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Application of Safeguards in the Democratic People's Republic of Korea

Report by the Director General

A. Introduction

1. The Director General's previous report on the Application of Safeguards in the Democratic People's Republic of Korea (DPRK) was submitted to the Board of Governors and to the 59th regular session of the General Conference on 26 August 2015 (GOV/2015/49–GC(59)/22). This report provides an update of developments of direct relevance to the Agency, along with information on the DPRK's nuclear programme.

2. Having considered the Director General's report, the General Conference adopted resolution GC(59)/RES/14 on 18 September 2015 and decided to remain seized of the matter and to include the item in the agenda for its 60th (2015) regular session.

3. The current report, which is being submitted to the Board of Governors and the General Conference, covers developments since the Director General's report of August 2015.

B. Background

4. The Agency has not been able to verify the correctness and completeness of the DPRK's declarations under the Agreement between the DPRK and the Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)

(hereinafter referred to as the “NPT Safeguards Agreement”).¹ On 1 April 1993, the Board of Governors found, pursuant to Article 19 of the NPT Safeguards Agreement, that the Agency was not able to verify that there had been no diversion of nuclear material required to be safeguarded under the terms of the Agreement to nuclear weapons or other nuclear explosive devices, and decided to report the DPRK’s non-compliance and the Agency’s inability to verify such non-diversion to all Member States of the Agency, to the UN Security Council and to the General Assembly of the United Nations. Since 1994, the Agency has not been able to conduct all necessary safeguards activities provided for in the NPT Safeguards Agreement. From the end of 2002 until July 2007, the Agency was not able, and since April 2009 has not been able, to implement any safeguards measures in the DPRK.

5. Following the DPRK’s nuclear tests in 2006, 2009 and 2013, the UN Security Council adopted resolutions 1718 (2006), 1874 (2009) and 2094 (2013), in which it, inter alia: demanded that the DPRK return at an early date to the NPT and IAEA safeguards; decided that the DPRK shall abandon all nuclear weapons and existing nuclear programmes in a complete, verifiable and irreversible manner and immediately cease all related activities and act strictly in accordance with the obligations applicable to parties under the NPT and the terms and conditions of its NPT Safeguards Agreement; and decided that the DPRK shall provide the Agency with transparency measures extending beyond these requirements, including such access to individuals, documentation, equipment and facilities as may be required and deemed necessary by the Agency. Contrary to the requirements of those resolutions, the DPRK has not abandoned its existing nuclear programme in a complete, verifiable and irreversible manner or ceased all related activities.

C. Developments

6. As previously reported,² on 2 April 2013, the General Department of Atomic Energy of the DPRK announced that the DPRK would take measures for “readjusting and restarting all the nuclear facilities in Nyongbyon³ including uranium enrichment plant and 5 MW[(e)] graphite moderated reactor”.⁴ On 15 September 2015, the Director of the Atomic Energy Institute of the DPRK announced that “all the nuclear facilities in Nyongbyon including the uranium enrichment plant and 5 MW [(e)] graphite-moderated reactor were rearranged, changed or readjusted and they started normal operation...”.⁵

7. On 6 January 2016, the DPRK announced that on that day “[t]he first H-bomb test was successfully conducted in the DPRK”.⁶ The Director General issued a statement on the same day

¹ The DPRK concluded an agreement with the Agency, based on INFCIRC/66/Rev.2, for the application of safeguards in respect of a research reactor (INFCIRC/252) in July 1977. Under this item-specific safeguards agreement, safeguards were applied by the Agency to two nuclear research facilities in Yongbyon: the IRT Research Reactor and a critical assembly. Although the DPRK acceded to the NPT in December 1985, although its NPT Safeguards Agreement with the Agency, based on INFCIRC/153 (Corrected), only entered into force in April 1992 (INFCIRC/403). As provided for in Article 23 of the NPT Safeguards Agreement, the application of safeguards under the earlier safeguards agreement (INFCIRC/252) is suspended while the NPT Safeguards Agreement is in force.

² GOV/2015/49-GC(59)/22, para. 6.

³ Nyongbyon is also known as Yongbyon.

