

Migrating Nuclear Safety Information Sharing and Review Mechanisms into the Security Regime

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Introduction

The Nuclear Security Summit 2010 gave the highest priority to establishing effective nuclear security, based on implementation of international nuclear security legal instruments, actions by States and involvement of the nuclear operator. The Nuclear Security Summit 2012, which was convened in the wake of the nuclear disaster in Fukushima, pointed to the nexus between nuclear security and nuclear safety, and increased interaction between the two domains as an important way to obtain more effective nuclear security.

The experience gained in the field of nuclear safety in reporting and cooperation is of interest for nuclear security. The nuclear safety system has evolved during a period of more than 50 years. Pivotal steps in this evolution were taken after the Three Mile Island accident in 1979 and after the Chernobyl accident 1986. Since then, four international conventions have been agreed in the nuclear safety field and the international cooperation has increased significantly.

The Chernobyl accident revealed a serious gap in communication and information on the performance of nuclear power plants. The recognition emerged that the safety performance is a matter of concern also for neighbor countries. Transparency was recognized as a key element of a nuclear safety culture, which subscribed to the objective of constant improvement. Accordingly, exchange of information and cooperation are important elements of all nuclear safety conventions.

In the security field, national responsibility and sovereignty considerations have contributed to a culture of confidentiality and closed rooms. The view that nuclear security is a matter only for the host Government began to fade with the many reports of incidents of illicit nuclear trafficking that emerged with the break-down of the Soviet Union. The international dimension of nuclear security was obvious; movement of nuclear material across borders moved also potential concerns and consequences over the borders. The terrorist acts in September 2011 caused acceleration in the efforts to secure all vulnerable nuclear material and radioactive sources. The international dimension of nuclear security became commonly accepted and the view that radioactive materials were self-protecting abandoned. A significant expansion of the IAEA's nuclear security programme was decided.

The Fukushima disaster, which was the result of a severe earthquake followed by a massive tsunami, brought focus to the vulnerability of nuclear power plants for "external events". It was recognized that an act of sabotage could deliver a failure close to the one that had taken down three

units in the Fukushima nuclear power site. Integration of safety and security measures were seen as a way to strengthen the system.

This paper provides an overview of the reporting, networking and review systems applied within the nuclear field primarily through the IAEA; for nuclear safety, nuclear security and domestic safeguards. An overview of presently implemented reporting and review services are given, with a view of identifying mechanisms or measures that may facilitate the migration of safety processes to the security field.

Reporting requirements included in binding legal instruments

Reporting requirements in nuclear safety conventions

The lack of timely and correct information on the accident in Chernobyl was a great concern, and triggered intense work within the international community to ensure, in the future, timely information of a nuclear accident. The dispersal of radioactivity over vast areas, the movement of people and serious contamination of property, pointed to the need for assistance. As a result, the *Convention on Early Notification of a Nuclear Accident* and the *Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency* were negotiated and agreed on record time and adopted by the IAEA General Conference at a special session, 26 September 1986. The "Early Warning" convention entered into force already on 27 October 1986.

The work towards strengthening nuclear safety continued with the Nuclear Safety Convention, which entered into force in 1996. The Convention, which is an incentive instrument, does not have a verification regime or sanctions associated with it. The Convention obliges Parties to submit reports on the implementation of their obligations for "peer review" at *review meetings* held at the IAEA every third year and/or at *extraordinary review meetings* as required and requested. National reports are prepared for review by State Parties. The result is summarily reported after the meeting; the full reports are to be used only for the meetings and subsequently kept confidential by the State Parties.

