

Programme J. SAFETY OF NUCLEAR INSTALLATIONS

Rationale: The Medium Term Strategy emphasizes that the achievement of a worldwide safety culture will be aided by the existence of effective international instruments prescribing the basic legal norms for the safe use of nuclear technology, internationally accepted standards, and assistance to States in their implementation. It also states that transparency and openness are important characteristics of the envisaged safety culture. For the Agency, this implies supporting such openness in Member States and taking on a more active role in helping to raise awareness of safety issues.

General Conference Resolution GC(45)/10 has paved the way for the nuclear installations programme by requesting the Agency to continue to enhance national infrastructure, to implement the international research reactor safety enhancement plan and to closely monitor research reactors subject to project and supply agreements, to develop safety standards for fuel cycle facilities and to implement the strategic plan for long term and sustainable education and training programme for nuclear installation safety. The resolution also encourages Member States to request the Agency's safety review services.

In addition General Conference Resolution GC(45)/12, parts A and F, requests the Agency to carry out further work on safety related aspects in connection with the desalination of sea water and emphasizes the unique role of the Agency in developing, through INPRO, the safety aspects for innovative reactors and their fuel cycles.

The International Conference on Topical Issues in Nuclear Safety, held in September 2001 in Vienna, also recommended to the Agency further actions in the field of risk informed decision making, fuel cycle facility safety, safety performance indicators, research reactor safety and maintaining competence in safety. It also concluded that in the future safety culture and management of safety are key elements for maintaining and enhancing safety in all nuclear installations.

The safety aspects of the cross-cutting areas (research reactors; maintaining knowledge and competence; and quality assurance) are part of this programme.

All the above safety aspects of nuclear installations are co-ordinated with other international organizations, in particular the OECD Nuclear Energy Agency (OECD/NEA) and the World Association of Nuclear Operators (WANO).

Objective: To increase the capability of Member States to achieve and maintain a high level of safety and security in nuclear installations under design, construction or in operation.

Outcomes
<ul style="list-style-type: none"> — Corrective actions taken by Member States which requested Agency services for targeted improvement of the level of safety in nuclear installations under design, construction or operating and strengthening of their regulatory infrastructure. — Consensus achieved on an international safety approach for fuel cycle facilities and small and medium size reactors and new nuclear power plants under construction. — Enhancement of safety of research reactors. — Maintenance of knowledge and competence in safety worldwide.
Performance Indicators
<ul style="list-style-type: none"> — Percentage of Agency mission recommendations addressed by Member States. — Number of integrated safety evaluation reports prepared. — Availability of a monitoring mechanism for the implementation of the Code of Conduct for Research Reactors. — Number of Safety Standards published for fuel cycle installations.

Specific criteria for prioritization:

- First priority is given to establishing standards and servicing conventions.
- Second priority is given to the application of standards.
- Third priority is given to strengthening information exchange.

Subprogramme J.1. National Regulatory Infrastructure for Nuclear Installation Safety

Rationale: A legally well established, effectively independent, technically competent and efficient national regulatory body is considered essential for nuclear safety. This was among the key conclusions of the first and second Review Meetings of Contracting Parties of the Convention on Nuclear Safety in 1999 and 2002. Both international events confirmed that Member States are striving to achieve and maintain stable and effective regulatory regimes, in order to guarantee a high level of safety of all nuclear facilities and activities under their national responsibility. It has been further stressed in the conclusion of the 2001 International Conference on Topical Issues in Nuclear Safety that there is evidence that some research reactors are operating with inadequate regulatory supervision. There is a need to support and strengthen the regulatory bodies in some Member States in order to contribute to ensuring consistency of the practices in Member

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States with the Agency's recommendations in the safety requirements on Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety, and benefiting from the dissemination of good practices identified during safety missions and lessons learned from experience of all types of nuclear installations. A network of regulatory authorities should be established to help with the exchange of information and to facilitate the co-ordination of the activities of the various groups of regulators. Incident reporting (through the Incident Reporting System (IRS)) will continue to be part of this network.

