



## How India and the United Kingdom can cooperate on nuclear and radiological security

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### **Summary**

In the era of the resurgence of nuclear power and growing threat of nuclear terrorism, there is an urgent need to build a strong global nuclear security regime. India and the United Kingdom, as nuclear weapons states, have much to gain from, and much to contribute to, a strengthened regime for nuclear and radiological security. Both countries must confront the threat of Islamist terrorist groups that are eager to inflict mass civilian casualties. Given the high priority accorded by both governments to the issue of nuclear security, and their respective calls for greater and more coordinated international action in this area, this paper examines the diplomatic, practical and technical ways in which India and the United Kingdom could potentially cooperate in pushing forward the nuclear and radiological security agenda, both bilaterally and multilaterally. It is observed that nuclear security is an area of opportunity for India and the UK to lend their diplomatic and technical leadership to address a common global threat. In addition, it is also felt that nuclear security would provide a way to overcome the divergent approaches on nuclear issues that have hitherto impeded collaboration.

Given the resurgence of nuclear power and the concurrent threat of nuclear terrorism, there has never been a greater need to build a strong global nuclear security regime. The nuclear security summit to be hosted by US President Obama on 12-13 April with participation by nearly four dozen world leaders, including Indian Prime Minister Dr. Manmohan Singh and British Prime Minister Gordon Brown, will give unprecedented attention to the goal and to the need for a global action plan. As leading nuclear states, India and the United Kingdom have much to gain from, and much to contribute to, a strengthened regime for nuclear and radiological security. Indeed, nuclear security offers a unique framework in which the two countries can collectively exercise leadership in the nuclear realm, incorporating principles of non-discrimination and respect for sovereignty.

Nuclear security can be defined as measures taken to prevent terrorists from damaging a nuclear facility, acquiring a functional nuclear weapon or stealing the fissile material required for the manufacture of an improvised nuclear device. The successful detonation of a nuclear device in a major city could result in the death of hundreds of thousands of civilians. In addition, the security reaction could lead to a catastrophic disruption of global trade flows, and the political aftershocks could include strong demands for military action against the perpetrators of the attack - including those countries involved in the supply chain for the weapon or materials used - both for retaliatory purposes and to prevent further such events from occurring. An attack on a nuclear facility could result in the release and dispersal of hazardous materials, contaminating large areas. Such an incident could even render the promotion of nuclear energy politically unfeasible for generations, if not for good.

Radiological materials incorporated into a dispersal or emission device present a much smaller potential for mass casualties. Indeed, the term 'weapons of mass disruption' has been coined to describe the primarily economic and psychological effects likely to be associated with their use. However, radioactive sources are frequently utilised in the industrial and medical sectors, and are therefore more readily obtainable than nuclear materials. Such devices are also much easier to construct than a workable nuclear explosive device.

India and the United Kingdom have a strong shared interest in promoting global nuclear and radiological security norms. They both have mature nuclear industries with full mastery of the nuclear fuel-cycle technologies. Both are moving forward with plans to develop new nuclear power plants, the economic viability of which would be damaged by nuclear terrorism anywhere in the world. India is now integrated into international nuclear energy markets and has demonstrated its non-proliferation credentials. The United Kingdom has been a strong supporter of efforts to promote civil nuclear cooperation with India, and the two countries recently signed a bilateral cooperation agreement.

India and the UK also face similar terrorist threats. Both must confront the threat of Islamist terrorist groups, frequently originating or obtaining guidance from Pakistan, that are

eager to inflict mass civilian casualties. It is generally assumed that such groups would not hesitate to use nuclear or radiological materials if they were available.

Statements by Indian and British officials over the past year have made clear that both countries share the perspective that nuclear and radiological security must be accorded the highest priority in terms of countering proliferation, terrorism and the potential nexus of the two phenomena. In *The Road to 2010* policy document published in July 2009 the British government noted that 'the global spread of nuclear power and advances in nuclear technology mean that nuclear security is a vital fourth pillar of any strengthened nuclear regime. We need to act now to prevent terrorist groups gaining access to nuclear devices. If we do not act now these threats will grow as the use of nuclear power expands globally'. *The Road to 2010* further emphasized that 'global cooperation is the key to tackling nuclear security successfully' and that this 'requires concerted international action, in which the United Kingdom will play a leading role'.<sup>1</sup>

Similarly, senior Indian officials have underlined their concerns in this area and the requirement for urgent international action. Prime Minister Manmohan Singh told a nuclear energy conference on 29 September 2009 that 'we support strengthening the international efforts in improving nuclear security and in this context, welcome President Obama's timely initiative to hold a global summit on nuclear security in 2010'.<sup>2</sup> On 22 February 2010 Foreign Secretary Nirupama Rao noted at the MEA-IISS Dialogue in London that, 'the challenges of nuclear terrorism and nuclear security have to be addressed...We are naturally concerned about the possibility of nuclear terrorism...We believe that the Nuclear Security Summit in April 2010 hosted by President Obama will be an important milestone in our efforts to build international cooperation to prevent nuclear terrorism'.<sup>3</sup>