Reporting requirements in nuclear security conventions, UN resolutions and safeguards agreements

There are three international legal instruments for nuclear security; the Convention on the Physical Protection of Nuclear Material (CPPNM) of 1987, its Amendment of 2005, the International Convention on the Suppression of Acts of Nuclear Terrorism (ICSANT) of 2007 and the UN Security Council Resolution of 2004. All these legal instruments include obligations to encourage exchange information among the State Parties, the IAEA and the UN, without including a formal requirement. Information are to be provided on incidents, on national laws and points of contact. Incidents are to be reported to State Parties and the IAEA and or the UN, as appropriate. Information of cases of illicit trafficking in radioactive materials is to be sent to the UN SG and to the IAEA DG. Both Conventions include requirements to maintain confidentiality of sensitive information.

The UNSCR 1540 requires States to provide a first report, no later than six months from the adoption of the resolution, to the UN 1540 Committee on steps they have taken or intend to take to

implement the resolution. Subsequent reports are expected after the first report. There are no sanctions if States omits to report as required in the resolution.

A system of formal reporting of nuclear material; inventory, movement and processing is a key component of comprehensive Safeguards Agreements and Additional Protocols. All reports are, by default, treated as confidential. Some reports are given treatment as highly sensitive, with stricter handling rules. These reports enable the IAEA to have precise information of nuclear material in non-nuclear weapon States. Limited information is available on nuclear material in nuclear weapon States. The IAEA is required to provide, annually, a *Statement* with the conclusions drawn on the obligations included in the Safeguards Agreements. The full statement, with explanatory text, is provided to the Board of Governors and a short summary, with the Safeguards Statement, is made public each year.

Migrating the information sharing and review

When the Amendment to the CPPNM was negotiated, a review system of the same nature as for the Nuclear Safety Convention was discussed. The proposal was rejected with reference to the sensitivity of nuclear security information and the risk that e.g. physical protection measures would become ineffective as a result of information sharing. The Amendment of 2005 has not yet entered into force, and the possibility of a further amendment to improve the review mechanism of the Convention is not realistic.

It is potentially possible to make better use of the reporting requirement of UNSCR 1540. Being the only formal reporting of progress in nuclear security measures, it is reasonable to analyze if the reporting requirement or the reports provided are utilized in the best possible manner.

Proposals have been made on the use of the information of nuclear material in a non-nuclear weapon State for assessments of physical protection. Such proposals, when made in a general manner, have been rejected. The possibility that an individual State or a group of States would make the offer to use information from safeguards reports for nuclear security purposes have not been pursued. Such “voluntary offer” to use information included in the safeguards reporting also for nuclear security purposes would clearly strengthen the possibilities for the IAEA to make its evaluations or peer reviews more effective.

There is a legitimate concern of sharing information related to physical protection, in particular for nuclear facilities and transports. This is not the case with national laws, regulations and licensing procedures. There are several examples of national annual reports including achievements and progress as well as challenges in the nuclear security field that may serve as good practices. Exposure of such good practices, e.g. in the newly established Nuclear Security Index, developed and presented by the Nuclear Threat Initiative, is a good way of rewarding transparency.

A booklet on the balance between openness and legitimate need to maintain confidentiality of sensitive information may be helpful.

The IAEA presently reports progress in nuclear safety and nuclear security cooperation separately. The intention is, with time, to merge these reports.

Safety and security reporting arrangements

Incident and emergency reporting

Underpinned by the requirements in the nuclear safety conventions, a reporting system has been established by the IAEA. The core of the reporting system is a 24/7 mechanisms for Member States to report *incidents and radiological emergencies* as close as possible to the time of the event. The IAEA distributes the information to its Member States through a dedicated network. The emergency reporting allows a rapid initial assessment that could trigger support and assistance operations.

There are three IAEA systems for near real-time reporting of information on incidents, emergencies and operational experiences: [ENAC](#), [ITDB](#) and [NEWS](#).

[ENAC](#) is a restricted, secure web site for contact points nominated by their governments under the “Early Notification and Assistance Conventions” to exchange information on nuclear accidents or radiological emergencies. Emergency Notification and Assistance Convention Website (ENAC) has been set-up for this purpose. Reporting arrangements are communicated in a dedicated publication ENATOM.

