



Institute for Security Studies

POLICY BRIEF

RECOMMENDATIONS

- African states attending the 2014 Nuclear Security Summit should report back to non-participating African states in order to fully benefit from decisions taken.
- African states should continue acting through regional and international bodies such as the African Commission on Nuclear Energy (AFCON), the Forum of Nuclear Regulatory Bodies in Africa (FNRBA) and the African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA), in order to acquire information about nuclear safety and security issues and then disseminate it.
- African states should develop a continental framework for nuclear security in order to ensure that international measures are applied to maintain appropriate levels of nuclear safety and security, without inhibiting the right of states to use nuclear technology for peaceful purposes.
- Through AFCON, the African Union (AU) should conduct a continent-wide assessment to determine the nuclear security threats facing Africa.
- African continental nuclear safety and security training and education programmes should be designed and implemented to ensure that nuclear operators and regulators are equipped to implement nuclear safety and security measures according to international standards.

Africa's engagement with the international nuclear security framework

Amelia Broodryk and Shaun Edge

SUMMARY

In March 2014, the third Nuclear Security Summit will take place in The Hague, the Netherlands. The summit represents an opportunity for invited states to assess progress made since 2010, focusing specifically on the objectives and actions outlined in the 2010 Washington Communiqué and Washington Work Plan, and the 2012 Seoul Communiqué.

This policy brief argues that although the Nuclear Security Summit process has assisted in placing greater emphasis on improving international nuclear security, it should be seen in the context of other multilateral initiatives. The process allows participating states, especially in the developing world, to make inputs into how the international nuclear security framework is ultimately designed and implemented.

Six African countries have been invited to participate in the 2014 summit, a sign that Africa's role in the future of the international nuclear security architecture remains crucial. Given the increase in nuclear-related activities taking place in Africa, this is a critical time for the continent to ensure that its voice is heard. Failure to do so could lead to the development of a system that 'tilts at windmills' instead of addressing real threats to regional and sub-regional nuclear security.

THE NUCLEAR SECURITY SUMMIT PROCESS

The 2014 Nuclear Security Summit is the third in a series of international meetings that focus on measures to secure nuclear material to prevent it from being used in acts of terrorism. The first Nuclear Security Summit took place in Washington, DC in 2010, followed by the 2012 summit in Seoul, South Korea. The announcement that another summit will be hosted in Washington, DC in 2016 will provide participating countries with additional time to complete commitments made at previous summits.

United States (US) President Barack Obama initiated the Nuclear Security Summit process in 2010 as a means to address the threat of unauthorised access to nuclear materials and facilities.¹ This first summit, which focused almost exclusively on nuclear security, resulted in the Washington Work Plan, a document containing concrete plans and actions and the Washington Communiqué, which outline participating countries' planned commitments.

Regarded as highly successful by governments as well as international organisations, the follow-on summit in Seoul in 2012 resulted in the drafting of a

communiqué that detailed specific 'actions' that states voluntarily acceded to.² These focused predominantly on nuclear safety *and* security; a step up from the 2010 summit, which was criticised for primarily focusing on security and not necessarily safety, and saw states committing to implement domestic and international measures.³ The 2012 summit was commended for establishing 'timelines' in which actions should be taken; however, the process remained voluntary.⁴ Importantly, the Seoul Communiqué reaffirmed the internationally shared goals of nuclear disarmament, nuclear non-proliferation, and the peaceful uses of nuclear energy.

In March 2014, 53 heads of state and government and representatives from four international organisations will participate in the third Nuclear Security Summit.⁵ The Netherlands faced some pressure to make the summit more inclusive, although this has not happened.⁶

It was decided to limit the number of participants, 'reasoning that the more [states and organisations] there are, the more difficult it is to reach an agreement' – and thus the more challenging it would be for concrete measures to emerge from the summit.⁷

The organisers maintain that 'the aim was to achieve a good regional spread of countries, and to give priority to countries where nuclear material was present and used'.⁸ The 2014 summit will seek to prevent unauthorised access to nuclear material through:

- The reduction of the amount of dangerous nuclear materials available globally
- The improvement of security measures for existing nuclear materials and stockpiles
- The strengthening of international cooperation efforts to address nuclear safety and security⁹

The summit will also address issues relating to the smuggling of nuclear materials and possibly to develop measures to counter such smuggling.¹⁰ The 2014 summit will again provide states and organisations an opportunity to become more 'accountable' for their actions with regard to nuclear safety and security.¹¹

A large number of accountability actions stemmed from the 2012 summit in the form of so-called 'gift baskets'. This is a mechanism for states with common goals and problems to sign on to a specific theme or 'gift basket,' and thus request or offer support to one another in order to achieve the baskets.¹² At the 2012 summit, these ranged from transport security and counter-smuggling cooperation to the sharing of information.¹³ It is believed – and hoped – that gift baskets will again be prominent at the upcoming summit.

