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Organisation de Coopération et de Développement Économiques
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NUCLEAR ENERGY AGENCY
COMMITTEE ON THE SAFETY OF NUCLEAR INSTALLATIONS

CSNI OPERATING PLAN

2011-2016

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NUCLEAR ENERGY AGENCY

The OECD Nuclear Energy Agency (NEA) was established on 1st February 1958 under the name of the OEEC European Nuclear Energy Agency. It received its present designation on 20th April 1972, when Japan became its first non-European full member. NEA membership today consists of 29 OECD member countries: Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. The European Commission also takes part in the work of the Agency.

The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for a safe, environmentally friendly and economical use of nuclear energy for peaceful purposes, as well as
- to provide authoritative assessments and to forge common understandings on key issues, as input to government decisions on nuclear energy policy and to broader OECD policy analyses in areas such as energy and sustainable development.

Specific areas of competence of the NEA include safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information.

The NEA Data Bank provides nuclear data and computer program services for participating countries. In these and related tasks, the NEA works in close collaboration with the International Atomic Energy Agency in Vienna, with which it has a Co-operation Agreement, as well as with other international organisations in the nuclear field.

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EXECUTIVE SUMMARY

In 2010, the NEA issued its Strategic Plan covering the period 2011-2016, addressing amongst other areas, the NEA activities associated with nuclear safety and regulation. The Committee on the Safety of Nuclear Installations (CSNI) and the Committee on Nuclear Regulatory Activities (CNRA), which have the primary responsibility for activities in this area, have developed and issued a joint strategic plan covering this same time period. As requested in the Joint Strategic Plan, each committee is to prepare an operating plan which describes in more detail their committee's organisation, planned activities, priorities and operating procedures to be used to implement the Joint Strategic Plan. In effect, the Joint Strategic Plan defines what type of work CSNI should undertake, whereas the Operating Plan describes the overall work scope and how to accomplish it to meet the CSNI/CNRA Joint Strategic Plan main challenges and focus areas.

The Committee on the Safety of Nuclear Installations (CSNI) shall be responsible for the activities of the Agency that support maintaining and advancing the scientific and technical knowledge base of the safety of nuclear installations, with the aim of implementing the NEA Strategic Plan in its field of competence.

The Committee shall constitute a forum for the exchange of technical information and for collaboration between organisations, which can contribute, from their respective backgrounds in research, development and engineering, to its activities. It shall have regard to the exchange of information between Member countries and safety R&D programmes of various sizes in order to keep all Member countries involved in and abreast of developments in technical safety matters.

To accomplish these objectives, CSNI is organised into permanent working groups (as described in Section II), each covering a different set of technical disciplines. Temporary task groups may also be established to address specific technical issues.

The overall scope and technical goals have been established for CSNI for 2011-2016 (see Section III) consistent with the challenges identified in the CSNI/CNRA Joint Strategic Plan. High level, top down guidance is provided to the working groups through the development of a set of CSNI technical goals which define the key technical areas and issues CSNI activities should focus on. The working groups then each prepare their own integrated work plan that defines the specific activities and schedule for accomplishing the objectives and technical goals.

In Section IV CSNI working methods and procedures are described covering the organisation of meetings, prioritization of CSNI activities, integrated work plan development and maintenance, coordination, cooperation, communication, documentation and self assessment.

The Operating Plan describes CSNI responsibility and organisation, overall scope of work and working methods, and is supplemented by the so-called CSNI Activity Report, which contains a description of the updated status of the approved specific activities for all Working Groups (WGs), including new proposals set forth for CSNI approval. The intent is for the CSNI Operating Plan to be reviewed at least every two years and updated as needed throughout the period of its validity.

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I. INTRODUCTION

In 2010, NEA issued its Strategic Plan covering the period 2011-2016, addressing the activities that are associated with nuclear safety and regulation. CSNI and CNRA have a primary responsibility for activities in this area and, due to the interrelationship of these activities, have developed and issued a Joint Strategic Plan covering this same time period. This CSNI/CNRA Joint Strategic Plan identifies the Committees' mission, objectives, main challenges, roles and responsibilities, working methods and plans for implementation consistent with the direction provided by the NEA Strategic Plan. The Joint Strategic Plan also contains the mandates for CSNI and CNRA. As described in the Joint Strategic Plan, each committee is to prepare an Operating Plan which describes in more detail the committee's organisation, planned overall work scope, priorities and operating procedures to be used to implement the Joint Strategic Plan. In effect, the Joint Strategic Plan defines what type of work CSNI should do, whereas the Operating Plan describes the scope of work and how to accomplish it to meet the CSNI/CNRA Joint Strategic Plan objectives and mission.

As described in the CSNI/CNRA Joint Strategic Plan, the mission of CSNI and CNRA is to: *assist member countries in ensuring adequate safety of existing and future nuclear installations in their respective territories, through maintaining and further developing the knowledge, competence and infrastructure needed to regulate and support the complete life cycle, including the design, construction, operation, decommission and waste management of nuclear reactors, fuel cycle facilities, and other nuclear installations.*

To accomplish this mission, the Joint Strategic Plan identifies *five main challenges* for CNRA and CSNI. These are:

1. adequate nuclear skills and infrastructure;
2. effectiveness and efficiency of activities related to safety;
3. safe operation of current nuclear installations;
4. safety in new nuclear installations; and
5. safety in advanced reactor designs.

These main challenges define the framework for future CSNI activities.

The present CSNI Operating Plan covers the time period 2011-2016 and contains the following principal sections:

- CSNI responsibilities and organisation;
- CSNI scope of work, challenges and technical goals; and
- CSNI working methods and procedures.

In addition, several appendices are included to provide supplemental information and guidance. As described in this document, the Operating Plan outlines CSNI responsibility and organisation, overall

scope of work and working methods, and is supplemented by the CSNI Activity Report, which contains a description of the approved specific activities for all WGs, including new proposals set forth for CSNI approval. The intent is for the Committee to undertake a review of the CSNI Operating Plan at least every two years during its period of validity and to undertake revisions to the document as needed to keep it up-to-date.

II. CSNI RESPONSIBILITIES AND ORGANISATION

The CSNI mandate is described in the joint CSNI/CNRA Strategic Plan and is reported in Appendix A. Basically, the CSNI mandate makes the Committee responsible for NEA activities related to maintaining and advancing the scientific and technological knowledge base of the safety of nuclear installations. The nuclear installations considered are primarily power reactors and their fuel cycle facilities but may also include research reactors.

CSNI activities encompass the entire life-cycle of facilities including design, construction, operation and decommissioning and focus on protecting the public and operating staff safety. In line with the joint CSNI/CNRA Strategic Plan, the main objectives of CSNI activities are to:

- Keep all member countries involved in and abreast of developments in safety technology.
- Review operating experience with the objective to identify safety issues that need to be addressed by new research.
- Review the state-of-knowledge on selected topics of nuclear safety technology and safety assessment.
- Promote training and research projects that serve to maintain competence in nuclear safety matters.
- Promote research as needed to reach consensus on CSNI technical goals.
- Consider the safety implications of scientific and technical developments.
- Establish cooperative mechanisms with the Committee on Nuclear Regulatory Activities (CNRA).

The responsibility for organizing and monitoring cooperative research projects also resides within CSNI. Cooperative research projects are generally organised to share costs and information on research programs of common interest to many member countries and/or to ensure that key facilities/programs related to the nuclear safety infrastructure are maintained. These projects can vary in nature and number from year to year, but are organised and managed in accordance with the guidance provided in publication NEA/CSNI/R (2002) 17 “Procedures for Initiation, Cost-Sharing and Management of OECD Projects in Nuclear Safety” (NEA/CSNI/R (2002)17, 19 August 2002).

It is the goal of CSNI to perform work in an effective and efficient manner. This includes having a CSNI structure and working methods that facilitate focusing resources on the main challenges and goals, shortening the time to produce products and improving product applicability and quality. The CSNI working structure is shown in the figure below.

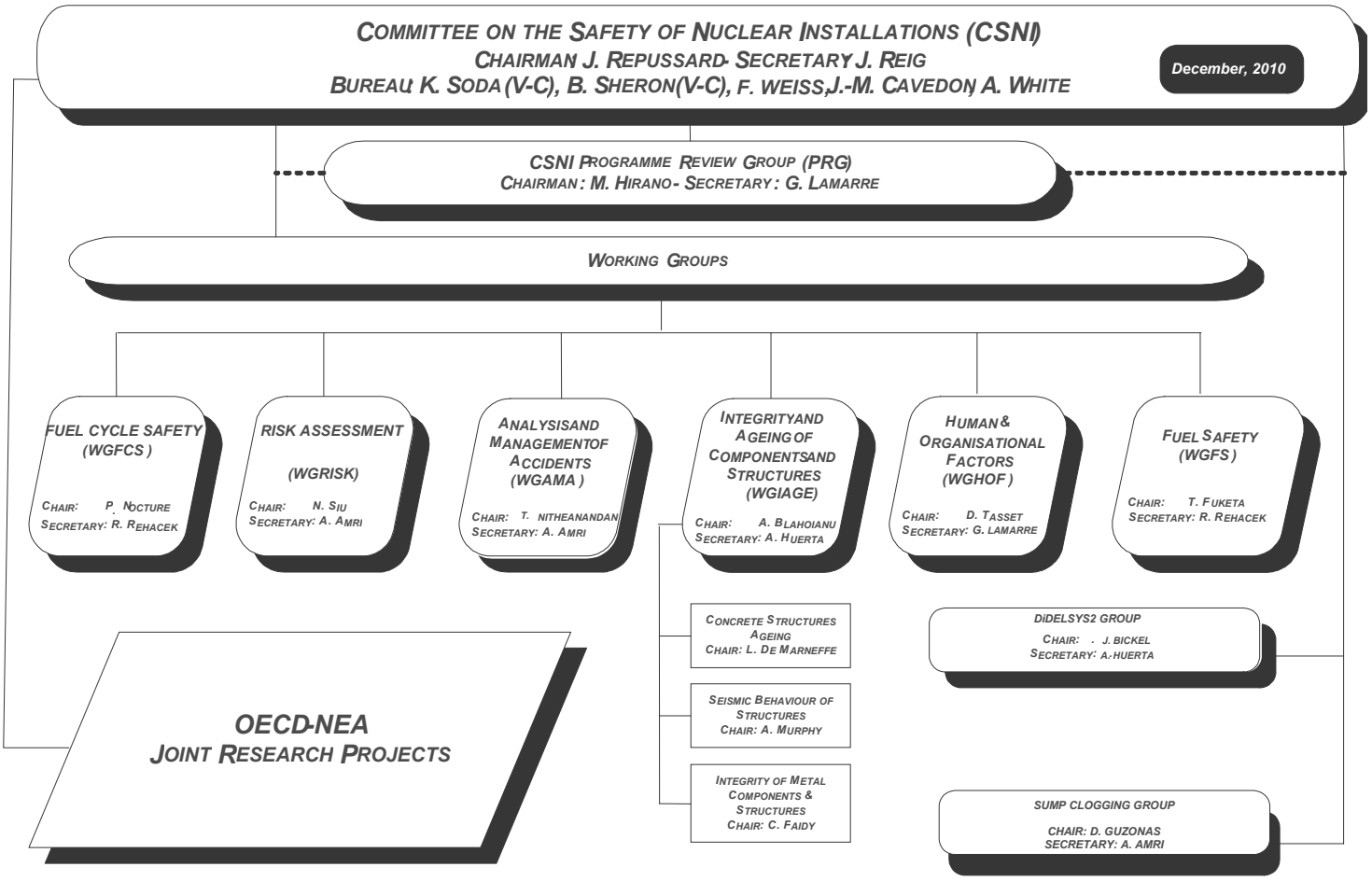
Decisions regarding the adoption of the CSNI meeting agenda, the undertaking of activities, the establishment of working or task groups, shall be adopted by a majority of the members. Decisions on CSNI collective opinions or recommendations shall be adopted by consensus. CSNI also maintains co-

