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INTEGRATED REGULATORY REVIEW SERVICE (IRRS)

FOLLOW-UP MISSION

TO

FINLAND

Helsinki, Finland

8 to 16 June 2015

DEPARTMENT OF NUCLEAR SAFETY AND SECURITY

Integrated Regulatory Review Service
IRRS

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IAEA IRRS

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Mission date:	*8 to 16 June 2015*
Regulatory body:	*Finnish Radiation and Nuclear Safety Authority (STUK)*
Location:	*Laippatie 4, 00880 Helsinki, Finland*
Regulated facilities and activities in the scope:	*Nuclear Power Plants, Waste Management Facilities, Industrial and Medical Facilities, Fuel Cycle Facilities, Decommissioning, Transport, Emergency Preparedness and Response, Occupational Exposure, Patient Exposure, Public and Environmental Exposure.*
Organized by:	*International Atomic Energy Agency (IAEA)*

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IAEA-2015

The number of recommendations, suggestions and good practices is in no way a measure of the status of the regulatory body. Comparisons of such numbers between IRRS reports from different countries should not be attempted.

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EXECUTIVE SUMMARY

At the request of the Government of Finland, an international team of senior safety experts met representatives of the Nuclear and Radiation Safety Authority (STUK), Ministry representatives, as well as Advisory Commission on Nuclear Safety, from 9 to 16 June 2015 to conduct the IRRS follow-up mission. The peer review took place at the headquarters of STUK in Helsinki. The purpose of the IRRS follow-up mission was to review the measures undertaken following the recommendations and suggestions of the 2012 IRRS Mission. The scope of the IRRS follow-up mission was the same as the scope of the 2012 mission.

The review compared the Finnish regulatory framework for safety against IAEA safety standards as the international benchmark for safety. The mission was also used to exchange information and experience between the IRRS team members and their counterparts from Finland in the areas covered by the IRRS.

The IRRS team consisted of 5 senior regulatory experts from 5 IAEA Member States and 4 IAEA staff members.

The IRRS team carried out a review of the measures undertaken following the recommendations and suggestions of the 2012 IRRS mission in the following areas: responsibilities and functions of the government; the global nuclear safety regime; responsibilities and functions of the regulatory body; the management system of the regulatory body; the activities of the regulatory body including the authorization, review and assessment, inspection and enforcement processes; development and content of regulations and guides; emergency preparedness and response; occupational radiation protection; medical exposure control, transport, environmental monitoring; and waste management.

The mission included interviews and discussions with STUK, the Ministry of Social Affairs and Health, the Ministry of Employment and the Economy and the Advisory Commission for Nuclear Safety. The IRRS team was provided with advance reference material and comprehensive documentation including the status of recommendations and suggestions set out in the initial IRRS mission report.

The IRRS team concluded that the recommendations and suggestions from the 2012 IRRS missions have been taken into account systematically by a comprehensive action plan. Significant progress has been made in most areas and many improvements have been implemented in accordance with the action plan.

During this follow-up mission, the IRRS team determined that 7 out of 8 recommendations and 19 of 21 suggestions made by the 2012 IRRS mission had been effectively addressed and therefore could be considered closed. This is a significant achievement in the less than 3 years that have elapsed. This further confirms the international recognition of STUK as a credible regulatory body, continuously seeking improvement. This also provides confidence that STUK is in a strong position to face the considerable regulatory challenges that will arise in the future associated with new nuclear facilities, decommissioning and increased use of radiation in the health sector.

The IRRS team raised two new Recommendations to the Government: to amend the legislation to clarify that decommissioning of an installation and closure of a disposal facility require a licence amendment; and to address the arrangements for research in radiation safety.

The IRRS team made the following conclusions:

- The Government has implemented the 2012 IRRS Recommendation to establish STUK's legal authorities for making safety regulations and setting licence conditions in the

Nuclear Energy Act. This is a positive development and the IRRS team encourages the Government to make progress on fully implementing the Recommendation to embed, in law, STUK as an independent regulatory body separated from other entities having responsibilities or interests that could unduly influence its decision making;

- In implementing its planned new arrangements for Finland's research activities, the Government should ensure that Finland's and STUK's high level competence in radiation safety is maintained.
- The Government should further improve arrangements for the coordination of information to the public and media during emergencies
- STUK should increase its efforts to ensure consistency of the regulatory core processes across different regulatory areas within its integrated management system;
- STUK should implement the arrangements to clarify the responsibility of the licensee for an environmental monitoring programme and STUK's responsibility for independent verification monitoring;
- STUK is commended for the development of its requirements management tool, which will enhance consistency in its regulatory decisions in the future.

The findings by the IRRS team of 2012 that remain open can be found in Appendix IV.

The new IRRS team findings are summarized in Appendix V.

An IAEA press release was issued at the end of the mission.

I. INTRODUCTION

At the request of the Government of Finland, an international team of senior safety experts in nuclear and radiation safety met representatives of STUK from 9 to 16 June 2015 to conduct the IRRS follow-up mission. The purpose of the IRRS follow-up mission was to review the measures undertaken following the recommendations and suggestions of the 2012 IRRS Mission. The peer review took place at the headquarters of STUK in Helsinki. The review mission was formally requested in May 2015. A preparatory meeting was conducted on 12 and 13 January 2015 at STUK Headquarters to discuss the purpose, objectives, scope and detailed preparations of the review in connection with the previous IRRS Mission conducted in 2012.

The initial mission took place from 15 to 26 October 2012, at STUK headquarters in Helsinki when an international team of 18 senior nuclear safety experts met representatives of STUK, to conduct an IRRS mission to review the effectiveness of the Finnish regulatory framework for all facilities and activities regulated by STUK, with the exception of the research reactor FiR, which STUK decided to exclude because the operator had made a decision to shut down the operation of the reactor.

The purpose of the peer review was to review the measures undertaken following the recommendations and suggestions of the 2011 IRRS mission. The IRRS team consisted of 5 senior regulatory experts from 5 IAEA Member States and 4 IAEA staff members. The IRRS team carried out a review of the measures undertaken following the recommendations and suggestions of the 2012 IRRS missions in the following areas: responsibilities and functions of the government; the global nuclear safety regime; responsibilities and functions of the nuclear safety regulatory body; the management system of the nuclear safety regulatory body; the activities of the nuclear safety regulatory body including the authorization, review and assessment, inspection and enforcement processes; development and content of regulations and guides; emergency preparedness and response; occupational radiation protection; medical exposure control; transport, environmental monitoring; and waste management.

After the initial 2012 IRRS mission, an action plan was developed based on its findings. The detailed results of this action plan implementation and supporting documentation were provided to the team as advance reference material for the mission. During the mission the IRRS team performed a systematic review of all topics by reviewing the advance reference material, conducting interviews with management and staff of STUK, as well as the Ministry of Social Affairs and Heath, the Ministry of Employment and the Economy and the Ministry of the Interior.

During the entire course of the mission the IRRS team received excellent support and cooperation from the host institutions.

II. OBJECTIVE AND SCOPE

The purpose of this IRRS mission was to review the Finnish radiation and nuclear safety regulatory framework and activities, specifically the measures undertaken following the recommendations and suggestions of the 2012 IRRS mission. The IRRS review scope was identical to the scope of the 2012 IRRS mission, and included all facilities and activities regulated by STUK, with the exception of the Research reactor FiR. The review was carried out by comparison against IAEA safety standards as the international benchmark for safety.

It is expected that the IRRS mission will facilitate regulatory improvements in Finland and other Member States from the knowledge gained and experiences shared by STUK and IRRS reviewers and through the evaluation of the effectiveness of the Finnish nuclear regulatory framework and its good practices.

III. BASIS FOR REVIEW

A) Preparatory work and IAEA Review Team

At the request of the Government of Finland, a preparatory meeting for the Integrated Regulatory Review Service (IRRS) follow up mission was conducted on 12 and 13 January 2015 in STUK, Helsinki, Finland.

The preparatory meeting was carried out by the appointed Team Leader, Mr Philippe Jamet, Deputy Team Leader, Mr John Loy and the IAEA representatives, Ms Adriana Nicic and Mr Hilaire Mansoux.

The IRRS mission preparatory team had discussions regarding the progress made by STUK in addressing measures undertaken following the recommendations and suggestions of the 2012 IRRS missions. The Finnish team was led by the STUK Director General, Mr Petteri Tiippana. The Finnish participants provided the IRRS mission preparatory team with an overview on the progress made in response to the 2012 IRRS mission recommendations and suggestions.

This was followed by a discussion on the tentative work plan for the implementation of the IRRS in Finland in June 2015.

The proposed IRRS team composition (senior regulators from Member States to be involved in the review) was discussed and the size of the IRRS team was tentatively confirmed. Logistics including meeting and work space, counterparts and Liaison Officer identification, lodging and transportation arrangements were also addressed.

The Finland Liaison Officer for the preparatory meeting and the IRRS mission was Mr Hannu Koponen, Deputy Director General of STUK.

STUK provided the IAEA and the IRRS review team with the advance reference material for the review in April 2015. In preparation for the mission, the IRRS team members conducted a review of the advance reference material and provided their initial review comments to the IAEA Team Coordinator prior to the commencement of the IRRS mission.

B) Reference for the review

The most relevant IAEA safety standards and the Code of Conduct on the Safety and Security of Radioactive Sources were used as review criteria. A more complete list of IAEA publications used as references for this mission is given in Appendix VII.

C) Conduct of the review

An initial IRRS team meeting was conducted on Monday, 8 June 2015, in Helsinki by the IRRS Team Leader and the IRRS IAEA Team Coordinator to discuss the general overview, the focus areas and specific issues of the mission, to clarify the basis for the review and the background, context and objectives of the IRRS and to agree on the methodology for the review and the evaluation among all reviewers. They also presented the agenda for the mission.

