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IAEA Safeguards implementation during the COVID-19 Pandemic

Progress Update

Report by the Director General

Summary

- At the outset of the COVID-19 pandemic, the Director General stated that, despite the difficult situation, the Agency would not interrupt its verification activities. This has required the Agency to implement a series of mitigating actions that have enabled the Agency to conduct all of its most time-critical safeguards activities in the field, and almost all safeguards activities that are normally carried out at Agency Headquarters and at its regional offices.
- The Agency will continue to rely on the essential cooperation of States to implement safeguards, including to support any increase in the frequency and intensity of its in-field verification activities during 2021 as a consequence of rescheduling planned activities.
- The Agency currently assesses that it will be able to draw soundly-based safeguards conclusions for all States for 2020.

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A. Introduction

1. The impact of the COVID-19 pandemic has been far-reaching. Governments around the world have adopted and implemented strict measures related to health and safety for the containment of the coronavirus, such as physical distancing, restricting travel and free movement of people, grounding flights and restricting other means of travel, and closing borders. These measures have had a significant impact on the Agency's implementation of safeguards, in particular on its ability to conduct a number of its planned in-field verification activities. This required the Agency to take a number of measures to overcome new challenges or mitigate their impact.
2. This document provides an update on the impact of the COVID-19 pandemic on safeguards implementation at the start of 2021.^{1,2}

B. Safeguards implementation

3. To achieve its safeguards objectives for a State, the Agency needs to implement safeguards activities for the State in accordance with its safeguards agreement and, as applicable, the additional protocol, to provide credible assurance that the State is abiding by its safeguards obligations. The frequency and intensity of safeguards activities are determined in accordance with the safeguards agreement, taking into account the State's nuclear fuel cycle and related technical capabilities, the type of nuclear material, and other State-specific factors.³
4. Each year, the Agency prepares an annual implementation plan (AIP) for each State with a safeguards agreement in force which specifies the in-field and Headquarters safeguards activities to be conducted, and the frequency and intensity with which they are to be implemented, to attain the safeguards technical objectives.⁴ If a planned activity cannot be conducted, or if a safeguards technical

¹ Document GOV/INF/2020/7 provides details of safeguards implementation up to 31 May 2020, with an update issued in August in document GC(64)/INF/5.

² In most cases, detailed data in this report is provided up to the end of November 2020. Summarized data for the whole of 2020 will be provided in the Safeguards Implementation Report 2020.

³ See GOV/2014/41 and Corr.1, Sections C.5 and C.6.

⁴ See GOV/2014/41 and Corr.1, Section C.4.

objective is not attained or an inconsistency is found, the AIP may be adjusted and follow up activities planned and conducted.

C. Impact on safeguards implementation and Agency responses

5. From a logistical perspective, the travel restrictions and other health and safety measures introduced by a large number of States in response to COVID-19 are still having a significant impact on the Agency's ability to implement safeguards.⁵

6. Despite these circumstances, the Agency continues to pursue its verification mission to deter the spread of nuclear weapons through the implementation of safeguards.

7. The measures introduced by States in response to COVID-19 have had an impact on planning and implementing Agency safeguards activities, in particular those in the field. The Agency, in turn, has taken a number of actions and introduced a number of measures to mitigate this impact as much as possible.

C.1. Business continuity measures

8. The Agency is committed to the resilience of its operations, even during a disruptive event, to ensure that it can continue to implement its legal obligations under relevant safeguards agreements, carry out other verification activities and make safeguards-relevant information available on a secure basis. As previously reported, the Agency has drawn on business continuity and disaster recovery measures already in place and others in development, in order to mitigate the effects of the pandemic on safeguards activities.

9. The global travel restrictions and health and safety measures introduced by States present various challenges. Access to consistent and up-to-date information about frequently changing restrictions and measures poses a particular challenge when planning in-field verification activities. Close collaboration with States, including particularly the Republic of Austria as the host State, remains essential to overcome these operational obstacles.

C.2. In-field verification activities

10. As mentioned above, travel and in-country restrictions are making it harder for the Agency to reach a large number of nuclear facilities, sites and other locations and are also having an impact on the timely shipment of equipment in support of field activities. In order to accommodate such restrictions, intensive coordination efforts are required at Agency Headquarters. Agency inspectors and technical staff are making extraordinary efforts to fulfil their duties, for example, by isolating for up to 14 days in their destination State, driving long distances and crossing various national borders to conduct verification activities instead of flying, embarking on missions without having any confirmed date or means of returning to Vienna, and having the length of missions extended significantly.

