

Programme N. SAFEGUARDS

Rationale: Article III.A.5 of the Agency's Statute authorizes the Agency to establish and administer safeguards designed to ensure that special fissionable and other materials, services, equipment, facilities and information made available by the Agency or at its request or under its supervision or control are not used in such a way as to further any military purpose; and to apply safeguards, at the request of the parties, to any bilateral or multilateral arrangement, or at the request of a State, to any of that State's activities in the field of atomic energy. Safeguards are applied pursuant to: (a) agreements based on INFCIRC/153 (Corrected) related to States' commitments under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Tlatelolco Treaty, or to treaties such as those establishing nuclear-weapon-free zones which embody a comparable non-proliferation commitment; (b) agreements based on INFCIRC/66/Rev.2, which are item specific agreements; (c) Voluntary Offer Agreements concluded with the nuclear weapon States; and (d) additional protocols, concluded on the basis of the Model Additional Protocol (INFCIRC/540 (Corrected)).

In addition, the Agency assists the international community in nuclear disarmament efforts, as referred to in Article III. B.1 of the Statute, for example, by contributing to the development of means of verification of weapon origin and other fissile materials specified by the Russian Federation and the United States of America as released from defence programmes.

Objective: To provide credible assurance to the international community that nuclear materials and other items placed under safeguards are not diverted or misused, and, for States with comprehensive safeguards agreements in force, to provide credible assurance on the absence of undeclared nuclear material and activities for States as a whole; and to support the efforts of the international community in connection with nuclear disarmament.

Outcomes
<ul style="list-style-type: none"> — Safeguards conclusions on the non-diversion of nuclear material placed under safeguards. — Safeguards conclusions regarding the absence of undeclared nuclear material and activities. — Safeguards conclusions on the peaceful use of nuclear material, equipment, facilities and non-nuclear material safeguarded under agreements based on INFCIRC/66/Rev. 2. — Safeguards conclusions that nuclear material placed under safeguards pursuant to Voluntary Offer Agreements are not used for proscribed purposes.

Outcomes (cont'd)
<ul style="list-style-type: none"> — Conclusion and subsequent implementation of safeguards agreements and additional protocols thereto in an increasing number of States. — Implementation of integrated safeguards in an increasing number of States.
Performance Indicators
<ul style="list-style-type: none"> — Number of States for which conclusions are drawn regarding the non-diversion of nuclear material placed under safeguards and the absence of undeclared nuclear material and activities for States as a whole. — Rate of attainment of safeguards inspection goals. — Number of States in which a comprehensive safeguards agreement and an additional protocol are being implemented. — Number of States in which integrated safeguards are being implemented.

Specific criteria for prioritization:

- First priority is given to those projects which respond directly to the Agency's mandatory obligations. The Agency is legally bound to conduct these projects under any and all circumstances and cannot postpone or defer their implementation on the basis of insufficient resources.
- Second priority has been given to projects which support or enhance the Agency's performance. They provide the approaches, the technology, and the information technology and research infrastructure that enables the Agency to be effective and efficient in conducting mandatory activities. Ranking these projects as second priority does not indicate that they can be deferred or do not have to be carried out. Rather, implementing these projects ensures that the obligations defined in the Agency's Statute and safeguards agreements and arising from decisions of the Board of Governors are met in the most effective and efficient manner.
- Third priority has been given to non-mandatory projects that are carried out at the request of Member States. In the case of the 2004–2005 programme, the project "Development of an Agency verification regime for weapon origin and other fissile materials specified by the Russian Federation and the United States of America, as released from defence programmes" has been given third priority.

Subprogramme N.1. Operations

Rationale: Safeguards agreements with States confer on the Agency the legal obligation and authority to apply safeguards to nuclear material, facilities and other items subject to safeguards. These safeguards activities include design information verification and verification of nuclear material and other items subject to safeguards agreements, including additional protocols, and the performance of State evaluations.

The results of these activities constitute the basis for independent conclusions about the non-diversion of nuclear material placed under safeguards and, where appropriate, the absence of undeclared nuclear material and activities for the States as a whole. The Agency’s ability to detect undeclared nuclear material and activities is significantly enhanced in States that have additional protocols in force. The results of safeguards activities are reported to Member States in statements as mandated by the safeguards agreements and protocols thereto, as well as in the Safeguards Implementation Report (SIR).

