#1490262

27.6.2019

STUK Action Plan based on STUK's Self-Assessment (1.1 etc.), IRRS findings (R1, S1 etc.) and IRRS FU findings

MODULE 1: Responsibilities and Functions of the Government					
No. of action	**Action to be done**	**Responsible unit: person**	**Deadline**	**Date, action done, reference, open issues**	**Completed, date**
R1	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. IRRS FU: **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.	JOH: PT, KaK	30.06.2016	The Advance Reference Material (ARM) and IRRS FU Report The position of STUK in governmental system was reconsidered, but the Government did not take any further actions. The Act on STUK was revised.	
R2	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. IRRS FU: **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.	JOH: HaK, PT	31.12.2015	ARM, IRRS FU Report	16.6.2015

S1 (1.2)	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. IRRS FU: **Suggestion 1 (S1) is closed.** The Team accepts that an MoU is no longer needed.	JOH: HaK	31.12.2014	ARM, IRRS FU Report	16.6.2015
1.2 (S1)	STUK is the only authority responsible for radiation and nuclear safety in Finland. However, many governmental authorities regulate the practices (for other purposes than nuclear or radiation safety). A report concerning the responsibilities and function of these authorities should be established. Based on this work it should be considered whether STUK needs written arrangements with some of them in addition to those arrangements already agreed.	STO: EKe VYK: HAa YTO: KiA YMO: AT VALO: TkI JOH: HaK	30.9.2014 (report) 31.12.2014 (agreements)	Report of the responsibilities and functions of other regulators was finalized on 16.6.2014 (#1535045, #1535046). The list of arrangements with other authorities is presented in the document (#1550558).	16.6.2014
R3 (1.3)	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. IRRS FU: **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.	YMO: RP VALO: RM STO: MM	30.6.2014	ARM, IRRS FU Report A policy and strategy document has been prepared (#1524248) and the Ministry for Employment and the Economy has submitted "Management of spent fuel and radioactive waste in Finland – national programme in accordance with Article 12 of the Council Directive 2011/70/Euratom" to EU.	
1.3	The Finnish national policy does not fully cover non-	VALO: RM	30.6.2014	ARM, IRRS FU Report	21.8.2015

(R3)	nuclear radioactive wastes. The disposal of high-activity radiation sources has not yet been solved. As regards orphan sources the main risk is related to international scrap metal business. There are several cases where orphan sources with unknown origin have been melted with scrap metal. Accordingly, national strategies in global safety framework how to control orphan sources should be developed, and responsibilities in dealing with orphan sources and financial questions regarding management of orphan sources should be clarified.	STO: MM (high-activity source disposal) STO: EO VALO: RM (orphan sources)	30.6.2014	The disposal of high active radioactive sources is still open. This issue will be dealt separately, not under this action plan. Management of orphan sources is presented in document #1563520 and in background memorandum #1538425.	29.6.2015
R4	The government should ensure that STUK has sufficient resources to fulfil the responsibilities placed on it by the government to provide technical services. IRRS FU: **Recommendation 4 (R4) is closed.** Requested additional funding was provided in 2014 to STUK to upgrade and modernize equipment needed to provide technical services.	JOH: HaK	31.12.2013	ARM, IRRS FU Report	31.12.2013
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	JOH: PT, TkI	31.12.2016	ARM, IRRS FU Report The Government has paid attention to radiation safety research: MSAH has pointed special goal to STUK on annual results agreement. According to this STUK has allocated service earnings since 2018 to ensure competence on radiation safety research. In addition STUK has	31.5.2017