11. The cost of transportation, in particular flying to a number of destinations to conduct in-field verification activities has increased significantly and went beyond the budgetary travel appropriations. For many States, mandatory quarantine periods are adding significantly to the length of verification missions. Between 1 March and 30 November 2020, Agency inspectors on mission spent a total of

⁵ For a list of these restrictions and measures see document GC(64)/INF/5.

Inspectors spent a total of
1884 days
in quarantine outside
Austria

Operations Division A:
903 days

Operations Division B:
853 days

Operations Division C:
128 days



nearly 1900 days in quarantine outside Agency Headquarters in Austria.⁶ This is the equivalent of seven inspectors spending the entire nine-month period in quarantine. In addition, travel logistics and quarantine requirements frequently prevent Agency inspectors from combining travel to carry out verification activities in different States. Consequently, performing a number of verification activities has required more and longer trips by Agency inspectors and technical staff, adding to the cost.

12. In response to the unavailability of many commercial flights, the Agency has, for the first time in its history, concluded contracts for the provision of aircraft charter services to transport inspectors and technical staff to and from States, drawing on €3.93M of extra-budgetary support, €1.78M of which was earmarked specifically in relation to inspectors and technical staff travel to Iran.⁷ This arrangement has already been used successfully to transport some 200 Agency inspectors and technical staff to conduct inspections in ten States.

13. In light of COVID-related restrictions, the Agency has adjusted AIPs to focus inspection effort on achieving the most time-critical and time-bound safeguards objectives and, where appropriate, has rescheduled inspections, design information verifications and complementary accesses (CAs). Where necessary and feasible, the Agency is also implementing compensatory measures, such as increased reliance on Remote Data Transmission, the additional use of remote monitoring, to maintain ‘continuity of knowledge’ and

minimize the future impact of any delayed activities.

14. The most significant challenge to safeguards implementation in 2020, following the measures and other restrictions imposed by States due to the pandemic, was related to the Agency’s ability to conduct short notice or unannounced routine inspections in a number of States where such inspection arrangements are in effect.⁸ This remains a challenge for 2021. In response, the Agency has developed, for each of those States, a scheme of additional or other mitigating safeguards activities in order to draw credible safeguards conclusions for these States. Despite the difficulties, the Agency has been able to conduct all of its most time-critical verification activities. It is expected that

€3.93M of extra-budgetary support to use aircraft charter services has transported **200** Agency inspectors and technical staff to conduct inspections in **10** States.



⁶ Inspectors from Operations Division A spent a total of 903 days in quarantine outside Austria in 2020, inspectors from Operations Division B spent a total of 853 days, inspectors from Operations Division C spent a total of 128 days and inspectors from the Office for Verification in Iran spent no days in quarantine in Iran.

⁷ As of 5 January 2020, this extrabudgetary support had been provided by Belgium, France, Germany, the United Kingdom, the United States of America and the European Commission.

⁸ The ability of Agency inspectors to conduct unannounced or short notice routine inspections in a State enhances the level of deterrence against potential diversion, misuse, or other undeclared activities.

**Agency verification activities
(1 March – 30 November 2020)**

**Inspections:
1680**

**Design Information
Verifications:
526**

**Complementary Accesses:
131**

**Inspector and technical staff
days in the field:
15 500**



the Agency will be able to achieve all its safeguards objectives for 2020.

15. Between 1 March and 30 November 2020, the Agency conducted 1680 inspections, 526 design information verifications (DIVs) and 131 CAs. This reflects the fact that during this period the Agency has inspected roughly the same number of nuclear facilities as in 2019 and conducted more CAs. These verification activities involved:

- around 10 200 days of inspectors' verification effort and over 15 500 days spent in the field by inspectors and technical staff;⁹
- about 1700 calendar days in the field for supporting verification instrumentation, equipment maintenance, upgrade and installation of equipment in the field by technical staff, including almost 100 person days in the field and over 340 quarantine days; and
- around 210 shipments of equipment from Headquarters and more than 70 return shipments.

16. The availability of the resident Agency staff at the Agency's regional offices in Tokyo and Toronto to conduct verification activities in the States where those offices are located has avoided some of the problems encountered by staff who have had to travel from Austria to or between other States to conduct inspections.¹⁰ The two regional offices have been instrumental in facilitating the conduct of 130 inspections, 54 DIVs and 15 CAs, as well as 9 equipment maintenance and repair tasks between 1 March and 30 November 2020.