Objective: To provide, by carrying out safeguards activities in an effective and efficient manner, credible assurance to the international community:

- (a) That nuclear materials and other items placed under safeguards are not diverted or misused;
- (b) On the absence of undeclared nuclear material and activities for States with comprehensive safeguards agreements in force;
- (c) On the peaceful use of nuclear material, equipment, facilities and non-nuclear material safeguarded under agreements based on INFCIRC/66/Rev.2; and
- (d) That nuclear material placed under safeguards pursuant to Voluntary Offer Agreements, in States with such agreements, is not used for proscribed purposes.

Outcomes
<ul style="list-style-type: none"> — Detection of any diversion or misuse of nuclear material and other items placed under safeguards and, where appropriate, any undeclared nuclear material and activities. — Implementation of safeguards agreements and additional protocols thereto in an increasing number of States.
Performance Indicators
<ul style="list-style-type: none"> — Rates of attainment of safeguards inspection goals. — Number of States for which conclusions on the non-diversion of nuclear material placed under safeguards and, where applicable, regarding the absence of undeclared nuclear material and activities are drawn for States as a whole. — Number of State Evaluation Reports completed and reviewed.

Programme changes and trends: One of the priorities of this subprogramme will be to conduct the activities necessary in connection with comprehensive safeguards agreements to draw conclusions on both the non-diversion of nuclear material from declared activities and the absence of undeclared nuclear material and activities for the State as a whole based on the evaluation of all relevant information available to the Agency. Subsequently, the Agency will progressively apply integrated safeguards in an increasing number of States to achieve further cost efficiency.

The entry into force of the protocol additional to the safeguards agreement with the European Union, expected in 2003, will result in a substantial increase in the workload, in particular for the analysis and evaluation of Article 2 declarations as well as for complementary access and evaluating the consistency of all relevant information to enable the Agency to draw safeguards conclusions for States as a whole.

Verification activities will continue to be redistributed from on-site activities towards activities at headquarters, inter alia, due to such measures as installation of unattended monitoring equipment with remote data transmission capability where practical, and increasing activities associated with information evaluation.

The trend towards building medium term spent fuel dry storages, either on the reactor site or at a facility some distance away, is expected to continue and will require additional resources to verify the transfer of spent fuel to these storages, in particular for the Chernobyl project. In Kazakhstan, transfers from the spent fuel storage pool at the BN-350 fast breeder reactor to dry storage are anticipated to begin at any time in 2004–2006 and to last for several years, assuming that there are no major setbacks, and also depending on the type and location of the storage facility selected. In Canada, the transfers of spent fuel to dry storage will take place at four CANDU reactor sites. All four dry storage sites increase their capacity on a regular basis for the storage of spent fuel. One of the two multi-unit sites increased its throughput of spent fuel to dry storage and intends to maintain this throughput for years to come. An additional dry storage facility became operational in 2002 to receive spent fuel from the other multi-unit reactor site. The spent fuel transfers at this site are scheduled to double in 2005–2006.

Furthermore, the commissioning of new conversion and enrichment facilities is expected to result in a substantial increase in workload.

The JNFL reprocessing project will enter an important stage, with hot tests anticipated at the Rokkasho Mura reprocessing plant in 2004. Prior to these tests, equipment, piping, cabling and instrumentation need to be in place. Specific inspector training will occur during this period and the on-site laboratory will have started operation. A further increase in verification activities is expected

as of 2005 when commercial operation of the facility is to commence.

Verification of the correctness and completeness of the initial declarations by the Democratic People's Republic of Korea (DPRK) of its nuclear material subject to safeguards is expected to require a significant increase in inspection effort, as will the application of Agency safeguards on the reprocessing of spent fuel in India if it should take place.

Resource changes and trends: The regular budget resources needed for Subprogramme N.1 amount to \$65 083 600 for 2004 and \$67 442 300 for 2005. The regular budget includes increases of \$3 166 600 in 2004 over 2003 and increase of \$2 358 700 in 2005 over 2004.

The net increase in the regular budget for 2004 reflects the expansion of activities in the area of verification that require additional staff. Specifically, for States with comprehensive safeguards agreements and additional protocols thereto in force (Project N.1.02), activities related to the review of initial declarations, verification including complementary access, and State evaluations will rise as the number of such States is expected to increase during the biennium.

The funds for the project on safeguards equipment implementation (N.1.08) have been significantly increased to \$10 663 500 in 2004 and \$11 587 800 in 2005. Despite this increase, the Agency will continue to rely on extrabudgetary contributions from Member States for the purchase of safeguards equipment.