	STUK continues to have the resources necessary to obtain applied research support for its regulatory duties.			strengthen cooperation with universities and other research organisations.	
1.1	The graded approach commensurate with the radiation risks associated with facilities and activities is reflected to in the nuclear and radiation energy legislation. However, the principle of the graded approach is not explicitly expressed. This principle should be included in the next revisions of the Nuclear Energy Act and the Radiation Act.	JOH: HaK LAS: MAx, RH JOH: LR SYK: MlJ YMO: AT	1.8.2013 (YeL) According to EU BSS Schedule (SätL)	ARM, IRRS FU Report The start up of the total revision of the radiation legislation by the Ministry of Social and Health Affairs at the 15th February 2015. The graded approach is dealt in the ministries assessment memorandum (STM, 17.11.2014, in Finnish) and in the STUK project plan (DOHA-1535964). This issue will be dealt separately, not under this action plan.	1.8.2013 15.2.2015
1.5	The Radiation Act does not specify sources and circumstances that are out of the scope of the Act. These exclusions, such as radionuclides naturally contained in the human body and cosmic radiation prevailing at ground level, should be added in the next revision of the Act.	LAS: MAx, RH	(According to EU BSS schedule)	The renewed BSS (2013/59/Euratom) was issued in 5th December 2013. Implementation of the BSS has initiated a comprehensive revision of the Radiation Act and related regulations. The BSS has to be implemented by 6th February 2018. See item 1.1 above. This issue will be dealt separately, not under this action plan.	15.2.2015
1.6	Implementation of the revised BSS will require thorough review and revision of radiation safety legislation and regulations. Arrangements should be made to start the process.	LAS: MAx, RH YTO: JSo	(According to EU BSS schedule)	See above item 1.5	15.2.2015

MODULE 2: Global Nuclear Safety Regime

No. of	Action to be done	Responsible	Deadline	Date, action done,	Completed

action		unit		reference	, date
S2 (3.9, 4.5, 9.4)	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 IRRS FU: **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.	TYK: RI YTO: KaK YMO: JHe STO: AsH VALO: TkI	30.10.2014	ARM, IRRS FU Report The new home pages of STUK were published 27.8.2015. STUK is also communicating to the public using social media (Twitter, Facebook). On urgent matters targeted emails are sent for relevant stakeholders. STUK updated all internal guides related to communication in 2018, and communications skills for key persons has also been strengthened. In STUK's strategy 2018-2022 communication on emerging situations was enhanced.	27.8.2015 31.12.2018
3.9 (S2)	Plans should be established on how to inform authorized users of radiation and stakeholders of the up-dated principles and criteria for safety.	STO: AsH	31.12.2014	ARM, IRRS FU Report STUK organizes different types of conferences for the users of radiation, e.g. radiation safety officers, on the use of radiation in industry and health care. These conferences are a part of yearly planning.	16.6.2015
9.4 (S2, 4.5)	STUK should actively inform the public about the up-dated principles and criteria for safety. This procedure needs to be included in STUK Management System.	TYK: KaR YTO: KaK, KlH STO: AsH	29.2.2016	Procedure will be prepared on informing the public about the up-dated principles and criteria for safety. Guidance and materials for communication in emerging situations have been developed as a part of development of STUK's strategic	31.12.2018

				communication. Dialogue with General Public needs to be addressed. STUK has developed a strategic communication plan and implements it. The plan includes also risk communication.	
2.1	Based on Fukushima accident many international programmes have been launched. STUK continues to participate actively in these programmes, such as IAEA Action Plan and EU Stress Tests, and will implement at national level measures to improve safety based on the findings of these programmes.	YTO: KiA YMO: JHe VYK: HAa VALO: TkI	Continuous international process 31.12.2014	ARM	30.4.2015
MODULE 3: Responsibilities and Functions of the Regulatory Body					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, date**
S3 (3.4)	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. IRRS FU: **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.	JOH: KaK YTO: KlH STO: SmK	31.12.2015	ARM, IRRS FU Report The suggestions of the memorandum have been taken into account in the Advisory Commission on Nuclear Safety. As regards the other Commissions, further actions are under preparation. The Advisory Commission on Nuclear Security changes of legislation are under reparation. As regards the Advisory Commission	31.12.2015