Objective: To strengthen the independence, technical competence and effectiveness of regulatory bodies in Member States.

Outcomes
<ul style="list-style-type: none"> — Use of the integrated safety evaluation for improving the infrastructure and achieving consistency of the practices in Member States with the recommendations in the safety requirements on Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety. — National regulatory authorities of Member States performing their regulatory functions effectively in the context of changing external factors. — Adequate regulatory control of research reactors in Member States. — Corrective actions taken to prevent the occurrence or recurrence of incidents or accidents.
Performance Indicators
<ul style="list-style-type: none"> — Percentage of recommendations from International Regulatory Review Teams (IRRTs) addressed by Member States. — Number of regulatory bodies using the Agency's framework for safety performance indicators. — Availability of incident reports on CD-ROM and Internet platform. — Publication, on a three year basis, of a periodic report on events reported to the IRS for all types of nuclear installations.

Programme changes and trends: Progress has already been achieved in the establishment in Member States of the legal and governmental infrastructure for nuclear, radiation, radioactive waste and transport safety. The ongoing requests for IRRT missions and follow-up IRRT missions by 2003 proves the acceptance and value of the IRRT services by Member States as a strong contributor to the enhancement of regulatory effectiveness. Along with its services, the Agency will provide by 2003 criteria to implement and promote appropriate approaches for the self-assessment of regulatory performance and quality management in regulatory organizations.

Regulatory guidance will have been developed to foster effective management of safety and safety culture in operating organizations under their jurisdiction. In addition, by the end of 2003, a framework of safety performance indicators to be used by regulatory bodies to monitor utility safety performance will have been developed.

IRRTs on regulatory effectiveness with a focus on self-assessment will continue. Good practices identified in Member States following the implementation of integrated safety evaluations need to be disseminated to regulatory authorities. The IRS will continue and be based on a common harmonized Internet platform for operating experience feedback from events occurring at nuclear power plants, research reactors and fuel cycle facilities.

Resource changes and trends: The proposed resources for Subprogramme J.1 amount to \$1 252 000 in 2004, reflecting an increase in the budget of \$368 000, or 41.6%, compared with 2003. The increase is due to a larger percentage of Professional staffing support required for a greater number of activities pertaining to IRRT/TC missions, IRS activities for installations other than nuclear power plants, i.e. research reactors and fuel cycle facilities, and the development of a harmonized Internet platform for the IRS systems for all such installations. The services of one cost free expert introduced into regular budget funding are included here. Due to the development of an Internet platform for the IRS systems, the allocation for the data processing application services, which will be required for increased programming needs, also had to be increased. There is also a need to increase the allocation for printing services to publish the planned documents (guidelines, reports, topical studies).

Financial resources (2003 prices)

J.1.	2003	2004	2005
Reg. budg.	884 000	1 252 000	1 256 000

Project J.1.01: Strengthening national regulatory infrastructures

Main outputs: This project will result in tools for regulators in the form of IRRT services, follow-ups, quality assurance systems, self-assessment of performance, risk informed regulations and good practices. Also, safety performance indicators for regulators will be available. Guidance on regulatory aspects related to new reactor designs or reactors operated for different purposes, such as desalination, will be developed. Effective co-ordination of the various groups of regulators will be achieved.

Duration: 2004–2005

Ranking: 9 ex aequo

Project J.1.02: Enhancing regulatory supervision of research reactors

Main outputs: As a result of IRRT missions, training courses, event analysis and self-assessment, regulators will be able to control effectively the operation of research reactors.

Duration: 2004–2005

Ranking: 9 ex aequo

Recurrent project J.1.03: Event reporting and analysis for regulators

Main outputs: The IRS database of reports will be made available on an Internet platform harmonized for nuclear power plants, research reactors and fuel cycle facilities. IRS reports will be made available on CD-ROM on a quarterly basis and on the Internet platform on a daily basis. Annual highlights and periodic reports will be prepared in co-ordination with the OECD/NEA. Studies will be conducted on topical issues by the IRS co-ordinators.

