IAEA 60 Years
Atoms for Peace and Development

General Conference

GC(60)/13
Date: 12 August 2016

General Distribution
Original: English

Sixtieth regular session
Item 17 of the Conference's provisional agenda
(GC(60)/1, Add.1 and Add.2)

Strengthening the Effectiveness and Improving the Efficiency of Agency Safeguards

Report by the Director General

A. Introduction

1. The General Conference, in resolution GC(59)/RES/13 entitled 'Strengthening the Effectiveness and Improving the Efficiency of Agency Safeguards', requested the Director General to report on the implementation of the resolution to the General Conference at its sixtieth (2016) regular session. This report responds to that request and updates the information in last year's report to the General Conference (document GC(59)/18).

B. Safeguards Agreements and Additional Protocols

B.1. Conclusion and Entry into Force of Safeguards Agreements and Additional Protocols

2. Between 1 July 2015 and 30 June 2016, additional protocols (APs) based on the Model Additional Protocol[1] entered into force for two States.[2] An AP has been applied provisionally since January 2016 for one State[3] pending its entry into force. During the same period, a small quantities

[1] The text of the Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards is contained in document INFCIRC/540 (Corrected).

[2] Côte d'Ivoire and Liechtenstein.

[3] Islamic Republic of Iran.

protocol (SQP) was amended for two States[4] and was rescinded by another two States,[5] in keeping with the Board of Governors' decision of 20 September 2005 regarding such protocols. By the end of June 2016, 55 States had operative SQPs in force based on the revised standard text.

3. As of 30 June 2016, 182 States[6] had safeguards agreements in force with the Agency, 128 of which (including 122 States with comprehensive safeguards agreements (CSAs)) also had APs in force. As of that date, 54 States had yet to bring into force APs to their safeguards agreements.

4. Twelve States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)[7] have yet to bring CSAs into force pursuant to Article III of the Treaty.

5. The latest update of the status of safeguards agreements and APs is published on the Agency's website.[8]

B.2. Promotion and Assistance in the Conclusion of Safeguards Agreements and Additional Protocols

6. The Agency has continued to implement elements of the plan of action outlined in resolution GC(44)/RES/19 and in the Agency's updated *Plan of Action to Promote the Conclusion of Safeguards Agreements and Additional Protocols*.[9]Among the elements of the plan of action proposed in resolution GC(44)/RES/19 are:

- Intensified efforts by the Director General to conclude safeguards agreements and APs, especially with those States which have significant nuclear activities;
- Assistance by the Agency and Member States to other States on how to conclude and implement safeguards agreements and APs; and
- Reinforced coordination between Member States and the Secretariat in their efforts to promote the conclusion of safeguards agreements and APs.

7. Guided by the relevant resolutions and decision[10] of the General Conference and decisions of the Board of Governors, and the Agency's updated plan of action and *Medium Term Strategy 2012-2017*,[11] the Agency has continued to encourage and facilitate wider adherence to safeguards agreements and APs, primarily using extrabudgetary funds. The Agency organized a subregional event for States in West Africa (Niamey, Niger, 24–26 May 2016) at which the Agency encouraged the participating States to conclude CSAs and APs. It also provided a briefing to Palestine on the conclusion of a CSA in connection with the NPT (Vienna, Austria, 15 June 2016). In addition, the

---

[4] Afghanistan and Togo.

[5] Azerbaijan and Tajikistan.

[6] And Taiwan, China.

[7] The designations employed and the presentation of material in this section, including the numbers cited, do not imply the expression of any opinion whatsoever on the part of the Agency or its Member States concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers. The referenced number of States Parties to the NPT is based on the number of instruments of ratification, accession or succession that have been deposited.

[8] See: https://www.iaea.org/sites/default/files/16/07/sg_agreements_comprehensive_status_list.pdf.

[9] The plan of action is available on the Agency's website: https://www.iaea.org/sites/default/files/final_action_plan_1_july_2014_to_30_june_2015.doc.pdf.

[10] GC(58)/RES/14.

[11] The *Medium Term Strategy 2012–2017* is available at: http://www.iaea.org/about/mts.