The Finland Liaison Officer was present at the initial IRRS team meeting, in accordance with the IRRS guidelines, and presented logistical arrangements planned for the mission.

The reviewers also reported their first impressions of the advance reference material.

The IRRS entrance meeting was held on Tuesday, 9 June 2015, with the participation of senior management and staff of STUK, representatives from the Ministry of Social Affairs and Health

and the Ministry of Employment and the Economy. Opening remarks were made by Mr Petteri Tiipana, STUK Director General, Mr Herkko Plit, Deputy Director General in the Ministry of Employment and the Economy, Ms Ritva Bly, representative of the Ministry of Social Affairs and Health , and Mr John Loy, IRRS Deputy Team Leader. Mr Petteri Tiippana gave an overview of the major regulatory changes in nuclear safety since 2012 and presented the status of progress made regarding previous IRRS findings.

During the mission, a review was conducted for all the review areas with the objective of providing Finland and STUK with recommendations and suggestions for improvement as well as identifying good practices. The review was conducted through meetings, interviews and discussions.

The IRRS team performed its activities based on the mission programme given in Appendix II.

The IRRS exit meeting was held on Tuesday 16 June 2015. The opening remarks at the exit meeting were presented by Mr Petteri Tiippana and were followed by the presentation of the results of the mission by the IRRS Team Leader, Mr Philippe Jamet. Closing remarks were made by Ms Adriana Nicic on behalf of Mr Greg Rzentkowski, Director, Division of Nuclear Installation Safety.

An IAEA press release was issued at the end of the mission.

1. RESPONSIBILITIES AND FUNCTIONS OF THE GOVERNMENT

1.1. NATIONAL POLICY AND STRATEGY FOR SAFETY

There were no findings in this area in the initial IRRS mission.

1.2. ESTABLISHMENT OF A FRAMEWORK FOR SAFETY

There were no findings in this area in the initial IRRS mission.

1.3. ESTABLISHMENT OF A REGULATORY BODY AND ITS INDEPENDENCE

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
R1	**Recommendation:** The Government should embed, in law, STUK as an independent regulatory body separated from other entities having responsibilities or interests that could unduly influence its decision making.
R2	**Recommendation:** The Government should seek to modify the Nuclear Energy Act so that the law clearly and unambiguously stipulates STUK's legal authorities in the authorisation process for safety. In particular, the changes should ensure that STUK has the legal authority to both: – specify any licence conditions necessary for safety; and – specify all regulations necessary for safety.
S1	**Suggestion:** The relevant Ministries and STUK should develop Memoranda of Understanding for implementing their roles, responsibilities and cooperation with a view to ensuring that STUK is accountable while clearly maintaining its regulatory independence.

Changes since the initial IRRS mission

Recommendation 1: The 2012 IRRS Report recognized that this recommendation may take some time to implement. The IRRS team therefore understands why STUK and the Ministries have up to now prioritised Recommendation 2 to strengthen STUK's legal authority.

As the work under Recommendation 2 has been completed (see below) the IRRS team now encourages the Government to make progress on fully implementing Recommendation 1 so that any decision made on STUK's position in Government can be implemented as soon as practicable.

The Ministry of Social Affairs and Health has responsibilities and interests in the medical application of radiation, including in hospitals, where licensees have duties under the Radiation Act. STUK's current position administratively under the Ministry of Social Affairs and Health continues to have the potential for STUK's decision-making to be unduly influenced by an entity that has such responsibilities and interests.

Recommendation 2: In 2015 the Parliament approved changes to the Nuclear Energy and Radiation Acts so that:

a) the Government has to "take into account" the proposals included in the STUK statements when considering the conditions of the Decision in Principle and licences for nuclear facilities, and

b) STUK has the authority to issue mandatory technical safety regulations.

STUK's new authority to issue regulations meets the relevant part of the Recommendation.

The part of the Recommendation that refers to the setting of licence conditions has not been strictly met. The IRRS team was informed that in Finland it is very rare for a lower level authority in law to constrain higher level (Government) decision. Nevertheless, STUK's statements are in the public domain, and should the Government choose not to include a licence condition proposed by STUK, this would be transparent to the public. Moreover, the IRRS team was informed that STUK's new authority to set regulations, along with its existing authority to issue 'detailed regulations' (or orders) under section 55 of the Nuclear Energy Act, gives STUK equivalent control to that which it would have by setting licence conditions. Therefore the IRRS team is satisfied that STUK's powers are now sufficient to meet the intent of this part of the Recommendation.

Suggestion 1: The relevant Ministries and STUK have considered this suggestion. In the light of the increase in STUK's legal authorities implemented under Recommendation 2, both the Ministries and STUK now believe there is no need to develop such MOUs. The IRRS team accepts that due consideration has been given to this suggestion.

Status of the finding in the initial mission

Recommendation 1 (R1) is open. The Government has up to now prioritised Recommendation 2. It should now start to make progress in addressing Recommendation 1 as soon as practicable.

Recommendation 2 (R2) is closed. The Government has changed both the Nuclear Energy and Radiation Acts in such a way as to meet the intent of this Recommendation.

Suggestion 1 (S1) is closed. The Team accepts that an MoU is no longer needed.

1.4. COMPLIANCE WITH REGULATIONS AND RESPONSIBILITY FOR SAFETY

There were no findings in this area in the initial IRRS mission.

1.5. COORDINATION OF AUTHORITIES WITH RESPONSIBILITIES FOR SAFETY WITHIN THE REGULATORY FRAMEWORK

There were no findings in this area in the initial IRRS mission.

1.6. PROVISIONS FOR DECOMMISSIONING AND MANAGEMENT OF RADIOACTIVE WASTE AND SPENT FUEL

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
R3	**Recommendation:** Recognising that Finland has successfully implemented many strategic decisions related to radioactive waste management, in particular the disposal options for low and intermediate level waste and spent fuel, the Government should incorporate these and strategies for other radioactive waste into a comprehensive policy and strategy.

Changes since the initial IRRS mission

Recommendation 3: The Ministry of Employment and the Economy, with the assistance of STUK has developed a draft national policy and strategy document consolidating the various policy decisions and strategies related to all types of waste in Finland. The developed policy and strategy is intended to meet the requirements of the European Union Waste Directive (EU Directive 2011/70 Euratom). The IRRS team was informed that the policy and strategy will be finalised by August 2015, which is the deadline for notification of the European Commission. The policy is supported by an implementation plan. The Ministry of Employment and the Economy is responsible for the finalization of the policy.

It was noted however that there are still ongoing discussions regarding the disposal route for a small quantity of institutional waste that cannot be disposed in the currently available repositories.

Status of the finding in the initial mission

Recommendation 3 (R3) is closed on the basis of progress and confidence in effective completion as a draft policy and strategy has been prepared and will be finalised by August 2015.

1.7. COMPETENCE FOR SAFETY

There were no findings in this area in the initial IRRS mission.

1.8. PROVISION OF TECHNICAL SERVICES

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
R4	**Recommendation:** The Government should ensure that STUK has sufficient resources to fulfil the responsibilities placed on it by the Government to provide technical services.

Changes since the initial IRRS mission

Recommendation 4: The IRRS team notes that STUK received the requested additional funding of 1.2m Euro in 2014 to modernise its equipment for emergency preparedness activities, environmental radiation monitoring and calibration services. The IRRS team therefore believes that STUK has received sufficient resources to fulfil its responsibilities to provide technical services at the present time.

Status of the finding in the initial mission

Recommendation 4 (R4) is closed. Requested additional funding was provided in 2014 to STUK to upgrade and modernise equipment needed to provide technical services.

New observation from the follow-up mission

Budgetary Issues

The IRRS team was informed that STUK's funding from the Government is to be significantly reduced in the period 2015- 2017, along with other areas of the public sector in Finland. STUK has managed the impact of these cuts through making organisational and other changes to ensure that its regulatory functions are not compromised at this stage.

However, the IRRS team notes that significant changes are planned in Finland's structures and funding for managing its general research activities, including radiation research. As a consequence of these changes the funding for STUK's in-house radiation safety research have been significantly decreased. However the responsibility given by STUK Decree in the field of research remains. The IRRS team was informed that STUK has undertaken an initiative to establish a new National Radiation Safety Research Programme for managing and undertaking long-term research in radiation safety in Finland. But it is not clear, at this stage, whether adequate Government funding will be made available.

The IRRS team's view is that the Government should ensure appropriate long-term radiation research and education are undertaken so that Finland maintains competence in radiation safety, including that of STUK's staff, and that STUK has a role to enable it to influence the areas of radiation research that are undertaken.

Furthermore, the IRRS Team is concerned that STUK, as a result of budget cuts, may no longer be able to obtain external applied research support in radiation safety that it may consider necessary to support its regulatory duties.

It is also important that the budget reductions do not unduly impact on STUK's other responsibilities, such as those referred to in Recommendation 4.

Research arrangements in the fields of nuclear safety and radioactive waste management, which are mainly funded by utilities, have not been unduly affected by these developments.