The reduction of funds for information processing (Project N.1.05) is due to the spin-off of activities related to the analysis of open source information and satellite imagery, which are now contained in a new project under Subprogramme N.2 (N.2.13).

Included within the regular budget are costs of services provided by policy making and co-ordination and legal services, amounting to \$455 000, in support of verification and evaluation activities. Moreover, \$4 793 000 is included for the Safeguards Analytical Laboratory for 2004.

The extrabudgetary funds under Subprogramme N.1 (\$5 948 000 in 2004 and \$4 942 000 in 2005) will be primarily directed to the project on verification in States with voluntary offer agreements (N.1.04), such as verification in the USA, and for safeguards equipment (N.1.08).

The cost of unpredictable and/or non-recurrent activities, such as a reprocessing campaign in India, a peak verification effort in the DPRK, or possible new approaches to safeguards and non-proliferation by Euratom that could represent a transfer of inspection workload and equipment costs to the Agency, remain unfunded. The total unfunded CAURBs for the subprogramme amounts to \$3 150 000 in 2004 and \$2 600 000 in 2005.

Financial resources (2003 prices)

N.1.	2003	2004	2005
Reg. budg.	61 917 000	65 083 600	67 442 300

Recurrent Project N.1.01: Verification in States with comprehensive safeguards agreements

Main outputs: Under comprehensive safeguards agreements (INFCIRC/153 (Corrected)), the activities which will be conducted include design information verification and verification of nuclear material subject to those agreements, that constitute the basis for conclusions about the non-diversion of declared nuclear material and the absence of undeclared material and activities.

Approaches and inspection procedures agreed upon with national authorities and facility operators will be implemented. Under this project, a statement on the results of inspections, in accordance with Article 90(a) of INFCIRC/153 (Corrected), and a statement of conclusions, in accordance with Article 90(b) of INFCIRC/153 (Corrected), as well as the results of design information verification pursuant to Article 48 of INFCIRC/153 (Corrected), will be provided to States. Furthermore, based on the results of verification activities and of the subsequent analysis of all relevant information, safeguards conclusions will be drawn and provided in the SIR.

Unfunded activities/means of implementation: Contingent of six Professional staff for additional work in DPRK.

Ranking: 1 ex aequo

Recurrent Project N.1.02: Verification in States with comprehensive safeguards agreements and an additional protocol in force

Main outputs: In addition to the rights and obligations under comprehensive safeguards agreements, safeguards measures as outlined in the Model Additional Protocol (INFCIRC/540 (Corrected)) will be implemented in order to strengthen the effectiveness and improve the efficiency of the safeguards system.

Approaches and inspection procedures agreed upon with national authorities and facility operators will be implemented. In addition to statements pursuant to Articles 90(a) and 90(b) of INFCIRC/153 (Corrected), as well as the results of design information verification pursuant to Article 48 of INFCIRC/153 (Corrected), statements will be issued to States as required by Article 10 of INFCIRC/540 (Corrected). Furthermore, based on the results of these verification activities and of the subsequent analysis of all relevant information, safeguards conclusions will be drawn and provided in the SIR about the non-diversion of declared nuclear material and about the absence of undeclared nuclear material and activities for States as a whole.

Programme N

Unfunded activities/means of implementation: Staff, equipment and travel costs for additional verification tasks that may result from new approaches to non-proliferation by Euratom.

Ranking: 1 ex aequo

Recurrent Project N.1.03: Verification in States with an INFCIRC/66-type agreement

Main outputs: Under safeguards agreements based on INFCIRC/66/Rev. 2, the Agency's safeguards activities include design information verification, verification of nuclear materials, facilities, equipment, or non-nuclear materials subject to those agreements. In addition, measures provided for in the Model Additional Protocol (INFCIRC/540 (Corrected)) and accepted by States will be implemented.

Approaches and inspection procedures agreed upon with national authorities and facility operators will be implemented. Under this project, the Agency will continue to inform the State concerned of the results of each inspection by means of a safeguards transfer agreement letter. Furthermore, based on the results of these verification activities and of the subsequent analysis of all relevant information, safeguards conclusions will be drawn and provided in the SIR about the non-diversion of declared nuclear material or the non-misuse of facilities, equipment or non-nuclear material placed under safeguards.

Unfunded activities/means of implementation: Verification activities at a reprocessing plant in India.