Agency held consultations with representatives from a number of Member and non-Member States in New York and Vienna at various times throughout the year.

C. Implementation and Further Development of Safeguards

C.1. Safeguards Implementation at the State Level

8. In August 2014, the Director General submitted a report to the Board of Governors entitled *Supplementary Document to the Report on The Conceptualization and Development of Safeguards Implementation at the State Level (GOV/2013/38)*. The supplementary document (GOV/2014/41 and Corr.1) was prepared in response to Member States' requests at the September 2013 meetings of the Board of Governors.

9. The Board of Governors took note of the clarifications and additional information provided in the supplementary document and of the Director General's intention to continue to keep the Board of Governors informed on the matter. General Conference resolutions GC(58)/RES/14 and GC(59)/RES/13, inter alia, welcomed the clarifications and additional information provided in the supplementary document, and the important assurances contained in the supplementary document and its corrigendum, and in the statements by the Director General and the Secretariat as noted by the Board of Governors at its September 2015 meetings.

10. To ensure consistency and non-discrimination in the implementation of safeguards, the Department of Safeguards has continued to improve internal work practices and issued internal procedures, guidance and related tools and templates, including on conducting acquisition path analysis and developing State-level safeguards approaches (SLAs) for States with CSAs.

11. Following the 2014 General Conference, the Department of Safeguards began to update the existing 53 SLAs for States[6] under integrated safeguards. As of the end of June 2016, 27 SLAs for States under integrated safeguards had been updated, reviewed, and approved for implementation. Updating of the remaining SLAs for States under integrated safeguards is expected before the end of 2016.

12. In the course of developing, updating and implementing an SLA, the Secretariat consults the State concerned,[12] particularly on the implementation of in-field safeguards measures. Such consultations take the form of, for example, bilateral meetings, email exchanges, letters and discussions held during in-field verification activities. Such consultations occurred throughout the reporting period.

C.2. Dialogue with States on Safeguards Matters

13. Since the last report to the General Conference, the Secretariat has continued to engage in open and active dialogue with States on safeguards matters. During the 2015 General Conference, the Department of Safeguards held a side event for Member States: 'Facing Our Challenges: Sustaining Effective Verification into the Future', featuring presentations highlighting the progress made in some of the Department's major technology projects. Some delegates participated in tours of the safeguards equipment laboratories.

---

[12] And/or regional authority, when appropriate.

14. On 6 November 2015, the Secretariat held a Technical Meeting on Safeguards Implementation, addressing progress made in safeguards implementation at the State level, with presentations delivered on: productivity, savings and the broader safeguards context; progress in updating and developing SLAs; and an introduction to the Department's performance indicators initiative. The meeting was attended by more than 90 participants from 54 Member States and the European Atomic Energy Community (Euratom). On 25 April 2016, the Secretariat held a Technical Meeting on Safeguards Implementation at which it presented the internal process for conducting acquisition path analysis and developing SLAs, using hypothetical case studies. The meeting was attended by more than 60 participants from 45 Member States and Euratom. At this meeting, the Secretariat also provided a briefing on progress made in developing and updating SLAs. The presentations delivered during both Technical Meetings have been posted on the GovAtom website.

15. The Secretariat held a Seminar on IAEA Safeguards on 25–26 April 2016, which was attended by more than 50 participants from 42 Member States and Euratom. The seminar featured presentations by the Secretariat on: the legal framework for Agency safeguards; safeguards dimensions of the nuclear fuel cycle; core safeguards implementation processes; the resources and assistance available to States for capacity building in safeguards; and an overview of the structure and content of the annual Safeguards Implementation Report (SIR). The seminar closed with a presentation by the Deputy Director General for Safeguards. The event also featured a tour of the safeguards technology laboratories and a presentation on safeguards information analysis.

