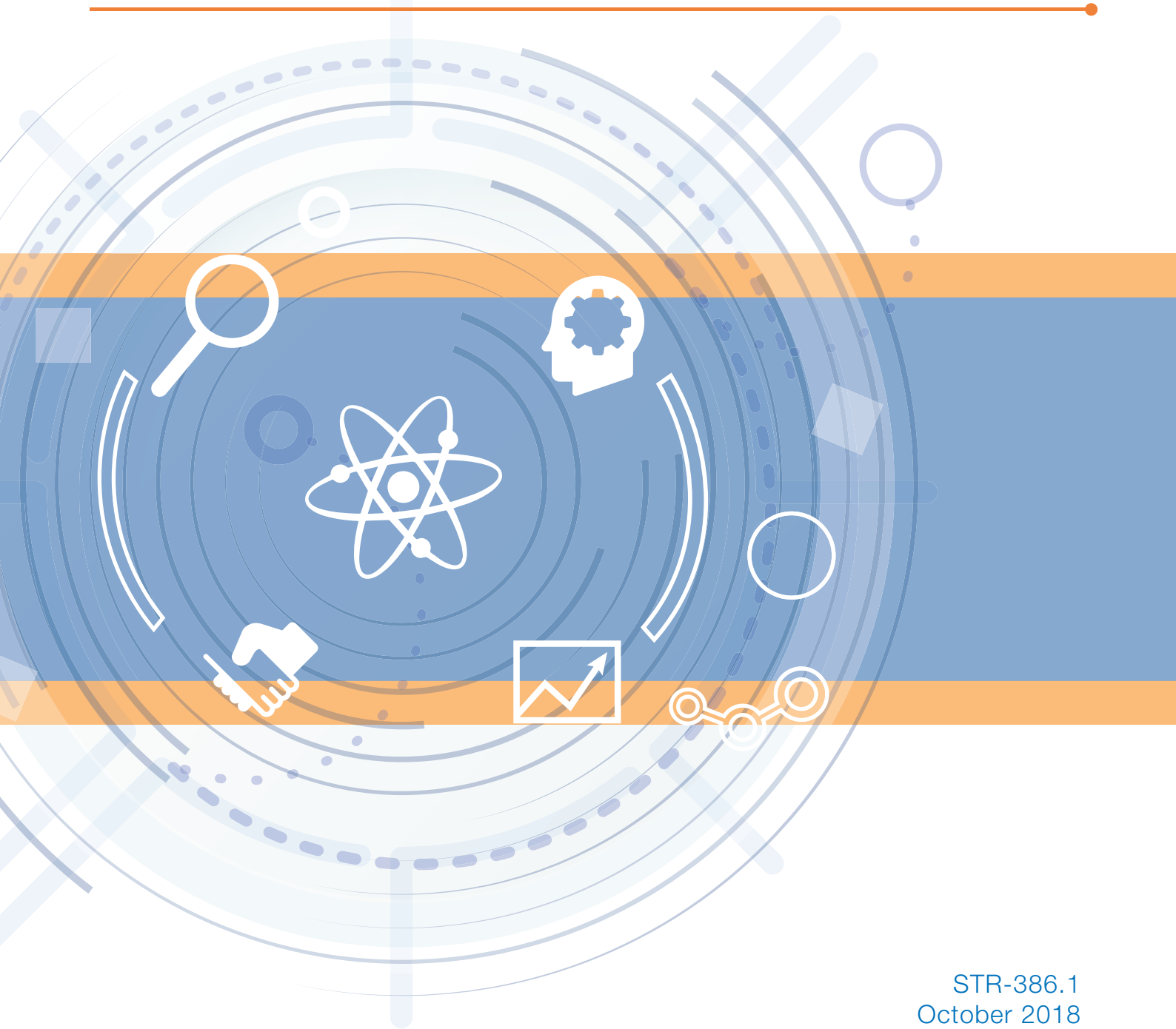
IAEA

Safeguards

Development and Implementation Support Programme for Nuclear Verification 2018—2019, Addendum



STR-386.1
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DDGO-001

Overall Safeguards Management and Coordination

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Division: Office of the Deputy Director General, Section for Safeguards Programme Coordination, Department of Safeguards

1. Overview

This project aims at enhancing the Department of Safeguards' capacity for executive level (DDG) coordination; the internal communication; the strategic life cycle management of Safeguards assets and, the cross-Divisional management and coordination of these efforts.