Ranking: 1 ex aequo

Recurrent Project N.1.04: Verification in States with Voluntary Offer Agreements

Main outputs: Under the provisions of Voluntary Offer Agreements, verification activities will be carried out on design information and on nuclear material voluntarily offered for safeguards in nuclear weapon States. In addition, measures provided for in the Model Additional Protocol (INFCIRC/540 (Corrected)) that have been identified by the respective State as capable of contributing to the non-proliferation and efficiency aims of the protocol will be implemented. Safeguards activities may include design information verification, verification of nuclear materials subject to those agreements, and analysis of the information that constitutes the basis for conclusions about the non-diversion of declared nuclear material.

Approaches and inspection procedures agreed upon with national authorities and facility operators will be implemented. Under this project, a statement on the results and a statement of conclusions will be provided to States in accordance with the relevant articles in the Voluntary Offer Agreements which correspond to Article 90(a) and to Article 90(b), respectively, of INFCIRC/153 (Corrected). In addition, for States with an additional protocol in force, statements will be issued to States as required.

Furthermore, based on the results of these verification activities and of the subsequent analysis of all relevant information, safeguards conclusions will be drawn and provided in the SIR.

Ranking: 1 ex aequo

Recurrent Project N.1.05: Information processing

Main outputs: Under this project, nuclear material accounting data, nuclear material transit information, additional protocol declarations, and other State declared information will be processed. Furthermore, information will be stored in databases in order to allow for its retrieval and subsequent analysis which would contribute to the evaluation of a State's nuclear activities.

The up to date information collected during inspections and received from Member States will be made available in databases. Semi-annual statements of book inventories of nuclear material subject to safeguards by material balance area, semi-annual statements and quarterly import communications on unconfirmed imports, exports and domestic transfers and semi-annual statements on timeliness of reporting will be provided to the respective Member States.

Ranking: 1 ex aequo

Recurrent Project N.1.06: State evaluation

Main outputs: All safeguards relevant information available to the Agency — such as declarations and submissions by States, results of Agency inspections, and of complementary access conducted pursuant to additional protocols, as well as information from open and other sources — will be collected, reviewed and evaluated.

State Evaluation Reports will be produced and reviewed periodically.

Ranking: 1 ex aequo

Recurrent Project N.1.07: Effectiveness evaluation

Main outputs: The evaluation of the effectiveness of verification activities will be conducted in order to be able to derive credible safeguards conclusions.

The results will be summarized and communicated to the Board of Governors in the SIR. This project will also result in the improved assessment of the effectiveness of the safeguards system, and clear and transparent communication of the results to Member States.

Ranking: 1 ex aequo

Recurrent Project N.1.08: Safeguards equipment implementation

Main outputs: This project will result in the availability of appropriately prepared, calibrated, tested and maintained safeguards equipment that is necessary to perform inspection and other

verification activities. Adequate portable, resident and installed equipment will be available, for existing and new safeguards applications, and for the implementation of such measures as unattended monitoring.

Ranking: 1 ex aequo

Recurrent Project N.1.09: Sample logistics and analysis

Main outputs: Samples taken in the field will be collected and subsequently analysed. Analyses will be conducted at the Safeguards Analytical Laboratory (SAL) and at the Network of Analytical Laboratories (NWAL).

This project will result in precise and accurate analyses — meeting international target values — of samples of nuclear and other specified material, as well as of environmental samples, that are necessary for drawing safeguards conclusions. In addition, improved and refined procedures for the safe and timely transportation of nuclear material and of environmental inspection samples from the inspection site to SAL and from SAL to NWAL will be applied.

Ranking: 1 ex aequo

Subprogramme N.2. Development and Support

Rationale: The implementation of safeguards requires a proper infrastructure that is supported by projects designed to provide reliable instrumentation, dependable and secure information technology capabilities, timely and high quality data evaluation reports, and development of safeguards plans, concepts and approaches. Such activities ensure that the technological infrastructure for verification activities is adequate; that the necessary R&D is initiated with the support of Member States; that the staff is appropriately trained to perform its tasks; and that the necessary financial and human resources are both available and efficiently managed. The collection and analysis of information is carried out in support of State evaluation activities with state of the art technological, information and analytical tools.

This subprogramme also includes activities related to programme analysis, human resources and financial control (regular budget and extrabudgetary funds) and co-ordination of the assistance provided by Member State Support Programmes (MSSPs), including R&D activities and cost free experts.

Objective: To improve the effectiveness and efficiency of inspections by providing and developing safeguards approaches, reliable instrumentation, information and analytical tools necessary to meet safeguards goals and criteria.