Ranking: 22 ex aequo

Subprogramme J.2. Information and Communication Networks and Global Infrastructure for Nuclear Installation Safety

Rationale: There is a need to ensure technical consistency in the Agency’s safety related functions (revision and development of safety standards, providing for application of the standards, servicing the Convention on Nuclear Safety (CNS), and safety information exchange). Integrated safety evaluations will be performed together with Member States by analysing all the relevant information. Assistance in education and training for nuclear installation safety is a key factor in maintaining knowledge in safety. Continuous efforts are required to increase openness and transparency within the nuclear community and vis-a-vis the public. Finally, the Agency will continue to service the CNS.

Objective: To maintain and enhance an international nuclear safety regime and to increase transparency on safety matters.

Outcomes
<ul style="list-style-type: none"> — Fulfilment of the Agency’s obligations pursuant to the CNS, including a report on generic issues, trends and areas of improvements in nuclear safety in contracting parties to the Convention — Effective communication of nuclear safety matters among experts and increased availability of nuclear safety information to the public.

Outcomes (cont’d)
<ul style="list-style-type: none"> — Sustainable nuclear safety education and training programmes in Member States. — A regional nuclear safety information network in place in South East Asia, Pacific and Far East countries.
Performance Indicators
<ul style="list-style-type: none"> — Adequately servicing the organizational and review meetings of the CNS in 2004 and 2005, respectively. — Number of integrated safety evaluations completed jointly by the Agency and Member States.

Programme changes and trends: There is a growing need to increase openness and transparency in providing safety information to the public and exchanging such information among the nuclear community. An issue affecting all aspects of nuclear energy is how to maintain and enhance competence of a new generation of professionals with special attention to nuclear safety. A more comprehensive approach will be introduced to assess the safety of a country’s overall nuclear programme — an integrated safety evaluation.

Resource changes and trends: The proposed resources for Subprogramme J.2 amount to \$1 119 000 in 2004, reflecting a decrease in the budget of \$163 000, or 12.7%, compared with 2003, which mainly results from the fact that in contrast to the 2003 budget, no interpretation costs will be required in 2004. In 2005 there is an increase of \$86 000, or 7.7% compared with 2004, which is due to the incorporation of interpretation costs for the review meetings of the contracting parties into the regular budget.

Financial resources (2003 prices)

J.2.	2003	2004	2005
Reg. budg.	1 282 000	1 119 000	1 205 000

Project J.2.01: Harmonizing the approaches to safety standards for nuclear installations

Main outputs: This project will result in the issuance of Safety Standards for nuclear power plants, research reactors and fuel cycle.

Duration: 2004–2005

Ranking: 1 ex aequo

Project J.2.02: Promoting integrated safety evaluation

Main outputs: The results of integrated safety evaluations will be consolidated in a report to be prepared jointly by the Agency and the respective country. Periodic report updates (every two years) will serve as the technical basis for prioritizing safety actions and adjusting the focus of Agency safety services and assistance to be provided. The

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integrated safety evaluation reports may be available for use by the respective countries as input for the preparation of national reports in the framework of the CNS and formulation of requests for Agency assistance.

Duration: 2004–2005

Ranking: 9 ex aequo

Project J.2.03: Implementing a strategy for sustainable education and training in nuclear installation safety

Main outputs: Standard training material for use by lecturers and students on topics of nuclear installation safety will be developed by the Agency, as well as packages to train trainers in nuclear safety subjects using modern educational tools (e.g. distance learning); a methodology for the transfer of knowledge on safety case will be made available.

Duration: 2004–2005

Ranking: 9 ex aequo

Project J.2.04: Increasing openness and transparency in nuclear safety

Main outputs: The results of this proposal will be a Web based platform connecting the Agency and Member States and providing a wide range of nuclear safety information with different levels of access and technical information commensurate with the user's needs (technical community and public).