operative working relations with the other standing technical committees of the NEA, in addition to CNRA, which include the Nuclear Development Committee (NDC), the Nuclear Science Committee (NSC), the Committee on Radiation Protection and Public Health (CRPPH) and finally the Radioactive Waste Management Committee (RWMC).

The CSNI is headed by a Chairperson elected by the CSNI members for a three-year term. At the conclusion of the term, the CSNI members present may elect a new chairperson or re-elect the existing chairperson for a new term. The CSNI Chairperson is assisted by the CSNI Bureau which consists of the Chairperson and up to six CSNI delegates selected as determined by the Committee. The CSNI Bureau supports the planning the CSNI activities and their coordination with other NEA committees or international organisations. The mandate of CSNI is included in Appendix A.

A Programme Review Group (PRG) is to perform a programme quality review function within CSNI and to provide scientific assistance to the decision-making process of CSNI. The PRG should provide support on the technical matters to be dealt with at the CSNI meetings and propose actions concerning the achievement of CSNI objectives. In particular, the PRG reviews major CSNI reports and work scope of each WG with respect to overall work-load and priorities, it evaluates new activity proposals from the WGs and monitors the progress of ongoing activities, recommending corrective actions if needed. It may also undertake actions as requested by the CSNI to address issues and topics which cut across the WG lines of responsibility. The PRG consists of seven members elected for a three-year term as determined by the CSNI. The Chairperson serves for a three-year term. The mandate of PRG can be found in Appendix A.

CSNI Structure



The detailed technical work of CSNI is assigned to WGs, each with a defined scope of responsibility and mandate. Currently, the WGs are as follows:

- WGRISK : responsible for work related to the development and use of risk assessment methods, data and information.
- WGIAGE: responsible for work related to the development and use of methods, data and information to assess the behavior of materials and structures.
- WGAMA: responsible for work related to the development and use of analytical tools, data and information for accident analysis.
- WGFCS : responsible for work related to the evaluation of the safety of fuel cycle facilities (i.e., fuel fabrication and reprocessing facilities).
- WGHOF : responsible for work related to assessing the role of human and organisational performance in safety.
- WGFS : responsible for work related to fuel safety issues.

The members of each WG elect the group chairperson and vice-chairperson, who are to serve for a fixed period of time (three years). Upon completion of the term, the group may elect a new chairperson or re-elect the existing chairperson for another term. In general, it should be the goal of the groups to rotate chairmanships. WGs may with CSNI approval organise into sub-groups, if such an arrangement improves the effectiveness and efficiency of the group's activities (e.g., does not add to the number of meetings). Group chairs should identify task leaders for each activity. However, it is the WG chairperson's overall responsibility to monitor the progress and bring problems to CSNI attention. CSNI should on a periodicity of 6 years in connection with a new CSNI OP review the entirety of all WG mandates, structure and continued relevancy in relation to a new JSP and NEA SC.

The mandates for the CSNI bureau, PRG and each of the WGs are provided in Appendix A. For cross-cutting issues (i.e., issues that cut across more than one WG's lines of responsibility) the lead will be assigned to one WG who will be responsible for coordinating with other appropriate WGs and organisations. Temporary task groups (TG) may be established to address other specific issues. These task groups are time-limited and have a defined program of work.

The WGs, TGs shall be comprised of technical experts in the group's area of responsibility and participation of younger personnel is also encouraged to promote knowledge transfer, training, experience and succession planning.

III. CSNI SCOPE OF WORK, CHALLENGES AND TECHNICAL GOALS

The Joint CSNI/CNRA Strategic Plan recognizes the current status of the nuclear power industry and, in particular, the main challenges the nuclear safety community will face over the next five years. These determine the focus of CSNI activities and include:

1. Adequate nuclear skills and infrastructure.
2. Effectiveness and efficiency of activities related to safety.
3. Safe operation of current nuclear installations.
4. Safety in new nuclear installations.
5. Safety in advanced nuclear designs.

The strategy to be employed by CSNI is to work closely with CNRA in addressing these challenges and identify and perform work that will contribute to the resolution of related issues. To be useful, such work will need to be technically relevant and timely and clearly communicated to potential users.

To help ensure that the work performed by CSNI is relevant to the challenges listed above, a list of Technical Goals has been developed to define the areas in which CSNI activities are to focus. The Technical Goals will be updated as needed by the CSNI Bureau's (with PRG assistance) to reflect new information or direction. CSNI approval is required for each new Technical Goal or subsequent revision. The PRG and WG chairs are responsible for identifying specific activities corresponding to the Technical Goals and the approach to be used to perform them.

CSNI technical goals for the five main challenges are given in the following (see Appendix B for a further description of the technical goals under each main challenge):

Adequate nuclear skills and infrastructure

JSP CNRA and CSNI Focus Areas:

- The Committees will give a high priority to and focus on new means to sustain safety excellence in operating and new nuclear installations given the increasing infrastructure challenges;
- The Committees should support new opportunities for co-operative research and development efforts and information exchange to enhance the nuclear infrastructure in support of the safe operation and construction of nuclear installations. In Committee- endorsed projects, research projects in particular, member countries should be encouraged to include educational considerations in support of increasing nuclear skills and infrastructure.

CSNI Technical Goals:

In the OECD states almost one quarter of the electricity is produced by nuclear power plants. As nuclear technology is complex with potential risks the importance of maintaining and further developing nuclear expertise in nuclear safety assurances is paramount. Adequate nuclear skills and infrastructure is thus of major importance for nuclear safety. Research is a prerequisite to maintain and improve nuclear safety.

Since the major construction phase in the 1970's and 1980's many of the senior experts have retired or will retire within the near future; there is a risk of a lack of skilled personnel. Also, important experimental facilities supporting the safety case have been closed or have problems to continue their operation due to lack of financial support. There is therefore a risk that knowledge, experience and experimental facilities will not be sufficient in the future, in particular in the case of a revival of the nuclear industry.

There is also a risk that experimental data in the past can disappear.

These considerations lead the Committee to define the following technical goals to be pursued in the coming years:

- As required, to develop and implement knowledge transfer and training and development activities that ensure knowledge of past CSNI activities and accomplishments is preserved;

- To develop and maintain databases in key areas (e.g., fires, digital I and C, piping failures, thermal- hydraulic experiments) and to identify sources of data (e.g., develop catalogues identifying what previous experimental data exists and how to obtain access to it), to construct code validation matrices, and to encourage and support data preservation; and

- To initiate new cooperative research projects to maintain key research capabilities and to help to maintain an adequate level of capability and competence amongst member countries.

Effectiveness and efficiency of activities related to safety

JSP CSNI and CNRA Focus Areas:

- The Committees should focus on maximizing outcomes of their work in line with their missions – "doing the right work" (effectiveness), and seeking collaborative work focusing on "doing the work right" (efficiency) in defining and implementing regulatory and research efforts;

- The Committees should support the harmonization of regulatory practices;

- The Committees will support cost sharing and cost-effective safety programs and research efforts; and

- The Committees should focus on improving their capability to interact with the public by providing clear, accurate and timely information on regulatory efforts and on the safety of nuclear installations.

CSNI Technical Goals:

The current period is somewhat unprecedented, with both rapid change and expansion in the use of nuclear energy while at the same time there being significant financial constraints on all OECD members. As such, the importance of international collaboration in nuclear safety research cannot be overstated. For CSNI members, this means that the committee must ensure that "the right work is carried out in the right way". Results and products of CSNI activities have to be made available to members at due time and high quality.

It is important for CSNI to continue supporting collective nuclear safety research with the goal of continuous assurance of plant safety. CSNI must remain responsive to CNRA needs as this latter committee will continue to require the sound technical basis for its modernized regulations and guidance in the face of extended operations and new builds. Through it all, the importance of continuous learning, pooling of knowledge and experience and efficiency in the use of limited resources will be key.

- To ensure work activity proposals address safety-significant issues and will result in deliverables that are clear, accurate, timely and useful for furthering safety activities;
- The CSNI methods of work should ensure that the work activities are carried out using a quality managed approach;
- To build and harmonize international approaches to safety issues through the use of multi-national collaborative efforts and cost and resource sharing;
- To ensure that clear linkages exist between CNRA regulatory needs and CSNI activities.

Safe operation of current nuclear installations

JSP CNRA and CSNI Focus Areas:

- The Committees will focus on maintaining safety margins in light of advances in scientific and technical knowledge to ensure the implications of aging, changes in plant configuration, and requested operating domains are understood and well managed;
- The Committees should focus on improving the use of risk-informed regulatory strategies, updated with operating experience and safety research results, to evaluate, measure, and enhance the safety performance of nuclear installations.

CSNI Technical Goals:

The safety of operating installations depends on a number of factors such as plant configuration, aging of materials and components, safety culture and human and organisational performance in maintenance, engineering and operation.