				on Radiation Safety changes on the Radiation Act are needed. This issue will be dealt separately, not under this action plan.	
3.4 (S3)	Liaison with advisory bodies and support organizations – Some members of the advisory commissions (Advisory Commission for Radiation Safety and Advisory Commission on Nuclear Security) work for the authorized parties. This issue needs to be studied to identify if conflict of interest may have an impact on the advice given to the regulatory body and if further changes are warranted to ensure independent advice.	JOH: HaK YTO: KaK, KlH STO: EO	31.12.2015	See above item S3.	31.12.2015
S4 (3.5, 5.3)	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. IRRS FU: **Suggestion 4 (S4) is closed.** An excellent new requirements management system is being put in place that should significantly improve consistency of decision-making.	YTO: KiA, JN YMO: JHe	30.5.2015	ARM, IRRS FU Report	16.6.2015
3.5 (S4)	Stability and consistency in the regulatory control of nuclear facilities –To improve consistency in decision making over time IT systems should be developed to enable e.g. better searches and previous regulatory positions taken on different regulatory requirements. A project has been established to develop a more systematic requirement management process and system with a tool for regulatory use.	YTO: KiA, PSa YMO: JHe	31.12.2014	See above item S4.	16.6.2015
5.3 (S4)	Management and follow-up of requirements set by STUK in different licensing phases of nuclear facilities	YTO: KiA YMO: JHe	31.12.2014	See above item S4.	16.6.2015

	should be further developed.				
3.6	Demonstration of safety for the nuclear facilities and activities - Requirements for licensees (or license applicant's) own safety demonstration is being modified to make requirements more explicit. Purpose of this is to highlight licensees' responsibility for safety and safety demonstration, and have a demonstration that licensee is capable and competent to ensure safety. This would also decrease regulator's review and assessment burden.	YTO: PT	31.8.2013	ARM, IRRS FU Report	1.12.2013
MODULE 4: Management System of the Regulatory Body					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, date**
S5 (3.3, 4.2)	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 organisation, • continuously develop, assess and improve the safety culture and • prevent regulatory capture. IRRS FU: **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.	JOH: KMe YTO: KaK YMO: JMo STO: EO VALO: PV	30.9.2014	ARM, IRRS FU Report	4.12.2014
4.2 (S5)	The safety culture within the organization should be developed and improved further by considering it in	JOH: KMe YTO: KaK	30.9.2014	See above item S5.	4.12.2014

	annual planning, internal audits, self-assessments and management reviews.	YMO: JMo STO: EO VALO: PV			
4.2 (S7)	Appropriate frequency of audits of the regulatory processes and activities should be determined and complied with.	JOH: KMe Laaturyhmä	30.9.2014	See above item S7.	4.12.2014
S6 (4.1)	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. IRRS FU: **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.	JOH: laatupäällikkö Laaturyhmä	29.2.2016	ARM, IRRS FU Report The duties of Quality Group will be extended to cover evaluation of the development of regulatory processes (review and assessment, inspections and enforcement). ========== **a)** *IRRS 2015 FU: "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."* **b)** *IRRS 2015 FU: "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."* Consolidation of manuals was done in 2016, however, STUK	a) Closed in IRRS 2015 FU b) Closed 31.12.2018

				has decided to re-engine the MS as a whole. **c)** Core process development project started in spring 2016. The aims were to harmonize the processes in the STUK level, review and modify the internal guides associated to processes **(this work is also part of item b)** and use QPR process tool for describing processes to sub-process and if needed, to swim lane level. This work was part of the work described in section b. **d)** *IRRS 2015 FU: "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."* Please see item c; the QPR tool was used as suggested.	c) Closed 31.12.2017 d) Closed 31.12.2017
S7 (4.2)	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.	JOH: KMe Laaturyhmä	30.9.2014	ARM, IRRS FU Report	4.12.2014

	IRRS FU: **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.				
4.1 (S6)	STUK's Management System is very thorough and detailed. It is described in detail in the Quality Manuals. An action should be taken for ensuring that the Quality Manuals are streamlined, kept logical, not overlapping and up-to-date all the time.	JOH: laatupäällikkö Laaturyhmä	30.6.2016	See above item S6. It should be evaluated whether there is still unnecessary overlapping issues in Quality Manuals. ========== Please see item S6 b).	Closed 31.12,2017
4.3	Clear guidance should be developed for auditing and evaluation of organizations which are used by STUK as support to the regulatory activities.	HAL: HmL YTO: KaK YMO: JMo	31.12.2013	A new appendix 14 to the Guide STUK 4.4 was approved in June 24, 2014.	24.6.2014
4.4	Procedures should be established for implementing major organizational changes at STUK.	JOH: HaK YTO: KaK, KlH STO: EKe VALO: TkI	31.12.2014	ARM, IRRS FU Report	31.12.2014
4.6	Guidance should be developed on how to analyze operating experience and results of research in the preparation of regulatory guides.	LAS: MAx YTO: KiA YMO: JlK STO: MLe	31.12.2015	In the revision of Guide STUK 3.6 principles for taking care of operating experience and results of research will be presented. Guide STUK 3.6 was revised 2019.	15.6.2019
MODULE 5: Authorization					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, date**