The severity of the event or accident is classified according to an established scale: the [INES](#) (International Nuclear Event Scale) scale. It takes into account several factors, primarily the actual or potential radiological consequences. INES is a tool for promptly communicating to the public in consistent terms the safety significance of reported nuclear and radiological incidents and accidents, excluding naturally occurring phenomena, such as radon. The scale can be applied to any event associated with nuclear facilities, as well as the transport, storage and use of radioactive material and radiation sources. Events are classified at seven levels: Levels 1–3 are “incidents” and Levels 4–7 “accidents”, considering consequences to people and the environment, radiological barriers and control, and defense in depth. The scale is designed so that the severity of an event is about ten times greater for each increase in level on the scale. Events without safety significance are referred to as “deviations” and classified Below Scale/Level 0.

[ITDB; Illicit trafficking database system.](#)

The CPPNM and ICSANT include obligations to exchange information about incidents, including of nuclear trafficking. The IAEA has become the center-point, or clearing-house, for information on illicit nuclear trafficking through the establishment of the ITDB; Illicit Trafficking Database programme.

ITDB is a restricted system for reporting information about illicit trafficking events, shared confidentially with other ITDB contact points. Established in 1995, the ITDB is the IAEA’s information system on incidents of illicit trafficking and other unauthorized activities and events involving nuclear and other radioactive material outside of regulatory control. A web-based version of the ITDB has been developed. It is shared with POCs and on a dedicated web-page for nuclear security which is access controlled.

The ITDB builds on a voluntary network of officially appointed *Points of Contacts*. The POCs report to the IAEA authoritative information on incidents that have occurred in their countries. In 2012, 114 States participate in the ITDB Programme. In some cases, non-participating States have provided information to the ITDB.

By the end of 2011 the database contained a total of 2164 incidents. About 20% involved unauthorized possession and related criminal activities; illegal possession, movement or attempts of illegal trade. Sixteen of these incidents involved high enriched uranium (HEU) or plutonium. About 27% of the incidents involved the theft or loss of nuclear or other radioactive material. About 50% of the cases were the result of other unauthorized activities, including unauthorized disposal of radioactive materials or discovery of uncontrolled sources. In 2011, four incidents involved HEU and seven incidents, five thefts, involved Category 1-3 (dangerous) radioactive sources. Analysis shows that individuals *and* groups are prepared to engage in trafficking.

The scope of the ITDB information is broad. It includes, but is not limited to, incidents involving illegal trade and movement of nuclear or other radioactive material across national borders. The scope also covers incidents involving unauthorized acquisition (e.g. through theft), supply, possession, use, transfer or disposal—intentional or unintentional—of nuclear and other radioactive material with or without crossing international borders. The scope also covers unsuccessful or thwarted incidents, as well as the loss of material and the discovery of uncontrolled material and incidents that in reality are scams. The template report includes one open and one confidential part. The open part is shared with IAEA Member States and international organizations, the closed part only with the POC system. While it is intended to be a system of reporting illicit trafficking cases within a couple of days after the incident occurred, the delay time until report is normally considerably longer. In some cases, a report would not be issued until there is a court proceeding confirming the “illicit” nature of the incident according to national law.

The ITDB contains *confirmed* information of nuclear trafficking and other incidents. Information of incidents obtained from open sources are checked with POC and either confirmed or rejected. Only after confirmation the incident is included in the ITDB database. A **trafficking scale** has been developed and is used in the assessments of the trafficking cases.

Analysis of information reported to the ITDB demonstrates availability of unsecured nuclear and other radioactive material. It also indicates that effective border control measures help to detect illicit trafficking, at places where such detection systems are installed.

Migrating the information sharing and review

The content of ENAC and ITDB is fully shared within the IAEA. There are, however, different processes applied for ENAC information and ITDB incidents. These processes could become more integrated. Presently, the POCs of the ITDB have not approved a publicly available list of all cases of illicit trafficking. Although the POCs of the ITDB often the same persons as the POC of radiological emergencies or incidents, the difference in reporting structure is preferred. The IAEA is likely to have to demonstrate benefits with an integrated system, including with information of how confidentiality of sensitive information may be maintained.

