

# THE UK'S ROLE IN NUCLEAR NON-PROLIFERATION: EXPORT AND TRADE ACTIVITIES

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The vision of future in earlier speeches is good but for the near term we will be using fission reactors fuelled by Uranium or MOX.

What's the problem with this? In a word "proliferation" - the danger of a growth in nuclear weapons.

Here are some recent pages from the BBC News web site. But you will have seen similar ones over the past few years if you have picked up any newspaper. This report was stimulated by the "outing" of A. Q. Khan, the "father" of the Pakistan bomb. You may recall he was accused of offering a "one-stop shop" for nuclear weapons technology.

N. Korea – this was from late last year. As of last week, we may have more positive developments – but will they last?

And Iran – still defiant despite two UN Security Council resolutions, numerous IAEA reports casting doubts on their activities, and a 20 year history of hidden nuclear research.

The conclusion from this is that we need to be as vigilant as ever.

We need to prevent fissionable material, which is essential for civil nuclear power getting into unlawful hands and restrict access to weapons knowledge.

This has been recognised for a long time, but there is now added impetus because of the actions of some rogue states, the growth in sophistication of terrorists, and the spread of industrial development and knowledge through the world.

So what is happening to restrain the proliferation of nuclear weapons?

The cornerstone of the international non-proliferation regime is the Nuclear non-Proliferation Treaty – or NPT. It entered into force on 5 March 1970, at the height of the Cold War, and has since grown to become the most universal of all international treaties. Only three states are not members - India, Pakistan and Israel

It is at the core of a range of other agreements, frameworks and standards - all of which draw their fundamental purpose from the NPT.

I will cover three elements of these today

- Safeguards
- Trade Controls
- Physical Protection

But first let's have a brief look at the NPT itself

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The NPT is an example of a "Grand Bargain" - everyone who signs up to it gets something out of it in return for abiding by its constraints. Nuclear Weapons states are recognised as such, and benefit by having a cap on the number of other countries that can legitimately possess these weapons. In return they must not spread that knowledge while helping others exploit peaceful uses of nuclear technology, and make progress on disarmament.

Non-Nuclear Weapon States, get the benefit of peaceful nuclear technology from the advanced states, while being banned from either developing nuclear weapons capabilities themselves or obtaining that technology from others. Everyone benefits in increased confidence by having their peaceful applications of the technology open to inspection

This is where Nuclear Safeguards come into play. The International Atomic Energy Agency (IAEA) is responsible for the international application and development of Safeguards. These are measures that allow the IAEA to verify that states do not divert nuclear material (uranium, plutonium or thorium) from peaceful uses. Each state that signs the NPT is expected, under Article III, to enter into an agreement with the IAEA which allows the IAEA to receive reports and inspect the use of nuclear material in that state. The NPT recognises two types of states, Nuclear Weapons States and Non-Nuclear Weapons States. In addition the IAEA acknowledges that some states have well advanced civil nuclear activities and some having very little. For these reasons there are different types of Safeguards Agreement. The main one, though, goes under the name of InfCirc 153<sup>1</sup> – the so-called “Comprehensive Safeguards Agreement”, and is the one most countries have in place.

The UK is one of the five official nuclear weapons states and therefore has a different agreement with the IAEA. Ours is a "voluntary agreement" which means we are allowed to specify which places the IAEA can have access to - so called "designated sites". In fact UK goes a long way beyond that and allows the IAEA to inspect any site other than a very few that are concerned with our nuclear deterrent.

As the IAEA agreement is voluntary, the IAEA can choose not to inspect our sites, and in fact it concentrates its effort on only those sites where diversion of material is easiest - the enrichment and reprocessing plants. However, UK is also a member of the European Union and therefore a signatory to the Euratom Treaty. This dates back to 1957 and was one of the fundamental post-war European treaties at the heart of the then free-trade community. While its primary purpose was to encourage the growth of civil nuclear energy in Europe, it contains extensive Safeguards provisions to which UK, like all other European States, is legal bound. In UK therefore our nuclear sites can, and are, inspected by both IAEA and the European Commission, and we need to report to them all activities that make use of nuclear material - however small. In a typical year, UK operators provide thousands of reports to both bodies and there are hundreds of inspections designed to verify the information provided.