C.3. Safeguards Approaches

16. Since last year's report, the Agency has continued to seek improvements to the effectiveness and efficiency of safeguards implementation at the facility level. The Agency began pilot testing of remote data transmission (RDT) at a facility in India and introduced RDT at a fresh fuel store in Germany. The Agency also developed safeguards approaches for verification of transfers of spent fuel between two nuclear power plants in Argentina and for transfers of waste containing nuclear material to new waste storage facilities in Canada. In addition, the Agency began testing a laser mapping technique for containment verification at a spent fuel dry storage facility in Canada. The Agency and the Republic of Korea finalized practical arrangements, enabling the Secretariat to initiate unannounced inspections as of 1 May 2016 at light water reactors in the Republic of Korea.

17. The Agency has continued to consult Ukraine's authorities throughout the design stage for the facilities under construction at the site of the Chernobyl nuclear power plant (the spent fuel storage facility for Chernobyl fuel and the centralized spent fuel storage for other nuclear power plants in Ukraine) with a view to advising on the incorporation of safeguards instrumentation into the design of the facilities. Since last year's report, the Agency has continued the development of an effective and efficient approach to safeguard the nuclear material to be contained in the new safe confinement of the nuclear power plant, which is scheduled to be installed over the damaged Reactor Unit 4 in 2017. Work also continued on the development of a safeguards approach for the irradiated fuel when transferred from wet storage to interim dry storage.

18. Nuclear material inaccessible for verification remains in damaged Reactor Units 1–3 at the Fukushima Daiichi site in Japan. Surveillance systems and neutron–gamma monitoring systems continue to be used to ensure that nuclear material could not leave the damaged reactors without the Agency's knowledge. Steps are being taken to transmit data from these monitoring systems to the Agency's offices in Tokyo.

19. The development activities associated with the implementation of safeguards at the Japan Mixed Oxide Fuel Fabrication Plant continued to be limited, in line with progress on the plant's

construction. An initial draft of a Facility Attachment has been produced and is being discussed with the State.

20. The Agency has continued to prepare for implementing safeguards at new facility types, such as encapsulation plants, geological repositories, pyroprocessing plants and laser enrichment facilities. For example, the Agency, Finland, Sweden and the European Commission (EC) continue to coordinate and cooperate closely in the planning of safeguards implementation at encapsulation plants and geological repositories in Finland and Sweden. Since last year's report, the Finnish Government issued a license to construct an encapsulation plant and geological repository in Finland. The Application of Safeguards to Geological Repositories (ASTOR) expert group, which was established by the Agency, met in the United States of America in April 2016 to discuss prospective safeguards technologies and equipment, and to consider its work for the years ahead. A report on the meeting is being prepared by the group and will be shared with Member States and the Secretariat. In addition, the Agency and Spain have continued to discuss the early introduction of safeguards features in the design of a future centralized spent fuel storage and waste handling facility.

21. The Agency is developing guidance documents aimed at enhancing the understanding of nuclear facility vendors and designers regarding safeguards needs and at encouraging the consideration of safeguards measures in the design and construction of nuclear facilities. Five of a series of six facility-specific guides are in various stages of publication in the Agency's Nuclear Energy Series, with four expected to be available on the Agency's website later in 2016. Through the International Project on Innovative Nuclear Reactors and Fuel Cycles and the Generation IV International Forum, the Agency has continued to develop tools to simplify and enhance assessments of proliferation resistance, and provided information about the consideration of safeguards in the design and construction of nuclear facilities to States that are interested in beginning nuclear power programmes.

C.4. Information Technology

22. Information technology (IT) plays an increasingly important role in the implementation of Agency safeguards. Since last year's report, the Agency has continued upgrading and optimizing the IT infrastructure in the Department of Safeguards, under the Modernization of Safeguards Information Technology (MOSAIC) project. During this period, the MOSAIC project has provided new tools and applications for, inter alia, compiling safeguards information in a single integrated and secure environment; planning and reporting in-field activities; and automating the production of elements of the annual SIR. Use of these tools and applications has improved quality and efficiency.

23. MOSAIC is being managed and implemented with close cooperation between developers and users. Experienced users have been assigned as product owners within MOSAIC project teams, and acceptance tests, monthly forums and other events were used to incorporate user feedback throughout the development process. Furthermore, strengthened programme management controls were put in place to ensure the delivery of the products on schedule and within budget. MOSAIC continues to proceed according to plan, with completion of all deliverables scheduled for mid-2018.

