-24). In short, under all of Australia’s bilateral agreements Administrative Arrangements are less-than-treaty-level, establishing working-level arrangements between ASNO and its counterpart in the country concerned (in this case, the China Atomic Energy Authority).

In accordance with long-standing practice, at the request of a number of ASNO’s counterparts, Administrative Arrangements are treated as being confidential between the parties. An outline of the contents of Administrative Arrangements was handed to the Committee at the hearing of 4 September.

The Australia/China Administrative Arrangement is largely settled, and it is expected this will be concluded in the next couple of months.

*Q14: What does DFAT/ASNO see as the potential limitations of the application of the concept of equivalence to AONM, in contrast to a literal and direct safeguarding of actual Australian nuclear materials overseas?*

As explained to the Committee on 4 September, the principle of equivalence is required because in some processes nuclear material from a variety of sources is mixed – there is no way of identifying “national atoms”.

### **Australian Government influence with China:**

*Q15: Why is the proposed sale of Aust uranium to China not being used to influence China to advance its safeguards and positioning on international nuclear issues?*

Australia maintains a regular dialogue with China on arms control and non-proliferation issues. The safeguards agreements with China will provide further impetus to develop this dialogue.

The agreements support the objective of promoting the application of best practice nuclear safeguards and security in China. They provide the basis for coverage of a substantial proportion of nuclear material in use in China by Australia’s strict nuclear safeguards and security requirements. More generally, adding China to Australia’s network of bilateral safeguards partners provides the basis for a substantial increase in the proportion of nuclear material in international use that is covered by Australia’s strict safeguards requirements.

*Q16: What potential, if any, does DFAT/ASNO see to influence China, potentially as a pre-condition on uranium sales, to accept and to do the following?*

- *to Ratify the CTBT, close nuclear weapons testing facilities, and provide independent verification of this compliance;*
- *to commit to a permanent and verifiable end to fissile materials production for nuclear weapons;*
- *to comply with its NPT commitments to nuclear disarmament;*
- *to accept mandatory and permanent application of full scope IAEA safeguards to China;*
- *and to accept full application of the IAEA Additional Protocols in and across China.*

Australia continues to urge China to ratify the CTBT. China has stated that pending CTBT entry into force it will continue to observe its moratorium on nuclear testing.

Open sources suggest that China ceased production of fissile material for nuclear weapons some years ago. China has stated that it supports negotiation of a Fissile Material Cut-off Treaty (FMCT). Pending an agreement on an FMCT, Australia has urged China to announce a moratorium on the production of fissile material for nuclear weapons.

There has been no finding by NPT Parties at NPT Review Conferences that China is not complying with its NPT nuclear disarmament commitments. Australia continues to make clear that we expect all NWS to pursue their NPT nuclear disarmament commitments vigorously and with determination.

Comprehensive (also known as full scope) safeguards do not apply to NWS.

China was the first NWS to bring an Additional Protocol (AP) into force (in 2002). China’s AP meets IAEA requirements for NWS APs.

**China's record:**

*Q17: It is widely discussed that China has in the past transferred nuclear know how and materials including design for nuclear weapons to other countries, in particular to Pakistan, what knowledge of this does DFAT/ASNO have ?*

This question was addressed during the JSCOT Hearing of 4 September 2006 (see page TR 35). Also see the answer to Question 18 below. In short, there have been concerns about China's non-proliferation record in the past, but since joining the NPT in 1992, China has moved steadily to improve its practices. China now has in place the policy and export control framework needed to implement its non-proliferation commitments.

*Q18: How recent are any discussed or alleged potential breaches by China, or by Chinese companies and entities, of the letter and of the spirit of the NPT, and of any potential involvement in the nuclear black market?*

It was not until China joined the NPT in 1992 that it became obligated under Article I of the Treaty not in any way to assist any NNWS to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices. Similarly, it was not until China joined the Nuclear Suppliers Group (NSG) in 2004 that it was obligated by NSG guidelines to engage in new nuclear supply to NNWS only when the receiving state has in place IAEA full scope safeguards.

There have been no findings by the IAEA or NPT Parties at NPT Review Conferences of non-compliance by China with its NPT obligations including its IAEA safeguards obligations, or by NSG members that China has not complied with NSG guidelines.

The Australian Government is confident that China takes seriously its obligations under the NPT and membership of the nuclear export control regimes. China has strengthened its domestic controls on the export of WMD-related items. Australia has welcomed an increased focus by China on investing in export control enforcement capabilities and undertaking outreach to industry to raise awareness of proliferation risks.

*Q19: What knowledge does DFAT/ASNO have of actual or potential breaches by China of the spirit and of the letter of other international and bilateral treaties and agreements? Including for instance on trade issues, human rights, labour rights, press freedom etc.*

The Australian Government is confident that the Chinese Government takes seriously its obligations to comply with treaty-level agreements.

*Q20: This proposed Aust bilateral agreement for uranium sales to China is precedent as the first with a clearly undemocratic and unaccountable government (the Russian bilateral does not allow for processing of AONM in Russia).*

It is not correct to state that the Australia-Russia agreement does not allow for processing of AONM in Russia – the agreement was concluded specifically for the processing of AONM in Russia.

Australia did not set a precedent in concluding a safeguards agreement with China. Other countries which have already concluded nuclear cooperation agreements with China include Argentina, Belgium, Canada, France, Germany, Japan, Republic of Korea, the United Kingdom and the United States.

*Q21: What difference does DFAT/ASNO consider this may make to the required level of confidence and judgement in China complying with the peaceful use intent of the bilateral, and in the required level of transparency, independent verification, and accountability on which such aspirations may depend ?*

See answers to questions 19 and 20.

*Q22: What information can DFAT/ASNO provide on standards, practices and plans for nuclear waste management in China, including as to how this will apply to AONM ?*

China has recently joined the *Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management* and therefore its waste practices and policies will become subject to international scrutiny.

China's nuclear waste management program takes into account its entire fuel cycle mix and nuclear fuel inventory from all sources. It is not required to manage waste or spent fuel from AONM any differently from that of other origins so long as AONM is dealt with in accordance with the Nuclear Material Transfer Agreement and IAEA safeguards.

#### Spent Nuclear Fuel Storage

China has constructed a centralised store for civil spent fuel (SF) in Lanzhou Nuclear Fuel Complex. This store started operation in 1994 with an initial capacity of 550 tonnes.

#### Reprocessing

China has a growing inventory of spent fuel associated with its ongoing and planned expansion of nuclear power. Projections indicate that 12,300 tonnes of SF will be generated by 2020. China proposes a policy of commercial fuel reprocessing to recycle the fissile content of these large quantities of spent fuel.

In around 1998, construction of a pilot civil reprocessing plant began in the Lanzhou Nuclear Complex, i.e. at the same site as the centralised SF store. This plant has a planned capacity of 50 tonnes SF per year. In addition to this plant, a larger reprocessing plant with a capacity of up to 800 tonnes of SF per year is planned to be constructed by 2020 at the same site.

Annex C of the Nuclear Material Transfer Agreement outlines the arrangements under which reprocessing of AONM may take place.

#### Waste Repositories

China has full-scale sites for the disposal of low level waste and intermediate level waste operating in the northwest of China at Bailong and in Guangxi in the autonomous area of south China.

China plans to vitrify high-level waste (HLW) arising from reprocessing and to dispose of this HLW in a geological repository at a depth of 500 metres. The candidate site at Beishan, located in the Gobi Desert, was selected in a process that began in 1986 by considering 21 different districts in China. This site is currently being further assessed, and it is expected that licensing will start in 2020 with operation to begin around 2040.