During the 2018-2019 biennium, Project DDGO-001 will pursue the following objective:

Strengthen the executive level management and execution of three interrelated areas: the coordination of high-priority and high-risk departmental initiatives requiring substantial additional resources; the strategic recapitalization of critical assets; and the internal communication.

The project supports the following R&D needs from the *R&D plan*:

Priority Objective	R&D Need
T.4 Manage Safeguards technology assets strategically	T.4.R1 Execute a long-term maintenance and replacement plan for the safeguards information technology system as a follow-up to MOSAIC.
	T.4.R2 Develop and execute a long-term replacement plan for analytical equipment at the Safeguards Analytical Laboratories, with an appropriate mix of regular and extra-budgetary funds.
T.5 Identify and exploit innovations	T.5.R2 Identify areas in which technology challenges could be an asset for developing the Department's technologies and methodologies.
S.1 Communicate proactively and transparently	
C.3 Strengthen departmental communication and coordination	
C.4 Secure and optimally manage financial resources	

For the 2018-2019 biennium, the project's top priorities are to:

- Build up the Department's capacity to strategically manage its assets (aligned with ISO 55000, 50001, and 50002) through new and updated guidelines, procedures, information systems enhancements, inventory data cleansing, staff training, and raising awareness of staff.
- Increase the effectiveness of internal communication within the Department of Safeguards.
- Develop and acquire resources to coordinate high-priority and complex projects requiring considerable resources.

2. Background

Integrated Lifecycle Management of Safeguards Assets

Activities related to asset management will be performed in close coordination and collaboration with Division-level projects, such as SGIS-003 and SGAS-002, aiming to develop long-term replacement plans of the specific technology assets for which these Divisions are responsible.

The project seeks to create a Department-level framework for managing all safeguards assets based on prioritized needs, and in alignment with the departmental and Agency strategy. In order for the timely identification of recapitalization needs, and to feed this information into the budget preparation process, the Department requires a mechanism to prioritize reinvestment needs given its budgetary constraints. The Department also needs to make sound decisions based on the information available to it through existing information systems. Any medium- and long-term safeguards assets related needs must be assessed and managed against weighed risks of insufficient replacement/maintenance plans; decisions made must then be effectively communicated to the Agency's Member States.

Support is sought from Member States with experience in managing large infrastructure assets with high-value equipment and technology (e.g. complex laboratories, large hospitals or industrial plants). The IAEA looks for expertise and effective strategies for sustaining cost and performance. Through a risk-averse extension of an asset's lifespan or, alternatively, strategies to re-invest, the Department can make timely and effective decisions. Support is also required to both enhance the capacity of the Department to better approach asset management strategically as well as, thanks to financial contributions, to ensure the sustainability of existing service levels through timely replacement of critical assets.

This project focuses on building Departmental capacity to better manage assets needs strategically, whereas Divisional projects, i.e. SGIS-003 and SGAS-002, in coordination with Operations Divisions, will identify specific financial and other needs to operate their critical assets to meet the Agency's legal obligations. Figure 1 below depicts the main principles of good asset management by helping to lower cost and extend the lifespan of assets by weighing in all risk factors.