As more installations operate with extended licenses, at increased power levels, with new fuel designs or new hardware or software technologies (in case of refurbishment), the impact on safety margins shall be well assessed. Furthermore, safety analyses use more and more advanced methods and tools and their impact on the safety margins shall be also understood and assessed.

On the other hand, safety issues raised in the past by the operating experience or by the results of research programmes show that it is essential to continuously scrutinize them and to preserve sufficient safety margins, whatever is the scientific and technical knowledge.

Increasing the use of probabilistic safety approaches is also a means to better assess, measure and therefore maintain a high level of safety of nuclear installations.

These considerations lead the Committee to define the following technical goals to be pursued in the coming years:

- To understand and quantify the mechanisms of ageing of components and structures ; to assess and predict their impact on the safety of nuclear installations and; to identify the corresponding means of detection and control.

- To assess the impact of new fuel technologies and advanced fuel management techniques on the safety of existing nuclear installations.

- To identify and assess the impact of new technologies (e.g., digital I&C) on the safety of existing nuclear installations.

- To assess advanced methods and tools used for event/accident analysis; to assess methods and tools for severe accidents and source term analysis; to quantify corresponding uncertainties and; to further improve accident management.

- To better assess safety culture, human and organisational factors and integrate them in the maintenance and operation of nuclear installations.

- To develop approaches and methods to quantify safety margins.

- To further review and assess the development of PSA methods; to promote further PSA applications in the operation of nuclear installations and review risk-informed approaches.

- To review and assess safety approaches related to radioactivity confinement, criticality, fire and chemical risks in nuclear installations; and

- To contribute to the enhancement of safety performance of current nuclear installations by:

  - identifying and resolving safety issues revealed by operating experience feedback;
  - identifying practical implications of new safety research results not already identified by CNRA.

Safety in new nuclear installations

JSP CNRA and CSNI Focus Areas:

- The Committees will support, to the extent practical, the utilisation of new or improved analytical tools in safety reviews.

- The Committees should aim to identify the best practices in regulatory oversight through collaborative efforts among member countries, and support opportunities to increase global

nuclear safety by availing the information to non-member countries to the extent possible and in accordance with NEA policy.

CSNI Technical Goals:

In general, the nuclear reactors of the existing fleet in the OECD NEA member countries show excellent safety records. CSNI's objective is therefore to contribute to extend this tradition with regard to new nuclear installations currently planned or being constructed. Although the reactors of the third generation are largely based on the proven technologies of their predecessors' designs, new features or technologies and modified working environments may warrant analysis to assure the overall safety of the new builds.

These considerations lead the Committee to therefore define the following technical goals to be pursued in the coming years:

- To identify and resolve safety issues specific to new designs;
- To address the lack of experience base for new designs, equipment and material;
- To review current analytical tools as well as risk assessment approaches regarding their applicability to safety assessments of new designs and further develop and validate them where needed;
- To provide a consolidated approach for the safety assessments of new fuel cycle facilities;
- To continuously improve safety culture and human and organisational performance, particularly with regards to component manufacturing and plant construction.

Safety in advanced reactor designs

JSP CNRA and CSNI Focus Areas:

- The Committees, in particular, CSNI, will provide a forum to discuss advanced design issues and encourage the balanced and gradual incorporation of items relevant to advanced reactor safety in the Working Group programme of work.
- The Committees should focus on international collaborative projects in the advanced reactor area, aiming to develop a common knowledge basis through cost-sharing arrangements. The Committees should encourage member countries to include considerations for education in Committee-endorsed research projects.

CSNI Technical Goals:

Advanced reactor designs may significantly differ from those currently in use or newly built. In particular new designs may comprise fast neutron core designs, peculiar core configurations, coolant such as gas, liquid metal or molten salt. In addition temperature and pressure levels may significantly differ from current designs. Furthermore, new applications for nuclear energy other than electricity production, especially cogeneration of electricity and heat for process industry including hydrogen production are considered.

A summary of technical goals are as follows:

- To identify and address safety issues specific to advanced nuclear installations, from their conception and design stages;
- To identify research tools and facilities needed to address safety issues associated with advanced nuclear installations;
- To review the adequacy of analytical tools and risk assessment approaches for application to advanced designs and evaluate and validate new analytical approaches when called for by specific features of new designs; and
- To duly consider the safety of fuel cycle facilities in the advanced design supply chain.

Mapping of CSNI Challenges and Technical Goals

The list of Technical Goals is shown in Table 1 below, along with a cross reference to the challenge to which it primarily applies and the WGs involved (including a WG lead if any). For simplicity, only the main Technical Goal Challenge link is evidenced in Table 1, although one Technical Goal can be related to several challenges. The indicated WG lead is also meant as the group that has the main responsibility for the specific Technical Goal, although more than one group may have a key role in several cases.

CSNI expects that WGs periodically review their integrated plans against the table below and to consider how their integrated plans address these technical goals. The expectation is not that every technical goal need be covered off by the WG listed but rather that the list below be used to plan and prioritize future work within the group.

Table 1. Challenges and Technical Goals

Note: Group leading is underlined below. Other group(s) participating noted without underlining.

Challenges and Technical Goals	**Lead, Involved**
1. Adequate nuclear skills and infrastructure	
1a. As required, to develop and implement knowledge transfer and training and development activities that ensure knowledge of past CSNI activities and accomplishments is preserved.	CSNI, all WGs
1b. To develop and maintain databases in key areas (e.g., fires, digital I and C, piping failures, thermal- hydraulic experiments) and identify sources of data (e.g., develop catalogues identifying what previous experimental data exists and how to obtain access to it), to construct code validation matrices, and to encourage and support data preservation.	CSNI, all WGs
1c. To initiate new cooperative research projects to maintain key research capabilities and to help to maintain an adequate level of capability and competence amongst member countries.	CSNI, all WGs

2. Effectiveness and efficiency of activities related to safety	
2a. To ensure work activity proposals address safety-significant issues and will result in deliverables that are clear, accurate, timely and useful for furthering safety activities.	PRG, CSNI, all WGs
2b. The CSNI methods of work ensure that the work activities are carried out using a quality managed approach.	PRG, all WGs
2c. To build and harmonize international approaches to safety issues through the use of multi-national collaborative efforts and cost and resource sharing.	CSNI, all WGs
2d. To ensure that clear linkages exist between CNRA regulatory needs and CSNI activities.	CSNI, PRG
3. Safe operation of current nuclear installations	
3a. To understand and quantify the mechanisms of ageing of components and structures ; to assess and predict their impact on the safety of nuclear installations and; to identify the corresponding means of detection and control.	WGIAGE, WGFCS
3b. To assess the impact of new fuel technologies and advanced fuel management techniques on the safety of existing nuclear installations.	WGFS, WGFCS
3c. To identify and assess the impact of new technologies (e.g., digital I&C) on the safety of existing nuclear installations.	All WGs
3d. To assess advanced methods and tools used for event/accident analysis; to assess methods and tools for severe accidents and source term analysis; to quantify corresponding uncertainties and; to further improve accident management.	WGAMA, WGIAGE, WGFS
3e. To better assess safety culture, human and organisational factors and integrate them in the maintenance and operation of nuclear installations.	WGHOF
3f. To develop approaches and methods to quantify safety margins	WGAMA, WGRISK
3g. To further review and assess the development of PSA methods; to promote further PSA applications in the operation of nuclear installations and review risk-informed approaches.	WGRISK
3h. To review and assess safety approaches related to radioactivity confinement, criticality, fire and chemical risks in nuclear installations.	WGAMA, WGFCS
3i. To contribute to the enhancement of safety performance of current nuclear installations by: • identifying and resolving safety issues revealed by operating experience feedback. • identifying practical implications of new safety research results not already identified by CNRA.	All WGs
4. Safety in new nuclear installations	
4a. To identify and resolve safety issues specific to new designs.	WGAMA, WGFS, WGIAGE

4b. To address the lack of experience base for new designs, equipment and materials.	WGAMA, WGIAGE, WGFS
4c. To review current analytical tools as well as risk assessment approaches regarding their applicability to safety assessments of new designs and further develop and validate them where needed.	WGAMA, WGRISK, WGFS, WGIAGE
4d. To provide a consolidated approach for the safety assessment of new fuel cycle facilities.	WGFCS
4e. To continuously improve safety culture and human and organisational performance, particularly with regards to component manufacturing and plant construction.	WGHOF
5. Safety in advanced nuclear designs	
5a. To identify and address safety issues specific to advanced nuclear installations, from their conception and design stages.	WGAMA, WGIAGE, WGHOF, WGRISK, WGFS
5b. To identify research tools and facilities needed to address safety issues associated with advanced nuclear installations.	WGAMA, WGIAGE, WGHOF
5c. To review the adequacy of analytical tools and risk assessment approaches for application to advanced designs and evaluate and validate new analytical approaches when called for by specific features of new designs.	WGAMA, WGIAGE, WGFCS
5d. To duly consider the safety of fuel cycle facilities in the advanced design supply chain.	WGFCS

Further information on the technical goals can be found in Appendix B.

IV. CSNI WORKING METHODS, PROCEDURES AND DELIVERABLES

To help meet the CSNI organisational and technical goals, CSNI has established working methods and procedures providing a uniform, consistent and structured process for the conduct of committee activities. This section describes those working methods and procedures.

The CSNI work is managed and organised according to the following top-down scheme (see Table 2 below):

Table 2. Hierarchical CSNI Management Document Scheme

Type of document	Programmatic Content	How Approved
NEA Strategic Plan	Strategic goals and objectives	NEA Steering Committee
Joint CNRA-CSNI Strategic Plan	Main challenges and focus areas	NEA Steering Committee
CSNI Operating Plan	CSNI technical goals	CSNI
CSNI Activity Report	All WG activities, their status and new proposals	No formal approval required

Each WG is responsible for developing and maintaining its integrated plan. The integrated plans are to describe each WG mandate, strategy, areas of responsibility and what is being done by each WG to address the CSNI technical goals described above. In particular, each integrated plan should reflect the technical goals for which the WG has responsibility and describe the WG current and proposed future activities covering at least a 3-year period. The integrated plan should also pinpoint the most significant areas that cannot be covered by the group and the reasons why they cannot be addressed (e.g. not enough knowledge or data, not suited for international cooperation, need for additional expertise or resources, etc). The guidelines regarding scope, content and format of an integrated work plan are included in Appendix C.