Outcomes
<ul style="list-style-type: none"> — Provision of effective and efficient technology. — Provision of adequate analytical tools. — Provision of effective and efficient safeguards approaches and practices. — Conclusion and subsequent implementation of safeguards agreements and additional protocols in an increasing number of States. — Efficient management of financial and human resources.
Performance Indicators
<ul style="list-style-type: none"> — Availability and reliability of instrumentation as required. — Availability and reliability of software applications and information technology tools. — Availability of financial and human resources as required.

Programme changes and trends: Efforts will continue to promote the conclusion of safeguards agreements and additional protocols, thus implementing elements of the action plan as recommended by the General Conference in 2000 (GC(44)/RES/19). There will be intensified interaction between the Agency and Member States regarding the conclusion of safeguards agreements as well as the organization of joint regional seminars and workshops to discuss and clarify technical, legal and policy issues related to additional protocols.

The development of safeguards concepts, approaches, methodologies, techniques and tools for applying integrated safeguards and the provision of support to operations in the transition to integrated safeguards will continue to be a major focus of this subprogramme. In this regard, State level integrated safeguards approaches for the relevant States will be further developed during the 2004–2005 biennium. Experience from the implementation of integrated safeguards will be used for the fine tuning of guidelines and criteria.

In relation to the decommissioning of the Chernobyl nuclear power plant, a major campaign of spent fuel transfers to dry storage is expected to require significant efforts in the procurement and installation of equipment.

Further development of NDA, and unattended and remote monitoring systems and seals will be needed to increase inspection effectiveness and efficiency. Obtaining and managing financial and human resources will continue to be a key factor in the delivery of the programme. An adequate level of regular budget funds will be essential to cover mandatory activities, while extrabudgetary funds will continue to be sought for specific research and development tasks and for projects carried out at the request of Member States. Communication of these needs through MSSPs will be enhanced.

Programme N

Resource changes and trends: The regular budget resources for Subprogramme N.2 amount to \$34 308 900 for 2004 and \$35 295 200 for 2005. The regular budget includes increases of \$7 911 900 for 2004 over 2003 and of \$986 300 in 2005 over 2004.

This subprogramme contains six new projects, adding transparency and clarity to the programme and reflecting the project management approach in the planning, execution and monitoring of safeguards activities.

Resources needed for developing and preparing the implementation of safeguards at Chernobyl (N.2.11), amounting to \$785 000 in 2004, and at a large mixed oxide fuel fabrication plant in Japan (N.2.16), amounting to \$158 000 in 2004 and \$1 119 000 in 2005 are now presented separately. The project for negotiation of safeguards agreements (N.2.12), M.1.05 in 2003, has been redefined and now includes promotional activities related to additional protocols (\$2 193 700 for 2004). The strengthening of safeguards related State Systems of Accountancy and Control (SSACs) has been singled out as a project (N.2.15) requiring funds of \$293 000 in 2004 under the regular budget; in addition, a sum of \$627 000 is expected from the Nuclear Security Fund for this project in 2004.

To ensure that new inspectors are properly trained, one additional introductory course (ICAS) is foreseen under Project N.2.07 for 2004 and 2005, respectively. In addition, a group of young professionals from developing countries will be offered training for ten months, an activity that the Agency has been carrying out on a biennial basis. The corresponding net increase in funds for this project is \$349 000 for 2004.

A new project related to the collection and analysis of open source information and of commercially available satellite imagery (N.2.13) will require \$2 351 000 in 2004, mainly for the procurement and analysis of information, including satellite images.

Additional resources have been included in the regular budget for the re-engineering of the Agency's safeguards information system (around \$3.9 million in 2004 and 2005). Despite this increase, the project will require substantial extrabudgetary contributions from Member States to ensure its completion in a timely manner. This project (N.2.14) addresses the concern that core applications of the current safeguards software infrastructure are based on technology standards of 20 years ago, and that their use, operation and maintenance has become increasingly expensive.

Included within the regular budget are costs of services provided by policy making and co-ordination and legal services, which amount to \$434 700 in support of safeguards approaches, the Trilateral Initiative, and negotiation and promotion of additional protocols.