The ITDB would benefit from more substantive information from the POCs. The flow of information in the nuclear safety field is less restricted and could give incentives for more substantive information on trafficking cases. Follow-up information after the first report, information of law enforcement procedures and of convictions is presently not commonplace. The IAEA and Interpol

interact on illicit nuclear trafficking. Closer cooperation could perhaps enhance the level of information and, as a result, improve the analysis of individual cases and trends.

Reporting of Nuclear Safety Operational Experience

The IAEA operates a wide system for collecting information of operational experience in the safety field. There is no similar reporting for operational experience in the nuclear security field. The following is an overview of the reporting system established for nuclear safety operational experience.

Nuclear Event Web-based System (NEWS) is a joint project of the IAEA, OECD/NEA and WANO that provides fast, flexible and authoritative information on the occurrence of nuclear and radiological events (rated using the INES scale) that are of interest to the international community. NEWS covers all significant events at NPPs, research reactors, nuclear fuel cycle facilities, as well as occurrences involving radiation sources and the transport of radioactive material.

NEWS provides for a common place at which national authorities may reach out quickly to the international public community with first-hand information on nuclear and radiological events occurring in their countries and in their nuclear installations. More than 60 officers from national nuclear authorities worldwide are authorized to send reports and updates to the system. Accessible information includes event descriptions, INES rating and press releases. Official access is given to the OECD/NEA and IAEA Secretariat and the WANO Regional Directors. Experts from regulatory bodies, operating organizations, technical support organizations are registered by the officially designated INES national officer. All users, such journalists or the general public, can read, but not feed or alter, event reports. Accessible information includes event descriptions, INES ratings and press releases. Accredited journalists can register through INES to receive automatic notifications of new reports. More information is available in the NEWS Issue Briefs or at NEWS.

International Reporting System for Operating Experience (IRS) The IAEA and the Nuclear Energy Agency of OECD, NEA, have established a joint system; International Reporting System for Operating Experience (IRS). The system is jointly operated by the IAEA and NEA. Through IRS, thirty-one participating countries exchange experience to improve the safety of nuclear power plants by submitting event reports on unusual events considered important for safety.

The information exchanged is Web-based, textual and supported by diagrams and photos. The IRS is a build-up of a data-bank with information on operational experience and event reports. The system includes data on LWR nuclear power plants and research reactors. The system became operational in 2006 and updates the information on a daily basis.

A similar system is set-up for operational experiences of fuel cycle facilities; *the Fuel Incident Notification and Analysis System (FINAS)*, also jointly managed by the IAEA and the NEA. The main objective of FINAS is to provide timely feedback on safety related events at fuel cycle facilities (FCF) to help prevent the occurrence or recurrence of such incidents or accidents. The system became operational in 2008.

Migrating the information sharing and review

This kind of operational reporting is not taking place for nuclear security. In some cases, security incidents at nuclear power plants are reported within the ENAC system as a radiological incident. The system is not prepared to processing the information in a manner that is suitable also for security purposes, as this is not foreseen in the set-up of the system.

Migrating the information may result in the merging of the ENAC and ITDB systems, which may be desirable in the long-term. It requires, however, thoughtful preparations, not only for the processes but of the system as a whole.

International Peer Review Services and their reporting

Nuclear Safety Review Services

Integrated Regulatory Review Service (IRRS)

The IAEA Integrated Regulatory Review Service (IRRS) is designed to strengthen and enhance the effectiveness of the national regulatory infrastructure of States for nuclear, radiation, radioactive waste and transport safety and security of radioactive sources whilst recognizing the ultimate responsibility of each State to ensure safety in the above areas. This expressed purpose of the IRRS is to be accomplished through consideration of both regulatory technical and policy issues, with comparisons against IAEA Safety Standards, where appropriate, good practices elsewhere.