All new WG activities are presented using the CSNI Activity Proposal Sheet (CAPS), as shown in Appendix C. The CAPS are prepared when an activity is submitted to CSNI for approval. The same format is to be used for activities assigned by the CSNI to a WG or TG, i.e. for work initiated through a top-down approach. The CAPS and the full set of specific CSNI activities (from the integrated plans) being conducted or planned are described in a CSNI Activities Report, which is updated twice per year, prior to each CSNI meeting.

CSNI Deliverables and their Dissemination

An important aspect of the CSNI and its activities is the contribution made toward knowledge management and transfer. The various technical reports (e.g., proceedings, opinion papers, state-of-the-art reports, etc.), databases, and other tools and material ensure that knowledge is captured and broadly available for individuals and organisations including those who are new to a particular technical area. Moreover, the OECD-NEA joint international project activities, benchmarks, technical meetings, workshops, and summer schools all provide excellent opportunities to involve less experienced (younger) staff and thereby serve to transfer knowledge from more experienced staff.

CSNI will promote transparency and openness to the extent practicable in the distribution and dissemination of its products.

As a general guideline, CSNI work is to be documented and disseminated to interested parties according to Appendix D. Formal CSNI products (i.e., those requiring formal CSNI approval) are generally one of the following:

- Workshop or seminar proceedings (with organizing committee consensus on conclusions).
- Technical reports on selected topics, including state of the art reports (WG or TG consensus).
- Technical opinion papers on selected topics (WG consensus).

Other products (e.g., technical notes) may be prepared and approved by the WGs for limited distribution.

Meetings

CSNI meets twice per year (June and December) to review program status, approve the publication of completed work products and approve proposals for new work. The CSNI Bureau generally also meets at least twice per year, prior to the June and December CSNI meetings, to discuss administrative, policy, schedule, and organisational matters. A report by the CSNI Bureau is also made at each CSNI meeting. Likewise, the PRG meets twice per year to review WG and TG activities, proposals for new work and completed work products prior to their being presented to the CSNI. The PRG reports on its activities and recommendations at each Committee meeting.

The WGs generally meet and report to CSNI at least once per year. The TGs meet on an as needed basis and report to CSNI on the status of their activities. Other items routinely discussed at the CSNI meeting are the status of ongoing special projects, ongoing cooperative research projects and any proposals for new cooperative research projects. Finally, at each CSNI meeting, a relevant strategic topic will be discussed with respect to current issues, research needs and possible CSNI actions.

Workshops and seminars may be convened to discuss special technical topics, topics of overarching interest, to prepare for topical activities or to estimate the significance of results achieved in particular activities.

Prioritising CSNI Activities

As proposals for new work are made and considered by CSNI, the priority of the proposed work needs to be considered. The following criteria should be used by the PRG, WGs and TGs in proposing priorities for new work:

- Criterion 1: Relevance to CSNI challenges and technical goals.
- Criterion 2: Better accomplished by international group.

- Criterion 3: Likely to bring conclusive results in reasonable time frame .
- Criterion 4: Maintain and preserve strategic safety competence.

Questions or specific request of CSNI activity coming from the CNRA will be treated as high priority item. In order to be treated effectively, the CNRA request should clearly identify the matter to be addressed and the expected CSNI product. The CSNI will determine the best way to respond to such request and, when this entails group work, define the scope, timetable, resources and lead group, including reporting to both CSNI and CNRA.

Initiation, management and closure of an activity should be performed according to Appendix C.

Integrated Work Plans

As mentioned in Section III, each WG should also keep an integrated plan, including all ongoing and planned activities. The number of activities should be dependent on expertise and resources available for each proposed task. A new activity can be started when an ongoing one (involving the same resources) is clearly ending, unless additional resources can be made available. It may be necessary to terminate or defer work of lower priority and to perform fewer activities, with greater focus on more important ones. The WG integrated plans should reflect the priority of each activity in the plan consistent with the above guidelines and established according to Appendix C.

The integrated plan should generally cover at least three years in the future and longer if desired.

Cooperation, Coordination, and Communication

Working within the NEA Family

In implementing its programme of work, the CSNI will work closely with CNRA to ensure co-ordination and co-operation in areas of mutual interest. The CSNl/CNRA Joint Strategic Plan emphasizes the link between CNRA and CSNI and their working groups. To accomplish this, the following activities will be undertaken:

- briefing CNRA on CSNI activities;
- sending new CAPS for information to CNRA between PRG review and CSNI approval;
- sending CSNI products to CNRA. The CSNI product should outline the main outcomes and their potential impact on regulatory activities in their executive summary;
- receiving briefings from CNRA on its activities;
- responding to requests for assistance from CNRA;
- discuss coordination, cooperation, priorities in joint CSNI/CNRA Bureau meetings;
- conducting joint workshops, seminars, etc. on topics of mutual interest;
- inviting a CNRA representative to participate in selected CSNI WGs or other activities;
- issuing joint reports, opinions or statements on topics of mutual interest.

Coordination and cooperation with other internal NEA committees such as the Nuclear Science Committee, the Nuclear Development Committee, the Committee on Radiation Protection and Public Health and the Radioactive Waste Management Committee will occur on matters of common interest. For further information see Appendix C.

Working with the International Atomic Energy Agency (IAEA) and other International Bodies

In order to ensure complementarities and increase synergy with the IAEA, the European Commission (EC-EURATOM), and with other international bodies as well as to optimize the utilization of resources, it is key that CSNI engage and co-operate with these organisations in the planning and execution of its programme of work. A key tenet of the work undertaken by CSNI and its working groups is to ensure that its work complements that of these international bodies and does not duplicate efforts. The IAEA and the EC in particular are invited to CSNI and working group meetings to facilitate this co-ordination and cooperation.

Liaising with Industry and other Stakeholders

The CSNI will ensure that contacts with industry and other stakeholders are maintained and that relevant information and technical data is collected and utilized in the work of the Committee and its working groups, as appropriate.

Co-operating with Non-Member Countries

According to NEA policy, NEA standing technical committees such as CSNI are expected to maintain relationships with non-member countries whose participation in CSNI activities is seen as mutually-beneficial.

Assessment of CSNI Activities and Updating the Operating Plan

The NEA Strategic Plan indicates that each standing technical committee assesses its level of achievement in conducting activities in accordance with the NEA Strategic Plan. This assessment is carried forward into the CSNI/CNRA Joint Strategic Plan (JSP), noting that the results of this assessment will be reported to the NEA Steering Committee every second year.

To help ensure early identification of problems and to provide for corrective action, the assessment of CSNI activities may consider the following:

- identification of CSNI products related to each of the technical goals identified in Section III and their value to nuclear safety;
- tracking and identification of the impact CSNI products have had in member countries, other organisations or the industry;
- evaluation of the progress of each WG with respect to its integrated plan;
- cooperative research project accomplishments and status;
- degree of coordination and cooperation within CSNI and with external organisations and other NEA committees.

The WGs and PRG, along with the NEA Secretariat, shall be responsible for collecting information to assist the CSNI in the assessment. Periodically as needed, the CSNI Operating Plan should be reviewed and updated, in order to reflect the results of the assessments and updates to the technical goals.

APPENDIX A

Mandates of CSNI, PRG and Working Groups

Committee on the Safety of Nuclear Installations (CSNI)

The Committee on the Safety of Nuclear Installations (CSNI) shall be responsible for the activities of the Agency that support maintaining and advancing the scientific and technical knowledge base of the safety of nuclear installations, with the aim of implementing the NEA Strategic Plan (2011-2016) and the CSNI/CNRA Joint Strategic Plan (JSP) (2011-2016) in its field of competence.

The Committee shall constitute a forum for the exchange of technical information and for collaboration between organisations, which can contribute, from their respective backgrounds in research, development and engineering, to its activities. It shall have regard to the exchange of information between Member countries and safety R&D programmes of various sizes in order to keep all Member countries involved in and abreast of developments in technical safety matters.

The Committee shall review the state of knowledge on important topics of nuclear safety science and techniques and of safety assessments, and ensure that operating experience is appropriately accounted for in its activities. It shall initiate and conduct programmes identified by these reviews and assessments in order to overcome discrepancies, develop improvements and reach consensus on technical issues of common interest. It shall promote the co-ordination of work in different Member countries that serve to maintain and enhance competence in nuclear safety matters, including the establishment of joint undertakings, and shall assist in the feedback of the results to participating organisations. The Committee shall ensure that valuable end-products of the technical reviews and analysis are produced and available to members in a timely manner.

The Committee shall focus primarily on the safety aspects of existing power reactors and other nuclear installations and the construction of new nuclear power reactors; it shall also consider the safety implications of scientific and technical developments of future reactor designs.

The Committee shall organise its own activities. Furthermore, it shall examine any other matters referred to it by the Steering Committee. It may sponsor specialist meetings and technical working groups to further its objectives. In implementing its programme the Committee shall establish co-operative mechanisms with the Committee on Nuclear Regulatory Activities to work with that Committee on matters of common interest, avoiding unnecessary duplications.

The Committee shall also co-operate with the Committee on Radiation Protection and Public Health, the Radioactive Waste Management Committee, the Nuclear Development Committee and the Nuclear Science Committee on matters of common interest.

Note*: as approved by NEA Steering Committee, October 2010.*

CSNI Bureau

The CSNI Bureau assists the CSNI chairperson in high level planning related to CSNI activities, including identification of priorities, technical goals and co-ordination with external organisations. The Bureau consists of the CSNI chairperson and six CSNI delegates from different member countries, elected for a three-year term on a rotating basis as determined by the Committee. For some of its functions the CSNI Bureau is supported by the Program Review Group (PRG).

The CSNI Bureau generally meets at least twice per year, i.e. prior to the June and December CSNI meetings, to discuss administrative, policy, schedule, and organisational matters. A report by the CSNI Bureau is also made at each CSNI meeting. Additional meetings of the Bureau can be convened by the CSNI chairperson.

The main tasks of the Bureau are to:

- Support the CSNI chair in operational matters.
- Promote the communication and the interaction within the CSNI structure, with other NEA committees and with external organisations.
- In particular, discuss coordination, cooperation and priorities with CNRA in joint CSNI/CNRA Bureau meetings.
- With PRG support, review proposals and products from the Working Groups, to ensure that proposals and reports have appropriate focus.
- Propose updates of the CSNI technical goals to reflect new information and scientific or technical results.
- Submit proposals of new CSNI activities.
- Identify cross-cutting issues.

Programme Review Group

The Programme Review Group is to perform a programme quality review function within the CSNI and to provide scientific assistance to the decision-making process of CSNI. The PRG should also support the Bureau in preparing CSNI meetings and in proposing actions concerning the achievement of CSNI objectives, in the context of the Joint CNRA/CSNI Strategic Plan.