Extrabudgetary funds are expected to be received in an amount of \$8 966 000 in 2004 and \$9 045 000 in 2005. Of these amounts, \$6 100 000 per year is required for the implementation of the ISIS project. Other extrabudgetary contributions are for cost free experts and consultants who are fulfilling tasks requiring specific skills for a limited period of time. The extrabudgetary resources also includes \$309 000 for consultants participating in the Trilateral Initiative. Furthermore, resource requirements of \$660 000 in 2005 for the installation of security doors to access Headquarters offices have been identified as a core activity for which no funding is available in the regular budget.

Financial resources (2003 prices)

N.2.	2003	2004	2005
Reg. budg.	26 397 000	34 308 900	35 295 200

Recurrent Project N.2.01: Instrumentation development and field support

Main outputs: Under this project, the necessary R&D will be initiated, with the support of Member States, in order to ensure an adequate technological infrastructure for verification activities. This will result in developed, tested and authorized NDA instruments, containment and surveillance equipment, and improved unattended and remote monitoring systems for inspection use as required. In addition, a Quality Management System (QMS), corresponding instrumentation procedures and documentation, including hardware and software configuration control, will be prepared and maintained. Specialized field support will be available for equipment set-up, calibration and use, including the determination and implementation of physical standards and reference materials.

Under integrated safeguards, equipment may be required to operate for extended periods of time between servicing, requiring higher reliability, greater storage capacity and longer running autonomous power systems.

Ranking: 16 ex aequo (2nd priority)

Recurrent Project N.2.02: IT application support

Main outputs: The Agency's safeguards require special software and hardware to receive, store, process and analyse, in an accurate, secure and timely manner, data received from States or obtained by the Agency in the course of its verification activities.

This project will result in the development and subsequent maintenance of new software applications systems for inspections and on-site evaluations and for activities at headquarters, such as integrated safeguards, management of resources, data related to NPT accounting and the SIR. In addition, new applications will be available to Member States, for example to facilitate their reporting to the Agency.

Ranking: 16 ex aequo (2nd priority)

Recurrent Project N.2.03: IT systems support

Main outputs: The software and hardware utilized in fulfilling the Agency's mandate will be supported by an adequate information technology (IT) infrastructure which provides reliable network, telecommunications and database services that are essential to verification activities.

This project will result in a reliable and secure computing and communications environment, including the data processing infrastructure, telecommunication links to regional offices, facilities and Member States, and electronic and physical security measures, desktop availability of safeguards information from databases, a data warehouse infrastructure, access to local and wide area networks and secure telecommunication links for remote monitoring. Another result of this project will be an operational security policy on safeguards data and information systems, including confidentiality, authenticity, integrity and availability.

Unfunded activities/means of implementation: Security doors for Department of Safeguards access to Headquarters offices.

Ranking: 16 ex aequo (2nd priority)

Recurrent Project N.2.04: Systems studies and approaches

Main outputs: This project will result in State level integrated safeguards concepts and approaches; improved guidelines for additional protocol implementation, such as for declaration review, and complementary access and State evaluation; as well as safeguards approaches for new types of facilities. In order to maintain the consistency of integrated safeguards implementation, the project will provide assistance in declaration review, complementary access planning and the design of integrated safeguards approaches for specific States.

Ranking: 16 ex aequo (2nd priority)

Recurrent Project N.2.05: Standardization

Main outputs: Safeguards procedures, concepts and standardized approaches that ensure non-discriminatory application of safeguards will be developed in support of the implementation of safeguards activities.

This project will result in developed, maintained and improved project performance standards for safeguards implementation, in particular the policies, guidelines, instructions and procedures as compiled in the Safeguards Manual. A quality management system will support these performance standards to improve cost efficiency and to ensure effective, uniform and non-discriminatory safeguards implementation. In addition, this project will result in methods and tools for reporting on verification, including additional protocol related activities.

Ranking: 16 ex aequo (2nd priority)

Recurrent Project N.2.06: Statistical analysis

Main outputs: As a support to inspection teams, this project will result in plans, approaches and procedures related to analyses of quantitative safeguards verification measurements, including material balance evaluations and environmental sample data analysis. Internal reports on the trends in safeguards indicators, correlation and cross-checks of safeguards data, as well as procedures and algorithms for the analysis of safeguards implementation results will be issued. This project will also result in the provision of support services to inspection teams, including the Iraq Nuclear Verification Office (INVO), in planning and conducting instrument and tank calibrations.