S8	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. IRRS FU: **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.	YTO: TV, ToR, MV YMO: JHe	30.9.2014	ARM, IRRS FU Report	16.6.2015
S9	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. IRRS FU: **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.	STO: EO YTO: JSo	30.6.2014	ARM, IRRS FU Report	16.6.2015
R5 (5.1, 9.2)	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. IRRS FU: **Recommendation 5 (R5) is closed.** STUK has amended YVL Guide D.4 to reflect that an	LAS: MAx YMO: RP		ARM, IRRS FU Report	16.6.2015

	application for renewal or amendment of the licence is required to address the revised scope of activities during the decommissioning phase of a facility.				
RF2	IRRS FU: **Recommendation RF2**: 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.	LAS: MAx YMO: JHe STO: MM	31.12.2016	There were two possible approaches: either as suggested an amendment to operating license or a separate decommissioning license. Nuclear energy act was revised in 2018 taken into account decommissioning licence, however closure of disposal facilities were not considered at this phase.	
5.1 (R5)	Licensing of the decommissioning of the nuclear facilities and the closing of the final disposal facilities should be further developed. Until now it has been thought that the revision of the operating licenses would be adequate. Same action as in Modules 9, Action 9.2 and related to Module 11, Action 11.4.3.	LAS: MAx YMO: RP STO: MM	31.12.2016	See above item RF2.	
9.2 (R5)	Regulations for the licensing of the decommissioning of nuclear facilities should be considered. Same action as in Module 5, Action 5.1 and related to Module 11, Action11.4.3.	LAS: MAx YMO: RP STO: MM	31.12.2016	See above item RF2.	
11.4.3 (R5)	More detailed guidance (YVL guide) on decommissioning should be established. Related to actions in Modules 5 and 9, Actions 5.1 and 9.2.	YMO: AI YTO: LPn (ATy)	30.6.2013	Guidance on decommissioning has been established and included to YVL Guide D.4.	1.12.2013
5.2	The regulations concerning the EIA process should be further developed in the nuclear legislation. The latest	LAS: MAx YTO: JN	30.6.2013	ARM, IRRS FU Report	31.12.2013

	new nuclear power plant processes have shown that there is overlapping in time of the EIA and Decision in Principle (DiP) processes and this is harmful for the both processes. The Nuclear Energy legislation only demands that in the DiP application there has to be annexed the final EIA report. However the EIA law defining the EIA process states that there should be no license applications for the facilities (=DiP application) before the end of the EIA process which take place only after the Final Statement of the Contact Authority of the EIA process (=MEE) is published. This takes approximately three months and in the latest processes only Fortum (Loviisa 3) followed this. The final site characterization is currently approved in conjunction with construction license.	(JSa, LPn)		Modification of the Nuclear Energy Decree, 755/2013	

MODULE 6: Review and Assessment

No. of action	Action to be done	Responsible unit	Deadline	Date, action done, reference	Completed, date
6.1 3.7	Internal guidance for review and assessment should be further developed on some technical areas (e.g. design and manufacturing documentation for systems, structures and components).	YTO: TV, ToR, MV	30.9.2014	ARM, IRRS FU Report	16.6.2015

MODULE 7: Inspection

No. of action	Action to be done	Responsible unit	Deadline	Date, action done, reference	Completed, date
S10 (7.2)	STUK should develop criteria for initiating reactive inspections.	YTO: JKu, TV STO: AtL	31.12.2013	ARM, IRRS FU Report Criteria for reactive inspections were included into related YTV-guides	1.9.2015