The main functions of the Programme Review Group are the following:

- Assist the CSNI Bureau in establishing the CSNI Operating Plan (OP) and maintaining it up-to-date.
- Review the Integrated Plan of each WG with respect to overall work-load and priorities.
- Evaluate new activity proposals from the WGs: check consistency with the OP and the Integrated Plan, assess the resource and time requirements, and issue a recommendation to the CSNI.
- At the request of CSNI, evaluate new OECD-NEA joint project proposals with regard to their technical content and their alignment with WG work scope.
- At the request of CSNI, provide assistance to the Bureau for the work of the Committee and its working structures with respect to cross-cutting issues.
- Monitor the progress of ongoing activities in the context of the Integrated Plan and recommend corrective actions as needed.
- Review, and if necessary, make proposals for topics of Technical Opinion Papers and Collective Opinion Statements.
- Review major CSNI reports (i.e., state-of-the-art reports and documents of similar significance) and provide guidance and advice on technical subjects to the CSNI.
- Report on its activities and recommendations at each Committee meeting.

CSNI Working Group on Risk Assessment (WGRISK)

Scope

The Working Group shall support improved uses of Probabilistic Safety Assessment (PSA) in risk-informed regulation and safety management through the analysis of results and the development of perspectives regarding potentially important risk contributors and associated risk-reduction strategies. The Working Group shall address PSA methods, tools, and data needed to provide this information.

Objectives

The main objective of the Working Group on Risk Assessment (WGRisk) is to advance the PSA understanding and to enhance its utilisation for improving the safety of nuclear installations, for improving the operation and the design of nuclear installations and for increasing the regulatory effectiveness through risk-informed approaches. In order to achieve this objective, the group shall:

1. Report to the Committee on the Safety of Nuclear Installations (CSNI) and assist that Committee with its work. The Working Group shall prepare an integrated plan for its activities consistent with the mandate as well as proposed CSNI safety issues, updated at regular intervals and CSNI directives.

2. Constitute a forum for exchange of information and experience related to risk assessment in Member countries. This exchange is not only limited to technical discussions on questions regarding risk analysis approaches, results, insights, applications and interactions with other disciplines and analysis techniques, but it shall also include identifying and prioritising important issues requiring additional research.

3. Prepare technical reviews (such as state-of-the-art reports, technical opinion papers, compilations of ongoing efforts, comparison studies etc. as appropriate) of work in all phases of risk assessment to assist further developments and the application of PSA in risk-informed decision making. This work will be done in task groups, whose work will be organised in a project-like manner with outcomes and milestones.

4. Sponsor specialist meetings and workshops to further its objectives.

5. Collaborate with or assist other CSNI Working Groups, CNRA and other NEA committees on request. The group will also co-operate with other international organisations, aiming among others to avoid duplication of effort.

CSNI Working Group on Analysis and Management of Accidents (WGAMA)

Scope

The Working Group on the Analysis and Management of Accidents (WGAMA) shall be responsible for activities related to potential accidental situations in nuclear power plants, including the following technical areas: reactor coolant system thermal-hydraulics; design-basis accident including ECCS strainer clogging; pre-core melt conditions and progression of accident and in-vessel phenomena; coolability of over-heated cores; ex-vessel corium interaction with concrete and coolant; in-containment combustible gas control; physical-chemical behavior of radioactive species in the containment; combustion phenomena. The activities will mainly focus on existing reactors, but will have application also for some advanced reactor designs. Priority setting will be based on established CSNI criteria and in particular on safety significance and risk and uncertainty considerations.

Objective

The WGAMA objective is to assess and where necessary strengthen the technical basis needed for the prevention, mitigation and management of potential accidents in nuclear power plants, and to facilitate international convergence on safety issues and accident management analyses and strategies.

In order to fulfil this objective, the working group shall:

- Exchange technical experience and information relevant for resolving current or emerging safety issues

- Promote the development of phenomena-based models and codes used for the safety analysis, including the performance of benchmarking exercises

- Assess the state of knowledge in areas relevant for the accident analysis and, where needed

- Promote research activities aimed to improve such understanding, while supporting the maintenance of expertise and infrastructure in nuclear safety research

The Working Group shall report to the Committee on the Safety of Nuclear Installations (CSNI) and assist that Committee with its work. The programme will be carried out by small task groups, each set up for performing a specific programme activity under the WGAMA supervision. The output of the working group will consist of state-of-the-art reports and other technical reports, workshops and related proceedings, benchmarking exercises and joint research proposals.

The working group will aim to provide answers as requested by CNRA, CSNI and member countries and will co-ordinate its work with other working groups, notably with WGRisk for priority setting, WGOE for emerging issues and WGIAGE for ageing and structure integrity evaluation. WGAMA will also work in co-ordination with the NEA NSC on scientific items such as advanced neutronic and thermal-hydraulic methods. Interaction with joint projects will be strengthened as recommended in the CSNI Operating Plan.

CSNI Working Group on Integrity and Ageing of Components and Structures (WGIAGE)

The main mission of the Working Group on Integrity and Ageing of Components and Structures is to advance the current understanding of the relevant aspects related with ensuring the integrity of components, systems and structures, and to propose general principles on the optimal ways of dealing with challenges to the integrity of operating as well as new nuclear power plants using an integrated approach to design safety and plant life management.

The Working Group shall report to the Committee on the Safety of Nuclear Installations (CSNI) and assist that Committee with its work. With prior approval of CSNI, the Working Group shall collaborate with or respond to requests from the CSNI Programme Review Group and Working Groups and other NEA committees or other international organisations.

The Working Group will have three subgroups dealing with a) integrity and ageing of metal structures and components, b) integrity and ageing of concrete structures and c) seismic behaviour of components and structures.

The specific mandate should be as follows:

1. The Working Group shall constitute a forum to exchange views, information and experience on generic technical aspects of integrity and ageing of components and structures, and review, as necessary, national and international programmes concentrating on research, operational aspects and regulation.

2. The Working Group shall stimulate, in relevant technical areas, new research and recommend possible international co-operative projects.

3. The Working Group shall develop common technical positions on specific integrity issues of operating and new nuclear power plants, and identify areas where further work is needed.

4. The Working Group shall discuss the potential impact of ageing and other challenges to integrity on the safety, regulation, and operability of operating and new nuclear power plants and research reactors.

CSNI Working Group on Human and Organisational Factors (WGHOF)

The main mission of the Working Group on Human and Organisational Factors (WGHOF) is to improve the understanding and treatment of human and organisational factors within the nuclear industry in order to support the continued safety performance of nuclear installations, and improve the effectiveness of regulatory practices, in Member countries.

The Working Group shall report to the Committee on the Safety of Nuclear Installations (CSNI) and assist that Committee with its work. The Working Group shall prepare an integrated plan for its activities consistent with the mandate as well as proposed CSNI safety issues, and shall update this at regular intervals. The Group will also collaborate with, and respond to requests from, the Committee for Nuclear Regulatory Activities (CNRA) and other Working Groups of the CSNI. The WGHOF programme of work will be approved by CSNI.

In delivering its mission, WGHOF will seek to address the challenges identified in the joint CSNI/CNRA Strategic Plan and to implement the CSNI Operating Plan. WGHOF will:

1. Constitute a forum for exchange of information and experience about safety-relevant human and organisational issues in Member countries, thereby promoting co-operation and maintaining an effective and efficient network of experts.
2. Identify and prioritise current and emerging human and organisational safety issues.
3. Identify human and organisational factors methodologies and practices where further work and research are needed.
4. Identify those issues which appear most suitable to be addressed by WGHOF in a co-ordinated way across the international community.
5. Facilitate international convergence on safety issues related to human and organisational factors and, where practicable, seek to develop a shared understanding and common positions on important issues.
6. Compare, and where possible benchmark, practices and methodologies currently applied by Member countries in the assessment of safety-relevant human and organisational issues.
7. Prepare technical reviews of human and organisational factors work where such reports are needed for further development and to assist the application of human and organisational factors methods in member countries.
8. Collaborate with, and support cross-cutting initiatives proposed by, other CSNI/CNRA groups. Ensure that CSNI, CNRA and other organisations are consulted as appropriate when potential cross-cutting work on human and organisational factors is proposed by WGHOF.
9. Sponsor specialist meetings, workshops and other means of fostering international collaboration with nuclear and other industries, where appropriate, to further its objectives.

CSNI Working Group on Fuel Safety (WGFS)

The main mission of the Working Group on Fuel Safety is to advance the current understanding and address safety issues related to fuel safety.

The specific mandate is as follows:

1. The Group will report to the Committee on the Safety of Nuclear Installations (CSNI), assist the Committee with its work and carry out the programme of work approved by the CSNI.

2. Assess the technical basis for current safety criteria and their applicability to high burn-up (above 50 MWd/kg) and to new fuel designs and materials. The assessment will focus on anticipated transients and postulated accident conditions. Information relevant to fuel performance under normal operating conditions will be considered only to the extent necessary to assess the safety behaviour.

3. Determine needs and priorities for future research programmes in the area of fuel safety behaviour, with the aim of understanding and adequately modeling key phenomena and of quantifying safety margins.

4. Review from the safety point of view, the adequacy of fuel codes and methodologies used for different core assessments as related to high burn-up fuel. Cores with different fuel assembly designs and with MOX fuel are to be considered. Neutronic, thermal-hydraulic and materials aspects are considered as they relate to core safety assessment.

5. Provide a forum where safety relevant fuel issues emerging from operating experience and research work can be addressed and resolved in an effective manner.

The group will aim at facilitating international convergence in fuel safety issues, including experimental approaches, interpretation and use of the experimental data or of other relevant information.

The group will perform its activities mainly through organizing topical meetings on specific subjects or through small task forces dedicated to covering specific programme items.

CSNI Working Group on Fuel Cycle Safety (WGFCS)

Scope

The nuclear fuel cycle comprises a number of interrelated activities including; uranium mining and milling; uranium refining and conversion to uranium hexafluoride; uranium enrichment; fuel fabrication and storage (including MOX fuel); spent fuel storage; spent fuel reprocessing; decommissioning of nuclear facilities; radioactive waste management and disposal options (including for spent fuel) and the research and demonstration facilities that support these activities. Reactor operation is conventionally not included in the so-called nuclear fuel cycle. Similarly, the long-term management of radioactive waste is a very broad field, widely covered in several other NEA Committees, and is therefore not addressed, although the safety aspects associated with processing and storing waste in the short term on the site of fuel cycle facilities are treated by the group coordinated with the Radioactive Waste Management Committee.