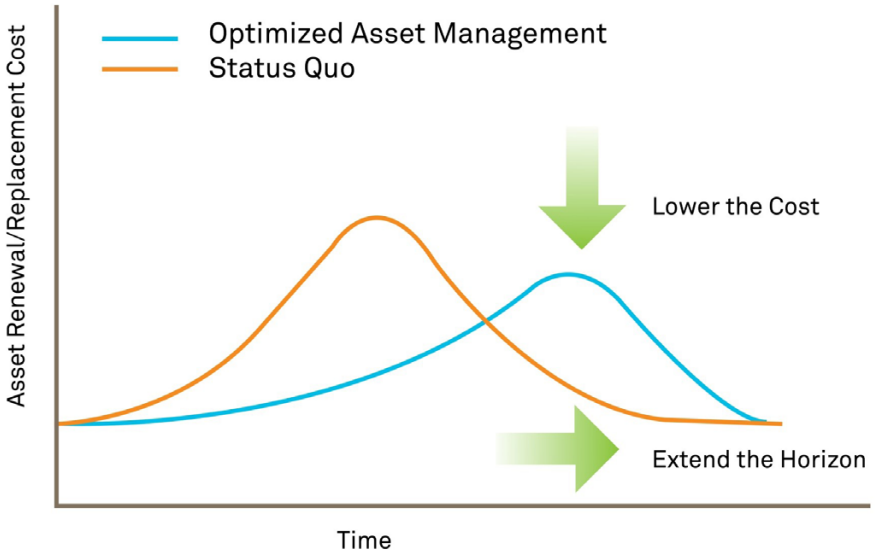

Figure 1. Principles of good asset management

The Department of Safeguards has made substantial capital investments (e.g. ECAS, MOSAIC, and NGSS) in recent years to both tangible and intangible assets (e.g. internally-developed software) in support of its verification mission. These investments encompass different areas, and range from specialized laboratory equipment to specialized safeguards non-destructive assay equipment, a new generation of surveillance equipment, and modern IT equipment including specialized software. Some of the assets are located on IAEA premises, while other assets are hosted at facilities across the world.

As the Department operates its critical assets, it faces the dual risk of asset deterioration and of not being able to timely replace and maintain these assets, in particular due to budget constraints. This gives rise to enhancing foresight in the funding and capacity required to replace and renew assets. Among other things, business continuity, the capability for Safeguards to carry out verification activities and services, could be jeopardized if these risks are not properly addressed. By mitigating these risks, the Department will be in a better position to continue its verification mission to the same high standard and effectively maintain assets provided through recent major capital investments. Furthermore, the Department stands to benefit from a reduced total cost in operating assets, reduced recapitalization costs, and an improved and sustainable operating performance of current Safeguards assets (e.g. reduced failure rates, increased availability). By implementing an enhanced management approach for its assets, the Department of Safeguards will further optimize the use of its resources, while ensuring sustainability of service levels to meet its legal obligations.

Under existing financial constraints and with Safeguards' assets depreciating, the Department needs to further improve life cycle management of safeguards technical capabilities, and cover re-capitalization needs in the medium- and long-term. Safeguards equipment and other technology critical for verification activities vary widely in their lifespan, state of health, maintenance, and replacement cost. Therefore, an integrated approach for the Department, based on international standards, will be established to better understand and monitor re-capitalization needs.

Work is needed to clearly prioritize capital investments in terms of risk and criticality; to collect necessary data through various safeguards information systems and identify realistic lifetimes for assets; to consider lifetime extension options; and to understand the associated procurement cycles. Once the scope and extent of this information is accurately characterized, the Department will be in a position to consider a comprehensive integrated life cycle management system, essential in producing a long-term capital investment plan for the Department of Safeguards. The Department recognizes the importance of the responsible and sustainable management of its assets, identifying 'strategic management of Safeguards technology assets' (T.4) as a priority objective for delivering its mission. To this end, the Department must demonstrate that service levels are delivered in the most efficient and effective manner and that due regard is given to the long-term stewardship of critical assets.

Effectively coordinate high-priority projects at the executive level

Based on the lessons learned from major capital projects in the Department of Safeguards and the IAEA, there is a need to enhance the executive level (DDG) coordination function for strategic and high-priority initiatives. Resources and expertise are needed to manage the high-priority projects of the Department of Safeguards. Effective project-based management and effective communication to all stakeholders, requires management and coordination expertise with emphasis on Safeguards-specific technologies and methods. The Department needs to strengthen relevant coordination capability through the development of existing skills and the acquisition of missing expertise not readily available within the Department.

Strengthen Communication

As the Department continues to face important challenges coupled with significant staff turnover, strengthened communication is essential. Results from a staff survey, management survey, focus groups, and interviews showed that internal communication within the Department needs further improvement. The results showed that there are gaps in communication within the Department, and that staff and management alike seek more opportunities to collaborate, openly communicate, and learn from each other. Further Support to performing internal Department communication is needed.

Required support would include specific expertise in the areas of culture change, communication management and communication delivery, or financial contribution to introduce additional staff with knowledge in this area. Additional financial support would ensure that the Department of Safeguards has the right communication tools available to it.