	IRRS FU: **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.			(KTO YTV 4.6.2 & RTO YTV 4.6.1) in 2014. Criteria for reactive inspection were updated in Guide SKV 3.4 (#1235285) on 1.9.2015.	
S11 (7.2)	STUK should consider conducting more frequent unannounced inspections of the facilities and activities under its regulatory control. IRRS FU: **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.	YTO: JKu, TV STO: AtL	30.6.2013	ARM, IRRS FU Report	16.6.2015
7.2 (S10, S11)	Especially for nuclear facilities reactive and unannounced inspections are a minor part of inspection programs and quite rarely used. The opportunities to do this kind of inspections will be followed more systematically in future and the procedures will be discussed with managers and inspectors to encourage this kind of inspections. STUK will also communicate this to the licensees for their information.	YTO: JKu, TV (Nuclear safety) STO: AtL (Use of radiation)	30.6.2013 30.6.2013	See above items S10 and S11.	30.3.2014
R6 (3.8)	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.	YTO: JKu, TV, MV YMO: JMo STO: AtL	30.9.2014	ARM, IRRS FU Report	16.6.2015

	IRRS FU: **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.				
3.8 (R6)	Inspection of facilities and activities, inspection types and graded approach - The Management System does not provide explicit guidance on how to apply graded approach in the regulatory inspection activities on inspections on nuclear facilities.	YTO: JKu, TV, MV YMO: JMo STO: AtL	30.9.2014	See above item R6.	16.6.2015
S12 (3.2)	STUK should consider developing a formal qualification programme for inspectors of nuclear facilities as well as nuclear materials and waste. IRRS FU: **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.	YTO: MjM, MV, KlH STO: RPa	30.6.2016	ARM, IRRS FU Report Implementation of the formal qualification programme has been developed and training has been provided. The procedure will be completed in autumn 2019.	
3.2 (S12)	Staffing and competence of the regulatory body - discussion has been initiated on the need to have a more formal process in place for qualification of inspectors, especially for mechanical components. One reason for this is the wider use of inspection organization in the future on this particular area. Formal qualification would ensure consistent inspection process.	YTO: KlH, MV, MjM STO: RPa	31.12.2013	See item S12 above.	

S13	STUK should consider the development and implementation of a more systematic method to collect indications of and assess the licensee's safety culture. IRRS FU: **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.	YTO: ToR, MaN	31.12.2015	ARM, IRRS FU Report The supporting database has been established. Training on use of database was completed in June.	30.6.2015
S14 (11.1.2)	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. IRRS FU: **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.	STO: AsH	31.12.2014	ARM, IRRS FU Report STUK has prepared a plan for the control of transport of radioactive material in Finland (# 1541706). The plan covers mostly commercial carriers. Operators that transport their own radiation sources are licensed and thus under control. Assessment of individual doses will be made if seems necessary based on e.g. inspection results. See also item 11.1.2 below. This issue will be dealt separately, not under this action plan.	5.6.2015
11.1.2 (S14)	To ensure that workers' doses remain below dose limits and constraints, periodic assessments on the levels of worker's doses in different types of transport activities should be made.	STO: AsH	31.12.2014	ARM, IRRS FU Report STUK conducted a study on the amount of radioactive material transported on road in Finland in	5.12.2013

				2013 (# 1514066). Part of the study was an assessment of doses received by the workers (in manSv). Such a study will be repeated in 5 years in line with studies made by the Ministry of Transport and Communications on other dangerous goods.	
7.1	Procedure for the use on inspection organizations at the nuclear facilities should be developed.	YTO: MV	30.9.2014	ARM, IRRS FU Report	16.6.2015
7.3	For nuclear power plants the results from both Periodic Inspection Program and Construction Inspection Program should be more systematically assessed in the quarterly safety assessment meetings within STUK. Effectiveness of the Inspection programs should also be assessed. In addition, in the end of each year, decisions should be made for the further development of the programs.	YTO: TV, ToR, JKu	30.9.2014	ARM, IRRS FU Report	16.6.2015
7.4	Commissioning phase of OL3 is a challenge. Therefore inspection practices should be carefully planned in advance (planning is currently ongoing). The method for dissemination of information and feedback within STUK for the ongoing activities should be developed (a program to monitor and follow up inspection findings).	YTO: MTu	30.6.2016	ARM, IRRS FU Report The commissioning of OL3 has been postponed. STUK started its own planning already in 2013 (enlargening HAKE database) and internal guidance have been updated accordingly. The findings have been reviewed and assessed in the project meetings.	12.9.2016
7.5	Currently, STUK's resource management do not track working hours related to Periodic Inspection Program. This hinders both planning of inspection resources and tracking of used resources. Current plant unit specific working codes for inspections could be divided further	YTO: JKu, KaK HAL: AKe	31.12.2012	ARM, IRRS FU Report	31.12.2012