INTERNATIONAL DEVELOPMENTS IN THE FIELD OF NUCLEAR SECURITY

International developments in nuclear safety and security have improved substantially since the inaugural summit. The first summit obtained 68 national commitments from participating states and governments, and by February 2012, over 80 per cent of these had been fulfilled. This figure has risen to over 90 per cent since the 2012 summit.¹⁴

Since 2012, several states relinquished or removed either all or the majority of the nuclear materials they possessed, thus reducing the number of states in possession of one kilogram or more of highly enriched uranium (HEU), or separated plutonium, to 25. This is a 22 per cent reduction, and this figure seems to be on the increase.¹⁵

In July 2013, the International Atomic Energy Agency (IAEA) convened the International Conference on Nuclear Security: Enhancing Global Efforts in Vienna.¹⁶ Attended by over 1 000 government ministers, officials, policymakers and experts, the conference was the first event of its kind to be hosted on a global scale by the IAEA. It allowed participants to 'review the international community's experience and achievements to date in strengthening nuclear security'.¹⁷

Of the 53 states that will take part in the 2014 summit, six states are from Africa: Algeria, Egypt, Gabon, Morocco, Nigeria and South Africa. Despite the many challenges, including socio-economic and developmental issues, that African states face, they have significantly improved their nuclear safety and security since the start of the Nuclear Security Summit process.

Algeria, for example, is updating domestic regulations to strengthen nuclear safety and security in the country. It ratified the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) and established a Nuclear Security Training and Support Centre in 2011.¹⁸ Egypt is establishing an independent authority to control nuclear materials in the country; however, such efforts have been hampered by domestic issues, and it is unclear how much progress has been made.¹⁹

Similarly, Gabon is currently enacting a new bill for a Regulatory Framework of Nuclear and Radiation Safety, Security and Safeguards and is establishing a Gabonese Agency on Nuclear Safety and Security.²⁰ Morocco is in the process of ratifying the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM), legislating a new law on nuclear and radiological safety and security, and taking steps to enhance border control and national capacity to more successfully detect and counter the illicit trafficking of nuclear materials. It has also established a Centre of Excellence for Nuclear Affairs.²¹

Nigeria has also taken steps to ratify ICSANT, is establishing a Nuclear Security Support Centre and is in the process of converting its miniature research reactor from HEU to lower enriched uranium (LEU).²² South Africa is also in the process of ratifying the 2005 Amendment to the CPPNM, and has successfully converted Mo-99 production from HEU to LEU use. In December 2013, the Nuclear Energy Corporation of South Africa signed a memorandum of understanding with Russia and Germany for assistance in the development of nuclear energy.²³

Numerous other states have taken steps to address nuclear safety and security through legislation and other means, and these states should be commended.

In the period between the 2010 summit and the upcoming 2014 summit, 29 states, including four African states, have submitted United Nations Security Council Resolution 1540 country reports; four states (three from Africa) have completed IAEA Comprehensive Safeguards

Agreements; seven states (five African) have ratified the Small Quantities Protocol; two African states have ratified the Comprehensive Test Ban Treaty; six states (one African) have acceded to the Joint Convention on the Safety of Spent Fuel Management; four states (two African) have acceded to the CPPNM and 16 states (two African) to its 2005 Amendment; and 15 states (two African) have acceded to ICSANT.

However, a great deal still needs to be accomplished. The conversion of HEU to LEU remains a major issue, not only because it is expensive, but also because it affects the sale and production of medical isotopes, and thus requires greater discussion at the international level.²⁴ Additionally, the storage of nuclear materials remains a key challenge. Over 2 000 metric tonnes of HEU and separated plutonium are estimated to be stored in over 25 countries under different 'levels' of security.²⁵

One of the outcomes of the 2010 summit was to focus on bringing the 2005 Amendment to the CPPNM into force, and although progress towards this goal has been made, it is still not in force.²⁶ It is hoped that the 2014 summit will address the issue as a matter of urgency.