Duration: 2004–2005

Ranking: 22 ex aequo

Recurrent project J.2.05: Maintaining the International Nuclear Event Scale (INES) and information exchange on nuclear and radiation events (NEWS)

Main outputs: Information will be shared between safety specialists and the public through INES Advisory Committee meetings, the NEWS steering group and training seminars.

Duration:

Ranking: 22 ex aequo

Project J.2.06: Supporting regional safety network programmes

Main outputs: A main project output will be the establishment of a nuclear safety network of national centres of countries providing and receiving assistance in the framework of the project.

Duration: 2004–2008

Ranking: 22 ex aequo

Recurrent project J.2.07: Servicing the Convention on Nuclear Safety

Main outputs: A report on generic issues, trends and necessary improvements in safety based on the Agency's safety services will be made available to contracting parties in 2004. A report of the review meeting prepared by the contracting parties will be produced and will be made available. The report will indicate the highlights of the peer review process conducted among the contracting parties.

Ranking: 1 ex aequo

Subprogramme J.3. Use of Advanced Tools for Safety Assessment

Rationale: There are rapid developments worldwide in making use of advanced tools for safety assessment. Deterministic and probabilistic methods complement each other. The 2001 International Conference on Topical Issues in Nuclear Safety underlined the importance of resolving, in particular, issues related to 'risk informed decision making' and to the use of safety performance indicators. Both topics were also addressed by the Review Meeting of Contracting Parties to the Convention on Nuclear Safety, held in April 2002.

Defence in depth will remain an essential nuclear safety strategy for both existing as well as new NPPs. The effectiveness of the defence in depth is evaluated through engineering investigations, combining qualitative analysis and quantitative methods, typically using computational analytical tools, both deterministic and probabilistic, to evaluate the performance of the barriers and the safety systems.

An effective quality assurance programme is essential for achieving a high level of nuclear safety. Safety performance indicators together with probabilistic safety assessment (PSA) applications will become key tools for both regulators and utilities.

Objective: To increase the capability of Member States to achieve a high level of safety by: promoting the use of advanced safety assessment tools, with enhanced integration of deterministic and probabilistic approaches and use of safety performance indicators; and strengthening quality assurance in nuclear safety.

Outcomes
— Use of advanced safety assessment methods for nuclear installations in Member States.
— Maintenance of knowledge derived from the previous generation of safety assessment tools and use of advanced tools without jeopardizing the safety level.
— Enhanced quality assurance programmes in safety of nuclear installations.

Performance Indicators
— Percentage of recommendations from Review of Accident Management Programmes (RAMP) and International Probabilistic Safety Assessment Review Team (IPSART) services addressed by Member States.
— Extent of use of advanced tools for safety assessment by Member States.

Programme changes and trends: Building on the earlier achievements, efforts in 2004–2005 will be devoted to advanced safety analysis. Increasing attention will be devoted to relevant computational analysis for the safety of research reactors and fuel cycle facilities. Integration of probabilistic and deterministic approaches into overall safety evaluations will be addressed. The use of safety performance indicators by operators and regulators will continue to help monitor safety performance. Means of communicating this information to the public will be addressed. A systematic programme to address the implementation and updating of the Agency's QA safety standards and development of other supporting documentation will be initiated.

Resource changes and trends: The proposed resources for Subprogramme J.3 amount to \$1 261 000 in 2004, reflecting a decrease in the budget of \$106 000, or 7.8%, compared with 2003. Funding is slightly reduced for this subprogramme as the need for printing, translation and research contract funding will decrease.

Financial resources (2003 prices)

J.3.	2003	2004	2005
Reg. budg.	1 367 000	1 261 000	1 297 000

Project J.3.01: Assisting in the use of advanced safety analysis tools

Main outputs: Guidance will be developed on the adequate use of the best estimate approach in deterministic safety analysis with evaluation of uncertainties. Comprehensive safety analysis tools will be developed for innovative reactor designs, selected types of research reactors and fuel cycle installations. A screening method for verification of the defence in depth capabilities in NPPs will be developed. Accident management programmes will be fully implemented.