Objectives

The objective of the Working Group on Fuel Cycle Safety (WGFCS) is to advance the understanding for both ***regulators*** and ***operators*** of relevant aspects of nuclear fuel cycle safety in member countries.

In order to accomplish this objective the working group shall:

- Meet periodically to exchange information on relevant matters including licensing systems, safety philosophy and safety standards to improve mutual understanding, and to review the information from the Fuel Incident and Notification and Analyses System (FINAS) and other data bases.

- Indicate where further research is needed, review and prioritise safety issues, prepare state-of-the-art reports, hold workshops as appropriate and collaborate with other groups as necessary.

- To achieve this mandate the FCS Working Group shall:

    1) Report to the Committee on the Safety of Nuclear Installations (CSNI) and assist that Committee with its work. The programme of work of WGFCS will be approved by CSNI.

    2) Constitute a forum for exchange of information and experience of activities related to nuclear fuel cycle safety in Member countries. Accumulation of operational experience should be used to improve safety technology. Mutual understanding of licensing systems, safety philosophy and safety standards should be common goal between members.

    3) Encourage and support WGFCS member countries to contribute frequently and regularly to FINAS by their reports. In case of an event of common interest, to organise a specific forum to share lessons-learned and promote their implementation.

4) Indicate where further research and analysis is needed and denote priorities actions to be undertaken. It should prepare technical reviews of work in all phases of the nuclear fuel cycle where such reports are needed for further development. In doing so, care will be taken to avoid duplication of effort or scope with other CSNI Working Groups, or with other international bodies.

5) With prior approval of CSNI, collaborate with or assist the other WGs, NEA committees or other international organisations.

APPENDIX B

Technical Goals

Challenge 1 - Adequate nuclear skills and infrastructure

a) As required, to develop and implement knowledge transfer and training and development activities that ensure knowledge of past CSNI activities and accomplishments is preserved

The work force in the nuclear safety field is ageing and a significant number of experts will be lost/will retire in the near future. CSNI should ensure that explicit and implicit knowledge of past CSNI activities are passed on to the younger generation, e.g., in activities such as THICKET and summer school activities in CSNI projects where feasible. Member countries should involve young professionals in CSNI work and projects. Research and development in support of current and advanced designs in international and national activities, workshops and summer schools should be organised to effectively exchange newly gained basic knowledge and experience. Exchange of personnel between member countries in carrying out research and development activities would support building a broader basis of expertise and foster international consensus on safety matters pertaining to current and advanced designs.

Leading: CSNI Participating: All WGs

b) To develop and maintain databases in key areas (e.g., fires, digital I and C, piping failures, thermal-hydraulic experiments) and identify sources of data (e.g., develop catalogues identifying what previous experimental data exists and how to obtain access to it), to construct code validation matrices, and to encourage and support data preservation

Maintaining data is part of knowledge management. OECD data base projects should be reviewed, e.g., it should be examined how the SCAP piping data and OPDE can be merged.

Working groups should continue to ensure that technical reports developed are documented and catalogued in accordance with NEA requirements.

Leading: CSNI Participating: All WGs

c) To initiate new cooperative research projects to maintain key research capabilities and help to maintain an adequate level of capability and competence amongst member countries

Because of shrinking nuclear budgets, the continued operation of many experimental facilities is in danger. The SFEAR has developed criteria to identify the most important experimental facilities and research groups based on the present situation of an expanding nuclear industry. Based on the SFEAR report and criteria CSNI should continuously evaluate which new cooperative research projects should be initiated. However, it must be based on a meaningful program.

Leading: CSNI Participating: All WGs

Challenge 2 - Effectiveness and efficiency of activities related to safety

a) To ensure work activity proposals address safety-significant issues and will result in deliverables that are clear, accurate, timely and useful for furthering safety activities

All new CSNI Activity Proposal Sheets need to be well substantiated and clearly aligned with one or more of the JSP main challenges and CSNI technical goals. The CAPS need to clearly articulate the end-product(s) that will results from this work and how it will benefit the CSNI community.

Ensuring that new work activity proposals have a high safety significance i.e., address safety topics called for in the JSP main challenges and the CSNI technical goals. Also, CAPS should preferentially address those safety areas under-represented by current work within CSNI. In putting forth new CAPS, WGs also need to consider CSNI direction on focus areas to be addressed.

Leading: PRG Participating: CSNI, all WGs

b) The CSNI methods of work ensure that the work activities are carried out using a quality managed approach

This applies to all CSNI products (reports, proceedings and other) which should adequately cover the purpose and scope of the review and/or analysis, be clearly written and available to members within a reasonable period of time.

CSNI must ensure that the work is performed with a project management approach. This means that before work starts a lead organisation must have been identified. Furthermore, the workload in person-months must have been estimated and the active participants must have committed themselves to the work.

CSNI must ensure that CSNI products address safety significant technical matters which align to the JSP main challenges and CSNI technical goals.

Leading: PRG Participating: all WGs

c) To build and harmonize international approaches to safety issues through the use of multi-national collaborative efforts and cost and resource sharing

The WGs should aim to systematically involve other internal or external groups or organisations in their activities in order to facilitate information sharing, leveraging and maximizing the potential of various research facility capabilities as well as the sharing of associated costs.

Joint research projects are used to leverage expertise and research infrastructure to the benefit of the multi-national science and research community. The CSNI has a key role in promoting the use of international evaluation and analysis approaches in order to address the JSP main challenges and CSNI technical goals.

Ensuring that CSNI work activities address significant safety and/or knowledge gaps coincident with the JSP main challenges and CSNI technical goals is key. It is imperative that CSNI members have access to international R&D expertise and facilities to address current and emergent safety issues for current and new design installations.

Leading: CSNI, all WGs

d) To ensure that clear linkages exist between CNRA regulatory needs and CSNI activities

It is important that a strong and sustained linkage exists between CNRA regulatory challenges and the work activities of CSNI. This should apply to the work of the WGs and TGs and there needs to be a mechanism that allows for these cross-linkages to exist in the ongoing work activities of both committees.

CSNI must ensure that safety significant regulatory issues are treated on a priority basis by its groups. CSNI products must address safety significant technical matters of a regulatory concern or consequence.

Leading: CSNI Participating: PRG

Challenge 3 - Safe operation of current nuclear installations

a) To understand and quantify the mechanisms of ageing of components and structures; to assess and predict their impact on the safety of nuclear installations and; to identify the corresponding means of detection and control

The integrity and reliability of the facility's systems, structures, and components should remain essentially constant throughout its operating life, even considering Long Term Operation. In particular, it should be demonstrated that: ageing of non-replaceable components and structures (e.g., reactor vessel, containment, cables) beyond their design lifetime does not impair the safety demonstration; other components are replaced in an appropriate time, without any significant increase in risk and; safety margins should be acceptable high (taking into account the decrease of certain material characteristics and the use of more sophisticated methods and codes - for material behavior and loads).

CSNI should develop further its activities aimed at understanding and quantifying the mechanisms of ageing of components and structures (in particular metallic and polymeric materials as well as concrete); at assessing and predicting their impact on the safety of nuclear installations and; identifying the corresponding means of detection and control.

Leading: WGIAGE Participating: WGFCS

b) To assess the impact of new fuel technologies and advanced fuel management techniques on the safety of existing nuclear installations

Fuel assembly design optimization, more demanding coolant temperatures and chemistry conditions and more aggressive fuel management strategies are being introduced by the industry to improve the economy of nuclear power plant operations. Advances are also being made in fuel fabrication, processing and storage processes.

CSNI should maintain cognizance of evolving fuel technologies and fuel cycle strategies, and identify potential technical shortcomings and topics where regulators need to obtain independent confirmatory information. CSNI activities should contribute to ensure that associated safety margins are maintained through adequate evaluations considering operational experience, analytical results and data.

Leading: WGFS Participating: WGFCS

c) To identify and assess the impact of new technologies (e.g., digital I&C) on the safety of existing nuclear installations

Currently operating nuclear facilities are, of necessity, having to convert from analog instrumentation and control systems to digital systems. The underlying digital technology evolves very rapidly, even after the initial conversion is made. The continued safety of the facilities during and after this conversion must be ensured.

CSNI should continue to monitor for new and/or evolving technologies and to identify and assess the impact of these technologies on the safety of nuclear installations.

Leading: all WGs

d) To assess advanced methods and tools used for event/accident analysis; to assess methods and tools for severe accidents and source term analysis; to quantify corresponding uncertainties and; to further improve accident management

Recent analytical techniques such as best estimate codes associated with uncertainty quantification, computational fluid dynamics and coupling of codes are developed by designers which significantly modify the previous assessment methods in accident analysis. New safety approaches (such as break preclusion, lead-before-break, etc.) are also developed which have a significant impact on the safety demonstration.

CSNI should keep abreast of these new concepts, and, where appropriate, perform any work necessary to address emergent issues in this area. New methods should be developed to address the safety implications of these advancements. In particular, CSNI should further develop the assessment methods of advanced techniques based on the coupling of thermal-hydraulics and neutronic codes, considering also their coupling with rod thermo-mechanical codes.

CSNI should continue to promote the development of methods and tools to analyse the progression of severe accidents and source terms in order to further reduce uncertainties and improve accident management.

Leading: WGAMA Participating: WGIAGE, WGFS

e) To better assess safety culture, human and organisational factors and integrate them in the maintenance and operation of nuclear installations

Human and organisational aspects have been identified as the root or contributing cause to many significant incidents in the nuclear and other industries.

CSNI should continue to assess available tools needed to better characterize and assess safety culture, human and organisational factors, and recommend work, as necessary, if these tools are considered inadequate or require improvement.

Leading: WGHOF

f) To develop approaches and methods to quantify safety margins

There are considerable economic incentives to introduce new operational strategies, in particular power uprate, and advanced, best-estimate tools for safety assessments of nuclear facilities. Adequate safety margins need to be maintained as these changes are made in order to ensure safety performance, also accounting for uncertainties.

CSNI should continue its efforts for developing approaches to quantify safety margins, ensuring that the methods used can be practically applied within existing regulatory frameworks.