⁴ ‘DPRK to Adjust Uses of Existing Nuclear Facilities’, KCNA, 2 April 2013. The Agency refers to this reactor as the Yongbyon Experimental Nuclear Power Plant (5 MW(e)).

⁵ ‘Director of Atomic Energy Institute of DPRK on Its Nuclear Activities’, KCNA, 15 September 2015.

⁶ ‘DPRK Proves Successful in H-bomb Test’, KCNA, 6 January 2016.

which stated, *inter alia*, that the DPRK's nuclear test, if confirmed, was in clear violation of UN Security Council resolutions and was deeply regrettable. He strongly urged the DPRK to implement fully all relevant resolutions of the UN Security Council and the Agency.

8. The following day, the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization reported that its verification system had detected seismic waveforms that were "most likely caused by a nuclear test conducted by the [DPRK]".⁷

9. On 2 March 2016, the UN Security Council, acting under Chapter VII of the United Nations Charter, adopted resolution 2270 (2016) in which it, *inter alia*, condemned "in the strongest terms the nuclear test conducted by the DPRK on 6 January 2016 in violation and flagrant disregard of the Council's relevant resolutions" and reaffirmed its decision that the DPRK "shall abandon all nuclear weapons and existing nuclear programs in a complete, verifiable and irreversible manner, and immediately cease all related activities".

10. Since the Director General's previous report, the DPRK has continued to stress the importance of its nuclear weapons programme and has made regular public announcements claiming advances in the areas of nuclear warhead miniaturization and nuclear weapon delivery systems.⁸ At the 7th Congress of the Korean Workers' Party in May 2016, the DPRK announced that it would continue to "boost self-defensive nuclear force both in quality and quantity".⁹

11. In his introductory statement at the meeting of the Board of Governors on 7 March 2016, the Director General stated that the nuclear programme of the DPRK remained a major cause for concern, and that recent statements by the DPRK were especially worrying. He strongly urged the DPRK to implement fully all relevant Agency and UN Security Council resolutions. In his introductory statement at the meeting of the Board of Governors on 6 June 2016, the Director General stated that he remained seriously concerned about the DPRK's nuclear programme and that it was deeply regrettable that the DPRK had shown no indication that it was willing to comply with UN Security Council resolution 2270 (2016). He reiterated his call upon the DPRK to comply fully with its obligations under relevant UN Security Council resolutions, to cooperate promptly with the Agency in implementing its NPT Safeguards Agreement, and to resolve all outstanding issues.

D. Other Information on the DPRK's Nuclear Programme

12. As the Agency remains unable to carry out verification activities in the DPRK, its knowledge of the DPRK's nuclear programme is limited and, as further nuclear activities have taken place in the country, that knowledge will have declined. Nevertheless, it is important for the Agency to remain cognisant of developments in that programme to the fullest extent possible, especially in light of encouragement by the General Conference that the Secretariat maintain its readiness to play an

⁷ 'Statement by Chairperson of the Preparatory Commission for the CTBTO, Ambassador Cristian Istrate, on Unusual Seismic Activity Detected in the Democratic People's Republic of Korea', CTBTO, 7 January 2016.

⁸ 'Kim Jong Un Guides Work for Increasing Nuclear Arsenal', KCNA, 9 March 2016; 'Kim Jong Un Guides Underwater Test-fire of Strategic Submarine Ballistic Missile', KCNA, 24 April 2016; 'KCNA Report on Conclusion of 70-Day Campaign in DPRK', 6 May 2016; and 'Kim Jong Un Guides Drill for Ballistic Rocket Fire', KCNA, 20 July 2016.

⁹ 'Decision of Seventh Congress of WPK Adopted', KCNA, 8 May 2016.

essential role in verifying the programme, including the capability to re-establish the implementation of safeguards-related activities in the DPRK.¹⁰

13. In that regard, the Agency has maintained its readiness to return to the DPRK, through an ongoing process of: collecting and evaluating safeguards-relevant information regarding the DPRK's nuclear programme; preparing safeguards equipment and developing relevant procedures for its use; and staff training. The Agency has prepared, and continues to update, a detailed plan for the implementation of monitoring and verification activities in the DPRK. Once a political agreement has been reached among the countries concerned, the Agency is ready to return to the DPRK, if requested to do so by the DPRK and subject to approval by the Board of Governors.