Given the high priority accorded by both the Indian and British governments to the issue of nuclear security, and their respective calls for greater and more coordinated international action in this area, it is appropriate to highlight some areas in which the two countries could potentially cooperate in pushing forward the nuclear and radiological security agenda, both bilaterally and multilaterally. As well as strengthening the emerging global nuclear and radiological security frameworks, such cooperation could have other positive

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<sup>1</sup> Cabinet Office, *The Road to 2010: addressing the nuclear question in the twenty-first century*, July 2009, Cm 7675.

<sup>2</sup> 'Nuclear Terrorism a challenge, nonproliferation regime hasn't succeeded: PM', *Times of India*, 29 September 2009, <http://timesofindia.indiatimes.com/india/Nuclear-terrorism-a-challenge-non-proliferation-regime-hasnt-succeeded-PM/articleshow/5067558.cms>

<sup>3</sup> 'Perspectives on Foreign Policy for a 21st Century India', Address by Indian Foreign Secretary Nirupama Rao at the 3rd MEA-IISS Seminar, 22 February 2010, International Institute for Strategic Studies, London, pp.4-5 <http://www.iiss.org.uk/programmes/south-asia/conferences-and-seminars/iiss-mea-foreign-policy-dialogue/third-iiss-mea-dialogue/nirupama-rao-address/>

effects. Despite remaining outside the NPT, India is keen to engage with international efforts to prevent nuclear and radiological terrorism. Reports that India may be planning to establish and host an International Nuclear Security Centre are extremely encouraging, and demonstrate India's determination to play a leading role in such efforts. A strong partnership on nuclear and radiological security provides a valuable opportunity for the UK and India to help bridge the gap sometimes perceived to exist between India and western countries on broader nuclear issues.

## How can India and the United Kingdom cooperate?

In responding to this question it is useful to separate out potential fields of cooperation under three general headings – diplomatic, practical and technical – although for some topics this division may be a little artificial given the cross-cutting nature of some of the issues under consideration.

### Diplomatic

Both India and Britain have played strong roles in promoting a law-based response to nuclear terrorism. For example, in 2002 India proposed a UN resolution to prevent terrorist access to weapons of mass destruction; this resolution has been renewed every year since. In addition, Indian experts have participated actively in IAEA nuclear security efforts through measures such as revision of the IAEA document on 'The Physical Protection of Nuclear Material and Nuclear Facilities (IAEA INFCIRC/225).

However, much of the current nuclear security framework is not legally binding. While informal approaches such as the Global Partnership, the Proliferation Security Initiative (PSI) and the Global Initiative to Combat Nuclear Terrorism (GICNT) often provide for greater flexibility and responsiveness in terms of policy implementation, and can be quicker to establish when addressing new and emerging security challenges, the more formal the tools are in this area (for example, the Convention on the Physical Protection of Nuclear Materials or UN Security Council Resolution 1540) the stronger the global 'nuclear security norm' will become over time. Whether the focus is on the legally binding or non-binding aspects of the nuclear and radiological security framework, there are several cooperative steps that India and the United Kingdom could realistically take to strengthen both the formal and more informal aspects of the policy architecture.

### Convention on the Physical Protection of Nuclear Materials (CPPNM)

The CPPNM has been the only legally binding international instrument covering the physical protection of nuclear material since its entry into force in 1987. Its original purpose was to protect material during international transport. A 2005 amendment to the CPPNM imposes a legal obligation for states party to protect nuclear facilities and material in peaceful domestic use and storage. But two-thirds of the Convention's 142 States Parties must ratify the amendment for it to take force; as of January 2010, only 34 had done so.

Both India and the United Kingdom are signatories to the CPPNM. India deposited its instruments of ratification of the 2005 amendment in 2007, and the British Foreign Secretary signed the amendment into UK law in February 2010. The British government had stated that once the amendment was ratified it would work with other countries that have not yet done so to help them follow suit.

A coordinated diplomatic campaign to lobby other States Parties of the CPNNM with the goal of reaching, and eventually exceeding, the number of ratifications required for the amendment to take force is one key area where India and the United Kingdom could usefully and productively combine efforts. Indeed, this would be a relatively resource-efficient way to achieve a quick, but significant, diplomatic victory in the field of nuclear security.