Leading: WGAMA Participating: WGRISK

g) To further review and assess the development of PSA methods; to promote further PSA applications in the operation of nuclear installations and review risk-informed approaches

Level 1 PSA for internal events are now well developed with methods well harmonized between NEA member countries, and intensively used in the safety assessment of current nuclear plants. Significant progress has been achieved recently by many organisations in the development and application of level 2 PSA, for both operating and new plants, as shown by the outcomes of the recent workshops

organised by CSNI. Some international harmonization projects are now in progress (like the ASAMPSA2 project developed in the framework of the European Union R&D programme, or IAEA standards developments) and should contribute to increase the maturity of level 2 PSA models and applications.

The use of level 1 PSA for internal and external hazards has not reached the same maturity. Furthermore, some specific technical areas in level 1 PSA still need further model development (human interaction, I&C…). It is also to be recognized that the way to consider the ageing of installations in PSA is still a matter of discussion.

CSNI should further review and assess the development of methods to be used for level 1 and 2 PSA, with respect in particular to internal and external hazards, and also consider how the ageing of current installations should be taken into account in PSA studies. CSNI should further promote and review approaches leading to a better integration of PSA in the safety demonstration.

Leading: WGRISK

h) To review and assess safety approaches related to radioactivity confinement, criticality, fire and chemical risks in nuclear installations

Confinement of radioactivity is a transverse safety issue for reactors as well as for fuel cycle facilities. The prevention and mitigation of fire and chemical risks are also of concern for many nuclear installations. So far, these technical topics have not been addressed in a continuous manner by the CSNI, thought some tasks and projects related to them have been performed with the Committee.

The CSNI should promote the review and discussion on approaches, methods and tools related to the safety assessment of radioactivity confinement and of fire and chemical risks related to nuclear reactors and/or fuel cycle facilities, in order to share and improve them among member countries.

Leading: WGAMA, WGFCS

i) To contribute to the enhancement of safety performance of current nuclear installations by:
- identifying and resolving safety issues revealed by operating experience feedback
- identifying practical implications of new safety research results not already identified by CNRA.

Even if a high level of safety has been obtained on existing installations, some safety issues are time to time revealed by the survey of the operating experience or the results of safety research programmes.

In this case, Working Groups should contribute to the resolution of these safety issues in their field of competency. Specific Task Groups could also be established when transverse issues are to be addressed.

Leading: all WGs

Challenge 4 - Safety in new nuclear installations

a) To identify and resolve safety issues specific to new designs

Safety issues and governing phenomena specific to new designs are to be identified by thorough analyses and reviewed with respect to being fully understood and quantifiable. The results should be reported to member and associated countries, especially those just planning or constructing new installations.

Experimental and analytical experience relevant to unresolved safety issues of new designs and existing facilities in member and associated countries should be collected and evaluated.

Key phenomena not completely understood or quantifiable which are estimated to be of high relevance to safety should be addressed by coordinated or collaborative experimental projects under the auspices of the OECD NEA where appropriate.

CSNI is to promote thorough international review of new concepts to identify safety issues of new designs and determine approaches to resolve them. Where appropriate collaborative research shall be undertaken under the auspices of the OECD NEA.

Leading: WGAMA Participating: WGFS, WGIAGE

b) To address the lack of experience base for new designs, equipment and material

New designs make use of experience gained from earlier generations of nuclear installations and apply new technologies to enhance economic operation as well as safety.

For these new technologies which include core-catchers, passive safety systems, digital I&C and integrated control room designs there is a lack of experience base with regard to safety assessment.

Through collaborative activities knowledge and experience partially available in member and associated countries should be collected and processed. Building on this knowledge and data base strategies and methods are to be developed to facilitate adequate assessment of the safety and reliability of new technologies and system designs.

CSNI offers a platform to review new designs for new technologies and to collect and process relevant data to build an experience base for the assessment of the suitability and safety performance of new technologies applied to new designs.

Responsible: WGAMA, WGIAGE, WGFS

c) To review current analytical tools as well as risk assessment approaches regarding their applicability to safety assessments of new designs and further develop and validate them where needed

Considering altered operational and safety concepts of new designs current analytical tools have to be reviewed with respect to their ability to properly simulate such systems for adequate safety assessment.

The usual approach of isolated analysis of, e. g. thermo-hydraulic behaviour, core behaviour, component and piping system behaviour should be increasingly substituted by integrated analyses with integrated multi-scale and multi-physics or coupled codes being applied.

For code validation best use should be made of experimental results or infrastructure available in member and associated countries.

The CSNI is to promote the review of analytical tools with regard to analysis of new designs and further collaboration to validate advanced analytical tools.

Leading: WGAMA Participating: WGRISK, WGFS, WGIAGE

d) To provide a consolidated approach for the safety assessments of new fuel cycle facilities

The advancement of fuel technology and the development of new fuels imply new processes, fabrication methods, storage concepts and devices. For fuel cycle facilities a consolidated approach to

safety assessment is needed based on a set of global safety principles as well as process and fabrication specific requirements.

The role of CSNI is to promote detailed information exchange on fuel cycle facilities and the processes applied as a basis for the collaborative development of consolidated approaches to their safety assessment.

Leading: WGFCS

e) To continuously improve safety culture and human and organisational performance, particularly with regards to component manufacturing and plant construction

Construction of newly designed nuclear installations shows room for improvement regarding human performance and reliability. But also, e. g. the application of new technologies like digital I&C or new control room designs are likely to require new operational and organisational procedures and frameworks.

Worldwide experience of new builds should be collected and reviewed in depth to highlight the root causes of human malfunctions and derive principles of good practice.

The specificities of new technologies with regard to human factors are to be analysed and basic knowledge improved to assess their impact on the MTO process and overall safety of the installations.

CSNI promotes in depth review of incidents reported by member and associated countries to reveal the root causes and specifically develop principles to enhance human performance and reliability. It encourages collaborative research to assess the impact of new technologies on human factor and safety culture.

Leading: WGHOF

Challenge 5 - Safety in advanced reactor designs

a) To identify and address safety issues specific to advanced nuclear installations, from their conception and design stages

Advanced designs of nuclear installations are different from the current ones in many aspects. Deployment of fast neutron spectra in combination with adjusted core configurations and material compositions will result in modified reactor dynamics characterizing especially the core behavior during abnormal operational and accidental conditions. Care has to be taken to provide for sufficient safety margins and conservative system behavior so that after occurrence of disturbances of the normal operation the reactor system can be turned to safe conditions even under difficult conditions.

Operation of new designs at elevated temperature and/or pressure requires altered material concepts for the reactor coolant system as well as for secondary or tertiary systems. The materials designed or chosen have to be qualified including their possible shift of characteristic properties with lifetime.

Advanced fuel designs are also under development for this new generation of reactors, which would include new fuel composition, new cladding materials and new geometries, and would also involve new approaches and new tools for the safety demonstration. Safety organisations should follow these developments and be prepared for their review.

The introduction of new technologies in the area of I&C and man machine interface have technical implications regarding safety as well as influence on human behavior and human reliability and also organisational factors have to be reviewed and appropriately tailored.

Leading: WGAMA Participating: WGIAGE, WGHOF, WGRISK, WGFS

b) To identify research tools and facilities needed to address safety issues associated with for advanced nuclear installations

Safety research activities should focus on issues or topics which could inherently jeopardize the safety of advance reactor designs. Experiments must properly simulate real boundary conditions like pressure, temperature, coolant properties and consider scaling effects. As regards qualification of new material concepts the stability of material properties over the expected lifetime regarding operational impact including corrosive environments are of special interest.

There is incomplete specific experience regarding the characteristic operating and accident behavior of experimental setups and demonstrators for advanced designs. Design specific rules and guidelines have to be developed for construction, commissioning and operation of such installations making best use of knowledge and experience in member countries.

Leading: WGAMA Participating: WGIAGE, WGHOF

c) To review the adequacy of analytical tools and risk assessment approaches for application to advanced designs and evaluate and validate new analytical approaches when called for by specific features of new designs

Current analytical tools are to be reviewed for adequacy regarding their application to safety assessments of advanced designs and be further evaluated and validated where needed and appropriate. However, advanced designs might call for new analytical approaches for simulation of advanced installations to assess the safety in normal and accidental situations.

Code development for the assessment of the safety of reactor designs with liquid metal cooling, fast neutron spectra or high temperature gas cooling was carried out in the past to support the design of alternative rector concepts. These codes mostly do not meet today's requirements as regards accuracy and comprehensiveness of phenomena and numerical architecture and stability to be included in an up to date safety analysis approach.

Leading: WGAMA Participating: WGIAGE, WGFS, WGFCS

d) To duly consider the safety of fuel cycle facilities in the advanced design supply chain

New designs are supposed to apply quite different fuel than used in current designs. This applies to fuel claddings as well as to the fuel material composition itself and also the enrichment of fissile material in the fuel may be significantly higher.

The new processes to fabricate fuels for advanced reactor designs have to be reviewed with regard to safety. This has to take account for chemical as well as to nuclear reactivity of processed materials. Also the safety of transportation and storage of raw materials, intermediate products and of completely treated fuel has to be included.

Leading: WGFCS

APPENDIX C

Management of CSNI Activities

Initiation of an activity

All CSNI activities have a lifecycle that consists of initiation, management and closure. Prior to initiation of any CSNI activity, CSNI approval is necessary. Proposals for new work can come from the WGs, the PRG, the CSNI Bureau, individual CSNI members or from external sources (e.g., CNRA requests). The work of CSNI is dependent upon the resources that are made available by member countries for participation in the WGs, TGs or other special projects. Therefore, when a proposal for new work is approved by CSNI, approval implies a commitment of resources by participating member countries to accomplish the task on the proposed schedule.

To provide consistency and relevant information on proposed CSNI activities, each proposed activity should provide information in accordance with the CAPS template; see at the end of this Appendix. The person, group or organisation proposing the activity is responsible for providing the information requested in the CAPS and providing it to the Secretariat in sufficient time to be considered by the PRG prior to presenting it to CSNI for approval. The proposal needs to include information on priority, schedule, coordination and resources, link to CSNI technical goals as well as a technical description and justification. Relations to other activities and cross-cutting aspects have to be explicitly addressed. Section IV provides guidance on how to establish priorities and on coordination. Regarding resources, new tasks should not be proposed unless the resources are clearly assessed, the expertise needed is identified, and both aspects firmly committed in advance. It is the responsibility of the proponent(s) to ensure that this commitment is acknowledged by the respective CSNI representative(s). If this would involve deferring or canceling lower priority work, this should be included in the proposal.