	to Periodic Inspection Program inspections and other inspections.				
7.6	At the moment there are no guides for inspections for the decommissioning of nuclear facilities. Such guides should be prepared (YTV Guide).	YMO: JHe YTO: LPn	31.3.2016	STUK regulates decommissioning and dismantling of the research reactor (FiR). According to these actions STUK gathers experience and will prepare internal guidance (YTV) and update the YVL guidance so that the requirements will be in force timely for the Loviisa NPP decommissioning.	31.12.2017
MODULE 8: Enforcement					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, date**
8.1	STUK's internal guidelines don't address at the moment at all the situations, in which assistance of other authorities could be in need to be requested. Guide YTV 6.3 could be revised to provide practical guidance also for these situations.	YTO: KlH YMO: AT STO: RPa	31.3.2016	Guide YTV 6.3 will be updated. For the regulatory control of radiation practices, Guide SKV 3.7 (#3234) was updated on 8.10.2015.	 8.10.2015
8.2	The most often needed enforcement tools, oral notice and written request for action, are not in effective use among inspectors of nuclear facilities. Training is needed, especially for younger inspectors, to familiarize them with the legal basis of these tools and practical procedures when using them.	YTO: KaK, KlH	30.6.2013	ARM, IRRS FU Report	30.10.2013
MODULE 9: Regulations and Guides					
No. of	**Action to be done**	**Responsible**	**Deadline**	**Date, action done,**	**Completed,**

action		unit		reference	date
S15	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). IRRS FU: **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.	JOH: LR YTO: MlJ YMO: AT LAS: RH	31.12.2013 (According to EU BSS schedule)	ARM, IRRS FU Report There are still two new YVL Guides to be finalized (YVL C.6 and YVL C.7). The BSS will be implemented by 6th February 2018. These issues will be dealt separately, not under this action plan.	16.6.2015
9.1 (11.4.2)	Regulation related to uranium mining and milling, including also requirements on radioactive waste should be developed.	LAS: MAx YMO: AT STO: MM VALO: TkI	31.12.2015	The safety regulation for uranium mining and milling will be established as STUK's regulation based on the change of the Nuclear Energy Act (see above item R1).	A new regulation STUK Y/5/2016 was accepted 22.12.2015
9.3	The comprehensive renewal of ST Guides should be started related to the establishment of the new European BSS.	LAS: MAx, RH	(According to EU BSS schedule)	See above item 1.5 The role of ST Guides will be solved during the renewal of the radiation legislation before 6 February 2018. This issue will be dealt separately, not under this action plan.	15.9.2015

MODULE 10: Emergency Preparedness and Response					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, date**
S16 (10.5, 10.6)	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. IRRS FU: **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.	VYK: HAa VALO: TkI YTO: TRe	31.12.2014	ARM, IRRS FU Report	1.12.2014
10.5 (S16)	Some additional national arrangements are needed to ensure the provision of assistance to other countries in a timely manner, when requested.	VYK: HAa VALO: TkI	31.12.2014	See above item S16	1.12.2014
10.6 (S16)	Additional planning is needed for requesting assistance from other countries concerning e.g. monitoring resources and make use of assistance efficiently in national response, especially during large scale and long-lasting emergencies.	VYK: HAa VALO: TkI, HAa YTO: TRe	31.12.2014	See above item S16	1.12.2014
R7	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. IRRS FU: **Recommendation 7 (R7) is closed** the	VYK: HAa YTO: JSo	31.12.2013	ARM, IRRS FU Report	31.12.2013

	current emergency classification scheme covers the full spectrum of possible emergencies and required response actions.				
S17 (10.4)	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. IRRS FU: **Suggestion 17 (S17) is open** as a solution for the effective coordination of emergency public information has not yet been identified.	TYK: KaR	31.6.2016	The crisis communication in all ministries and state authorities (including STUK) has been audited 2014. The audit was made by the University of Jyväskylä and coordinated by the prime ministers office. The results of the audit with recommendations for further development were published in a seminar November 2014. As a result of the audit eight recommendations were given to ministries and authorities for improving crisis communication in all levels. After the audit STUK as part of the state administration will develop its communication together with other authorities. STUK has discussed about communication in emerging situations with the Ministry of foreign affairs and with the Ministry on Internal as well as with the Institute of Metrology. In addition STUK has produced plans for revising internal guidance accordingly.	31.12.2016