Ranking: 1 ex aequo

Recurrent Project N.2.07: Safeguards training

Main outputs: High levels of competency of staff to discharge their responsibilities efficiently and effectively will be maintained through entry-level, advanced and refresher training. Another result of this project will be an updated training curriculum and the continued development and implementation of advanced and refresher training on the strengthened and integrated safeguards system, the additional protocol and the use of new and upgraded C/S and NDA equipment. In addition, in 2004, a ten month course for young graduates and Junior Professionals from developing countries will be held. This course is designed to provide specific training and practical experience at a variety of nuclear facilities throughout the fuel cycle to technically educated professionals from Member States without fuel cycle facilities.

Ranking: 1 ex aequo

Recurrent Project N.2.08: Programme and resources and Member State Support Programme administration

Main outputs: This project will result in efficient and effective programme planning, monitoring and resource management, supported by statistics. It will also result in human resources planning (including cost free experts), financial planning and reporting, and recording and oversight of travel. In response to the External Auditor's report of May 2000, and in order to increase transparency and accountability, the cost of activities related to the additional protocol will be tracked and reported.

In addition, under this project the safeguards R&D programme will be planned and implemented with the support of MSSPs, including necessary technical, in-kind and cost free expert resources. Under this project, a database on all activities sponsored by MSSPs will be maintained, and co-ordinating meetings will be periodically held to discuss R&D needs.

Ranking: 16 ex aequo (2nd priority)

Project N.2.09: Implementation of a safeguards approach at a large reprocessing plant in Japan — JNFL

Main outputs: Effective and cost efficient safeguards measures for the JNFL commercial large scale reprocessing plant at Rokkasho Mura, which is undergoing commissioning and is scheduled to begin operation in 2005, will be tested and implemented. Although, the Agency has implemented successful safeguards approaches in smaller reprocessing plants, these cannot be directly scaled up for introduction into the large plant because of: the very large human resource requirements for a continuous inspection regime; the need for added assurance that plant operations are as declared; and the large number of samples that would need to be analysed (resulting in high shipping costs and long delays, if done at SAL).

This project will result in a systematic project plan and schedule; the development, testing and implementation of new safeguards approaches and Facility Attachments; the design, procurement, installation and testing of the necessary equipment; the establishment of a joint On-Site Laboratory; examination and verification of design information; and development of a data collection and evaluation infrastructure.

Duration: Through 2005

Ranking: 1 ex aequo

Recurrent Project N.2.10: Development of an Agency verification regime for weapon origin and other fissile materials specified by the Russian Federation and the United States of America as released from defence programmes

Main outputs: When requested, activities in support of the international community's efforts towards nuclear disarmament will receive assistance regarding the technical, legal and administrative infrastructure necessary. It is in this context that the Agency is participating in the development of a regime for the verification of weapon origin and other fissile materials specified by the Russian Federation and the United States of America as released from defence programmes.

Subject to Board of Governors approval, this project will result in: new bilateral agreements for Agency verification of weapon origin and other fissile materials specified by the Russian Federation and the United States of America as released from defence programmes; verification of design information at designated facilities; agreement on specific verification approaches, procedures and equipment; procurement of equipment and certification for inspection use; a facility attachment for each such facility; and training of inspectors in preparation for their assignments.

Ranking: 25 (3rd priority)

Project N.2.11: Implementation of safeguards at Chernobyl

Main outputs: Under the general programme of decommissioning the Chernobyl NPP site, all irradiated nuclear fuel from reactor units 1–3 will be conditioned and placed into an intermediate dry storage facility. The “Shelter” covering the destroyed unit 4 will be strengthened and the nuclear material immobilized. Also under this project: a safeguards approach for verification of irradiated fuel packaging and transfers will be developed and documented; user requirements specified; safeguards equipment will be procured, assembled and tested; documentation for authorization of the safeguards system will be prepared; training of inspectors and commissioning of the equipment will be performed; and a safeguards approach will be implemented.

Duration: 2004–2005

R&D activities will be carried out with regard to the characterization of the nuclear material in the “Shelter”; different strata of material subject to safeguards will be determined; conceptual development for nuclear material and design verification methodology will be completed.

Duration: 2004–2014

Ranking: 1 ex aequo

Recurrent Project N.2.12: Negotiation and promotion of comprehensive safeguards agreements, additional protocols and subsidiary arrangements

Main outputs: Under this project, negotiations and regular contacts with Member States and outreach to civil society should result in comprehensive safeguards agreements, additional protocols and subsidiary arrangements in order to establish the legal basis for the wider implementation of safeguards. Joint regional seminars and workshops will be organized to discuss and clarify the policy, technical and legal issues with regard to the safeguards agreements and additional protocols. Furthermore, support will be provided to negotiations through the provision of model texts for safeguards agreements, additional protocols and subsidiary arrangements.