Cross-cutting issues might be identified by a WG or bureau. To ensure proper handling of the cross-cutting issues, there should be one lead WG, which will interact with other working groups as appropriate. Monitoring will be the same as for other activities. In some cases the CSNI may establish a Task Group to deal with a specific cross-cutting issue.

Management of an activity

After approval by CSNI the activity should be managed by the lead WG or by a TG. A project management approach should be applied to each activity to ensure progress is closely monitored, problems identified and resolved (and when necessary brought to CSNI attention), schedules adhered to and a quality product produced. Monitoring of the progress is a responsibility of the WG chair with support of the activity leader and the NEA secretariat. In this regard, each activity should have an assigned technical lead (i.e., project manager), who is responsible for the detailed planning, monitoring, timeliness and quality of the activity, including reporting of progress or problems to the WG. The WG chairperson should assign the technical leads. Industry participation in WG and TG activities is valuable in order to directly involve specific know-how, skills and experience. The lead, however, should be assigned to governmental, research or independent technical safety organisations to ensure and demonstrate that the results of the activities are independent from commercial interests. CSNI performance will be tied closely to the timeliness and quality (well written, practical and useful) of CSNI products.

Integrated plans

To help ensure consistency in scope and approach among the WGs, the integrated plans should contain:

- The group's mandate and vision.
- The main challenges and CSNI technical goals which are within the group's area of responsibility.

- The strategy and the ongoing or planned activities of the group that will enable to achieve these goals. The plan should clearly mention if an activity is ongoing or planned.
- The scope and objectives of the group's activities, the link to the technical goal(s), the expected results, products and users. For ongoing activities, these should be consistent with the CAPS approved by the CSNI. Relevant joint projects that are conducted in the same area of work should be mentioned, describing technical links and complementarity with WG activities.
- Any significant areas that cannot be covered by the group and why.
- A summary table with the overall time schedule of the activities, with major milestones where needed, covering a time period of typically three to four years.
- Plans for coordination with other CSNI groups, NEA Committees and external organisations (e.g., IAEA, EC, industry) should be described.
- Plans for ensuring quality in the group's work should be described (e.g., peer review).

Cooperation, Co-ordination and Communication

Within CSNI

The CSNI Bureau should support the communication and the interaction within the CSNI structure. For what concerns documentation and reporting on WG activities, they should include a description of what input is needed from other WGs and what outputs from the activity may be of interest to other WGs. As a general rule, each joint research project should produce at least one publication on the main outcome or progress, and provide information involving a limited part of the project data for one ISP, if this is organised by a WG.

The WG chairs are responsible for managing the activities of their WG to ensure timely and useful products in accordance with their integrated plans and for bringing problems (e.g., lack of resources) to the attention of CSNI. WG chairs are encouraged to attend the PRG meetings where activities related to their WG are discussed.

The WGs report on their activities at least yearly at the CSNI meetings. Abbreviated reports may be made on an as needed basis by those WGs not scheduled for full reports. The full WG reports shall cover:

- Status of ongoing work, i.e. priorities, problem areas (resources) and schedule changes.
- Main technical findings.
- Final products for approval.
- Proposals for new work.
- Overall assessment of the value and use of the WGs work with respect to meeting CSNI goals, fulfilling WG integrated plan objectives and contributing to the resolution of safety issues or maintaining or improving nuclear safety research infrastructure and capabilities.

Outside CSNI

A fundamental goal in planning CSNI work should be to ensure appropriate coordination and cooperation with other committees of the NEA (namely, CNRA, the Nuclear Science Committee, the Nuclear Development Committee, the Committee on Radiation Protection and Public Health and the Radioactive Waste Management Committee) along with other external organisations. Within CSNI, it is

the role of the WG and/or TG Chairmen, the PRG, the Secretariat, and the Bureau to ensure proper coordination, subject to CSNI review and approval. External to CSNI, similar coordination is desired where it can lead to improved efficiency of CSNI work (for example by avoiding duplication) and/or wider or timelier dissemination of information important to safety. It is the role of CSNI, the Secretariat and the Bureau to ensure that this coordination occurs when required with the other Committees of the NEA. Such coordination or cooperation should not, however, detract from the CSNI mission and leadership in the resolution of safety issues and maintaining safety research expertise and capability, as described in the CSNI/CNRA Joint Strategic Plan.

According to Section IV, the following guidelines for coordination/cooperation are to be followed:

- Proposals for new work where suitable are to include plans for coordination and cooperation within the NEA and with external organisations.

- Subject to CSNI approval, the Secretariat will invite other NEA Committees or external organisations (e.g., IAEA, EC), non-member countries or industry to participate in CSNI activities where those activities are directed toward developing technical information relevant to the resolution of an open safety issue or of interest to those committees or organisations. The purpose of this participation should be to improve the quality and/or efficiency of the WG or TG activity, to facilitate broader and timelier dissemination of results and to avoid duplication.

- Subject to CSNI approval, CSNI WGs and TGs will accept invitations from other NEA committees, external organisations, non-member countries or industry to participate in joint activities where those activities are essential to the CSNI mission and where participation will result in greater WG/TG efficiency and/or higher quality work.

- Coordination and communication with other NEA committees and external organisations, non-member countries and industry shall be improved by inviting representatives from those committees and organisations to provide a status report on relevant activities at each CSNI meeting.

Closure of an activity

- Timely completion and closeout of WG and TG activities is an important CSNI consideration, as it can free resources for new activities. Final reporting has to assess the activity contribution to the resolution of safety issues. If additional work is desired, it should be proposed as a new activity in accordance with this section.

- Finally, it is important for each WG and the PRG to manage their workload. Committing to too many activities will have negative implications on the CSNI goal of timely, high quality products. Therefore, each WG and PRG chairperson is responsible for managing their group's workload so as to match available resources. Substantial delays in activities can result in reminders to participating organisations or activity termination.

CSNI Activity Proposal Sheet (CAPS) for a Proposed New Activity

Project/Activity Title	
Objective	
Scope/Justification/ Deliverables, Expected results and users, Relation to other projects	
Safety significance/ priority (see priority criteria in Section IV)	
Technical Goal(s) covered	
Knowledge Management and Transfer covered	
Milestones (deliverables vs. time)	
Lead organisation(s) and coordination	
Participants (individuals and organisations)	
Resources	
Requested action from PRG/CSNI	
PRG Recommendation	
CSNI Disposition	

APPENDIX D

Guidance for the CSNI Products and their Dissemination

Approval and dissemination of products

A key tenet of the NEA's mandate is to provide member governments and other major stakeholders with the information resulting from NEA activities and to enhance the awareness and understanding of the scientific and technical activities being undertaken. In this sense, the CSNI shall strive to foster an open and transparent approach to the distribution and dissemination of its products, to the extent practicable.

Formal CSNI products (i.e., those requiring formal CSNI approval) are generally one of the following:

- Workshop or seminar proceedings.
- Technical reports on selected topics, including state of the art reports.
- Technical opinion papers on selected topics.
- Collective opinion statements on selected topics.

Other products (e.g., technical notes) may be prepared and approved by the WGs for focused distribution. Workshops and seminar proceedings are prepared by the workshop/seminar organiser/sponsor and reflect the information, opinion and conclusions of the workshop/seminar participants. Specific technical reports and technical opinion papers are prepared by the appropriate WG or TG and reflect the collective conclusions and opinion of the group. Collective opinion statements are in general prepared by the PRG and reflect the CSNI collective opinion and conclusion.

All of the above formal products require CSNI approval before they are issued. In general, CSNI products are to be distributed as shown in Table 3.

CSNI also organises and manages cooperative research projects, as discussed in Section II. Dissemination of information resulting from these projects is usually limited to members participating in the cooperative project for a period of three years following completion of the project. Exceptions to this general practice require approval of the project's Management Board. However, the CSNI encourages the transfer of general results from the OECD joint projects to working groups to support the development of their programs (e.g., International Standard Problems, State-of-the-Art Reports). In addition, as already mentioned in Appendix C, CSNI encourages each project to produce at least one international publication on the project so that others are aware of the work and have a point of contact if further information is desired.

To foster the effective communication of CSNI work, each formal product should have an executive summary that briefly discusses the objective and scope of the work, key results and how they could be used, their significance and any conclusions or recommendations. Guidance for preparation of executive summaries is given below. In distributing the formal products, the Secretariat, with CSNI Chair concurrence, will also include a short cover letter highlighting the purpose, usefulness and key messages to users and conclusions of the product. The potential regulatory impact of the findings and conclusions shall also be highlighted to CNRA's attention.

In addition to the above distribution, each member country should disseminate CSNI products to those organisations within their country that should be aware of the product. CSNI Members and WG members are encouraged to distribute CSNI products in their own country without restriction (except for products from cooperative research programs that contain proprietary data). It should also be noted that many of the CSNI products are available publicly through the NEA website.

Finally, the Secretariat will also endeavour to ensure that the key international bodies with which the CSNI cooperates (principally the IAEA and EU) will also be included in the distribution of the formal CSNI products.

Format and content of executive summaries for CSNI reports

Each CSNI technical report should include an executive summary. Executive summaries should discuss the impact on nuclear safety of the work performed, the regulatory and policy implications, the impact on the current and future CSNI programme of work, possible follow-up actions, conclusions and recommendations, etc. of the work being reported on.

The format for executive summaries should include at least the following five sections:

- Background.
- Objective of the work.
- What was done (including key assumptions and limitations, etc.).
- Results and their significance.
- Conclusions and recommendations.

In reviewing reports and their executive summaries the following will be the standard for approval:

- Does the report clearly describe the objective of the work?
- Does the report clearly describe results and their significance (if appropriate)?
- Does the report contain practical conclusions, follow-up actions and/or recommendations?
- Is the report clear as to its scope and usefulness?

Table 3: Distribution of Formal CSNI Products

Recipient	Workshop or Seminar Proceedings	Topical Reports	Technical and Collective Opinion Statements	Distribution
WG Members and Observers or Wshop Attendees	X	X	X	Hard copy
CSNI Members and Observers	X	X	X	Hard copy
PRG Members	X	X	X	Hard copy
Members of other Relevant WG and Observers	X	X	All WG members and observers	Electronic copy
CNRA Members and Observers	X	X	X	Electronic copy
Other NEA Committee Chairmen	As appropriate	As appropriate	As appropriate	Electronic copy
IAEA, EC Counterparts	X	X	X	Electronic copy
Industry Stakeholders	As appropriate	As appropriate	As appropriate	Electronic copy