17. All safeguards equipment requests from within the Department of Safeguards have been processed, including the provision of verification equipment and PPE to Agency inspectors and technical staff prior to duty travel. The Agency's investment in remote monitoring systems over the past two decades has proved invaluable during the pandemic, with more than 1 600 data streams continuing to deliver safeguards equipment data from facilities in 31 States¹¹ to Agency Headquarters. As a consequence of the pandemic, many planned maintenance activities have had to be postponed. Nevertheless, between 1 March 2020 and 30 November 2020, the Agency conducted 20 trips related to inspection support and 34 trips related to the maintenance, installation or support for the use of safeguards equipment.

⁹ While this data is accurate for the period described, it should not be considered indicative for the whole of 2020 or comparable to figures for the equivalent period in 2019. Such statements and activities are based on AIPs and should be considered on an annual basis.

¹⁰ Approximately 24% of inspections carried out by the Agency are conducted in Canada and Japan.

¹¹ And Taiwan, China.



Fig. Agency inspector boarding charter aircraft

C.3. Verification activities at Headquarters and regional offices

18. Overall, as a result of a substantial adjustment of some processes and workflows, regular activities carried out at Agency Headquarters and in the regional offices continue to deliver results that are close to pre-pandemic levels, albeit with some delays.

19. State evaluation and the development of new State-level safeguards approaches (SLAs) continues, albeit at a reduced pace due to the need to maintain the security of highly confidential safeguards information. Throughout the pandemic the Secretariat has sought to ensure that staff who need to use the integrated safeguards environment (ISE) to conduct their work have been authorized to access the VIC. Flexible work arrangements have facilitated the possibility for everyone who needs to work at the VIC being able to do so while ensuring that the Department remains within the overall ceiling restriction for attendees on any one day.

20. The Agency has continued to provide statements on the activities and results of its in-field verification activities to relevant States: in the period between 1 March and 30 November 2020, the Agency submitted 865 statements on inspection results (90(a) statements or equivalent), 367 statements on the conclusion drawn from its inspections (90(b) statements or equivalent) and 374 DIV acknowledgement letters, and 70 statements on CAs (10(a) statements). There were some delays in providing these statements, due partly to restrictions on the number of staff numbers being able to work at the VIC, and therefore with access to ISE, and partly due to a significant increase in late reporting by States when compared to previous years.

21. At Seibersdorf (Austria) and Rokkasho (Japan), the Agency's safeguards laboratories have remained safe, secure and in good operating condition. All requests from inspectors for environmental sample kits have been met. The processing of new nuclear material samples continues, as does the operation of the large geometry secondary ion mass spectrometer (LG-SIMS) for environmental samples. The laboratories are receiving all inspection samples for analysis from the field and dispatching samples to the network of analytical laboratories (NWAL) as normal.

C.4. Health, safety and welfare

22. While a number of Member States were willing to provide financial assistance to the Agency to purchase PPE, the global PPE shortage remains a critical issue. The Agency continues efforts to identify possible suppliers and it is hoped that a longer-term commitment to satisfy the Agency's needs is provided through the standard Agency procurement process. The Department of Safeguards coordinated the Contract Purchase Agreement for 'Personal Protective Equipment for IAEA in the context of COVID-19' covering the needs of all Agency departments and new suppliers were identified. Nevertheless, a global shortage of PPE (in particular FFP2/FFP3-type masks and overalls, which are vital in providing the necessary high levels of protection during inspections) remains an issue.

23. Some States now require recent (within 72 hours) COVID tests for transit as well as arrivals and some facility operators are beginning to require this as well. This is obliging Agency inspectors to be tested multiple times before and during trips and in many States it is not always easy to find a testing location or get a rapid result. Other States, however, have facilitated the Agency's implementation of safeguards by not applying quarantine restrictions or waiving them on submission of negative test results for COVID-19 upon arrival in the country. As of 31 December 2020, a total of 1608 PCR tests had been conducted (1196 pre-travel and 412 post-travel) by VIC Medical Service for inspectors and technical staff. Along with the commercial availability of testing at Vienna airport and other laboratories in Vienna, this has enabled Agency staff who test negative, in line with the host country requirements, to immediately resume work without the need for quarantine.