DEVELOPING AN AFRICAN FRAMEWORK FOR NUCLEAR SECURITY

African states have become increasingly aware of the dangers that nuclear proliferation can pose. However, domestic matters still take priority. Although there is international agreement that issues of nuclear security remain sovereign in nature and thus the responsibility of individual states,²⁷ there is a recognition among countries, including African states, that 'a nuclear security event or a weakness in nuclear security measures in one State has the potential to involve or affect other States'.²⁸ There is also 'a growing recognition among States that nuclear security is a global issue that needs to be addressed on a global basis'.²⁹

Given Africa's growing prominence in the nuclear arena, African states should take this into consideration. More than 30 African states are estimated to be in the process of uranium exploration, and nearly half the continent's countries are seeking to use nuclear power to address shortages of electricity.³⁰ In 2012, four African states, namely Niger (4th), Namibia (5th), Malawi (10th) and South Africa (12th), were listed in the top 20 global uranium exporters.³¹

Furthermore, Ghana, Nigeria and South Africa all currently operate nuclear facilities, with both Ghana's and Nigeria's facilities making use of HEU, pending planned conversion to LEU.³² Namibia and South Africa have also expressed interest in developing the entire nuclear fuel cycle – from uranium extraction to enrichment – which would require upgrades to their safety and security measures.³³ This view is reinforced by the IAEA, which states that 'appropriate and effective national systems for nuclear security are vital in facilitating the peaceful use of nuclear energy and enhancing efforts to combat nuclear terrorism'.³⁴

The Treaty of Pelindaba, Africa's nuclear weapons-free-zone treaty, remains the continent's benchmark framework on nuclear safety and security. African states continue to

advance safety and security measures through continental bodies such as the African Commission on Nuclear Energy (AFCON), the Forum of Nuclear Regulatory Bodies in Africa (FNRBA) and the African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA).³⁵

Notwithstanding these positive developments, more can certainly be accomplished to significantly advance nuclear safety and security on the African continent. For example, although 36 African states are party to the CPPNM, only 12 are party to its 2005 Amendment. These numbers are further reduced if one looks at agreements such as the Convention on Nuclear Safety, which only has six African signatories. As such, African states should place greater emphasis on the adoption, ratification and implementation of international and regional conventions. Domestic tensions, especially those of a political and military nature, place significant pressure on African states. Although they often force governments to divert resources and attention from issues such as nuclear safety and security, these issues cannot be overemphasised.

Increasingly, African states are arguing for an African framework for nuclear security to be developed, and that regional bodies such as the African Union (AU) and AFCON should drive this process. The need for a thorough, continent-wide nuclear security threat assessment is growing. It is envisioned that AFCON, with the assistance of the AU, could be perfectly situated to perform such a task. In addition, the development of education and training programmes would assist in ensuring that nuclear operators and regulators have the knowledge and skills to implement appropriate measures according to international standards.

CONCLUSION

As of 31 December 2012, the IAEA's Incident and Trafficking Database reported over 160 incidents involving nuclear materials, ranging from unauthorised possession to theft and/or loss.³⁶ This reinforces the complicated nature of securing and/or reacquiring nuclear materials, as well as problems associated with security at nuclear facilities and the consolidation and conversion of nuclear stockpiles.³⁷

Now is a critical time for the international community to assess progress made and continue the debate on what a truly equitable nuclear security framework should look like. Issues relating to nuclear safety and security are indeed sovereign in nature; however, their consequences are global and the African community needs to be cognisant of this. Failure to address such issues could be disastrous.

Most important for African states is the development of an appropriate framework for the continent – one that would ensure the highest levels of nuclear safety and security without inhibiting states' rights to the peaceful use of nuclear technology. If Africa does not make its voice heard at international forums such as the 2014 Nuclear Security Summit, it risks being obligated to implement a framework that does not address the real security threats faced by the continent. Africa could then find itself tilting at windmills and fighting invisible enemies instead of addressing real threats.

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