FOLLOW UP MISSION RECOMMENDATIONS, SUGGESTIONS AND GOOD PRACTICES	
Observation: *Current budgetary constraints and reorganisation of Finland's research activities have significantly reduced radiation safety research in Finland.*	
(1)	**BASIS: GSR Part 1 para. 2.3 states that** *"National policy and strategy for safety shall express a long term commitment to safety. The national policy shall be promulgated as a statement of the government's intent. The strategy shall set out the mechanisms for implementing the national policy. In the national policy and strategy, account shall be taken of the following: …* *(e) The provision and framework for research and development;"*
(2)	**BASIS: GSR Part 1 para. 2.35 states that** *"The building of competence shall be required for all parties with responsibilities for the safety of facilities and activities, including authorized parties, the regulatory body and organizations providing services or expert advice on matters relating to safety. Competence shall be built, in the context of the regulatory framework for safety, by such*

FOLLOW UP MISSION RECOMMENDATIONS, SUGGESTIONS AND GOOD PRACTICES	
	means as: […] - *Research and development work."*
(3)	**BASIS: GSR Part 1 para. 2.36 states that** *"The government: […]* *(b) Shall make provision for adequate arrangements for the regulatory body and its support organizations to build and maintain expertise in the disciplines necessary for discharge of the regulatory body's responsibilities in relation to safety;"*
(4)	**BASIS: GSR Part 1 para. 2.38 states that** *"Development of the necessary competence for the operation and regulatory control of facilities and activities shall be facilitated by the establishment of, or participation in, centres where research and development work and practical applications are carried out in key areas for safety."*
RF1	**Recommendation: The Government should ensure that the planned new arrangements for managing and funding Finland's radiation safety research activities are such that:** **a) Finland's and STUK's high level competence in radiation safety is maintained;** **b) STUK continues to have a role in influencing the programme for radiation safety research; and** **c) STUK continues to have the resources necessary to obtain applied research support for its regulatory duties.**

1.9. INTERFACE OF SAFETY WITH NUCLEAR SECURITY

There were no findings in this area in the initial IRRS mission.

2. GLOBAL NUCLEAR SAFETY REGIME

2.1. INTERNATIONAL OBLIGATIONS AND ARRANGEMENTS FOR INTERNATIONAL COOPERATION

There were no findings in this area in the initial IRRS mission.

2.2. SHARING OF OPERATING EXPERIENCE AND REGULATORY EXPERIENCE

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S2	**Suggestion:** STUK should consider improving its processes for sharing information on matters that have generic implications with all relevant stakeholders (including the public) in a timely manner.

Changes since the initial IRRS mission

Suggestion 2: STUK has been improving its processes for sharing information with stakeholders. It is currently revising its web pages, and the information needs and interests of the public have been taken into account in the revision. The IRRS team was informed that the new web pages will be in place in August 2015. STUK has started to publish email-based newsletters to inform the public and users of radiation (industry and health care). These newsletters are published 2-4 times a year. STUK has also been more active on social media.

Status of the finding in the initial mission

Suggestion 2 (S2) is closed on the basis of progress and confidence in effective completion as STUK has made good progress in improving its processes for sharing information, and the new web pages will be in place in August 2015.

3. RESPONSIBILITIES AND FUNCTIONS OF THE REGULATORY BODY

3.1. ORGANIZATIONAL STRUCTURE OF THE REGULATORY BODY AND ALLOCATION OF RESOURCES

There were no findings in this area in the initial IRRS mission.

3.2. EFFECTIVE INDEPENDENCE IN THE PERFORMANCE OF REGULATORY ACTIVITIES

There were no findings in this area in the initial IRRS mission.

3.3. STAFFING AND COMPETENCE OF THE REGULATORY BODY

There were no findings in this area in the initial IRRS mission.

3.4. LIAISON WITH ADVISORY BODIES AND SUPPORT ORGANIZATIONS

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S3	**Suggestion:** STUK and the Government should consider reviewing all the advisory commissions to evaluate consistency of roles, functions and reporting lines. STUK should also propose a formal mechanism to address potential conflicts of interest for advisory commissions.

Changes since the initial IRRS mission

Suggestion 3: STUK has reviewed the status and operation of the advisory commissions and produced a memorandum.

As regards consistency of roles, functions and reporting lines, the main conclusion of the memorandum is that STUK should not share its advisory commissions with other entities. STUK should therefore have its own Commission on Radiation Safety, instead of sharing it with the Ministry of Social Affairs and Health. The three other advisory commissions already report exclusively to STUK.

The memorandum also concludes that members of the commissions should be independent of licensees and that particular attention should be paid to potential conflicts of interest. These conclusions already apply to STUK's Advisory Commission on Nuclear Safety. An Administrative Rule prepared by this Commission and jointly signed with STUK, already existed before the 2012 IRRS mission. It refers to the Administrative Act, which, in particular addresses the management of conflict of interest of Civil Servants. In applying the memorandum, each member of this Commission had to make a declaration tracking potential conflicts of interest.

The IRRS team was informed that the same arrangements will be implemented for STUK's Advisory Commission, the Advisory Commission on Radiation Safety and the Advisory Commission on Nuclear Security, after the necessary regulation changes have been made.

The members of the commissions are formally appointed by the Government, except that the members of STUK's Commission are appointed by STUK. The proposals for appointment are made by STUK and are made public before the official appointment, and should the Government choose not to implement STUK's recommendation then this would be transparent to the public.

Status of the finding in the initial mission

Suggestion 3 (S3) is closed on the basis of progress and confidence in effective completion as all Advisory Committees have been reviewed and appropriate action is underway to address issues.

3.5. LIAISON BETWEEN THE REGULATORY BODY AND AUTHORIZED PARTIES

There were no findings in this area in the initial IRRS mission.

3.6. STABILITY AND CONSISTENCY OF REGULATORY CONTROL

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S4	**Suggestion:** In order to ensure that previous regulatory positions are captured and support consistency in decision-making over time STUK should consider developing further processes and tools to manage requirements.

Changes since the initial IRRS mission

Suggestion 4: STUK started a project for STUK's Requirements Management in 2013. The project consists of two parts:

- All requirements in the YVL Guides are given attributes (e.g. links to licensing phases, licensing documents, higher level requirements etc.)
- The requirements management tool is then used in the review and assessment process.

So far almost all the YVL guides requirements have been addressed and a pilot system has been launched. Its first application relates to the implementation of the new YVL guides requirements at existing NPPs. It is expected that the development project will then continue with the review and assessment process of new licence applications and other document submittals. The use of the tool in the inspection process will also be considered.

The use of the requirements management tool will allow, in the future, access to regulatory decisions and provide search capabilities for related requirements.

The IRRS team considers that this is an excellent development and should greatly assist STUK in increasing the consistency of its decision making, demonstrating that all relevant requirements in its YVL guides have been properly considered, and providing a clear record of its regulatory decisions. This is a practice that other regulatory bodies should consider adopting.

Status of the finding in the initial mission

Suggestion 4 (S4) is closed. An excellent new requirements management system is being put in place that should significantly improve consistency of decision-making.

3.7. SAFETY RELATED RECORDS

There were no findings in this area in the initial IRRS mission.

3.8. COMMUNICATION AND CONSULTATION WITH INTERESTED PARTIES

There were no findings in this area in the initial IRRS mission.

4. MANAGEMENT SYSTEM OF THE REGULATORY BODY

4.1. IMPLEMENTATION AND DOCUMENTATION OF THE MANAGEMENT SYSTEM

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S5	**Suggestion:** STUK should consider explicitly addressing safety culture in its management system in order to ensure a common understanding of key safety culture characteristics to support individuals and groups to: • Reinforce a learning and questioning attitude at all levels of the organization; • Continuously develop, assess and improve the safety culture; and • Prevent regulatory capture.

Changes since the initial IRRS mission

Suggestion 5: The IRRS team found that STUK has revised its safety policy and in 2014 issued the Safety and Quality Policy, which was developed through extensive consultation with all staff members. This revised policy contains a number of principles that define a good safety culture and this is supplemented by a STUK working order, which reinforces these principles.

Safety culture was chosen in 2013 to be the topic for that year in STUK's annual self-assessment programme. STUK formed a dedicated team, which includes staff with safety culture expertise, and assigned it the responsibility to support further enhancements in the safety culture area. General safety culture training was developed and conducted with all STUK staff, including resident inspectors. Specific training material and lectures aimed at assisting safety culture self-assessment were produced. Self-assessments, at all organisational level, were conducted as open discussions, which resulted in exchange of opinions and lessons learned and raised awareness and understanding of this topic. The results of these self-assessments were used as an input for the development of the Safety and Quality Policy. Safety culture is also included as a regular topic for discussion during the management reviews, during which each director presents how safety culture is taking into account and applied at departmental level.

STUK's staff from the two departments that are responsible for nuclear safety oversight participate annually in a questionnaire, developed by the Finnish Institute of Occupational Health, which addresses organisational culture and safety management. The IRRS team was informed that STUK decided to expand this practice across the whole organisation, to include the departments responsible for the regulation of the radiation practices and environmental radiation monitoring.

All relevant safety culture materials, including training material, video presentations and self-assessment questionnaires were made available on an intranet site, which was created specifically for this area.

Regarding regulatory capture, the IRRS team was informed that STUK does not use rotation of the resident inspectors, but STUK has recognized the importance of this issue and has taken initiatives to provide for resident inspectors to visit other sites during outages. In addition, in the head office, opportunities have been created to facilitate rotation of staff among various positions.

The IRRS team was informed that STUK follows and participates in international developments in the safety culture area, for example those undertaken by OECD and IAEA and they will consider their applicability for STUK's future activities.

Status of the finding in the initial mission

Suggestion 5 (S5) is closed. STUK has developed a Safety and Quality Policy and enhanced its activities aimed at developing, assessing and improving its safety culture.

4.2. MANAGEMENT RESPONSIBILITY

There were no findings in this area in the initial IRRS mission.

4.3. RESOURCE MANAGEMENT

There were no findings in this area in the initial IRRS mission.

4.4. PROCESS IMPLEMENTATION

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S6	**Suggestion:** STUK should consider further improving its management system with respect to the following aspects: • Reviewing the requirements for managing the organization to ensure that the relevant requirements are addressed in a coherent manner; • Reviewing and revising the existing quality manuals and guidance documents for consistency and elimination of potential duplications; • Improving overall descriptions of the processes including sub-processes and their interdependency; and • Ensuring the easy identification of relevant procedures and documents.