Fig. Agency inspectors on an inspection of a nuclear facility

24. While, as of 15 January 2021, 91 Agency staff who work at the VIC have at some point tested positive for COVID-19 through a PCR test, in only six of these cases did staff contract the virus while conducting in-field verification activities outside Austria. Bearing in mind that Agency inspectors and

technical staff have spent over 15 500 days in the field over the reporting period, in scores of different countries, this highlights the effectiveness of the health and safety precautions in place for staff who need to travel abroad to carry out their official duties.

25. One of those who tested positive for COVID-19 while on duty travel in a State was repatriated successfully to Vienna via use of a charter flight. The staff member received excellent support from the State authorities and upon arrival in Austria.

C.5. Recruitment and training

26. To mitigate the risks of COVID-19 transmission and to adhere to the recommendations of the VIC Medical Services, parts of the Introductory Course on Agency Safeguards (ICAS) were re-designed to integrate remote learning. A total of 23 new inspectors were inducted through ICAS in 2020. While the Department is building its own capabilities to ensure delivery of training and a number of staff courses have been re-designed and delivered as remote learning, access to external facilities for training has been limited, affecting the implementation of parts of the staff training programme i.e. specialized technical training. Overall, 39 distinct training courses were held in 2020, 12 of which were offered remotely. For those courses that were delivered in person, they adhered to approved guidelines.

C.6. Assistance to States

27. The Agency is working to develop alternative means to deliver safeguards-related training and assistance to States. For instance, the Agency has developed several e-learning courses for States. Together with counterparts in Japan, the Agency delivered an online SSAC course in November, and has plans for several more online courses in 2021. The Safeguards Traineeship Programme for 2021 will commence in February 2021 and will have nine participants. The Agency also transformed and held its annual Seminar on IAEA Safeguards for diplomats, usually held at Headquarters, as an online webinar series. In November, a remote training course took place with facility operators from South Africa and another one for the UK as part of post-Brexit safeguards related preparations and support.

28. With regard to the IAEA Comprehensive Capacity-Building Initiative for SSACs/SRAs (COMPASS), the Agency continued to work in collaboration with pilot States towards the commencement of COMPASS implementation in early 2021. Virtual meetings were held among COMPASS team members in the Secretariat as well as with State representatives, including the use of remote presentations and real-time document review, to assess respective SSAC/SRA needs and develop corresponding assistance packages. Online briefings on the status of COMPASS were also made available to donor States upon request and a virtual side event on COMPASS was also held in the margins of the 64th IAEA General Conference which attracted more than 100 participants.

D. Role of States

29. Member States' Missions in Vienna and their national authorities continue to have a very important role in ensuring and facilitating the Agency's continued access to nuclear facilities, movement across borders and transfers through airports. The Agency is grateful for the support received from all States in their interactions with Agency staff at Agency Headquarters and for Agency inspectors and technicians.

30. Many State authorities have continued to provide the Agency with the reports and declarations required under relevant safeguards agreements, although there has been a significant increase in late reporting by States when compared to previous years. Postal service interruptions have made it impossible to send statements to some States. In turn, some States have had problems delivering reports

and AP declarations due to disruptions in air travel (dip pouches) or mail services, although the State Declaration Portal has helped alleviate this issue in a number of cases. Between 1 March and 30 November 2020, the Agency received 7334 nuclear material accountancy reports. In return, the Agency provided feedback (or addressed) to the State or regional authorities: 210 summary letters and 411 acknowledgment letters. The Agency provided States with semi-annual book inventories and import/export communication statements (178 original letters and attachments).

31. Most outcomes from the 2020/2021 Departmental Development and Implementation Support Programme for Nuclear Verification, funded by Member States, are expected to be unaffected, although approximately one quarter of individual outputs may experience a delay or be otherwise impacted by restrictions related to COVID-19, such as the current difficulties in accommodating training, and in-field testing of equipment under development.

E. Conclusion

32. At the outset of the pandemic, the Director General stated that, despite the difficult situation, the Agency would not interrupt its verification activities. This report shows that despite the numerous challenges posed by travel restrictions and other health and safety measures, through greater effort and at higher financial cost, the Agency has continued to implement safeguards effectively during the COVID-19 pandemic. The Agency has effectively adapted itself to the new circumstances by focusing its effort on the most critical safeguards activities, both in the field and at Headquarters. Where necessary, it has implemented a series of remedial and mitigating measures. The Agency currently assesses that it will be able to draw soundly-based safeguards conclusions for all States for 2020.