### **Code of Conduct on the Safety and Security of Radioactive Sources**

Another area in which India and the United Kingdom could combine efforts involves the IAEA Code of Conduct on the Safety and Security of Radioactive Sources. While not legally binding, states have been encouraged to notify the IAEA Director General of their intention to support it. States have been also asked to designate a point of contact and send the IAEA a completed version of the specimen self-assessment questionnaire annexed to the Guidance. Both India and the United Kingdom have notified the IAEA of their intention, designated a point of contact and completed the questionnaire. Lobbying those states that have not yet implemented the Code of Conduct is another way that India and the United Kingdom could usefully collaborate in pushing forward the nuclear and radiological security agenda.

### **International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT)**

Both India and the United Kingdom have signed and formally ratified the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT). The ICSANT establishes a legal framework for greater international cooperation in the investigation, extradition and prosecution of nuclear terrorists. Parties to the treaty are required to amend national laws to block terrorists and their abettors from financing, planning and participating in acts of nuclear terror.

By signing and ratifying the ICSANT India and the United Kingdom have demonstrated their commitment to formalising aspects of the nuclear security framework. Again, lobbying those states that have not yet signed and ratified the Convention is a further way in which India and the United Kingdom could collaborate in bolstering the international consensus underlying the nuclear and radiological security agenda.

### **Building on the outcomes of the nuclear security summit**

The nuclear security summit being convened in Washington in April 2010 will provide an opportunity for India and the UK to explore ways of strengthening their cooperation.

Both governments have actively supported preparations for the summit, and it has helped to focus official attention on nuclear security issues. It is widely expected that a set of broad principles or a communiqué will be issued in the hope that this will both represent and cement a global consensus on the nature and urgency of the threat and the need to take meaningful action. In international fora India generally stands with the Non-Aligned Movement (NAM) grouping on nuclear issues. However, the summit will involve only 47 countries and is therefore an opportunity to transcend the traditional divisions existing in the global nuclear order. The chances of this goal being achieved will be greatly increased if India's active participation and shared threat perceptions with countries such as Britain demonstrate to NAM states that global efforts to strengthen nuclear and radiological security are not clandestine attempts by Western states to restrict access to peaceful use of nuclear energy but, by preventing a confidence-shattering attack using radiological or nuclear material, will in fact enable and sustain a global nuclear renaissance.

## Practical

There is significant scope for India and the United Kingdom to pursue a cooperative approach to providing other countries with practical assistance in the field of nuclear security, as well as initiating or continuing bilateral work.

### The Global Initiative to Combat Nuclear Terrorism (GICNT)

India and the United Kingdom are both Partner Nations in The Global Initiative to Combat Nuclear Terrorism (GICNT). Currently 77 countries are partners in this informal initiative which is designed to reach out to partner nations to enhance international cooperation to combat the global threat of nuclear terrorism. Partner nations adopt a core set of principles designed to prevent, manage and respond to attacks involving nuclear or radiological materials. Partners are not required to take part in all of the initiative's activities and have not ratified a binding convention.

A significant emphasis of GICNT is placed on building capacity and sharing information and best practice. One of the principal means for doing this is through workshops. Transfer of 'best practices' was one of the key issues discussed at the last GICNT plenary meeting in The Hague in June 2009. The need to 'identify enduring mechanisms for working together' to ensure the Initiative becomes 'a more effective and enduring international institution' was also addressed.<sup>4</sup>

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<sup>4</sup> 'Enhancing International Partnerships', C.S. Eliot Kang, Acting Assistant Secretary, Bureau of International Security and Nonproliferation, Remarks at the 2009 Plenary Meeting of the Global Initiative to Combat Nuclear Terrorism, The Hague, Netherlands, 16 June 2009 <http://www.state.gov/t/isn/rls/rm/125349.htm>



In this context there is scope for India and the United Kingdom to contemplate collaboration in sharing best practices on one or more aspects of the nuclear and radiological security agenda. Given that Delhi will host the Commonwealth Games in October 2010, with London hosting the Olympics in July-August 2012, one potential area for collaboration might involve nuclear and radiological security at mass sporting events. Not only can the United Kingdom learn directly from how India enhances its security measures ahead of and during the Commonwealth Games, the two events in Delhi and London will put both countries in a strong position to provide practical advice and assistance to other countries hosting major sporting events in the years ahead. The GICNT would appear to provide a useful forum for channelling best practice in this area.

### **Regional Nuclear Security Centres of Excellence**

The concept of 'regional nuclear security centres' (or 'regional nuclear security centres of excellence') is also something on which India and the United Kingdom could potentially collaborate. A key aspect of this approach would be to enhance 'nuclear security culture' on a regional basis in order to cement local views on the seriousness of the threat and the requirement for a focused approach in terms of the human dimension of nuclear security.

India's long experience with nuclear security could provide valuable lessons for aspirant nuclear states.