Consideration of broad scope regulatory technical and policy issues is intended to explore the adequacy of national regulatory policies that influence the efficiency and effectiveness of both the legal framework and the regulatory infrastructure and to identify opportunities for improvement, as well as identifying successful strategies that might be shared with other States. In considering international regulatory issues, trends and challenges, IRRS missions provide a balance between technical and policy discussions among senior regulators and the opportunity to share regulatory experiences, to harmonize regulatory approaches among States and to create mutual learning opportunities among regulators. Regulatory technical and policy issues discussions take into account current issues coming from the State's self-assessment and resulting from the evaluation of technical areas. IAEA fundamental safety principles provide the basis for IAEA safety standards and its safety related programmes.

In one case, the IRRS included also the regulatory aspect of nuclear security. The result was useful but the different cultures in implementing the two aspects; safety and security for nuclear facilities, resulted in recommendations to for further evolution of the system.

The IRRS has become frequently used, most countries with nuclear energy programmes request an IRRS review.

Operational Safety Review Services

There are several operational safety review services of the IAEA. The most known is the Operational Safety Review Team (OSART), but other services are also carried out. Below follows briefing notes of the most frequently used services.

Emergency Preparedness Review Services - EPREV

Under the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, the Agency is to carry out several functions in support of radiological emergency response systems in Member States. The peer review service EPREV is performed to assess how these functions are carried out in Member States and how the emergency response systems addresses sustainability issues, e.g. human resource development. EPREV is a service provided carried out by the Incident Emergency Center to appraise preparedness for nuclear and/or radiological emergencies in Member States. The scope and depth of the individual mission are decided during discussions between the requesting Member State and the IAEA.

PROSPER - Peer Review of Operational Safety Performance Experience

The PROSPER peer review service is designed to promote the process and practice of learning from operating experience at an individual nuclear power plant in order to enhance their safety performance. Self-assessments of the effectiveness of operating safety performance experiences are promoted as a regular component in the review process. The necessary tools, methods and training to carry out these self-assessments are provided in parallel.

Operational performance information comprises; external operating experience; internal event reports including internal low-level and near miss event reports; other relevant operating performance information, such as performance indicators and non-compliance reports on quality assurance.

DSR/GRSR - Design Safety Review

The objective of the Design Safety Review is to evaluate the completeness and comprehensiveness of a reactors' safety documentation by an international team of senior experts. The DSR is based on IAEA Fundamental Safety Principles and requirements for safety design at nuclear power plants. The depth of the review and selection of requirements also depends on the design maturity and available documentation.

Design and Safety Assessment Review Service - DSARS

The IAEA provides the Design and Safety Assessment Review Service (DSARS) to assist and provide to the requesting Member State a tailored, independent peer review and assessment of the plant design safety and to make recommendations on additional actions/analysis to be performed. The service is organized in modules that cover the review of the design at different phases based on the IAEA safety standards, e.g. during licensing, plant modifications, for emerging safety issues, design and safety assessment and for periodic safety review.

OSART

The OSART programme is probably the nuclear safety review service mostly known and applied at nuclear facilities, nuclear power plants. It provides an opportunity for nuclear power plant operators in all countries to assist other operators through the dissemination of information on the best international practices. Each OSART mission is conducted by a team of internationally recognized experts that cover a wide range of expertise and knowledge. The review of plant performance and programmes are based on the IAEA's safety standards.

OSARTs focus on the safety and reliability of plant operation. They review the operation of the plant and the performance of the plant's management and staff. Factors affecting the management of safety and the performance of personnel, such as organizational structure, roles and responsibilities, management goals and the qualification of personnel are reviewed. Safety culture in the plant is also reviewed as an integral part of each review area and summarized to strengthen the team leaders' overview of safety performance. In the course of detailed discussions with plant personnel, review of documents and observation of plant activities, the team identifies performance strengths that can be shared with others and areas where improvements can be achieved.

