7.2.2013 # 1446594

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

MODULE 1: Responsibilities and Functions of the Government					
No. of action	**Action to be done**	**Responsible unit: person**	**Deadline**	**Date, action done, reference**	**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.	JOH YTO: PT	31.12.2015		
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.	JOH YTO: PT	31.12.2015		
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.	JOH: HaK	31.12.2013		
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.	STO: EKe VYK: HAa YTO: PT YMO: AT TKO: TkI	31.12.2013 (report)		

	Based on this work it should be considered whether STUK needs written arrangements with some of them in addition to those arrangements already agreed.	JOH:HaK	31.12.2014 (agreements)		
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.	YMO: RP TKO: RM STO: MM	30.6.2014		
1.3 (R3)	The Finnish national policy does not fully cover non-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.	TKO: RM STO: MM (high-activity source disposal) STO: MaK TKO: RM (orphan sources)	30.6.2014 31.12.2013		
R4	The government should ensure that STUK has sufficient resources to fulfil the responsibilities placed on it by the government to provide technical services.	JOH: HaK	31.12.2013		
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 JUR: LiS JOH: LR YTO: MlJ YMO: AT STO: RH	1.8.2013 (YeL) According to EU BSS Schedule (SätL)		

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.	JUR: LiS STO: RH	(According to EU BSS schedule)		
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.	JUR: LiS STO: RH YTO: JSo	(According to EU BSS schedule)		
NOTE Action 1.4 in Module 11 (Public...) (R8)					
MODULE 2: Global Safety Regime					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, 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	TYK: JLe YTO: KaK YMO: JHe STO: AsH TKO: TkI	31.12.2013		
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	31.12.2013		
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: JLe YTO: KaK YMO: AT STO: AsH	31.12.2013		
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	YTO: PT YMO: JHe VYK: HAa TKO: TkI	Continuous international process		

	findings of these programmes.				
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.	JOH: HaK YTO:KaK STO: EO YMO: AT	31.12.2013		
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 YMO: AT STO: EO	31.12.2013		
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.	YTO: KiA YMO: JHe	31.12.2014		
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		
5.3 (S4)	Management and follow-up of requirements set by STUK in different licensing phases of nuclear facilities should be	YTO: KiA YMO: JHe	31.12.2014		

	further developed.				
3.6	Demonstration of safety for the authorization of 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		
NOTE: Action 3.2 in Module 7 (S12), Action 3.8 in Module 7 (R6), Action 3.9 in Module 2 (S2) Action 3.1 deleted (same as action 1.4 in Module 11 (Public...)), Action 3.3 deleted, Action 3.7 deleted and combined with action 6.1					
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.	YTO: KaK YMO: JMo STO: EO TKO: PV JOH: AiK	31.12.2013		
4.2 S5)	The safety culture within the organization should be developed and improved further by considering it in annual planning, internal audits, self-assessments and management reviews.	YTO: KaK YMO: JMo STO: EO TKO: PV JOH: AiK	31.12.2013		
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	JOH: AiK Laaturyhmä	31.8.2013		

	evaluations of the effectiveness of the processes. The programme should be monitored, recorded and reflect STUK's strategic plan.				
4.2 (S7)	Appropriate frequency of audits of the regulatory processes and activities should be determined and complied with.	JOH: AiK Laaturyhmä	31.8.2013		
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.	JOH: AiK Laaturyhmä	31.12.2014		
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: AiK Laaturyhmä	31.12.2014		
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: AT	31.12.2013		
4.4	Procedures should be established for implementing major organizational changes at STUK.	JOH: HaK YTO: KaK YMO: AT STO: EKe	31.12.2013		

		TKO: TkI			
4.6	Guidance should be developed on how to analyze operating experience and results of research in the preparation of regulatory guides.	YTO: MlJ YMO: AT STO: RH	31.12.2013		
NOTE. Action 4.5 deleted and combined with action 9.4 in Module 2 (S2)					
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.	YTO: KV, MV, TV YMO: JHe	31.12.2013		
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.	STO: EO YTO: JSo	30.6.2013		
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.	JUR: Max YMO: RP	(in connection with total revision of the Nuclear Energy Act)		
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.	JUR: Max YMO: RP	(in connection with total revision of the Nuclear Energy Act)		
9.2 (R5)	Regulations for the licensing of the decommissioning of nuclear facilities should be considered. (YEL, YEA, or Government Decree)	JUR: Max YMO: RP	(in connection with total		

	Same action as in Module 5, Action 5.1 and related to Module 11, Action11.4.3.		revision of the Nuclear Energy Act)		
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		
5.2	The regulations concerning the EIA process should be further developed in the nuclear legislation. The latest 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.	JUR: LiS YTO: JN (JSa, LPn)	30.6.2013		
NOTE: Action 5.3 in Module 3 (S4)					
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: KV, MV	31.12.2013		