The UK goes further though. We are one of the few states that openly publish our stocks of nuclear material, and provide information on the quality control of our nuclear materials accountancy. Our expertise in Nuclear Safeguards is widely

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<sup>1</sup> InfCirc's are IAEA Information Circulars that are issued to Member States. They are available for reference on the IAEA Web site <http://www.iaea.org>

respected and we are one of the states that works closely with the IAEA to develop safeguards techniques.

The First Gulf War in 1990/91 and its aftermath, showed that states could circumvent the Comprehensive Safeguards Agreement. This is because the IAEA is reliant on the State providing information on its use of nuclear material, including the locations, and it is only these locations that the IAEA can inspect. As we all now know, Iraq had been engaged in a clandestine nuclear weapons programme in the 1970s and 80s, but until the UN were allowed to roam wherever they wanted, post the Gulf war, the IAEA had no knowledge of it. For that reason, the Additional Protocol was developed. This is "Additional" to Comprehensive Safeguards and allows the IAEA to inspect anywhere it has reason to believe there is something suspicious. In order to allow it to focus attention on where to inspect, the Protocol requires all states who sign up, to provide the IAEA with extensive information on equipment and material it import or exports, and any research that is undertaking. Not all states by any means have signed up and there are some notable exceptions that are cause for concern.

Export control has its foundations in articles I and II of the NPT - the ones that preclude NNWS for getting access to weapons-usable materials, and Article III on safeguards. Two bodies have been established to oversee this - the Zangger Committee and the Nuclear Suppliers Group (NSG).

Zangger was established immediately after the NPT entered into force to look at the application of the conditions in article III of the NPT. This says that equipment or material used to process special nuclear material may only be exported if the recipient state applies safeguards. Thus, depending on what equipment or materials is being exported - this may "trigger" the need for safeguards. This is the origin of the Trigger list. The list is published by the IAEA as InfCirc 209 and subject the occasional updates to keep it in step with technology developments.

The NSG has a slightly different origin. It was established following the nuclear explosion in 1974 by a non-nuclear weapons state - India - which showed that nuclear technology transferred for peaceful use can be misused. It initially used the Zangger trigger list as its basis but, in 1991 following the revelations about the Iraqi weapons program, the Group extended the range of equipment and materials to cover those that can be used for either peaceful or military uses. This "Dual-Use" technology is controlled by members of the NSG who need to convince themselves that it is not going to be misused, and they may require the receiving government to provide a written assurance about its ultimate use.

The countries that are members of Zangger and NSG are now virtually identical and the reason for having two bodies is now in question. However, as in all things concerned with international nuclear treaties, actions are slow and it is likely that both bodies will remain in existence for some time. It is the NSG, though, that is the most active of the two.

The UK is a member of both bodies and we implement the provisions through our national export control legislation, which the DTI Export Control Office administers. Like other members, we require any sensitive equipment to have a license before it

can be exported and HMRC will enforce this at the ports. Criminal action can be brought against anyone caught breaching these regulations.

The third arm in controlling the availability of sensitive nuclear technology, is physical security.

All nuclear sites throughout the world are expected to have adequate measures to prevent the unlawful access or taking of nuclear material. This covers more than just physical protection – the systems are designed to prevent theft or sabotage of nuclear material at sites, or in transit, and to protect sensitive nuclear information. In practice, this covers site security, transport security, information security and personnel security vetting.

The Guidelines are set by the IAEA, – in a similar way to those for nuclear safety - and we follow them fully.

The IAEA has access to experts drawn from throughout the world, including the UK, to help it establish these guidelines, and to undertake exercises to peer review the measures that member states are adopting.

For the less developed states, the IAEA can also provide funding and access to advice and training to help states establish better security measures.