Duration: 2004–2005

Ranking: 1 ex aequo

Project J.3.02: Assisting in the use of safety management tools

Main outputs: This project will result in guidelines and technical reports on the development and application of modern safety management tools to assess and enhance nuclear safety; this will include a common framework of safety performance indicators to be used by utilities and regulators, as well as analysis of the feedback from its usage. Guidance will be provided on the consistent use of PSA results within the broader concept of risk informed decision making.

Duration: 2004–2005

Ranking: 9 ex aequo

Project J.3.03: Strengthening quality assurance in the safety of nuclear installations

Main outputs: The project will result in the issue of QA safety review mission reports and of guidance on regulatory body reviews of QA activities for licencees and on strengthening QA procedures. Expert advice and training on QA in nuclear safety will be provided. A publication summarizing experience in implementing the Agency's QA standards will be produced.

Duration: 2004–2006

Ranking: 9 ex aequo

Subprogramme J.4. Engineering Safety of Innovative and Evolutionary Reactors

Rationale: There is considerable worldwide activity on innovative and evolutionary reactors. The development of small and medium sized reactors with evolutionary and innovative designs is emphasized in the Medium Term Strategy. Innovative reactors have been indicated as possible sources of energy for desalination and the General Conference has issued resolutions calling for work on the safety of this type of plant (GC(43)/RES/15, GC(44)/RES/22, GC(45)/RES/14). By providing a forum to achieve international consensus on safety approaches, the Agency may become the focal point for developing a safety compliance check for these innovative designs with respect to these approaches. The design safety assessment of evolutionary plants requires specific skills that can be provided by the application of the recently updated Agency Safety Standards. Several Member States have already requested the support of the Agency in this area.

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Objective: To increase the capability of Member States to achieve a high level of safety of evolutionary and innovative reactor designs, including small and medium reactors, in particular through the implementation of design safety review services.

Outcome
<ul style="list-style-type: none"> — Scheme for safety compliance check of small and medium sized innovative reactors established. — Consensus on safety approaches for evolutionary reactors using Agency guidance and services.
Performance Indicator
<ul style="list-style-type: none"> — Percentage of recommendations from Agency design safety review services addressed by Member States.

Programme changes and trends Basic work on methodology development for the safety approach for innovative reactors is completed. Services for both innovative and evolutionary NPPs will become key factors leading to an international design certificate.

Resource changes and trends: There is a minor decrease of \$9 000, or 1.9%, in 2004.

Financial resources (2003 prices)

J.4.	2003	2004	2005
Reg. budg.	485 000	476 000	475 000

Project J.4.01: Developing a consensus safety approach for innovative reactors and exploring a safety compliance check system for reactor designs

Main outputs: Designers of innovative reactors will be provided with review reports to assess the compliance of the design. A scheme for safety compliance check will be published.

Duration: 2004–2005

Ranking: 9 ex aequo

Project J.4.02: Evaluating the safety of evolutionary NPPs

Main outputs: The main output will consist of review reports provided to Member States to assess the compliance of evolutionary designs with the Agency's safety standards.

Duration: 2004–2005

Ranking: 9 ex aequo

Subprogramme J.5. Engineering Safety of Existing Nuclear Installations and Site Evaluation

Rationale: There is a significant increase in the demand of Member States in the field of management of long term engineering safety of

NPPs, especially for safety aspects of life extension. In this context, the use of Periodic Safety Reviews (PSRs) is promoted by the Agency as a key regulatory instrument for maintaining a high level of nuclear power plant safety in the long term in order to adequately meet the increasing expectations of Member States in this field. A strategy paper was prepared in 2002 on this topic. The requests on long term engineering safety may address either physical ageing phenomena or non-physical phenomena such as weaknesses in design documentation and obsolescence. Those two types of phenomena are addressed in two respective projects. The engineering safety of existing nuclear installations is also related to the "erosion of technical infrastructure" that was pointed out by the 2001 International Conference on Topical Issues in Nuclear Safety. According to new constraints that may appear on existing sites or to the evolution of codes and standards, Member States also need to review and re-evaluate site related design basis parameters and maintain the safety of nuclear facilities in relation to external and internal events.