Member States support would enable the continuous improvement and implementation of a Department-specific communication strategy. The internal strategy establishes communication priorities, enhances messaging strategy, and applies a long-term, sustainable approach to maintaining effective communication between Safeguards staff.

The Department of Safeguards has already achieved positive results in regards to communication, with requests from staff and management to continue to engage across the Department of Safeguards and with other Departments within the IAEA through additional events and communication channels. Funding for this task will help this important initiative while further building a culture of information sharing and collaboration within the Department of Safeguards. This will lead to greater efficiencies, greater preparedness for communication of reports and events by the Department of Safeguards, and greater engagement of staff.

3. Expected outcomes and key outputs

In order to reach Project DDGO-001's objectives and achieve the associated R&D needs from the *R&D Plan*, tasks have to be initiated, continued, and/or finalized during the 2018-19 biennium, and can be structured under the following expected outcomes:

Expected Outcomes and Key Outputs	Expected Completion Date
1.) Integrated asset management efforts at the departmental level for all Safeguards assets owned or operated by the Department. (In support of T.4.R1 and T.4.R2) • Re-defined Safeguards procedures on asset management. • Asset Management Plans (AMP) for key assets, as per ISO 55000-55002, for e.g. Safeguards Information Technology, Safeguards Inspection Equipment, and the equipment of the Safeguards Analytical Laboratory (in cooperation with SGAS-002 and SGIS-003). • High-quality inventory data and information systems to enable data-driven analysis in support of the Department's recapitalization strategy (In cooperation with SGIS-003).	December 2019
2.) Enhanced foresight and decision support on funding needs and budgeting decisions for acquisition/replacement of Safeguards assets. (In support of T.4.R1, T.4.R.2, S.1 and C.4) • A mechanism at the departmental level for funding renewals of critical Safeguards assets. • Safeguards assets renewal long-term plan to communicate effectively with Safeguards stakeholders, including Member States, on potential extra budgetary needs.	December 2019
3.) Effectively coordinated high-priority departmental capital investments and other tasks. (In support of T.4.R1, T.4.R.2, T.5.R2, S.1, and C.3) • Development and/or acquisition of skilled resources with the necessary communications, technical, and managerial background for executive level coordination of high-priority initiatives on introducing new technologies and techniques, and to exploit innovations with impact on Safeguards implementation.	Continuous

Expected Outcomes and Key Outputs	Expected Completion Date
4.) Increased capability for information sharing and greater collaboration. (In support of C.3) • Implementation of a Department-specific communication strategy to enhance senior leadership and staff communication capabilities.	December 2019
5.) Increased Staff engagement/satisfaction. (In support of S.1, and C.3) • Updated and implemented (internal) communication strategy, including review and updated use of the Safeguards Portal and new or improved communication channels for feedback, sharing, and relationship building. • Continuous improvement in the consistency of internal messaging with messaging conveyed to Member States.	December 2019

4. Tasks

Funding and resources for most of the project implementation support tasks are requested from Member States Support Programmes (MSSPs), which will play a major role in achieving the project objectives. Some tasks will be supplemented by regular budget resources.

1.) Integrated asset management efforts at the departmental level for all Safeguards assets owned or operated by the Department. (In support of T.4.R1 and T.4.R2)

As this project focuses on improving overall management of the assets within the Department, it is vital to review the current inventory management procedures and to develop new procedures focused on asset and ageing management by engaging different stakeholders in the Department and within the IAEA (operations, maintenance, finance etc.). Moreover, stewards of Safeguards assets (primarily SGAS, SGTS, and SGIS) define the service levels required for the maintenance of their critical assets. This requires identifying life cycle strategies for different asset categories, and identifying best practices for their operation, maintenance, upgrade, disposal, and renewal. Based on the ISO 55000 standard, the strategy on managing the assets will be described in a document named the Asset Management Plan (AMP). Considering the variety of assets managed by the Department, such a plan needs to be elaborated by the responsible asset stewards to reflect the technical and operational specificities of each asset category. Such strategies need to be integrated into a single departmental strategy for managing Safeguards assets as a whole.