In the UK, nuclear security is the responsibility of the Office of Civil Nuclear Security. OCNS provide advice to nuclear site licensees on the protection measures they should adopt. They work with the civil nuclear constabulary who patrolling our sites, and also work with government vetting agencies to check that only suitably cleared staff are employed by nuclear operators. Finally, they oversee UK nuclear operators to audit their systems.

So I've now described what the NPT is about and how we implement Safeguards, Export Control and Nuclear Security. But these systems are never complete and we are always looking for and addressing the weaknesses.

I'll briefly describe four areas. The first was highlighted by the IAEA Director General, Mohammed El Baradei, who, when talking about the nuclear fuel cycles, said “In recent years the nuclear non-proliferation regime has come under increasing strain owing to the growth in both the supply of and demand for proliferation sensitive technology and the production and availability of nuclear materials“. The challenge therefore is how to make sure international competitive nuclear fuel market can assure supplies and so avoid countries feeling they need to invest in the proliferation-sensitive, enrichment and reprocessing technology. The IAEA DG established an Expert Group to consider this and their conclusions were published in InfCirc 640. Since this report was published two years ago, there has been some progress but there is still a long way to go and some have concerns over the restrictions that it implies – especially its impact on the “grand bargain” of the NPT.

The second weakness was highlighted by the chaos that followed the break up of the Soviet Union. The international community were concerned that with the withdrawal of Soviet oversight, much of the extensive nuclear material distributed throughout

those countries was no longer being properly protected. Consequently, there are now international efforts through the Global Partnership on Threat Reduction to bring all nuclear material under control. It is a true partnership, working with the Russian Federation and the Newly Independent States, to work out how best to address this legacy – they get access to western technology and advice and we reduce the threat posed by the material getting into the wrong hands.

That brings me to the threat posed by terrorism. We are not aware of any terrorist group currently having ready access to the technology and material to build a nuclear weapon. But we are certain that some would like to do so, or alternatively get their hands on sufficient radioactive material to make a radiological bomb. The IAEA and the international community are alive to this threat and there are a considerable number of activities which aim to make sure this doesn't happen. Obviously, I can't go into detail, but one initiative is worth highlighting – the passing unanimously by the UN Security Council of Resolution 1540. This provides a benchmark by which states will be assessed and covers all the nuclear control mechanisms I have described, along with the equivalent threats posed by chemical and biological weapons and means of delivering them. It is still early days on that activity, but there has been a surprisingly widespread body of support from the international community for work to carry forward both the benchmarking and improvement actions it will identify. As always though, it will not be sufficient to stay where we are, we need to remain one step ahead of the bad guys.

Finally, there is the possibility of states withdrawing from the NPT. This right is written into the Treaty but only North Korea has attempted to do this and we have seen the ramifications of this. Even so, there is pressure to make withdrawal more difficult so that such a step would be unthinkable for any right minded state.

So finally, what does all this mean about New Nuclear Build?

Unlike the last big expansion in the 1960s, we now have a mature framework of control measures that are applied, with international institutions behind them to see that they are enforced. International Safeguards, Export Control exist, are robust but must have political and financial backing, and be subject to continuous improvement to meet the evolving threats.

Security in UK is well developed and conforms to or exceeds international standards. If a terrorist group wanted to get hold of nuclear material there are easier places they could focus on than UK. This is not to say we are complacent – UK security will continue to be developed and improved as the threats change.

Any new build in the UK will conform to these security standards otherwise they will not be licensed. In addition, exchanges of information and materials will be licensed by the exporting country, all of whom are members of the NSG. Any civil nuclear facilities in the UK – new or old - will continue to be subject to inspection by the IAEA and European Commission.

Finally, the UK not alone in considering new build. Every day it seems that some other state is announcing studies into the possibility of nuclear forming a part of their energy mix. I hope I have shown that the international community, through the IAEA

and other bodies, will continue to ensure that these activities conform to the provisions of the Nuclear Non-Proliferation Treaty – and the UK will be in there providing what assistance we can not just for altruistic reasons, but for our own protection and the rest of the world.

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