OSART Mission Results - OSMIR

OSMIR is an acronym for OSART Mission Results and refers to a database compiled of recommendations, suggestions and good practices from OSART mission reports. It covers all missions from January 1991 to the most recent mission for which an official report has been published.

The OSMIR database is updated continuously and, as of December 2011, contains the results of 101 OSART missions and 80 follow-up visits carried out from 1991 to 2011. The database has been widely used by IAEA Member States.

ISCA - Independent Safety Culture Assessment

The overall purpose of an Independent Safety Culture Assessment (ISCA) is to provide advice and assistance to Member States in enhancing the safety culture of a nuclear facility. The IAEA offers ISCA in the frame of an OSART to take benefit from the synergy between technical and behavior science/safety culture experts. The joint operational safety and safety culture assessment provide the organization the opportunity to better understand the interactions between technical, organizational and cultural aspects. This approach helps the organization to take actions that fully address the root causes of identified issues.

Migrating the information sharing and review

The number of safety review services has grown through the years. The effectiveness of several services may be further discussed. The IRRS regulatory review service has been created through the merging of earlier reviews that were focused on regulatory segments. The several safety operations reviews may be consolidated into a modular service. The documentation of the review results lend itself to follow-up activities. With review services carried out on a regular basis, results databases may help identify and emerging safety issues and vulnerabilities. The results database is available to all Member States.

The set-up of the nuclear safety review services and the documentation of results, could serve as a model for nuclear security review missions. The dividing line, between the two type of missions, is the confidentiality of results. The operational safety reviews deals with nuclear facilities,

Nuclear Security Advisory Services

Review services of the IAEA for nuclear security purposes started around 1995, with the introduction of the International Physical Protection Advisory Service, IPPAS. It was designed as a regulatory review service, with complementary visits to e.g. nuclear power plants. The sensitivity of the review; to expose part of the physical protection system of the country and, even in a limited way, was controversial. Interaction in the selection of team members, the scope of mission and with rules that protect the distribution of mission results were ways to enable more countries to ask for the service.

With the recognition that nuclear security is broader than at nuclear facilities generated a complementary review service for the country as a whole, to obtain a starting point for the establishment of an effective national nuclear security regime. Other services have also been added; to assess the State System for Accountancy and Control (SSAC) and more recently the sustainability of the regime, with assessment of its human resource programme and technical support functions.

Recent trends to increase transparency of nuclear security put the nuclear security advisory services into new light.

International Nuclear Security Advisory Service

The International Nuclear Security Advisory Service (INNServ) mission is designed to help identify a State's broad nuclear security requirements and the measures needed to meet them. The INNServ Report, once agreed by the host State, serves as the basis for nuclear security cooperation between the Agency and the State and, with the consent of the State, as a vehicle for the coordination of bilateral nuclear security assistance. An INNServ mission covers the following main topics: the legislative and regulatory system related to nuclear security; general arrangements for physical protection of nuclear and radioactive material; detection of and response to illicit trafficking in nuclear and radioactive material and human resources development in nuclear security.

International Physical Protection Advisory Service

The International Physical Protection Advisory Service (IPPAS) mission is a main tool for the IAEA to evaluate existing physical protection arrangements in Member States. IPPAS missions carry out detailed reviews of the legal and regulatory basis for the physical protection of nuclear activities in the requesting State and of compliance with obligations contained in the CPPNM. They also compare the established national practices with international guidelines (INFCIRC/225/Rev. 4, to be updated to INFCIRC/225/Rev. 5) and internationally recognized best practices, conveyed by internationally recognized team members. The IPPAS mission covers Government organization: competent authorities and their security responsibilities; physical protection legislation; regulations; licensing and inspections; integration of other organizations; and aspects of facility implementation of physical protection. The host is given an

opportunity to study and comment on the review report before it is finalized, as a confidential report with highly sensitive information.