Information systems are a pillar of effective asset management. The current Safeguards inventory management software, SEQUOIA, underwent recent re-development as part of the Modernization of Safeguards Information Technology (MOSAIC) project. This modernization enhanced the capabilities of the legacy system EQUIS, and improved integration with the Agency's enterprise resource planning system, AIPS. However, the historical data held within SEQUOIA needs analysis and cleansing. Moreover, additional attributes about Safeguards assets need to be collected in order to determine the appropriate asset hierarchy, operational lifespan, condition of assets (at headquarters and in the field), and their relevant priority.

In addition to SEQUOIA, specialized software tools and models are required for performing analysis about the recapitalization needs on a year-by-year basis.

Member States can support this via financial support and/or expertise. While existing internal resources will be used, the IAEA may ask Member States to provide, for example:

- Expertise on Asset Management and/or expertise on specific assets (e.g. technology)
- Financial contributions for the project
- Training for IAEA staff

2.) Enhanced foresight and decision support on funding needs to support budgeting decisions for the acquisition/replacement of Safeguards assets. (In support of T.4.R1, T.4.R.2, S.1, and C.4)

Capital renewal excludes the cost of maintenance and repairs, and focuses mainly on the planned replacement of Safeguards assets. In order to avoid the failure of critical assets, the scale and priorities for renewing assets in future years must be estimated. The recapitalization budget is determined by projecting over a period of several years the forecasted expenditure to replace Safeguards assets at the end of their expected lifespan. One of the objectives of the project is to enhance the existing recapitalization approach by incorporating data on the condition of assets, as well as ongoing maintenance and repair information captured in SEQUOIA. This will help extend the lifespan of assets and minimize the risk of the unexpected deterioration of critical assets. Such an approach also needs to be supported by a financial strategy and mechanism in line with the Agency's rules and policies.

The improved decision support tools will enable the Department and the Agency to better understand the risks and costs associated with the intense operation of Safeguards assets required to meet the growing workload under statutory obligations.

Member States can help via financial support and/or expertise. While existing internal resources will be applied, the IAEA may ask Member States to provide, for example:

- Expertise on Asset Management and/or expertise on specific assets
- Financial contributions for the project
- Training for IAEA staff

3.) Effectively coordinated high-priority departmental capital investments and other tasks. (In support of T.4.R1, T.4.R.2, T.5.R2, S.1, C.2, and C.3)

Experience from recent major capital and high-priority investments has demonstrated the need for improved coordination at the executive level of the Department of Safeguards; such improved coordination is required to successfully manage resources, risks and dependencies across multiple Department's Divisions. This also requires a project-based management approach supported by effective communication internally and to other stakeholders outside the Department.

Member States can help via financial support and/or expertise. While existing internal resources will be used, the IAEA may ask Member States to provide, for example:

- Expertise on new and existing techniques and technologies
- Financial contributions for the project and high priority departmental capital investments

4.) Increased capability for information sharing and greater collaboration. (In support of C.3)

In order for the Department of Safeguards staff to most effectively perform their daily tasks, sharing of information and collaboration are of vital importance. With increased capabilities through communication channels, staff are expected to more easily share and find solutions in support of verification activities and perform other activities directly related to their work. Collaborative collegial interactions, and increased knowledge sharing, will support staff increased engagement in their work and finding of efficiencies through others' experiences. Staff will also more clearly understand departmental objectives, priorities, and the resources available to support them.

Member States can help the implementation of the communication strategy via financial support and/or expertise. While existing internal resources will be used, the IAEA may ask Member States to provide, for example:

- Expertise on in the field of communications
- Financial contributions for the project

5.) Increased staff engagement/satisfaction. (In support of S.1, and C.3)

A better flow of communication between managers/leadership and among staff will help reduce the duplication of work, foster stronger relationships within the workplace, and help facilitate communication and collaboration across the Safeguards Divisions and the IAEA as a whole. An engaged staff also leads to improved organizational agility to adjust to changes in a flexible and timely manner. Furthermore, by continuously streamlining internal and external reporting, the quality and consistency of information products shall be enhanced.

Member States can help via financial support and/or expertise. While existing internal resources will be used, the IAEA may ask Member States to provide, for example:

- Expertise in the field of communications
- Financial contributions for the project

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