Changes since the initial IRRS mission

Suggestion 6: The IRRS team found that STUK undertook a number of actions to address enhancements of its management system, such as:

- The existing five general level quality manuals were consolidated in one Quality Manual in January 2015. However, the core regulatory processes continue to be described in detail at the departmental level.
- Process management training was organised in 2015 for managers and directors
- The use of a new tool called QPR has started and a pilot was developed for the regulatory control of consumer products and environmental radiation;
- Training for process description and development of flowcharts was organised in 2014 for the QPR pilot group;
- A documented process for conducting and assessing organizational changes was developed. This was applied in 2015 when transition from a matrix organization to a line one was implemented in STUK.

The use of the new QPR tool has to be expanded, from the pilot phase, to all STUK processes and should also provide for easy access to all relevant guidance documents in addition to the existing access through STUK intranet site for management system manual.

The IRRS team was informed that the department of Nuclear Reactor Regulation together with department of Nuclear Waste and Material Regulation are currently developing a plan for completing the enhancements of the management system manual in their areas of responsibility, with the aim of completing this by the end of 2016.

The IRRS team notes that STUK has support processes, for example procurement, travel, human resources and one core process, development of regulations, that are set at the overall organizational level. However, regulatory core processes, such as authorization, review and assessment, inspection and enforcement for nuclear installations and for radiation practices, are described only in the respective departmental manuals. STUK explained that it did not see the added value for safety of having such processes described at the level of the organisation as the work performed is very different from one department to another. The IRRS team notes that setting process at the level of the organisation, from which individual practices in departments are derived, is a common practice in many regulatory bodies.

The IRRS team considers that the approach chosen by STUK may lead to unrevealed inconsistent practices across regulatory areas. For example, the IRRS team identified that reactive inspection changes in the Nuclear Reactor Regulations Department and Nuclear Waste and Material Regulation Department had not been adopted by the other departments (see Section 7.1). The IRRS team believes that STUK's management system would benefit from having a more integrated approach.

STUK reported that it has a quality team representing the different departments whose role includes checking consistency. If STUK wishes to maintain its current approach then it should consider putting in place an improved process for a systematic review of its departmental manuals to ensure there is no inconsistency between different regulatory areas.

It would be beneficial for STUK to continue benchmarking its management system with other regulatory bodies.

Status of the finding in the initial mission

Suggestion 6 (S6) is open. While STUK has initiated a number of actions, work still has to be undertaken for further enhancing its integrated management system.

4.5. MEASUREMENT, ASSESSMENT AND IMPROVEMENT

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S7	**Suggestion:** STUK should consider developing further a systematic long-term programme for self-assessments, internal and external audits, including follow-on actions and evaluations of the effectiveness of the processes. The programme should be monitored, recorded and reflect STUK's strategic plan.

Changes since the initial IRRS mission

Suggestion 7: STUK has developed a 4 year plan for audits and assessments, which includes all regulatory processes and selected support processes. Based on this plan an annual plan including internal and external audits is developed. The self-assessments are not included in the audit plan, but are selected by the STUK board. The frequency of external audits is determined based on other factors (need for re-certification, etc.).The scope of the external audits may include financial areas and some regulatory processes (e.g. procurement, control of radiation safety) as well as those audits needed for re-certification (e.g. for ISO, dosimetry, etc.).

Other enhancements in the area of assessment and improvement include:

- An update of STUK guidance for internal audits
- Conduct of training for STUK internal auditors
- Establishment of an intranet site for internal auditors

In addition, a new IT programme, Granite, was introduced for tracking the conduct of internal and external audits, management reviews, self-assessments and the management of improvement and corrective actions. All STUK staff have access to Granite IT programme.

The IRRS team was informed that the effectiveness of the regulatory processes and STUK's activities, at a more general level, are assessed during management reviews and as part of the STUK annual report, which contains high-level safety indicators. Process indicators have been developed and used for the regulatory safety oversight, but most of them are related to process efficiency.

Status of the finding in the initial mission

Suggestion 7 (S7) is closed. STUK has developed a 4 year internal audit plan, revised its internal audit procedure, provided training to auditors and introduced a tool for monitoring the progress and closure of corrective actions resulting from assessments and audits.

5. AUTHORIZATION

5.1. GENERIC ISSUES

There were no findings in this area in the initial IRRS mission.

5.2. AUTHORIZATION OF NUCLEAR POWER PLANTS

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S8	**Suggestion:** STUK should consider developing a graded approach for the authorization of systems, structures and components in order to focus more on issues of higher safety significance.

Changes since the initial IRRS mission

Suggestion 8: Since the initial IRRS mission, STUK strengthened the graded approach in updating the relevant regulatory documents, including Nuclear Energy Act and several YVL guides A, B and E-series. More effective use of a graded approach resulted in a number of actions with the objective of:

- Reducing the number of authorizations associated with nuclear installation components, in particular mechanical ones
- Reducing the scope of regulatory review, focusing on the issues of high safety significance.

Specific actions contributing to the objective include:

- Strengthening the role of the licensees in performing high-quality safety review prior to the submission to STUK
- Updating the classification of systems, structures and components of a nuclear facility eliminating the class 4 and introducing a new Class EYT/STUK, not requiring authorization, but still with system level information provided to STUK
- Transferring the tasks of lower safety significance (both their review and inspections) to the Authorized Inspection Organizations approved by STUK
- More credit given to standardized fabrication processes of certain components with a possibility to approve the type instead of each individual product, typically valves and pumps
- Introducing “requirement management” approach which is an excellent computer based tool facilitating verification of compliance of any submission with the whole set of regulatory requirements (see Section 3.6).

These measures are estimated to have reduced the overall number of STUK’s authorizations by about 50%. This allows STUK to focus on issues of higher safety significance.

There is an internal STUK GPS project scheduled up to the end of 2015 to develop practical guidance and internal procedures to implement the graded approach principle in regulatory practice. STUK will update the rest of its internal guidance till the end of next year.

Status of the finding in the initial mission

Suggestion 8 (S8) is closed. STUK has significantly strengthened the application of the graded approach in relevant regulatory documents, and implemented several specific measures contributing to a reduced number of authorizations required and allowing focus on the issues of high safety significance.

5.3. AUTHORIZATION OF FUEL CYCLE FACILITIES

There were no findings in this area in the initial IRRS mission.

5.4. AUTHORIZATION OF RADIOACTIVE WASTE FACILITIES

There were no findings in this area in the initial IRRS mission.

5.5. AUTHORIZATION OF RADIATION SOURCES FACILITIES

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S9	**Suggestion:** For its own uses of radiation, STUK should consider demonstrating, in a transparent manner, that it satisfies all the required regulatory conditions necessary for an authorization.

Changes since the initial IRRS mission

Suggestion 9: The IRRS team noted that the Nuclear Reactor Regulation Department had reviewed and granted approvals for use of radiation to units of the Department of Radiation Practices Regulation. Furthermore the Department of Radiation Practices Regulation reviewed and granted approval for the use of radiation by the Department of Environmental Radiation Surveillance and Emergency Preparedness. The review was done against the requirements specified in the Radiation Act and associated regulations, according to the guide SKV 3.2, Processing Licence Applications.

The IRRS team compared the approval 5985/L2/15 dated 15 May 2015 with the licence 7823/L1/14 dated 24 October 2014 and concluded that the approval granted to the STUK Department was consistent with licences issued to authorised external applicants. It was further noted that while STUK did not publish the approvals granted, the approval would be made generally available on request from individuals. This is consistent with the treatment of licences for other facilities and activities.

While STUK's actions meet the intent of the Suggestion, the IRRS team is of the view that the transparency and credibility of the process would be improved by involvement of external expertise in the assessment and inspection process. STUK may wish to consider such involvement when the authorisations are renewed.

Status of the finding in the initial mission

Suggestion 9 (S9) is closed. STUK has demonstrated that the use of radiation by STUK Departments meets the applicable requirements of the Radiation Act and associated regulations. Furthermore formal approvals (consistent with the licensing process) were issued to the various STUK Departments using radiation.

5.6. AUTHORIZATION OF DECOMISSIONING

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
R5	**Recommendation:** The Government should expand the legislative framework to encompass distinct authorizations for decommissioning of facilities and closure of repositories in addition to the current authorizations for construction and operation of nuclear facilities.

Changes since the initial IRRS mission

Recommendation 5: The IRRS team noted that STUK had revised Regulatory Guide YVL D.4, issued in November 2013, to include a requirement that "when the use of a nuclear facility for the purpose defined in the operating licence has been terminated, the licensee, shall ensure that the licence pursuant to Section 20 of the Nuclear Energy Act pertaining to the facility is commensurate with its state and, where applicable, apply for alteration of the licence conditions or renewal of the license without undue delay". The IRRS team was of the view that this would allow for an appropriate licensing of the decommissioning phase of a facility by an amendment of the operating licence.

However, in discussion with STUK it was recognised that there are no explicit provisions in the Nuclear Energy Act to introduce the above requirement. Similarly there is no explicit provision in the Radiation Act applicable to the decommissioning of major radiation facilities. It was noted that STUK was currently in discussion with VTT regarding the planned decommissioning of hot cells at the VTT facility as well as the planned decommissioning of the research reactor.

The IRRS team considered that recommendation R5 could be closed on the basis of the revised Guide YVL D.4, which clarifies the licensing process, but still recommends that the relevant acts (Nuclear Energy Act and Radiation Act) be amended to explicitly reflect that on termination of operation at a facility, the licence holder must apply for an amendment of the operating licence to cover the revised scope of activities to be undertaken during the decommissioning phase of the facility.

Similarly, in the specific case of disposal facilities (repositories), the Nuclear Energy Act should be amended to require that at the end of the operational phase of a disposal facility, the licensee must apply for an amendment to the licence to address the revised scope of activities during the closure phase.

Status of the finding in the initial mission

Recommendation 5 (R5) is closed. STUK has amended YVL Guide D.4 to reflect that an application for renewal or amendment of the licence is required to address the revised scope of activities during the decommissioning phase of a facility.