Objective: To strengthen Member State capabilities in successfully managing the long term safety of NPPs, through periodic safety reviews of nuclear sites for internal and external hazards for both existing and new nuclear facilities.

Outcomes
<ul style="list-style-type: none"> — Use of Agency guidance and services in long term safety improvements. — Increased safety of NPPs after implementation of upgrading programmes and of new technologies to replace obsolete equipment. — Increased compliance of site evaluations and hazard assessments with Agency safety standards.
Performance Indicator
<ul style="list-style-type: none"> — Percentage of Agency recommendations from site reviews addressed by Member States.

Programme changes and trends: The main focus in previous biennia was on seismic hazards. In 2004–2005, evaluation will be broadened to other external and/or internal hazards.

Resource changes and trends: The proposed resources for Subprogramme J.5 amount to \$775 000 in 2004, reflecting a decrease in the budget of \$65 000, or 7.7%, compared with 2003. The reduction results from the fact that in contrast to 2003 no major meetings are being held in this area in 2004–2005

Financial resources (2003 prices)

J.5.	2003	2004	2005
Reg. budg.	840 000	775 000	779 000

Project J.5.01: Enhancing the management of long term engineering safety of NPPs

Main outputs: The service provided will result in guidance and advice on the long term engineering safety assessment and on safety aspects of life extension. A design basis reconstitution methodology will be available.

Duration: 2004–2005

Ranking: 1 ex aequo

Project J.5.02: Ageing management and equipment qualification programmes

Main outputs: The main output will consist of guideline and review reports provided to Member States for addressing ageing and equipment qualification issues.

Duration: 2004–2005

Ranking: 9 ex aequo

Project J.5.03: Evaluating external/internal events and sites

Main outputs: The main output will consist of guidelines and review reports to be provided to Member States. Feedback from design and site safety review services will provide input for the improvement and development of corresponding Safety Standards.

Duration: 2004–2005

Ranking: 9 ex-æquo

Subprogramme J.6. Operational Safety

Rationale: This subprogramme is in response to the recommendations made by Member States during the 2001 International Conference on Topical Issues in Nuclear Safety, an Advisory Group Meeting (Evaluation of Effectiveness of Operational Safety Services) and General Conference Resolution GC(45)/10, which encouraged Member States to request the Agency's safety review services. Specifically, Member States emphasized the importance for the Agency to continue its efforts to assist Member States in their aim to achieve good management of safety and safety culture and to continue its efforts to develop and promote high quality safety standards during times of change. The Agency will continue to conduct operational safety reviews of nuclear installations and promote the management of safety performance through operational experience feedback. Issues related to effective communication on operating events, self-assessments and external reviews will also be addressed. The Agency will also address the issues associated with changes in the nuclear industry to

ensure that operational safety is not compromised. It has been pointed out by Member States that a strong safety culture within all nuclear installations is of paramount importance and that the Agency should continue to support Member States in strengthening the management of safety and safety culture. Continued emphasis will be given to assist the capabilities of Member States to continuously improve their management of safety and safety culture based on self-assessment.

Objective: To enhance Member States capabilities to manage and maintain a high level of safety in nuclear installations through operational safety review services.

Outcome
— Use by Member States of recommendations for operational safety improvements.
Performance Indicator
— Percentage of Agency recommendations on operational safety improvements successfully implemented.

Programme changes and trends: The operational safety review services will result in recommendations to Member States to improve the management of safety, safety culture and self-assessment capabilities in nuclear installations. Follow-up missions will assess the extent of implementation of the recommendations.

Resource changes and trends: The proposed resources for Subprogramme J.6 in 2004 remain unchanged compared with 2003. In 2005 there is an increase of \$66 000, or 3.1% compared with 2004. The increase in 2005 is due to the convening of a conference on operational safety performance.