C.5. Information Analysis

24. In order to draw soundly-based safeguards conclusions, the Agency evaluates declarations and reports submitted by States, data generated from its own verification activities in the field and at Headquarters, and other safeguards-relevant information available to it. Throughout the reporting period, the Agency enhanced its capabilities to acquire and process data, and to analyse and evaluate information in relation to the State evaluation process and the drawing of safeguards conclusions. The Agency continued to make improvements to the overall performance of its information system,

including within the scope of the MOSAIC project, by enhancing associated applications and facilitating appropriate access to data.

25. Since last year's report, the Agency has continued to perform material balance evaluations as part of the process for drawing conclusions on the non-diversion of declared nuclear material. In support of this process, the Agency relies on data from verification activities performed in the field and at Headquarters, including the results of destructive analysis and non-destructive assay (NDA) measurements of nuclear material. To help reduce statistical uncertainty in operators' measurement results and improve the quality of nuclear material accounting information, the Agency monitored the performance of facility laboratory and measurement systems, and organized international technical meetings, training courses and workshops for various States on nuclear material accounting, including measurement data analysis, statistical methodologies and material balance evaluation concepts. The evaluation of analytical results from environmental and nuclear material samples collected during verification activities continued to play an essential role in assessing the absence of undeclared nuclear material and activities. In 2015, the Agency received and reviewed over 780 000 lines of inventory changes, and more than 2100 AP declarations provided by 127 States; prepared 206 nuclear material balance evaluation reports; and integrated and interpreted the results from 323 environmental samples taken in 25 States. Approximately 950 summaries of safeguards-relevant information were prepared in support of State evaluations for 181 States.[6]

26. The Agency has continued to utilize high resolution commercial satellite imagery to improve its ability to monitor nuclear facilities and sites worldwide. During 2015, the Agency acquired 407 commercial satellite images from 15 different satellites, and produced 135 internal imagery analysis reports and 118 corresponding site plans. Imagery analysis continued to provide great benefits for planning in-field verification and Headquarters evaluation activities. Commercial satellite imagery remains a critical tool to monitor nuclear facilities and sites in States where the Agency has limited or no access. The Department of Safeguards' Geospatial Exploitation System (GES) provided authorized staff across the Department with access to commercial satellite imagery, imagery analysis reports and a variety of imagery-derived products.

27. Since last year's report, open source and trade information continued to be routinely used by the Agency to support analysis of nuclear-related trade. During 2015, a number of Member States voluntarily provided the Agency with information concerning 80 unfulfilled procurement enquiries for nuclear-related products. This information was used to assess the consistency of nuclear activities declared by States to the Agency. From this and other data, 60 trade analysis reports were produced for State evaluation purposes.

C.6. Analytical Services

28. The collection and analysis of nuclear material and environmental samples are essential safeguards activities. The analysis of such samples is performed at the Agency's Safeguards Analytical Laboratories (SAL) in Seibersdorf, which consist of the Nuclear Material Laboratory (NML) and the Environmental Sample Laboratory. Analyses are also performed at the other laboratories of the Agency's Network of Analytical Laboratories (NWAL) (see paragraph 30 below). In 2015, the Agency collected 644 nuclear material samples and five heavy water samples. It also collected 323 environmental samples, including 274 swipe samples and 49 other samples.

29. Under the Enhancing Capabilities of the Safeguards Analytical Services (ECAS) project, transition activities required to move into the new NML were completed in December 2015. These included the procurement and receipt of equipment required for both the chemical and instrumentation laboratories as well as successful testing and validation of all NML laboratory functionalities. Provisional operation commenced in December, following approval by the Agency's Radiation Safety

and Nuclear Security Regulator, and acknowledgement by the Austrian Government. With the new facilities and infrastructure, provided through the ECAS project, the Agency is able to conduct safeguards sample analysis in safe, secure, modern facilities for decades to come.