New observation from the follow-up mission

FOLLOW UP MISSION RECOMMENDATIONS, SUGGESTIONS AND GOOD PRACTICES	
Observation: *The requirement in the Regulatory Guide YVL D.4 related to an application for amendment to the licence for decommissioning or closure is not explicitly provided for in the Nuclear Energy Act. Similarly there is no explicit requirement in the Radiation Act applicable to major radiation facilities.*	
(1)	**BASIS: SSR 5 Requirement 1 states that** *"The Government is required to establish and maintain an appropriate governmental, legal and regulatory framework for safety within which responsibilities shall be clearly allocated for disposal facilities for radioactive waste to be sited, designed, constructed, operated and closed. This shall include: confirmation at a national level of the need for disposal facilities of different types; specification of the steps in development and licensing of facilities of different types; and clear allocation of responsibilities, securing of financial and other resources, and provision of independent regulatory functions relating to a planned disposal facility."*
(2)	**BASIS: GSR Part 1 Requirement 24, para 4.29 states that** *"Different types of authorization shall be obtained for the different stages in the lifetime of a facility or the duration of an activity. The regulatory body shall be able to modify authorizations for safety related purposes. For a facility, the stages in the lifetime usually include: site evaluation, design, construction, commissioning, operation, shutdown and decommissioning (or closure). This includes, as appropriate, the management of radioactive waste and the management of spent fuel, and the remediation of contaminated areas. For radioactive sources and radiation generators, the regulatory process shall continue over their entire lifetime."*
RF2	**Recommendation: The Government should amend the legislation (Nuclear Energy Act and Radiation Act) to clarify that decommissioning and closure (in the case of a waste disposal facility) require a licence amendment.**

5.7. AUTHORIZATION OF TRANSPORT

There were no findings in this area in the initial IRRS mission.

6. REVIEW AND ASSESSMENT

6.1. GENERIC ISSUES

There were no findings in this area in the initial IRRS mission.

6.2. REVIEW AND ASSESSMENT FOR NUCLEAR POWER PLANTS

There were no findings in this area in the initial IRRS mission.

6.3. REVIEW AND ASSESSMENT FOR FUEL CYCLE FACILITIES

There were no findings in this area in the initial IRRS mission.

6.4. REVIEW AND ASSESSMENT FOR WASTE FACILITIES

There were no findings in this area in the initial IRRS mission.

6.5. REVIEW AND ASSESSMENT FOR RADIATION SOURCES FACILITIES

There were no findings in this area in the initial IRRS mission.

6.6. REVIEW AND ASSESSMENT FOR DECOMMISSIONING ACTIVITIES

There were no findings in this area in the initial IRRS mission.

6.7. REVIEW AND ASSESSMENT OF TRANSPORT

There were no findings in this area in the initial IRRS mission.

7. INSPECTION

7.1. GENERIC ISSUES

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S10	**Suggestion:** STUK should develop criteria for initiating reactive inspections.
S11	**Suggestion:** STUK should consider conducting more frequent unannounced inspections of the facilities and activities under its regulatory control.
R6	**Recommendation:** STUK should extend the use of the graded approach for planning and conducting inspections across all regulated facilities and activities. STUK should develop more detailed procedures in this regard.
S12	**Suggestion:** STUK should consider developing a formal qualification programme for inspectors of nuclear facilities as well as nuclear materials and waste.

Changes since the initial IRRS mission

Suggestion 10: Reactive inspections together with their initiation criteria were newly introduced into internal STUK regulatory guides (YTV guides) in 2014. The YTV guides are applicable for all inspections performed by the inspectors of the STUK Nuclear Reactor Regulation department (YTO) and the Nuclear Waste and Material Regulation department (YMO). The reactive inspections and the criteria are introduced separately for nuclear facilities under construction and for nuclear facilities in operation. Regarding the timing of reactive inspections it is required in both guides that the time of a reactive inspection should be selected so that to avoid unnecessary interference with activities by the licensee.

Compared with previously used ad-hoc decisions the new criteria provide assurance that STUK staff will give adequate attention to safety significant events in the inspection programme.

During the follow-up mission the IRRS team noted that STUK had not established criteria to undertake reactive inspections in radiation practices. STUK indicated that this will be done through the revision of Guides SKV 3.4 and 3.7 before the end of 2015.

Suggestion 11: The internal STUK regulatory guides were revised to include unannounced (called surprise) inspections.

At least two specific unannounced inspections have been included in the yearly inspection programme for NPPs since the IRRS 2012 mission. Two unannounced inspections performed in Loviisa in 2013 and 2014 were discussed during the IRRS Follow-up Mission. The IRRS team was also provided with an example of a surprise inspection report for an industrial radiography facility.

In case of NPPs, the key role in performing unannounced inspections lies with the resident inspectors with daily presence on the sites (There is at least one resident inspector per each unit). A more systematic way of performing inspections by resident inspectors in accordance with updated YTV Guides largely contributes to the intent of the suggestion. The way of reporting the results of inspections by resident inspectors have been strengthened since the previous IRRS mission. In addition to usual weekly reports of the resident inspectors, they use more frequently a new inspection protocol, introduced in 2015, so called “KV-protocol”. This protocol is an

official inspection report shared with the licensees, giving an opportunity to impose obligations on the licensees.

Recommendation 6: Implementation of a graded approach in the inspection plans is based on close links between reviews and inspections, both activities being performed by the same STUK staff. Extended implementation of a graded approach in the area of inspections is therefore supported by overall strengthening of the approach in the regulatory documents associated with authorizations. Steps taken towards reducing regulatory loads associated with authorizations allow STUK at the same time to focus on the inspections of higher safety significance. The essential component of these processes are meetings of the STUK section heads held three times a year, aimed at specifying the focus of future inspections. Main factors considered are the findings of previous inspections, findings from the review of various submitted documents, results of the discussion in review meetings, analysis of the HAKE database, etc.

In response to the Recommendation, STUK has updated the guide on the regulatory oversight of NPP safety.

For radiation practices, the use of the graded approach in planning and conducting inspections was checked by STUK during the revision of the Guide SKV 3.4 in 2013. STUK considered that the graded approach was adequately included in the process. In line with the graded approach, and according to the level of risks, facilities having radiation sources are inspected on a frequency of between 2 to 8 years. However the principle of graded approach was added to the Guide.

STUK has also updated internal guidance on inspection programmes. In these guides there are sections requiring the inspectors to consider safety significance, complexity, uniqueness and novelty of the inspected items in planning and conducting the inspections.

Suggestion 12: A systematic programme for qualification and certification of STUK inspectors has been introduced since 2012. STUK updated the guidance for training and qualification of nuclear facilities inspectors. For inspectors of radiation practices the inspectors' right to conduct inspections, the qualification requirements and initial training are specified in otherrelevant guides.

Gap analysis of existing competences of inspectors for nuclear facilities in comparison with required competences was carried out in 2013. Based on the analysis a formal qualification programme for all required STUK competences is under implementation including development of study material for relevant training courses. Participation in specific training courses for the STUK staff is a precondition for appointment as a STUK inspector in the given area. After successful participation the inspector is given an internal qualification certificate allowing him to carry out inspections independently.

As a pilot project, STUK developed a detailed training programme (course) for qualification of inspectors for mechanical engineering. The pilot course was finished in April 2015. Based on the lessons learned from the pilot programme, the training programmes for other 10 technical disciplines relevant to inspection of nuclear facilities are under preparation. Completion of the programmes for all disciplines is scheduled for 2016.

Status of the finding in the initial mission

Suggestion 10 (S10) is closed on the basis of progress made and confidence in effective completion. Reactive inspections with their initiation criteria were introduced into STUK internal guides for nuclear installations in 2014. STUK committed to introduce similar criteria to be applied for radiation practices before the end of 2015.

Suggestion 11 (S11) is closed. Unannounced inspections were introduced together with reactive inspections into STUK internal guides in 2014 and became regular part of the inspection programme. The role of the resident inspectors having key functions in performing unannounced inspections has been strengthened.

Recommendation 6 (R6) is closed. Considering a graded approach STUK has updated its internal guidance on inspection programmes requiring the inspectors to consider safety significance of the issue in planning and conducting the inspections. There are internal processes for assessment of key factors indicating safety significance of the issue.

Suggestion 12 (S12) is closed on the basis of progress made and confidence in effective completion. A comprehensive formal qualification programme for 11 technical disciplines relevant to inspection of nuclear facilities is under implementation with completion deadline in 2016.

7.2. INSPECTION OF NUCLEAR POWER PLANTS

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S13	**Suggestion:** STUK should consider the development and implementation of a more systematic method to collect indications of and assess the licensee's safety culture.

Changes since the initial IRRS mission

Suggestion 13: Since 2012, STUK started to use the new KOTKA database to collect in a systematic way among inspection findings from the operating NPPs those indicating aspects of safety culture. Once a year the findings collected in KOTKA databases were analysed by STUK inspectors and reported in an annual report.

Recently, STUK has developed a single combined database HAKE for collecting inspection findings from both nuclear facilities under construction and in operation, as well as from the activities under STUK oversight. Other sources of information are also used to provide input to the database, including analysis of operating events. HAKE tool allows collect the findings, analyse them, prepare reports with the results of the analysis, plan future inspections and identify corrective actions to ensure feedback from the inspection findings.

Specific software is used to extract from HAKE the elements relevant to safety culture. The results of this extraction will be in the future discussed three times a year by a group of experts and any identified safety culture issue will be reflected in a feedback action.

In order to further strengthen its internal competences, in June 2015 STUK hired an expert in the area of safety culture. In addition, analysis of the findings by external experts (typically VTT) is frequently used.

Status of the finding in the initial mission

Suggestion 13 (S13) is closed on the basis of progress made and confidence in effective completion. STUK is developing a systematic approach for the collection and analysis of findings relevant to safety culture. The supporting database is expected to be completed by the end of 2015.