14. **The Yongbyon Site.** Since the Director General's previous report, the Agency has continued to monitor, including through satellite imagery, developments at the Yongbyon site. The details of these developments are set out in paras 15–19 below.¹¹

15. ***Yongbyon Experimental Nuclear Power Plant (5 MW(e)).*** For most of the reporting period there were indications consistent with the reactor's operation, including steam discharges and the outflow of cooling water. However, between mid-October and early December 2015 there were no such indications. This period is sufficient for the reactor to have been de-fuelled and subsequently re-fuelled. Based on past operational cycles, a new cycle commencing in early December 2015 can be expected to last about two years.

16. ***Radiochemical Laboratory.*** From the first quarter of 2016, there were multiple indications consistent with the Radiochemical Laboratory's operation, including deliveries of chemical tanks and the operation of the associated steam plant. Such indications ceased in early July 2016. In previous reprocessing campaigns, the Radiochemical Laboratory's operation involved the use of the spent fuel discharged from the Yongbyon Experimental Nuclear Power Plant (5 MW(e)).

17. ***Yongbyon Nuclear Fuel Rod Fabrication Plant.*** There were indications consistent with the use of the reported centrifuge enrichment facility located within the plant. Additional construction work around the building that houses this reported facility has been ongoing.

18. ***Light Water Reactor (LWR) under construction.*** The construction of what appears to be an electrical switchyard adjacent to the LWR¹² was completed in December 2015. The Agency has not observed indications of the delivery or introduction of major reactor components into the reactor containment building.

19. ***Other locations within the site.*** There were new construction and refurbishment activities on the site, which are broadly consistent with the DPRK's statement that all the nuclear facilities in Yongbyon have been "rearranged, changed or readjusted".¹³

20. **The Pyongsan Mine and Concentration Plant.** Since the Director General's previous report, the Agency has also continued to monitor, including through satellite imagery, developments at

¹⁰ GC(59)/RES/14, para. 11.

¹¹ The names of the nuclear facilities at the Yongbyon site are as previously declared by the DPRK to the Agency (GOV/2011/53-GC(55)/24, Annex), except for the Light Water Reactor, which the DPRK has not declared to the Agency.

¹² The DPRK stated in April 2009 that it would build a light water reactor (LWR). See GOV/2011/53-GC(55)/24, para. 31.

¹³ See footnote 5 of this report.

Pyongsan. There were indications of ongoing mining, milling and concentration activities at locations previously declared¹⁴ as the Pyongsan uranium mine and the Pyongsan uranium concentration plant.

21. The Agency has not had access to the Yongbyon site or to locations at Pyongsan. Without such access, the Agency cannot confirm either the operational status or configuration/design features of the facilities as described in paras 15–20 above, or the nature and purpose of the activities observed.

E. Summary

22. The continuation and further development of the DPRK's nuclear programme and related statements by the DPRK, including those about continuing to "boost" its "nuclear force", are a major cause for concern. The DPRK's nuclear activities, including those in relation to the Yongbyon Experimental Nuclear Power Plant (5 MW(e)) reactor and the Radiochemical Laboratory, the use of the building which houses the reported enrichment facility and the construction at the LWR, are deeply regrettable. Such actions are clear violations of relevant UN Security Council resolutions, including resolution 2270 (2016). The DPRK's fourth nuclear test announced on 6 January 2016 is also in clear violation of UN Security Council resolutions and deeply regrettable.

23. The Director General continues to call upon the DPRK to comply fully with its obligations under relevant UN Security Council resolutions, to cooperate promptly with the Agency in the full and effective implementation of its NPT Safeguards Agreement and to resolve all outstanding issues, including those that have arisen during the absence of Agency inspectors from the DPRK. The Agency continues to maintain its readiness to play an essential role in verifying the DPRK's nuclear programme.

¹⁴ GOV/2011/53-GC(55)/24, para. 28.