10.4 (S17)	Coordination arrangements for informing the public and media during emergencies should be further developed together with other organizations, and STUK's relevant procedures should be updated accordingly.	TYK: KaR VALO: HAa	30.6.2016	See above item S17	31.12.2016
10.1	Based on lessons learned from the Fukushima accident some additional requirements are needed in the Government Decree and in the respective YVL Guide concerning emergency arrangements of nuclear facilities. As examples of amendments are requirements for emergency arrangements for long lasting situations and for response under extreme environmental conditions.	LAS: MAx (Governmental Decree) YTO: MlJ (YVL Guides) LAS: RH (ST Guides)	30.6.2013	ARM, IRRS FU Report Lessons learned due to Fukushima accident will be taken into account in the radiation legislation in the renewal of the legislation before 6 February 2018. This issue will be dealt separately, not under this action plan.	1.12.2013
10.2	Results of threat analyses should be modified into more user-friendly form and made easily available for STUK's emergency response organization as background material, in order to ensure consistent preliminary safety assessments in case of an urgent incident, especially during outside office hours when STUK's response organization is not yet fully operational.	VALO: TkI, HAa TIH: ?	31.12.2016	The background information has been updated in the nuclear power plant status module of STUK's emergency management software TIUKU. Further analysis of the results of the threat analysis has been conducted in a master's thesis work that was completed in June 2019 and will be used as a basis of future updates in preparedness arrangements near NPPs and background materials.	
10.3	STUK should prepare additional pre-written instructions and material; guidance material for public should also be available at all times through Internet.	TYK: KaR	29.2.2016	Pre-written material has been prepared for various incidents and emergency situations. In addition the pictorial guidance has been produced for general public in	

				Finnish, Swedish, Sami, English and Russian. The infographics will be published on STUK´s website in July 2019. The material can also be utilized in communication on social media channels.	
Module 11: Thematic area - Transport of Radioactive Material					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, date**
11.1.1	Spent nuclear fuel transports from nuclear power plants to final repository are planned to start in 2020. There have been very little spent fuel transport in recent years in Finland and currently the experience in this field is not extensive. Arrangements should be made to ensure adequate competence and resources in the regulatory control of transport of spent nuclear fuel.	YMO: RP YTO: ATy	(According to the actual needs)	ARM, IRRS FU Report Responsibility for the oversight of spent fuel transport has been assigned (YTV 2.3.3) and the training for the person in question has been started. (22.7.2013). This is considered to be adequate at this time. Transport is now planned to start in 2022.	31.12.2013
11.1.3	Arrangements should be made to identify the carriers of radioactive material that are not subject to a safety license, and to initiate a STUK's inspection programme to verify their compliance with regulations.	STO: AsH	31.12.2014	ARM, IRRS FU Report STUK conducted a study on the amount of radioactive material transported on road in Finland in 2013 (# 1514066). Major carriers (not including sub-contracted carriers) were identified in the study. STUK has prepared a plan for the control of transport of radioactive	5.12.2013

				material in Finland (# 1541706). Inspections are part of the plan.	
MODULE 11: Thematic area – Control of Medical Exposures					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, date**
11.2.1	STUK has issued requirements for the minimum staffing levels in radiation therapy, but not for other medical practices. It should be considered, based e.g. on experiences in other countries, whether such levels would be feasible also for other practices.	STO: ElH	31.12.2013	ARM, IRRS FU Report Requirements for the minimum staffing levels in other medical practices than radiation therapy were considered. Such requirements were not considered possible at the moment.	31.12.2013
11.2.2	Patient safety is in focus in ST-Guides in many ways; however the broader term “radiation safety” has been used. To emphasize patient safety the regulations should define more precisely that radiation safety covers patient safety, occupational safety and safety of the public.	STO: ElH	30.6.2014	ARM, IRRS FU Report Patient safety, occupational safety and safety of the public is more broadly addressed in updated Guide ST 3.3, chapter 3.	8.12.2014
11.2.3	Responsibility of medical practitioners to promptly inform the licensee and relevant experts of any deficiencies regarding safety is not appropriately prescribed in regulations. To ensure the protection and safety of patients, regulations should include more specific requirements to arrange adequate information flow within the organization and measures to promptly inform of deficiencies and safety related incidents.	STO: ElH	30.6.2014	ARM, IRRS FU Report Requirement to inform within the organization of safety deficiencies was added in the updated Guide ST 3.3, chapter 6.	8.12.2014
Module 11: Thematic area – Occupational Radiation Protection					
No. of	**Action to be done**	**Responsible**	**Deadline**	**Date, action done,**	**Completed,**