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: MaP	31.12.2013		
S11 (7.2)	STUK should consider conducting more frequent unannounced inspections of the facilities and activities under its regulatory control.	YTO: JKu, TV STO: MaP	30.6.2013		
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: MaP (Use of radiation)	30.6.2013 30.6.2013		
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 YMO: JMo STO: MaP	31.12.2013		
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 YMO: JMo STO: MaP	31.12.2013		
S12 (3.2)	STUK should consider developing a formal qualification programme for inspectors of nuclear facilities as well as nuclear materials and waste.	YTO: KaK, MV YMO: KlH STO: RH	30.12.2013		
3.2 (S12)	Staffing and competence of the regulatory body - discussion has been initiated on the need to have a more	YTO: KAK, MV YMO: KlH	31.12.2013		

	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.	STO: RH			
S13	STUK should consider the development and implementation of a more systematic method to collect indications of and assess the licensee's safety culture.	YTO: KiA	31.12.2013		
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.	STO: AsH	31.12.2014		
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		
7.1	Procedure for the use on inspection organizations at the nuclear facilities should be developed.	YTO: MV, MlJ	30.6.2013		
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, JKu	31.12.2013		
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	31.12.2013		
7.5	Currently, STUK's resource management do not track working hours related to Periodic Inspection Program.	YTO: JKu, KaK HAL: AKe	31.12.2012		

	This hinders both planning of inspection resources and tracking of used resources. Current plant unit specific working codes for inspections could be divided further 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	31.12.2013		
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.	JUR: MAx YTO: .KiA YMO: AT STO: MM	31.12.2014		
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 YMO: KlH	30.6.2013		
MODULE 9: Regulations and Guides					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, 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.	JOH: LR YTO: MlJ YMO: AT	31.12.2013		

	In addition, STUK should use the experience gained in upgrading nuclear safety regulatory guides in preparing for renewal of radiation safety regulatory guides (ST).	STO: RH	(According to EU BSS schedule)		
9.1 (11.4.2)	Regulation related to uranium mining and milling, including also requirements on radioactive waste should be developed.	JUR: LiS YMO: AT STO: MM TKO: TkI	30.6.2014		
9.3	The comprehensive renewal of ST Guides should be started related to the establishment of the new European BSS.	STO: RH	(According to EU BSS schedule)		
NOTE: Action 9.2 in Module 5 (R5), Action 9.4 in Module 2 (S2)					
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.	VYK: HAa TKO: TkI YTO: TRe	31.12.2014		
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 TKO: TkI	31.12.2014		
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 TKO: TkI YTO: TRe	31.12.2014		
R7	STUK should include the additional class of "facility emergency" in its emergency classification scheme in order to ensure that appropriate on-site emergency	VYK: HAa YTO: JSo	31.12.2013		

	response actions are taken for the protection of the workers and that important information is communicated consistently to relevant parties.				
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.	TYK: JLe VYK: HAa	31.12.2013		
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: JLe VYK: HAa	31.12.2013		
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.	JUR: LiS (Governmental Decree) YTO: MlJ (YVL Guides) STO: RH (ST Guides)	30.6.2013		
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.	TKO: TkI, KaV VYK: HAa	31.12.2014		
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: JLe	31.12.2013		
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)		
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		
NOTE: Action 11.1.2 in Module 7					
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		
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	31.12.2013		
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	STO: ERa, ElH	31.12.2013		

	inform of deficiencies and safety related incidents.				
Module 11: Thematic area – Occupational Radiation Protection					
No. of action	**Action to be done**	**Responsible unit**	**Deadline**	**Date, action done, reference**	**Completed, 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.	YTO: VeR STO: MLe	30.6.2013		
S19	STUK should include information on the doses received by workers occupationally exposed to radon in its annual report on radiation practices.	STO: EVe	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.	STO: MLe TKO: MMu, PKu YTO: VeR	31.12.2014		
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.	JOH: HaK TKO: TkI	1.8.2013 31.12.2013		
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	JOH: HaK	1.8.2013		

	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 connection with the environmental surveillance of radiation in Finland. Similarly, as regards mining and milling activities, the responsibilities for environmental surveillance will be reconsidered.	TKO: TkI	31.12.2013		
11.4.1	Regulations and detailed requirements for NORM waste should be further developed.	YMO: AT, TS (nuclear safety) STO: MM, EVe (radiation safety):	31.12.2014		
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.	TKO: TkI VYK: HAa STO: MM	31.12.2014		
NOTE: Action 11.4.3 in Module 5 (R5) Action 11.4.2 deleted and combined with action 9.1					