The IAEA recommends that a follow-up mission is carried out after an agreed period of time to review implementation of IPPAS recommendations and advice. The follow-up mission would usually take place within five years after the original review.

SSAC Advisory Service

The IAEA SSAC Advisory Service (ISSAS) provides requesting national authorities with recommendations and suggestions for improvements to their State systems for accountancy and control (SSACs) of nuclear material. ISSAS missions are carried out by the IAEA Department of Safeguards with participation of a nuclear security expert. The mission evaluate the regulatory, legislative, administrative and technical components of the SSAC at both the State and facility level, and assess how the SSAC meets the obligations contained in the State's safeguards agreement and additional protocol as applicable.

Migrating the information sharing and review

Nuclear security review services have become a useful tool both in the IAEA programme and for the Member States. Full impact of these review services requires regularity, follow-up documentation and a modular approach. After in-depth consideration, the IAEA could offer a modular review service identifying modules in both the security and safety areas, including a module for accountancy and material control.

IPPAS presently focuses primarily on regulatory issues and snapshots of their implementation at facilities. The specific instructions to perform security review missions of nuclear facilities are being developed. Until reviewed and tested, it is difficult to perceive how an international review mission would approach the assessment of physical protection at a nuclear facility with vulnerable materials. There is, however, value in performing also a general review of how security is implemented at a facility; including the human factors, the training, the interaction with external response forces. The corporate dimension, one that is brought up and promoted by WINS; the World Institute for Nuclear Security, is important and requires attention. The Annual Report should give account for the effectiveness of nuclear security at the facility.

Further evolution of the documentation of the review missions before migration will be necessary. Analysis will also be necessary of the balance of the information that could be made open and information that will be kept confidential, would help migrate, in a confident manner, elements of the documentation system for nuclear safety into the nuclear security area.

Nuclear safety Standards and Nuclear Security Guidance Information

The IAEA has a solid process for the development of nuclear safety standards, that is governed by the Commission of Safety Standards (CSS) and four review committees in the various subject area;

radiation protection, transport safety, waste safety and nuclear installations safety. In addition INSAG is established as a committee to review emerging issues in nuclear safety and identify specific areas of concern or that should be subject to increased attention.

Nuclear Security Guidance is established in a similar manner. One guidance review Committee; Nuclear Security Guidance Committee (NSGC) has been established to review the drafting and content of nuclear security guidance.

The Committees established for nuclear safety standards and for nuclear security guidance are to work in a cooperative manner and with mutual participation in meetings. Through the process, increased exchange of information will be possible between the two communities.

Migrating the information sharing and review

The processes to establish nuclear safety standards and nuclear security guidance are similar. The nuclear safety standards outnumber the security guidance. A migration should include, as a first step, a reform of the process to develop, review and publish the standards to move from lowest denominator to a goals oriented system. Such reform may take time, if possible at all. The flow of information would benefit from the migration, the separation in nuclear safety standards and nuclear security guidance appears suboptimal for effective implementation.

Recommendations

1. A realistic appreciation of the possibilities to migrate the two information flows should guide efforts in the direction of integrating the two systems. Analysis and considerations should ensure effectiveness of present system is maintained in a migrated system; that no measure becomes subordinate of the other.
2. More detailed study should be performed of the possibilities to migrate the incident reporting systems for security (ITDB) and safety (ENAC) into one incident and emergency reporting system. Positive effects as well as counterargument should be carefully considered. A migration in this regard may influence on how the information systems at the IAEA are managed.
3. The balance of open and closed information resulting from nuclear security review missions would have to be examined before moving to a system that would enable methodological migration from safety to security.
4. Countries should be strongly encouraged to increase their reporting of nuclear security and assessment of effectiveness at nuclear facilities.
5. Nuclear facilities should include reporting of nuclear security in their annual report and, through the report, take responsibility for the effectiveness of system implemented at the facility.