Given the significant numbers of new nuclear power programmes that have been announced in recent years by Middle Eastern and Southeast Asian countries, these regions could be useful areas to target for maximum UK-India-IAEA cooperation. India and the United Kingdom could work together to assist the Agency in the development of nuclear security education and training courses and tools.

### **Multilateral risk reduction**

Under its Global Threat Reduction Programme and in conjunction with the G8 Global Partnership (GP) Against the Spread of Weapons and Materials of Mass Destruction, the UK government is actively engaged in international efforts to strengthen nuclear security at a practical level, notably but not confined to addressing legacy WMD threats in Russia and the wider former Soviet Union (FSU). The UK was supportive of the decision taken in 2008 to broaden the GP's work to tackle wider risks beyond the FSU. The previous year the GP Working Group had already identified some future areas which GP partners could target. Among other things these included: universalising the CPPNM, implementation of UNSCR 1540, the International Convention on the Suppression of Nuclear Terrorism, and the Global Initiative to Combat Nuclear Terrorism.

India's status as a country with nuclear weapons and an expanding civil nuclear energy sector means the country possesses valuable knowledge, skill sets and technical capability that could potentially be harnessed to significant effect to address the evolving global

threat and risk reduction agenda. For example, India could provide a significant contribution by assisting regional states in disposing of radioactive sources when these states have little or no experience or facilities to do so. Bilateral discussions between New Delhi and London could address the best ways of channelling India's experience into future risk reductions efforts, even if this did not entail India joining the GTRP.

India is not a participant in the Proliferation Security Initiative (PSI), but supports the principles of interdiction in the quest to control the spread of weapons of mass destruction. India's 2005 Weapons of Mass Destruction Act was designed as an overarching and integrated legislation to implement United Nations Security Council Resolution 1540. The act has provisions for interdiction of WMD materials, items, equipment and technology. There is therefore ample possibility for the UK and India to exchange information and coordinate their activities regarding the interdiction of illicit transactions of nuclear materials. India's strategic and policy communities are examining ways in which India might develop a 'comfort level' with the PSI that could result in informally working with the initiative and perhaps later even joining it, provided that issues arising from references to the NPT are addressed.

## Technical

There are multiple ways in which Britain and India could engage in technical cooperation, with both countries well aware of ways in which technology can assist the struggle against nuclear terrorism. The British government emphasized in the *Road to 2010* its commitment to maintaining a world-leading nuclear forensics and detection capability at the Atomic Weapons Establishment (AWE).<sup>5</sup> In India 'considerable fundamental knowledge has been gained and certain technologies have been developed for radiation detection and measurement'.<sup>6</sup>

One specific example of technical cooperation involves a recent offer made by Bruker Detection to India's Home Ministry and National Disaster Management Authority (NDMA) to provide Vasus CBRN detection vehicles for use during the Commonwealth Games in October 2010. The vehicle can detect CBRN substances 'within a five km radius'. It is produced by Tata in India based on British technological assistance. In reference to the offer the head of the UK Trade and Investment Defence and Security Organisation has stated that the types of threats confronted by India are similar to those faced by the United Kingdom.<sup>7</sup> Moreover, through joint ventures to produce the scanners used in port

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<sup>5</sup> Cabinet Office, *Road to 2010*, p.28.

<sup>6</sup> National Disaster Management Guidelines: Management of Nuclear and Radiological Emergencies, National Disaster Management Authority, Government of India, February 2009, p. 62, <http://ndma.gov.in/ndma/Management+of+Nuclear+&+Radiological+Emergencies.pdf>

<sup>7</sup> 'Tata-Bruker offers CBRN vehicle for CWG', *Financial Express*, 16 February 2010, <http://www.financialexpress.com/news/tatabruker-offers-cbrn-vehicle-for-cwg/580509/>



security, India can become a hub for the production of cheap yet effective equipment. These items may be sold or sent to other countries, especially to aspirant nuclear states. The availability of cheap nuclear security technology may make it easier for those countries to take technical measures to deal with security challenges, even if their threat perception is currently low.

Examples of technical areas apart from detection where collaboration through joint research projects, or the sharing of techniques and best practices, could be productive include: nuclear forensics; attribution techniques and methods; decontamination; and medical counter-measures. Importantly, these areas span the pre- and post-event dimensions of nuclear and radiological terrorist events and strengthening international collaboration in these areas will contribute to the challenges and risks confronted by those non-state actors that seek to acquire and potentially to use nuclear or radiological materials for terrorist purposes. A formal or informal framework for joint UK-India radiochemistry research could be a constructive first step forwards.

In sum, nuclear security is an area of opportunity for India and the UK to lend their diplomatic and technical leadership to address a common global threat. Nuclear security is also a way to overcome the divergent approaches on nuclear issues that have hitherto impeded collaboration.