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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 60th regular session of the General Conference on 19 August 2016 (GOV/2016/45–GC(60)/16). 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(60)/RES/14 on 30 September 2016 and decided to remain seized of the matter and to include the item in the agenda for its 61st (2017) 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 2016.

## 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").<sup>1</sup> 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 United Nations (UN) Security Council and to the UN General Assembly. 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, 2013 and January 2016, the UN Security Council adopted resolutions 1718 (2006), 1874 (2009), 2094 (2013) and 2270 (March 2016). In these resolutions, the UN Security Council, 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.

6. In 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 Nyongbyon<sup>2</sup> including uranium enrichment plant and 5 MW[(e)] graphite moderated reactor".<sup>3</sup> In 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..."<sup>4</sup>

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<sup>1</sup> 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, 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.

<sup>2</sup> Nyongbyon is also known as Yongbyon.

<sup>3</sup> '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)).

<sup>4</sup> 'Director of Atomic Energy Institute of DPRK on Its Nuclear Activities', KCNA, 15 September 2015.

## C. Developments

7. On 9 September 2016, the DPRK announced that on that day it had conducted another nuclear test.<sup>5,6</sup> The Director General issued a statement on the same day which stated, inter alia, that the DPRK's nuclear test, if confirmed, was in clear violation of numerous UN Security Council resolutions and was a deeply troubling and regrettable act.<sup>7</sup> He strongly urged the DPRK to fully implement all relevant resolutions of the UN Security Council and the Agency.

8. On 30 November 2016, the UN Security Council, acting under Chapter VII of the UN Charter, adopted resolution 2321 (2016) in which it, inter alia, condemned "in the strongest terms the nuclear test conducted by the DPRK on 9 September 2016 in violation and flagrant disregard of the Security Council's 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".<sup>8</sup>

9. Since the Director General's previous report, the DPRK has continued to stress the importance of its nuclear weapons programme and has made public announcements claiming advances in the areas of nuclear warhead miniaturization and nuclear weapon delivery systems. For example, in December 2016, State media reported that the DPRK's "step to bolster up the nuclear force is an inevitable option for self-defence"<sup>9</sup> and, in July 2017, reported that the country had conducted two tests of a missile "capable of carrying large-sized heavy nuclear warhead".<sup>10,11</sup> On 7 August 2017, the DPRK stressed its determination to continue on "the road of bolstering up the state nuclear force".<sup>12</sup>

10. In his introductory statement to the Board of Governors on 12 June 2017, 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 relevant UN Security Council resolutions. He reiterated his call upon the DPRK to comply fully with its obligations under those resolutions, to cooperate promptly with the Agency in implementing its NPT Safeguards Agreement, and to resolve all outstanding issues.

11. 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, this 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 essential role in verifying the DPRK's nuclear programme, including the capability to re-establish the

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<sup>5</sup> 'DPRK Succeeds in Nuclear Warhead Explosion Test', KCNA, 9 September 2016.

<sup>6</sup> The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization reported that its verification system had detected an unusual seismic event "in the area of the DPRK's nuclear test site", CTBTO Press Release, 9 September 2016.

<sup>7</sup> 'Statement by IAEA Director General Yukiya Amano on DPRK', IAEA, 9 September 2016.

<sup>8</sup> The Security Council reaffirmed its decision again in resolution 2371 (2017), 5 August 2017.

<sup>9</sup> 'DPRK Will Bolster up Self-defensive Deterrent', KCNA, 11 December 2016.

<sup>10</sup> 'Kim Jong Un Supervises Test-launch of Inter-continental Ballistic Rocket Hwasong-14', KCNA, 5 July 2017.

<sup>11</sup> 'Kim Jong Un Guides Second Test-fire of ICBM Hwasong-14', KCNA, 29 July 2017.

<sup>12</sup> Statement of DPRK Government, KCNA, 7 August 2017.

implementation of safeguards-related activities in the DPRK.<sup>13</sup> As indicated in previous reports of the Director General, the Agency has maintained such readiness over a number of years.

12. The Director General indicated his intention to enhance the Agency's readiness to play an essential role in verifying the DPRK's nuclear programme in his introductory statement to the Board of Governors on 12 June 2017. To this end, in August 2017, a DPRK Team was formed within the Department of Safeguards. The purpose of this team is to enhance the monitoring of the DPRK's nuclear programme; maintain updated verification approaches and procedures for the nuclear facilities known to exist within the DPRK; prepare for the Agency's return to the DPRK; and ensure the availability of appropriate verification technologies and equipment. An Executive Group has also been formed within the Secretariat to consider procedural, managerial and legal matters.<sup>14</sup> All of the activities related to the Agency's enhanced readiness will be conducted within available resources. Once a political agreement has been reached among the countries concerned, the Agency is ready to return to the DPRK in a timely manner, if requested to do so by the DPRK and subject to approval by the Board of Governors.

## D. Other Information on the DPRK's Nuclear Programme

13. 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 this section, or the nature and purpose of the activities.

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 15–18 below.<sup>15</sup>

15. **Yongbyon Experimental Nuclear Power Plant (5MW(e)).** Throughout the reporting period there were indications consistent with the reactor's operation, including steam discharges and the outflow of cooling water. Based on past operational cycles, the current cycle could be expected to continue until late 2017.

16. **Radiochemical Laboratory.** The Agency has not observed indications of the Radiochemical Laboratory being in operation during the reporting period. In previous reprocessing campaigns, the Radiochemical Laboratory was used for reprocessing activities.

17. **Yongbyon Nuclear Fuel Rod Fabrication Plant.** There were indications consistent with the use of the reported centrifuge enrichment facility located within the plant. Construction work was undertaken on a building which adjoins the reported centrifuge enrichment facility.

18. **Light Water Reactor (LWR) under construction.** There were indications in the LWR<sup>16</sup> construction yard of an increase in activities consistent with the fabrication of certain reactor

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<sup>13</sup> GC(60)/RES/14, para. 11.

<sup>14</sup> The Executive Group comprises the Deputy Director General for Safeguards as well as senior staff from the Director General's Office for Coordination and the Office of Legal Affairs.

<sup>15</sup> 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.

<sup>16</sup> The DPRK stated in April 2009 that it would build an LWR. See GOV/2011/53-GC(55)/24, para. 31.

components. The Agency has not observed indications of the delivery or introduction of major reactor components into the reactor containment building. Work to connect what appears to be the LWR's electrical switchyard with the electrical distribution network was completed.

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".<sup>17</sup>

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 Pyongsan. There were indications of ongoing mining, milling and concentration activities at locations previously declared<sup>18</sup> as the Pyongsan uranium mine and the Pyongsan uranium concentration plant.

## E. Summary

21. The continuation and further development of the DPRK's nuclear programme and related statements by the DPRK are a cause for grave concern. The DPRK's nuclear activities, including those in relation to the Yongbyon Experimental Nuclear Power Plant (5 MW(e)) reactor, 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 2321 (2016). The DPRK's fifth nuclear test, announced on 9 September 2016, is also in clear violation of UN Security Council resolutions and deeply regrettable.

22. 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 is enhancing its readiness to play an essential role in verifying the DPRK's nuclear programme.

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<sup>17</sup> See footnote 3 of this report.

<sup>18</sup> GOV/2011/53-GC(55)/24, para. 28.