7.3. INSPECTION OF FUEL CYCLE FACILITIES

There were no findings in this area in the initial IRRS mission.

7.4. INSPECTION OF WASTE FACILITIES

There were no findings in this area in the initial IRRS mission.

7.5. INSPECTION OF RADIATION SOURCES FACILITIES

There were no findings in this area in the initial IRRS mission.

7.6. INSPECTION OF DECOMMISSIONING ACTIVITIES

There were no findings in this area in the initial IRRS mission.

7.7. INSPECTION OF TRANSPORT

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S14	**Suggestion:** STUK should consider initiating an inspection programme that includes periodic assessments of the levels of workers' doses in different types of transport activities in cooperation with the relevant regulatory agencies.

Changes since the initial IRRS mission

Suggestion 14: STUK has undertaken an assessment of the collective dose received by workers in Finland in the transport of radioactive material by road (the principal mode of transport in Finland) through a survey conducted in 2013 of the quantity of radioactive material transported in that year. The doses received were estimated applying methodologies used in similar surveys in Sweden and the UK, with the results showing a collective dose of around 12-13person-mSv. STUK has committed to repeat the survey every 5 years at the same time as a survey of dangerous goods transport by the Finnish Transport Safety Agency.

STUK has developed a plan for control of radioactive material in transport covering the period from 2015 to 2018 that includes a programme of inspections of transport hubs and major carriers, to be conducted in co-operation with other relevant authorities.

Status of the finding in the initial mission

Suggestion 14 (S14) is closed on the basis of progress and confidence in effective completion as STUK has carried out a survey of estimated worker doses from road transport in 2013 and is committed to repeating the survey each 5 years. STUK has developed a plan for control of transport over the period 2015-2018 that includes a programme of inspections.

8. ENFORCEMENT

8.1. ENFORCEMENT POLICY AND PROCESSES

There were no findings in this area in the initial IRRS mission.

8.2. ENFORCEMENT IMPLEMENTATIONS

There were no findings in this area in the initial IRRS mission.

9. REGULATIONS AND GUIDES

9.1. GENERIC ISSUES

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S15	**Suggestion:** STUK should complete its comprehensive programme for the renewal of its nuclear safety regulatory guides (YVL) in accordance with its approved implementation plan. In addition, STUK should use the experience gained in upgrading nuclear safety regulatory guides in preparing for renewal of radiation safety regulatory guides (ST).

Changes since the initial IRRS mission

Suggestion 15: STUK has completed its comprehensive programme for the renewal of its nuclear safety regulatory guides. STUK has also completed and documented a project to learn the lessons arising from that programme. The findings of this project are being used to improve STUK's arrangements for the forthcoming renewal the Radiation Act, relevant decrees and regulations as well as for the forthcoming renewal of STUK's radiation safety guides.

STUK now has a very challenging programme ahead, not only to update the radiation safety regulations and guides to meet the relevant EU Directive, but also to support the update of radiation safety laws and decrees, update the new mandatory regulations arising from Recommendation 2, and to further update the nuclear safety guides taking into account changes in IAEA requirements, as well as WENRA reference levels and objectives.

The IRRS team is satisfied that STUK has a detailed programme in place to undertake these further activities but notes the tight timetable. It is important that STUK maintains focus in this area and that the Government recognises the challenges that this programme places on STUK's resources.

The IRRS team was informed that STUK has developed a requirements management tool for tracking changes in the legislation, safety requirements as well as the regulatory guides. This new method enhances the traceability of the regulatory requirements and the tool is deemed to be very useful for drafting regulations.

Status of the finding in the initial mission

Suggestion 15 (S15) is closed. STUK has updated the YVL guides and undertaken a lessons learned exercise. A challenging programme of revision of the Radiation Act, underlying decrees and regulations, as well as ST guides and regulations underlying the Nuclear Energy Act is now being undertaken.

9.2. REGULATIONS AND GUIDES FOR NUCLEAR POWER PLANTS

There were no findings in this area in the initial IRRS mission.

9.3. REGULATIONS AND GUIDES FOR FUEL CYCLE FACILITIES

There were no findings in this area in the initial IRRS mission.

9.4. REGULATIONS AND GUIDES FOR RADIOACTIVE WASTE FACILITIES

There were no findings in this area in the initial IRRS mission.

9.5. REGULATIONS AND GUIDES FOR RADIATION SOURCES FACILITIES

There were no findings in this area in the initial IRRS mission.

9.6. REGULATIONS AND GUIDES FOR DECOMISSIONING

There were no findings in this area in the initial IRRS mission.

9.7. REGULATIONS AND GUIDES FOR TRANSPORT

There were no findings in this area in the initial IRRS mission.

10. EMERGENCY PREPAREDNESS AND RESPONSE

10.1. GENERIC REQUIREMENTS

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S16	**Suggestion:** STUK should, in cooperation with relevant Government authorities, consider improving national arrangements for timely provision of assistance requested by other countries (including through RANET) and for effectively integrating assistance received by Finland into the national response system.

Changes since the initial IRRS mission

Suggestion 16: STUK has engaged in negotiations with the Ministry of the Interior and agreed on the process for decision-making regarding the request, provision and coordination of assistance during a radiation emergency. They also agreed to prepare procedures to document this process, which is to be fully integrated into the existing EU Civil Protection Mechanism on coordination of international assistance in other types of emergencies. The Ministry of Interior, in cooperation with STUK, is developing Host Nation Support Guidelines to enhance the process for receiving assistance and ensure compatibility of procedures. A national monitoring plan was prepared by STUK and provided to the Ministry of the Interior. It includes resource needs for all phases of a radiation emergency. A senior ministerial working group has been established to develop a national monitoring strategy based on that national monitoring plan, to address the need for assistance and to include the need for compatibility.

The mechanisms for the coordination of assistance during the early phase were tested in a Nordic-Baltic-Russian command post exercise in March 2013. The decision-making process and coordination of request for assistance during the later phase were tested during a national large-scale contamination (from an NPP) exercise in the fall of 2014, which involved private sector resources.

Status of the finding in the initial mission

Suggestion 16 (S16) is closed as national coordination mechanisms for the request and provision of assistance have been drafted and tested, and the process to further enhance these arrangements is established.

10.2. FUNCTIONAL REQUIREMENTS

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
R7	**Recommendation:** STUK should include the additional class of "facility emergency" in its emergency classification scheme in order to ensure that appropriate on-site emergency response actions are taken for the protection of the workers and that important information is communicated consistently to relevant parties.
S17	**Suggestion:** The Government should consider improving arrangements for the coordination of information to the public and media during emergencies to ensure that the messages issued by different authorities are consistent.

Changes since the initial IRRS mission

Recommendation 7: On-site emergency classes are defined in the revised Government Decree 716/2013. When revising the Decree 716/2013, which defines the emergency classes, the addition of a "facility emergency" to the existing three classes (general emergency, site area emergency and alert) was carefully considered. However, given that the current three classes are consistent with the triggers for onsite and offsite emergency response actions, and that they cover the full spectrum of anticipated emergencies, the benefit of adding an emergency class was not deemed by STUK to be justified and could lead to confusion for offsite emergency response authorities. Therefore, after careful consideration, the emergency classification system was unchanged. GSR Part 7, footnote to para 5.14, states that "The emergency classes may differ from those specified in [the requirement] provided that emergencies of all these types are included". "Facilities emergencies" are covered within the current spectrum of emergency classifications in Finland.

Suggestion 17: Emergency public communications in Finland is based on the principle that all organizations involved are entitled and obliged to provide information to the public in their field of responsibility. Following the IRRS in 2012, an independent auditor, the University of Jyväskylä, under the coordination of the Prime Minister's Office, conducted a comprehensive audit of crisis communication in all ministries, state authorities and STUK. The results of the audit are being analysed by a governmental crisis communication group that consists of heads of public communication of all ministries.

STUK, Loviisa NPP, and East Uusimaa Rescue Service, have prepared a set of templates for use during nuclear emergencies, to ensure that terminology used by different organizations during an emergency is consistent. The templates, available in Finnish, Swedish and English, have been delivered to the Satakunta Rescue Service and the Olkiluoto NPP as well. Templates, though very useful, do not by themselves significantly improve coordination in public communications.

The Ministry of Interior's Guide 38/2012, finalized after the 2012 IRRS mission, defines in detail all the responsibilities and tasks of national organizations during a radiation emergency. This document contains a section dedicated to public communications during an emergency. It is being revised by a Standing Working Group led by the Ministry of Interior, with a sub-working on public communications led by the Ministry of Social Affairs and Health. This sub-working group has been discussing the need for enhanced coordination in public communications during an emergency to ensure consistency of messages by the various organizations involved in managing a radiation emergency. Some concepts are being explored, but no concrete solution has yet been proposed. The work of this sub-working group is to be completed before end 2015.

There is yet no concrete proposal for developing and implementing an effective coordination mechanism for emergency public communications, recognizing the basic principle of communication by each organization within their sphere of authority.

Status of the finding in the initial mission

Recommendation 7 (R7) is closed the current emergency classification scheme covers the full spectrum of possible emergencies and required response actions.

Suggestion 17 (S17) is open as a solution for the effective coordination of emergency public information has not yet been identified.

10.3. REQUIREMENTS FOR INFRASTRUCTURE

There were no findings in this area in the initial IRRS mission.

11. ADDITIONAL AREAS

11.1. CONTROL OF MEDICAL EXPOSURES

There were no findings in this area in the initial IRRS mission.

11.2. OCCUPATIONAL RADIATION PROTECTION

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
S18	**Suggestion:** STUK should ensure further that its nuclear safety and radiation safety guides are consistent with respect to common requirements related to occupational exposure.
S19	**Suggestion:** STUK should include information on the doses received by workers occupationally exposed to radon in its annual report on radiation practices.
S20	**Suggestion:** For its own technical services, STUK should consider demonstrating, in a transparent manner, that it satisfies all the required regulatory conditions necessary for an approval.