30. The NWAL currently consists of the Agency's SAL in Seibersdorf and 20 other qualified laboratories in nine Member States and the EC. NWAL expansion continues for both nuclear material analysis and environmental sample analysis. Laboratories in Belgium, Canada, the Netherlands and the United States of America are undergoing qualification for nuclear material analysis. Laboratories in China, the Czech Republic and Hungary are undergoing qualification for environmental sample analysis. In addition, a laboratory in Argentina is undergoing qualification for heavy water analysis, and a laboratory in Germany is considering undergoing qualification for the provision of reference material.

C.7. Equipment and Technology

31. Verification activities rely heavily upon the use of equipment, including both equipment installed at facilities and portable equipment. At the end of June 2016, 290 installed systems in 25 States[6] were remotely connected to Agency Headquarters; an additional 163 unattended monitoring systems were operating autonomously in 60 facilities in 23 States; and 1437 surveillance cameras connected to 878 systems were operating at 261 facilities in 35 States.[6] During 2015, more than 900 portable and resident NDA systems were prepared and delivered to the field for use during inspections.

32. Since last year's report, more than 6200 pieces of verification equipment were dispatched to support verification activities in the field. Significant financial and human resources have been dedicated to preventive maintenance and performance monitoring, achieving an overall reliability for digital surveillance systems, unattended monitoring systems and electronic seals that exceeded the target of 99% (i.e. systems were available for operation more than 99% of the time).

33. A newly developed and recently authorized 'Online Enrichment Monitor' was installed at the Natanz Fuel Enrichment Plant in the Islamic Republic of Iran to measure the level of uranium enrichment in relation to the Agency's verification and monitoring of the Islamic Republic of Iran's commitments under the Joint Comprehensive Plan of Action.

34. Technology foresight activities aim to identify and evaluate the potential application of emerging technologies for use in verification. Since last year's report, successful pilot deployments in the field have identified additional applications of 3D laser scanning in support of nuclear material verification at bulk handling facilities. A workshop at Agency Headquarters facilitated a comparative evaluation of nine different gamma vision instruments. Further technologies are undergoing evaluation for possible use in design information verification and during complementary access.

C.8. Cooperation with, and Assistance to, State and Regional Authorities

35. The effectiveness and efficiency of Agency safeguards depend, to a large extent, on the effectiveness of State and regional systems of accounting for and control of nuclear material (SSACs/RSACs) and on the level of cooperation between the State or regional authorities responsible for safeguards implementation (SRAs) and the Agency.

36. SRAs need legislative and regulatory systems to be able to exercise the necessary oversight and control functions, as well as resources and technical capabilities commensurate with the size and complexity of the State's nuclear fuel cycle. In some States, SSACs have yet to be established, and not all State safeguards authorities have the necessary authority, resources or technical capabilities to implement the requirements of safeguards agreements and APs. In particular, some do not provide

sufficient oversight of nuclear material accounting and control systems at nuclear facilities and at locations outside facilities where nuclear material is customarily used (LOFs), to ensure adequate quality and timeliness of the data being transmitted to the Agency. To assist in building capacity among State authorities of 'newcomer States', the Agency held a first-of-its-kind 'Safeguards Implementation Practices (SIP) Workshop'[13] on establishing and maintaining State safeguards infrastructure, for 26 participants from 17 Member States. The workshop was based on the SIP Guide on this topic (IAEA Services Series No. 31) and took place from 16 to 18 February 2016 at Agency Headquarters. A second SIP workshop was held from 5 to 7 April 2016 for State authorities and facility operators to exchange information and share good practices for facilitating in-field verification activities, based on IAEA Services Series No. 30.

37. A number of States have taken actions to enhance safeguards implementation. Examples of such actions include: hosting regional workshops to raise awareness of Agency safeguards; providing the Agency with early design concepts to assist in developing safeguards measures for emerging new nuclear fuel cycle technologies; performing national inspections at facilities and LOFs; validating operator data and assuring the quality of records, reports and declarations prior to submitting information to the Agency; making facilities available for training of Agency staff; and providing experts to lecture and facilitate in workshops and training courses.