Financial resources (2003 prices)

J.6.	2003	2004	2005
Reg. budg.	2 144 000	2 143 000	2 209 000

Project J.6.01: Improving operational safety performance

Main outputs: Mission reports will be issued on services provided to strengthen operational safety in specific areas in the management of safety and safety culture; a TECDOC on OSART highlights containing recommendations for improvements in operational safety and good industry practices will be developed based on the results of the safety reviews; the OSART Missions Results Database (OSMIR) will be available on CD-ROM; a report will be issued on the evaluation of the effectiveness of Agency operational safety services; a discussion forum on the Agency's web site for sharing information on good practices and safety improvements will be developed; Agency safety standards will be developed on the management of operational safety in nuclear

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installations and a safety report will be issued on configuration control in NPPs; the conference on operational safety performance will highlight how Member States have enhanced their capabilities to manage and sustain a high level of safety during the life cycle of nuclear installations.

Duration: 2004–2005

Ranking: 1 ex aequo

Project J.6.02: Using operational safety experience feedback

Main outputs: Peer review reports will be issued on the effectiveness of operational safety experience feedback programmes; similar reports will also be provided to relevant research reactor projects. Good practices in operational experience will be included in reports on the following issues: trending; human factors; low level events, precursors to events and degrading performance; ‘error likely’ situations; corrective action management; and integrated information/data management.

Duration: 2004–2005

Ranking: 9 ex aequo

Project J.6.03: Strengthening management of safety and safety culture

Main outputs: This project will result, as requested by Member States, in the establishment of safety culture enhancement programmes in nuclear organizations, whereby the management of safety and safety culture is continuously evaluated through self-assessments and is thus improved and strengthened. Safety culture review reports will be issued containing recommendations for improvements and good practices for use by all Member States. Safety culture training and seminars will be organized to increase Member State expertise in assessment techniques. Safety guides and safety reports will be published on: the management of safety and safety culture of nuclear installations, experience gained from the implementation of safety culture indicators (see also J.3.02) and from new management approaches in response to external pressures. The role of the regulator in fostering a strong safety culture in times of change will also be addressed in these documents. An enhanced web site will be available as a forum for exchange of experience, good practices, and training material. It will serve to facilitate the creation of networks between nuclear organizations.

Duration: 2004–2005

Ranking: 1 ex aequo

Subprogramme J.7. Research Reactor Safety

Rationale: General Conference Resolution GC(45)/RES/10 endorsed the Board of Governors decision to request the Secretariat to develop and implement, in conjunction with Member States, an international research reactor safety enhancement plan. The same resolution requested continuation of the close monitoring of research reactors subject to Project and Supply Agreements, and assistance to Member States with such reactors in fulfilling all relevant safety obligations.

In addition, the 2001 International Conference on Topical Issues in Nuclear Safety concluded that the Agency should focus its research reactor activities on various safety issues, and take advantage of the experience gained in the nuclear power plant review services.

Objective: To enhance the safety of research reactors in Member States.

Outcomes
<ul style="list-style-type: none">— Use of Agency recommendations for the enhancement of programmes on safety culture, safety management and quality assurance in research reactor operating organizations— Use of Agency recommendations for the enhancement of operational safety of research reactors in Member States, including ageing management, safety analysis, definition of operational limits and conditions, safety analysis reports and the safety of experiments.— Fulfilment of obligations by Member States and the Agency in relation to reactors subject to Project and Supply Agreements.
Performance Indicator
<ul style="list-style-type: none">— Percentage of Agency recommendations from Integrated Safety Assessment of Research Reactors (INSARRs) addressed by Member States.

Programme changes and trends: The issues detailed in the previous cycle were addressed by training activities. The results of the research reactor safety survey have been evaluated. The Incident Reporting System will include in the future research reactors, together with other nuclear facilities. A code of conduct has been developed. The focus will be on the implementation of a mechanism of the code of conduct. A monitoring system will be established.