Changes since the initial IRRS mission

Suggestion 18: The IRRS team noted that requirements for occupational exposure and radiation protection are detailed in the set of ST Guides. Recognising that these requirements are equally applicable to nuclear installation STUK has, in updating the requirements for nuclear installations (YVL Guide C.2), referenced the relevant ST Guides in guide YVL C.2 and made them binding on nuclear installation licence holders. Furthermore, STUK established a team comprising experts knowledgeable on radiation protection at nuclear installations and experts knowledgeable on occupational radiation protection at other practices to review the revised YVL guide to ensure consistency in the terminology used in the YVL and ST guides.

Suggestion 19: The IRRS team noted that the annual reports on radiation practices, for the years 2012 and 2013, included detail on the number of workers occupationally exposed to radon and the maximum dose received by such workers. The annual reports also confirmed that these radon exposure doses were included on the dose register.

Suggestion 20: STUK has reviewed and upgraded its requirements and processes for assessment and approval of radon measurement services and internal contamination services. Each of these technical services (located in the Environmental Radiation Surveillance and Emergency Preparedness Department) is to submit an application for approval to the Radiation Practices Regulation Department by 31 August 2015 (indeed the radon measurement service has already done so). The Radiation Practices Regulation Department is responsible for approval of commercial services. A decision on the approval of the two services is planned to be made by 31 October. The documentation of the approvals will be available upon request.

The laboratory in the Environmental Radiation Surveillance and Emergency Preparedness Department is accredited by the appropriate Finnish accreditation body (FINAS) against ISO 17025. It also participates in 5 to 10 international inter-comparisons annually. The IRRS team considers that STUK has demonstrated in a transparent manner that it satisfies all the required regulatory conditions necessary for an approval of its own technical services.

Status of the finding in the initial mission

Suggestion 18 (S18) is closed. The YVL guide on occupational radiation protection at nuclear installations has been revised to ensure consistent use of terminology with that used in the ST Guides and where appropriate the requirements of the ST Guides are referenced in the YVL guide.

Suggestion 19 (S19) is closed. Information on the doses received by workers occupationally exposed to radon is now included in the annual reports on radiation practices since 2012.

Suggestion 20 (S20) is closed on the basis of progress and confidence in effective completion as STUK has set in train a process for assessment and approval of its technical services, which is due to be completed in several months.

11.3. PUBLIC AND ENVIRONMENTAL EXPOSURE CONTROL

2012 MISSION RECOMMENDATIONS, SUGGESTIONS	
R8	**Recommendation:** STUK should withdraw from the current practice of conducting the environmental monitoring programmes in the vicinity of the nuclear facilities based on commercial contracts with the licensees. Furthermore, STUK should implement an independent monitoring programme for the environment, to verify the results of the off-site environmental monitoring programmes required from the licensees.
S21	**Suggestion:** Noting that actual releases from nuclear facilities are far below the authorised limits, STUK should consider requiring the operators to implement a system of constraints commensurate with the actual releases from normal operation.

Changes since the initial IRRS mission

Recommendation 8: The IRRS team noted that:

- The laboratory in the STUK Environmental Radiation Surveillance and Emergency Preparedness Department is currently the only accredited laboratory in Finland capable of undertaking low level radiation measurements.
- STUK recognises that it has played a dual role of regulator and service provider to the licensees. This dual role has made it difficult to clearly distinguish the roles and responsibilities of the licensee and regulator with respect to environmental and source monitoring and the relevant reporting lines.
- The Government has amended the Nuclear Energy Act to include a provision that "The Radiation and Nuclear Safety Authority shall, to the extent necessary, monitor and control the vicinity of a nuclear facility in order to ensure the reliability of measurements of releases of radioactive materials and to verify the environmental impacts of the facility".
- The Nuclear Energy Decree includes requirements that when applying for an operating licence the applicant shall submit to STUK an environmental radiation monitoring programme.
- YVL Guides C.3 and C.4 (issued in November 2013 and March 2015 respectively) address licensee responsibilities with respect to monitoring of radioactive releases and

determination of public exposure from releases. Furthermore YVL Guide A.9 specifies requirements on reporting to the regulator.

- STUK is currently in the process of preparing YVL Guide C.7 to clarify the responsibilities of the licensee and regulator with respect to environmental monitoring.

The IRRS team emphasised that, in accordance with the IAEA Safety Standards, the licensee is responsible for the development, maintenance and implementation of an environmental monitoring programme, which is submitted to the regulator for review and approval. The results, including conclusions relating to compliance with specified limits, increases in environmental concentrations, as well as assessment of impact on the public and the environment, should be provided to the regulator at intervals specified by the regulator. To assess the reports submitted by the licensee and to validate the results, the regulator is required to implement an independent monitoring programme.

STUK undertook to include these respective roles and responsibilities in the YVL Guide C.7. These distinct roles and responsibilities of the licensee and the regulator are not affected by the fact that radiation measurements are made by the accredited laboratory of the regulator.

Suggestion 21: STUK amended the Guide YVL C 3 to establish a requirement for the nuclear facilities to set target levels for releases of radionuclides consistent with the intent of S 21. The licensee would be required to evaluate annually its performance in attaining the release targets and submit the evaluation and plan for attainment with STUK. It should be noted that the Olkiluoto NPP had adopted this approach earlier as part of its ALARA programme. The new requirement is at present under consultation with the licence holders and is expected to come into effect in early July 2015. The licensee will then have 6 months to determine its target levels and the system will come into effect thereafter.

Status of the finding in the initial mission

Recommendation 8 (R8) is closed on the basis of progress and confidence in effective completion as STUK's responsibility with respect to environmental monitoring has been clarified in the legislation and the roles and responsibilities of the regulator and operator will be appropriately defined in YVL Guide C.7 which is currently in preparation.

Suggestion 21 (S21) is closed. STUK is implementing the system of constraints proposed in the Suggestion.

IRRS FOLLOW-UP MISSION TEAM

APPENDIX I - LIST OF PARTICIPANTS

INTERNATIONAL EXPERTS:		
JAMET Philippe	Autorité de Sûreté Nucléaire (ASN)	philippe.jamet@asn.fr
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APPENDIX II - MISSION PROGRAMME

<table>
<tr><th>Time</th><th>Mon
8 June</th><th>Tue
9 June</th><th>Wed
10 June</th><th>Thu
11 June</th><th>Fri
12 June</th><th>Sat
13 June</th><th colspan="2">Sun
14 June</th><th>Mon
15 June</th><th>Tue
16 June</th></tr>
<tr><td>9:00-10:00</td><td rowspan="3">Team Arrival</td><td rowspan="3">Entrance Meeting</td><td rowspan="3">Interviews</td><td rowspan="3">Interviews</td><td rowspan="3">Discussion of findings/ report by the team</td><td>Individual reading of the report</td><td rowspan="3">Host reads report</td><td rowspan="3">TL prepares presentation</td><td rowspan="3">Review of host’s comments</td><td rowspan="3">Exit Meeting</td></tr>
<tr><td>10:00-11:00</td><td>Discussion of results of cross-reading</td></tr>
<tr><td>11:00-12:00</td></tr>
<tr><td>13:00-14:00</td><td rowspan="5">Initial Team Meeting</td><td rowspan="4">Interviews</td><td rowspan="2">Interviews</td><td rowspan="2">TM finalize findings/
TM write report</td><td rowspan="2">Discussion of findings with counterpart</td><td rowspan="2">Collective reading of the report
Finalise draft Report</td><td colspan="2" rowspan="2">Social Event</td><td>Discussion with the Host

Preparation of the press release</td><td rowspan="6">Departures of Team Members</td></tr>
<tr><td>14:00-15:00</td></tr>
<tr><td>15:00-16:00</td><td rowspan="2">Final Draft to the Host</td></tr>
<tr><td>16:00-17:00</td><td>Written preliminary findings delivered</td><td>Final findings with text delivered</td><td>Team revises report based on discussions</td><td>Review of the Executive Summary</td><td colspan="2">Written comments presented by the Host</td></tr>
<tr><td>17:00-18:00</td><td>Daily Team Meeting</td><td>Daily Team Meeting</td><td>Daily Team Meeting</td><td>Daily Team Meeting</td><td>Submission of Report to IRRS Admin</td><td colspan="2">Discussion of host’s comments</td><td rowspan="2"></td></tr>
<tr><td>20:00-24:00</td><td></td><td>TM write findings</td><td>Secretariat edits findings
TM write report</td><td>Secretariat edits report
TM Read Draft</td><td>Cross reading TL drafts Executive Summary</td><td>Submission of the Draft Report to the Host</td><td colspan="2"></td></tr>
</table>

APPENDIX III - MISSION COUNTERPARTS

	IRRS Experts	STUK Lead Counterpart	STUK Support Staff
1.	**LEGISLATIVE AND GOVERNMENTAL RESPONSIBILITIES**		
	Philippe JAMET Mark BASSETT	Petteri Tiippana	Hannu Koponen, Kirsi Alm-Lytz
2.	**GLOBAL NUCLEAR SAFETY REGIME**		
	Philippe JAMET Mark BASSETT	Petteri Tiippana	Hannu Koponen, Kirsi Alm-Lytz
3.	**RESPONSIBILITIES AND FUNCTIONS OF THE REGULATORY BODY**		
	Mark BASSETT Adriana NICIC	Petteri Tiippana	Hannu Koponen, Kirsi Alm-Lytz
4.	**MANAGEMENT SYSTEM OF THE REGULATORY BODY**		
	Mark BASSETT Adriana NICIC	Katja Merimaa	Petteri Tiippana, Hannu Koponen, Kirsi Alm-Lytz, Kaisa Koskinen
5.	**AUTHORIZATION**		
	Josef MISAK John LOY Thiagan PATHER Hilaire MANSOUX	Tapani Virolainen	Janne Nevalainen, Tomi Routamo, Jukka Kupila, Martti Vilpas, Risto Sairanen, Tero Hiltunen, Ann-Mari Sunabacka-Starck, Jukka-Pekka Puttonen, Eero Kettunen, Eero Oksanen, Santtu Hellsten, Helinä Korpela, Mika Markkanen, Kaisa-Leena Hutri, Sampsa Kaijaluoto, Risto Paltemaa, Jussi Heinonen