Ranking: 1 ex aequo

Recurrent Project N.2.13: Information support for strengthened safeguards

Main outputs: Strengthened safeguards requires the integration of relevant information from a variety of sources, such as State declared information and open source information, including commercially available satellite imagery. Open source information will be collected, analysed and delivered in a timely manner in support of the State evaluation process. Information is sought and collected from a number of open sources, including international and national news media. Activities under this project contribute

to information analysis and to the evaluation of a State's nuclear activities.

Open source databases and other support systems will be maintained. Compilations of open source material will be made available for evaluation, analysis and incorporation into the State evaluation process. Analysed open source information, including commercially available satellite imagery, will be provided in support of the State evaluation process.

Ranking: 16 ex aequo (2nd priority)

Project N.2.14: IAEA Safeguards Information System (ISIS) re-engineering

Main outputs: The use, operation and maintenance of large parts of the current safeguards software infrastructure is becoming increasingly expensive, as many of the core applications and the underlying technology that they run on are based on technology standards of 20 years ago. While these applications have been continually modified in an attempt to keep up with new requirements, such modifications are becoming increasingly costly. High maintenance costs reduce the resources available for new development work at a time when new development is becoming increasingly important in order to meet new demands. Newly developed core applications will significantly reduce ongoing maintenance costs and help break this cycle.

This project will result in: immediate access on-line to all needed safeguards information for inspectors, both at Headquarters and at Regional Offices; the capability to analyse all available information to support strengthened and integrated safeguards; and a flexible and adaptable architecture able to accommodate changes to safeguards activities.

Duration: 2003–2006/7

Ranking: 16 ex aequo (2nd priority)

Recurrent Project N.2.15: State Systems of Accounting for and Control of Nuclear Material (SSACs)

Main outputs: Reliable accounting and control of nuclear material is fundamental for States' ability to fulfil their international nuclear non-proliferation obligations. Legislative and regulatory systems need to be in place to implement such accounting and control of nuclear material. Technical and analytical capabilities need to be available to perform the necessary measurements, and administrative systems are required to fulfil safeguards reporting requirements. Such regulatory, technical and administrative systems are commonly referred to as the State Systems of Accounting for and Control of nuclear material (SSACs). Co-operation between SSACs and the Agency can significantly improve the effectiveness and efficiency with which the Agency carries out its safeguards activities.

This project will result in up to date guidelines for the establishment, improvement and maintenance of effective SSACs: (a) at the State level (nuclear legislation and regulatory system); and (b) at the facility level (technical and administrative systems at nuclear facilities). Guidelines on procedures and techniques for non-destructive and destructive measurements will be produced as part of SSAC requirements. An Agency nuclear material accounting handbook will be prepared covering nuclear material recording and reporting by the State. Guidelines will be issued for increased co-operation between the Agency and SSACs in implementing safeguards agreements, in particular under integrated safeguards, as well as an SSAC advisory service guide and up to date self-assessment guidelines.

Recommendations will be issued as a result of SSAC advisory service missions for the evaluation of SSACs. The necessary equipment will be provided at the State and facility level based on the recommendations of SSAC advisory service missions. SSACs will be upgraded through: co-ordinated Technical Support Programmes in three to four regions; bilateral support to States through Agency co-ordination; and regional SSAC co-operation. Training courses and workshops for the international, regional and national audiences will be held; and new and upgraded curricula for training identified as needed.

Ranking: 16 ex aequo

Recurrent Project N.2.16: Development and implementation of a safeguards approach for a large mixed oxide fuel fabrication plant in Japan — JMOX

Main outputs: JNFL is considering building a new large scale plant at its Rokkasho Mura site to produce mixed uranium and plutonium oxide (MOX) fuel. Construction is scheduled to commence in 2004 and operations are expected to start between 2008 and 2009. When the plant is built, a safeguards approach will need to be developed and implemented which will require substantial efforts and resources. Further discussions will take place with the State as definitive plans become available.

This project will result in: introduction into the facility of integrated, highly reliable, precise unattended measurement systems for the collection and evaluation of data; a systematic project plan and schedule; the development and implementation of a safeguards approach; the design, procurement, installation and testing of the necessary equipment; the examination and verification of design information; development of a data collection and evaluation infrastructure; and the preparation and implementation of a Facility Attachment.

Ranking: 1 ex aequo