Resource changes and trends: The proposed resources for Subprogramme J.7 amount to \$819 000 in 2004, reflecting an increase in the budget of

\$146 000, or 21.7%, compared with 2003, and a decrease of \$61 000, or 7.4% in 2005 over 2004. The increase in this subprogramme reflects funding to support both operational and regulatory activities for research reactor safety, as well as activities related to ongoing extrabudgetary programmes. The decrease in 2005 results from the fact that in that year, reduced funds are needed for CRPs in the area of implementing the safety enhancement plan for research reactors.

Financial resources (at 2003 prices)

J.7.	2003	2004	2005
Reg. budg.	673 000	819 000	758 000

Recurrent project J.7.01: Implementing the safety enhancement plan for research reactors

Main outputs: Technical documents will be available on: safety analysis, design and implementation of safety systems, core management, the safety of experiments and the reliability of data for PSA. Review reports and training course documents will also be available.

Ranking: 1 ex aequo

Recurrent project J.7.02: Monitoring of the safety level of research reactors under agreement

Main outputs: Assistance in compliance with the Agency's Safety Standards and measures will result in identification of improvements required for ensuring an appropriate level of safety for research reactors subject to Project and Supply Agreements and in recommendations for corrective measures.

Ranking: 9 ex aequo

Subprogramme J.8. Safety of Fuel Cycle Installations

Rationale: General Conference Resolution GC(45)/10 includes the request that the Agency develop Safety Standards for fuel cycle facilities. Moreover, in September 2001, the International Conference on Topical Issues in Nuclear Safety concluded that the Agency should be prepared to provide support to Member States, on request, to identify national needs in relation to the safety of fuel cycle facilities. The Agency should continue to provide a focus for promoting the safety of fuel cycle facilities. It is important to develop and publish the appropriate safety standards in a timely manner so that they can be used as a basis for safety advisory and review services to develop Member States capabilities in this area.

The Agency should also develop technical guidance on comprehensive assessments, promote the collection and dissemination of experience and

lessons learned, develop and hold training courses, facilitate the establishment of a framework for safety performance indicators, support safety management assessments and promote safety culture for fuel cycle facilities in Member States.

Objective: To enhance the safety of fuel cycle installations in Member States through the development of Safety Standards and their implementation.

Outcomes
— Consensus achieved on the safety requirements for fuel cycle facilities amongst Member States.
— Consensus achieved on state-of-the-art techniques and tools for comprehensive safety assessment for the design and operation of fuel cycle facilities.
— Use of safety performance indicators for fuel cycle facilities by Member States.
Performance Indicators
— Adoption of Safety Standards for nuclear fuel cycle installations.
— Percentage of recommendations from review missions addressed by Member States.

Programme changes and trends: This programme was initiated in 2002. The objective for the period 2004–2005 is the completion of the preparation of Safety Standards to address all types of non-reactor nuclear installations.

Resource changes and trends: The proposed resources for Subprogramme J.8 amount to \$287 000 in 2004, reflecting an increase in the budget of \$76 000, or 36.0%, compared with 2003. Activities for fuel cycle safety were introduced in 2002–2003 at the CAURB level and were initially carried out with very limited regular budget funding by a cost free expert. A post has now been made available within the Department of Nuclear Safety and additional resources for activities are provided by means of a divisional funding reallocation.

Financial resources (2003 prices)

J.8.	2003	2004	2005
Reg. budg.	211 000	287 000	285 000

Project J.8.01: Developing safety standards for fuel cycle installations

Main outputs: This project will result in the issuance of facility specific Safety Guides for the design and operation of spent fuel reprocessing, conversion and enrichment, mining milling and refining and isotope production facilities.

Duration: 2004–2005

Ranking: 1 ex aequo

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Project J.8.02: Promoting the use of safety evaluations of fuel cycle installations

Duration: 2004–2005

Ranking: 9 ex aequo

Main outputs: This project will result, on request of Member States, in the conduct of safety review missions and the issuance of mission reports on the safety assessment of fuel cycle installations.