	IRRS Experts	STUK Lead Counterpart	STUK Support Staff
6.	**REVIEW AND ASSESSMENT**		
	Josef MISAK John LOY Thiagan PATHER Hilaire MANSOUX	Tapani Virolainen	Janne Nevalainen, Tomi Routamo, Jukka Kupila, Martti Vilpas, Risto Sairanen, Tero Hiltunen, Ann-Mari Sunabacka-Starck, Jukka-Pekka Puttonen, Eero Kettunen, Eero Oksanen, Santtu Hellsten, Helinä Korpela, Mika Markkanen, Kaisa-Leena Hutri, Sampsa Kaijaluoto
7.	**INSPECTION**		
	Josef MISAK John LOY Thiagan PATHER Hilaire MANSOUX	Jukka Kupila	Tapani Virolainen, Janne Nevalainen, Tomi Routamo, Jukka Kupila, Martti Vilpas, Risto Sairanen, Tero Hiltunen, Ann-Mari Sunabacka-Starck, Jukka-Pekka Puttonen, Eero Kettunen, Eero Oksanen, Santtu Hellsten, Helinä Korpela, Mika Markkanen, Kaisa-Leena Hutri, Sampsa Kaijaluoto
8.	**ENFORCEMENT**		
	Josef MISAK John LOY Thiagan PATHER Hilaire MANSOUX	Tomi Routamo	Tapani Virolainen, Janne Nevalainen, Tomi Routamo, Jukka Kupila, Martti Vilpas, Risto Sairanen, Tero Hiltunen, Ann-Mari Sunabacka-Starck, Jukka-Pekka Puttonen, Eero Kettunen, Eero Oksanen Santtu Hellsten, Helinä Korpela, Mika Markkanen, Kaisa-Leena Hutri, Sampsa Kaijaluoto
9.	**REGULATIONS AND GUIDES**		
	Philippe JAMET Mark BASSET	Marja-Leena Järvinen	Seija Suksi, Ritva Havukainen, Hannu Koponen, Petteri Tiippana

	IRRS Experts	STUK Lead Counterpart	STUK Support Staff
10.	**EMERGENCY PREPAREDNESS AND RESPONSE**		
	Jeff LAFORTUNE	Hannele Aaltonen	Antero Kuusi, Aleksi Mattila, Santtu Hellsten, Tommi Renvall, Kaisa Raitio, Risto Isaksson
11.	**OCCUPATIONAL RADIATION PROTECTION IN NUCLEAR FACILITES, RADIOACTIVE WASTE MANAGEMENT AND DECOMMISSIONING, PUBLIC AND ENVIRONMENTAL EXPOSURE CONTROL**		
	John LOY Thiagan PATHER Hilaire MANSOUX	Santtu Hellsten, Ritva Bly, Helinä Korpela, Jussi Heinonen	Eero Kettunen, Risto Paltemaa, Santtu Hellsten, Helinä Korpela, Eero Oksanen, Mika Markkanen, Veri Riihiluoma, Antti Tynkkynen, Lauri Pöllänen, Tuulikki Sillanpää, Henri Niittymäki, Kaisa-Leena Hutri, Sampsa Kaijaluoto, Pia Vesterbacka, Hannu Koponen, Petteri Tiippana, Tomi Routamo, Kirsi Alm-Lytz

APPENDIX IV - RECOMMENDATIONS (R) AND SUGGESTIONS (S) FROM THE PREVIOUS IRRS MISSION THAT REMAIN OPEN

Section	R/S	Recommendation/Suggestion
1.3	R1	**Recommendation: The Government should embed, in law, STUK as an independent regulatory body separated from other entities having responsibilities or interests that could unduly influence its decision making.**
4.4	S6	**Suggestion: STUK should consider further improving its management system with respect to the following aspects:** • **Reviewing the requirements for managing the organization to ensure that the relevant requirements are addressed in a coherent manner;** • **Reviewing and revising the existing quality manuals and guidance documents for consistency and elimination of potential duplications;** • **Improving overall descriptions of the processes including sub-processes and their interdependency; and** • **Ensuring the easy identification of relevant procedures and documents.**
10.2	S17	**Suggestion: The Government should consider improving arrangements for the coordination of information to the public and media during emergencies to ensure that the messages issued by different authorities are consistent.**

APPENDIX V - RECOMMENDATIONS (RF), SUGGESTIONS (SF) AND GOOD PRACTICES (GPF) FROM THE 2015 IRRS FOLLOW UP MISSION

Section	RF/SF/GPF	Recommendation, Suggestion or Good Practice
1.8	**RF1**	**Recommendation: The Government should ensure that the planned new arrangements for managing and funding Finland's radiation safety research activities are such that:** **a) Finland's and STUK's high level competence in radiation safety is maintained;** **b) STUK continues to have a role in influencing the programme for radiation safety research; and** **c) STUK continues to have the resources necessary to obtain applied research support for its regulatory duties.**
5.6	**RF2**	**Recommendation: The Government should amend the legislation (Nuclear Energy Act and Radiation Act) to clarify that decommissioning and closure (in the case of a waste disposal facility) require a licence amendment.**

APPENDIX VI - REFERENCE MATERIAL PROVIDED BY STUK

ARM

- Module 1: Responsibilities and Functions of the Government
- Module 2: Global Nuclear Safety Regime
- Module 3: Responsibilities and Functions of the Regulatory Body
- Module 4: Management System of the Regulatory Body
- Module 5: Authorisation
- Module 6: Review and Assessment
- Module 7: Inspection
- Module 8: Enforcement
- Module 9: Regulations and Guides
- Module 10: Emergency Preparedness and Response
- Module 11: Control of Medical Exposures, Occupational Radiation Protection, Public and Environmental Exposure Control
- IRRS 2012 Action Plan

STUK Internal Documents

1. ST Guides
2. YVL Guides
3. STUK Guides
4. SKV Guides
5. YTV Guides

Legislation

1. Decree of the Ministry of Social Affairs and Health on the medical use of radiation
2. Decree on the Advisory Commission for Nuclear Safety
3. Government Decree on Emergency Response Arrangements at Nuclear Power Plants
4. Government Decree on the Safety of Disposal of Nuclear Waste
5. Government Decree on the Safety of Nuclear Power Plants
6. Government Decree on the Security in the Use of Nuclear Energy
7. Nuclear Energy Act
8. Nuclear Energy Decree
9. Radiation Act
10. Radiation Decree
11. Rescue Act
12. STUK Act
13. STUK Decree

APPENDIX VII - IAEA REFERENCE MATERIAL USED FOR THE REVIEW

1.	**IAEA SAFETY STANDARDS SERIES No. SF-1** - Fundamental Safety Principles
2.	**IAEA SAFETY STANDARDS SERIES No. GSR PART 1** - Governmental, Legal and Regulatory Framework for Safety
3.	**IAEA SAFETY STANDARDS SERIES No. GSR PART 3** - Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards
4.	**IAEA SAFETY STANDARDS SERIES No. GS-R-2** - Preparedness and Response for a Nuclear or Radiological Emergency
5.	**IAEA SAFETY STANDARDS SERIES No. GS-R-3** - The Management System for Facilities and Activities
6.	**IAEA SAFETY STANDARDS SERIES No. NS-R-1** – Safety of Nuclear Power Plants: Design
7.	**IAEA SAFETY STANDARDS SERIES No. NS-R-2** – Safety of Nuclear Power Plants: Operation
8.	**IAEA SAFETY STANDARDS SERIES No. NS-R-4** - Safety of Research Reactors
9.	**IAEA SAFETY STANDARDS SERIES No. GS-G-1.1-** Organization and Staffing of the Regulatory Body for Nuclear Facilities
10.	**IAEA SAFETY STANDARDS SERIES No. GS-G-1.2** - Review and Assessment of Nuclear Facilities by the Regulatory Body
11.	**IAEA SAFETY STANDARDS SERIES No. GS-G-1.3-** Regulatory Inspection of Nuclear Facilities and Enforcement by the Regulatory Body
12.	**IAEA SAFETY STANDARDS SERIES No. GS-G-1.4** - Documentation for Use in Regulatory Nuclear Facilities
13.	**IAEA SAFETY STANDARDS SERIES No. GS-G-2.1** - Arrangements for Preparedness for a Nuclear or Radiological Emergency
14.	**IAEA SAFETY STANDARDS SERIES No.GS-G-3.1** - Application of the Management System for Facilities and Activities
15.	**IAEA SAFETY STANDARDS SERIES No. GS-G-3.2** - The Management System for Technical Services in Radiation Safety
16.	**IAEA SAFETY STANDARDS SERIES No. RS-G-1.3** - Assessment of Occupational Exposure Due to External Sources of Radiation
17.	**IAEA SAFETY STANDARDS SERIES No. RS-G-1.4** - Building Competence in Radiation Protection and the Safe Use of Radiation Sources
18.	**IAEA SAFETY STANDARDS SERIES No. NS-G-2.10** - Periodic Safety Review of Nuclear Power Plants Safety Guide
19.	**IAEA SAFETY STANDARDS SERIES No. NS-G-211** - A System for the Feedback of Experience from Events in Nuclear Installations Safety Guide
20.	**INTERNATIONAL ATOMIC ENERGY AGENCY** - Convention on Early Notification of a Nuclear Accident (1986) and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1987), Legal Series No. 14, Vienna (1987).

APPENDIX VIII - STUK ORGANIZATIONAL CHART