action		unit		reference	date
S18	STUK should ensure further that its nuclear safety and radiation safety guides are consistent with respect to common requirements related to occupational exposure. IRRS FU: **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.	YTO: VeR STO: MLe	30.6.2013	ARM, IRRS FU Report	1.12.2013
S19	STUK should include information on the doses received by workers occupationally exposed to radon in its annual report on radiation practices. IRRS FU: **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.	STO: EVe	30.6.2013	ARM, IRRS FU Report	30.6.2013
S20	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. IRRS FU: **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.	STO: MLe VALO: MMu, PKu YTO: VeR	31.12.2015	ARM, IRRS FU Report For its own technical services STUK will take actions in 2015 to demonstrate, in a transparent manner, that it satisfies all the required regulatory conditions necessary for an approval. Approval was issued for STUK's internal dosimetry service on	31.12.2015

				22.12.2015 (#1609097) and for STUK's radon measurement service on 14.12.2016 (# 1669791)	
Module 11: Thematic area - Public and Environmental Exposure Control, Waste Management and Decommissioning					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, date**
R8 (1.4, 3.1)	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. IRRS FU: **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.	JOH: KaK VALO: TkI YTO: ATy	31.12.2015	ARM, IRRS FU Report YVL Guide C.7 was updated in 2015.	31.12.2015
1.4 (R8, 3.1)	STUK is responsible for the environmental surveillance of radiation in Finland. In addition, STUK is providing radiation monitoring services to the licensees in the environment around the nuclear power plants. It is considered to change the responsibilities so that STUK carries out this duty as the regulatory authority in	JOH: KaK VALO: TkI YTO: ATy	31.12.2015	See above item R8.	31.12.2015

	connection with the environmental surveillance of radiation in Finland. Similarly, as regards mining and milling activities, the responsibilities for environmental surveillance will be reconsidered.				
11.4.1	Regulations and detailed requirements for NORM waste should be further developed.	YMO: AT, TS, JlK (nuclear safety) STO: MM, EVe (radiation safety) VALO:	30.6.2016	ARM, IRRS FU Report Nuclear Energy Act has been amended and STUK is authorized to issue these regulations. A new STUK regulation concerning extraction of uranium and thorium was published according the BSS implementation (2015), and it will be updated in autumn 2019. A new guide YVL D.6 concerning extraction of uranium and thorium will be published in 2020. NORM wastes arising from non-nuclear activities are covered comprehensively by the Radiation Act and subsequent provisions. (More precisely: Section 45-51 of the Radiation Act, Sections 26–29 of the Radiation Decree and Guides ST 12.1 and 12.2.). The Radiation Act and subsequent provisions will come under a thorough revision process due to the implementation of the EU BSS Directive by February 2018. As part of this process, the need to develop	

				further NORM provisions will also be considered. This issue will be dealt separately, not under thus action plan.	
11.4.4	There are guidelines for intermediate phase of nuclear radiological emergences including transition recovery, but no specific requirements for remediation of existing exposure situations exist. The need for such regulation should be considered.	VALO: TkI VYK: HAa STO: MM	31.12.2014	The need for further regulation focusing on existing exposure situations arising from nuclear radiological emergencies has been considered. STUK has evaluated that guide VAL 2 is covering remediation of existing exposure situations adequately and possible further requirements are case-specific.	31.12.2014
S21	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. IRRS FU: **Suggestion 21 (S21) is closed.** STUK is implementing the system of constraints proposed in the Suggestion.	YTO: JSo		ARM, IRRS FU Report	16.6.2015