38. In December 2015, the Agency published Russian and Spanish versions of the *Guidance for States Implementing Comprehensive Safeguards Agreements and Additional Protocols* (IAEA Services Series No. 21). In June 2016, the third Guide in the SIP series was published as IAEA Services Series No. 33, addressing the collection, processing, quality control and submittal of information by States to the Agency.[14] The Agency further enhanced the safeguards pages of its website, providing SRAs and others with access to these new publications as well as safeguards-related videos, photos, guidance and reference documents, forms and templates.

39. The IAEA SSAC Advisory Service (ISSAS) provides States, at their request, with advice and recommendations on the establishment and strengthening of SSACs. Since last year's report, the Agency has not conducted any ISSAS missions, but has received requests for such missions to be carried out later in 2016. As of the end of June 2016, 21 ISSAS missions had been conducted since the service's inception in 2004.

40. The Agency has continued to provide training to personnel of SRAs as well as operators of facilities and LOFs. Since last year's report, the Agency has conducted nine training courses at regional and national levels. Three regional SSAC courses were conducted — one in the Republic of Korea (for States in the Asia and the Pacific region preparing to introduce nuclear power programmes), one in Chile and another in Azerbaijan. Upon the request of Member States, six training courses were organized at the national level, including a course in Canada on safeguards implementation; one on radiation detection equipment for inspectors in the Republic of Moldova; courses on safeguards implementation in the United Arab Emirates and in Indonesia; and a national workshop at Agency Headquarters for participants from Kazakhstan on the calculation of material unaccounted for at large bulk handling facilities.

41. The 2016 Safeguards Traineeship Programme, involving six participants from Cambodia, Iraq, Nigeria, Thailand, Viet Nam and Zimbabwe, commenced in February. During the programme, the trainees will participate in training at Agency Headquarters and at the Institute of Atomic and

---

[13] Further information is available at https://www.iaea.org/newscenter/news/iaea-hosts-first-ever-safeguards-implementation-practices-workshop-for-practitioners.

[14] Agency safeguards guidance documents can be found at https://www.iaea.org/safeguards/assistance-for-states.

Subatomic Physics in Vienna, and then receive ten weeks of training in Karlsruhe, Germany and one week of training in Paks, Hungary.

42. The Agency provided lecturers and conducted tabletop exercises to support six training courses organized by Member States. Topical training courses on safeguards implementation were organized by the United States of America and held in Malaysia, Laos, Cambodia and Algeria. A regional SSAC training course was organized by Japan and held in Tokai-Mura, and one international training course on the fundamentals of nuclear safeguards was organized by the Republic of Korea and held in Daejeon. Since last year's report, safeguards-related issues were discussed with officials in Kenya and in Morocco during Agency-led Integrated Nuclear Infrastructure Review (INIR) missions. Department of Safeguards staff participated in the plenary meeting of the Asia–Pacific Safeguards Network, held in Tokyo, Japan, in November 2015, and provided lectures on nuclear material accounting and reporting, and preparing AP declarations. Staff also contributed their expertise to the first Workshop on Research Reactor Infrastructure Development, Nuclear Knowledge and Education, and to a pre-Integrated Research Reactor Infrastructure Assessment (IRRIA) mission,[15] which was requested by Mongolia.

C.9. Safeguards Workforce

43. Since last year's report, 13 new inspectors have completed the Introductory Course on Agency Safeguards (ICAS), which included modules on NDA techniques, containment and surveillance, radiation protection, enhanced observational skills, design information verification, and negotiation and communication skills. The ICAS course concluded with the inspectors demonstrating their acquired skills during a comprehensive inspection exercise at a light water reactor and the presentation of a case study. Preparations are being made for a second ICAS course to begin in October 2016.

44. Since last year's report, courses were provided for the full range of safeguards activities conducted at facilities and Agency Headquarters to develop both technical and behavioural skills. Training was provided at short notice to several staff members due to the reallocation and recruitment of staff for the new Office for Verification in Iran. Departmental training was enhanced through the addition of courses to support State Evaluation Groups on acquisition path analysis and the development of SLAs, and courses on new IT applications developed under the MOSAIC project.

45. To ensure the health, safety and security of Agency staff in the field, particularly in light of elevated security levels in some locations, procedures specifying communication protocols during in-field emergencies were updated and information cards are being issued to staff. The Refresher Training Course on Radiation Protection for Safeguards Staff was updated and conducted in Vienna and Seibersdorf in June 2016.

C.10. Quality Management

46. The Department of Safeguards continued to implement and improve its quality management system, responsibility for which was moved to the Office of the Deputy Director General for Safeguards. The responsible Section was given an expanded mandate and renamed the Section for Safeguards Performance and Quality. Since last year's report, the Department has continued to develop an approach to use performance indicators more effectively to assess and monitor activities and results, and to support decision-making and prioritization.

---

[15] An IRRIA mission is a new peer review service that will be conducted by the Agency, upon a Member State's request, to assist in determining the status of the Member State's national nuclear infrastructure and to identify further development needs to support a new research reactor project.

47. The Department of Safeguards continued to use its condition report system to identify non-conforming or potentially non-conforming conditions and radiological and industrial safety concerns, and performed root cause analyses and actions to prevent recurrence of such events. Staff training was conducted to raise awareness of quality management, including managing and controlling documents, using the condition report system, and continual process improvement. The Department's cost calculation methodology, which is used to estimate the cost of safeguards implementation by State, was extensively reviewed and refined during the year. Since last year's report, knowledge management activities continued, with a focus on retaining the knowledge of those staff members retiring or separating from the Department of Safeguards. Internal safeguards documentation used in performing in-field verification activities was reviewed and updated, and improvements were made to the safeguards core document management system and its user interface.

C.11. Information Security

48. In 2015, the Agency reviewed its policies, procedures and practices, and completed improvements to procedures for proper classification and handling of all safeguards information. The Agency has also further increased its capacity to protect sensitive safeguards information and manage business continuity. For example, the safeguards IT infrastructure is now housed in a new safe and secure Data Centre, thus mitigating the risks associated with any loss of essential IT functions.

49. Additionally, extra measures are being implemented and procedures introduced to better protect Agency safeguards information in the field. The new safeguards IT working environment established under the MOSAIC project has provided improved information security.

50. Security awareness campaigns and enhancements to the information security e-learning programme have continued since last year's report. In addition, a training course on the classification of safeguards information and its handling and protection has been developed for all staff in the Department of Safeguards. In 2015, 16 such training sessions were held and 700 staff members completed the training.

C.12. Safeguards Reporting

51. The Secretariat reported the safeguards conclusions for 2015 in *The Safeguards Implementation Report for 2015*,[16] which also provided information on the implementation of safeguards activities, as well as data on the number of facilities and LOFs under safeguards, and the inspection effort and related cost of safeguards implementation. At its June 2016 meeting, the Board of Governors took note of the report and authorized the release of the Safeguards Statement for 2015 and of the Background to the Safeguards Statement and Summary.

C.13. Strategic Planning

52. The Secretariat carries out planning to ensure that safeguards implementation will continue to be both effective and efficient in the future. To this end, the Department of Safeguards conducts long-, medium-, and short-term planning to ensure that its processes and technical capabilities (e.g. equipment and infrastructure) remain fit-for-purpose and its human and financial resources are sufficient to carry out its work. Such planning also facilitates communication and cooperation with Member States.

---

[16] The Safeguards Statement for 2015 and the Background to the Safeguards Statement and Summary of *The Safeguards Implementation Report for 2015* are published on the Agency's website at: https://www.iaea.org/sites/default/files/sir_2015_statement.pdf.

53. In 2015, the Secretariat began to update the Department's Long-Term Strategic Plan 2012–2023 and continued to implement, with assistance from Member State Support Programmes,[17] its *Long-Term Research and Development Plan 2012–2023*. In February 2016, the Secretariat published the *Development and Implementation Support Programme for Nuclear Verification 2016–2017* to communicate near-term needs and ongoing activities for strengthening verification capabilities.

[17] At the end of June 2016, 20 Member States and the EC had formal support programmes in place with the Agency.