

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

<b>Question No</b>	<b>Topic number (1-2-3)</b>	<b>Page number of NAcP</b>	<b>Text of question / comment</b>	<b>STUK's answer</b>
<b>Q01</b>	0		The previously suggested and distributed (by mr Klouk) list of measures and requirements has not been followed. The text of several recommendations is summarized and put together at the beginning of each section. This makes it difficult to identify which ENSREG recommendations are or are not dealt with, and by which actions/measures. Could it be possible to have a clearer cross reference table?	Cross reference table has been developed.
<b>Q02</b>	1	page 5(45) Action 2 page 41(45)	“More detailed requirements will be set on seismic safety, including seismic monitoring and safe shutdown after an earthquake.” The referred Draft Guideline YVL B.7 VARAUTUMINEN SISÄISIIN JA ULKOISIIN UHKIIN YDINLAITOKSESSA is available for comments in Finish only. Question: Will an automatic seismic scram be required?	Automatic seismic scram will not be required by Guide YVL B.7.
<b>Q03</b>	1	page 6(45)	The estimates are reviewed and, if necessary, updated every few years. Please provide explanation of “few”.	Estimates are reviewed at least for periodic safety reviews, and typically for major PRA updates and after exceptional events or new research results. In practice the review interval is 2 to 10 years.

List of Questions to Finland for the National Action Plans Workshop, April 2013

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q04	1	page 6(45) Action 2 page 41(45)	"The updated regulatory guides require more explicitly that earthquakes exceeding the design basis shall be analysed as design extension conditions (DEC C)." The referred Draft Guideline YVL B.7 VARAUTUMINEN SISÄISIIN JA ULKOISIIN UHKIIN YDINLAITOKSESSA is available for comments in Finnish only. Please explain the meaning of "Design Extension Condition C". What specific requirements are valid for DEC C?	Design Extension Condition Class C (DEC C) "rare external event" is defined in draft guide YVL B.1. It includes events with frequency less than 1E-5/year. Single failure criterion is not required in connection with DEC C events, best estimate approach can be used in the safety analyses and the dose limit is 20 mSv instead of 5 mSv used for design basis events. For seismic events seismic margins analysis can be used to show that the requirement is fulfilled.
Q05	1	page 7(45) Action 2 page 41(45)	"The design basis covers earthquakes, flooding, extreme weather and other natural hazards as well as human induced hazards. The design values correspond to return periods of up to 100 000 years and much longer for events with "cliff edge" type consequences." Please explain the meaning of "much longer".	Events are typically analyzed down to the PSA lower screening limit frequency 1E-8/year. An exact lower frequency limit for events to be considered in design DEC C -events is not set forth in regulations. However, 1E-7/year can be considered as an indicative value, but uncertainties and physical margins are also considered.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q06	1	page 7(45) Actions 104 and 105 (page 43(45)) Actions 203 and 204 (page 44(45))	<p>“For other hazards, the reassessment of the margins within the next few years was considered sufficient.”</p> <p>Comment: In Finland extreme meteorological events seem to be more relevant for safety as the earthquakes.</p> <p>Question: What are the values characterizing the extreme meteorological events (wind speed, low and high temperatures, etc.)? Do not these require upgrading measures?</p>	<p>Typical values for extreme meteorological phenomena which would result in increased risk: wind speed 39 m/s (3 s gust, ref. altitude 10 m) would damage external grid, 45 m/s would endanger process buildings of operating units. Seawater temperature above +30 °C would endanger room and component cooling, low temperature below -39 °C could endanger starting of some diesel generators. Upgrading measures have been carried out in the past, no new problem areas were found in the stress tests.</p>
Q07	1	page 7(45)	<p>“In the operating units, there are some SSCs with estimated HCLPF (High Confidence Low Probability of Failure) values less than 0.1 g, but the seismic risk has been estimated to be only a small fraction of the total risk.”</p> <p>Comment: It is rather difficult to design and manufacture an SSC with HCLPF less than 0.1g. As per experience there are a few cases when the HCLPF is less than 0.1g.</p>	<p>The low HCLPF values of some mechanical main components in the operating units are due to the supports or anchorage which have not been designed against horizontal loads as earthquakes were not included in the original design basis.</p>

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q08	1	page 9(45), 2.4 Seismic monitoring Action 2 page 41(45)	"2.4 Seismic monitoring" Comment: Usually the seismic instrumentation has the following functions: alarm function, provide actuating signal if automatic scram is installed, recording for evaluation of post-earthquake condition recording of the free-field acceleration for evaluation of if CAV and response spectra are needed for OBE exceedance Question: Will require the new Guide "monitoring" function? Is the micro-seismic monitoring meant? What functions are required	The draft guide YVL B.7 requires seismic monitoring in a nuclear power plant to provide a warning to operators and to register accelerations for assessment of the plant condition and possibility of restart after the earthquake. Microseismic monitoring network in the vicinity of the site is not explicitly required by the draft guide and decisions are made on a case by case basis taking into consideration IAEA Safety Guides.
Q09	1	page 10(45), 2.6 Qualified walkdowns	Comment: Under "Qualified walkdowns" the walkdowns for seismic housekeeping, i.e., the checking the restoration of seismic fixes, fixing of scaffolding and other ancillaries stored at the plant. Question: Are the conditions regularly checked after maintenance for ensuring the seismic safety?	The general condition of SSC and housekeeping conditions have to be checked after maintenance. A separate check is not required on seismic safety.
Q10	1	7	In the ENSREG peer review country report for Finland, reviewers recommend to consider additional assessment of critical SSC with respect of PGA = 0,1 g. No action has been defined and/or no link to an action listed in section 8 is provided . Is there an action planned to address this issue?	According to the NAcP, Section 2.1 p. 7: "STUK will consider additional assessment of the critical SSCs and the need for safety improvements in connection with the detailed review of the seismic risk analysis." Seismic risks are not priority issues in the Finnish seismic conditions and the topic will be covered in connection with application decisions of the new YVL Guides for operating units and in connection with the seismic PRA review process.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q11	1	8	Regarding flooding margin assessments, Finland propose two actions to improve protection against external flooding and/or exceptional high seawater level. These actions concern the units 1 and 2 of the two sites, Loviisa and Olkiluoto. How is this exceptional seawater level taken into account for Olkiluoto unit 3 under construction?	Please see NAcP Section 2.2 p. 8 and answer 15. Protection of OL3 against exceptionally high seawater level is considered adequate due to sufficient site ground level and buildings designed watertight up to the ground level. In addition, according to AREVA's studies outer doors of safety important buildings are practically water tight up to several meters above ground level although this is not a design basis.
Q12	1	6	Are the SSCs in Olkiluoto 3 seismically qualified to value 0.1 g or higher?	The design basis earthquake PGA for Olkiluoto is 0.1 g . The PGA value given by PSHA calculations in Olkiluoto is 0.085 g with 100 000 year return period and the value 0.1 g is used as the design value according to the IAEA minimum value recommendation.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q13	1	8	Are there any plans to consider whether flood protection of the vital equipment located in lower levels should be improved or whether some other divers means to perform the same functions should be implemented?	For the Loviisa NPP protection against seawater flooding shall be improved. First actions concerning flood protection during shutdown states with open hatches in the seawater system have been implemented in 2012. Design of further measures is ongoing. Both local protections, levees and their combinations will be considered. For Olkiluoto units 1 and 2 the protection against flooding is considered adequate. The calculated frequency of exceeding the design basis seawater level is less than 1E-9/year. Nevertheless, some additional protection of diesel generators is considered in connection with the renewal of diesels. In addition, a diverse means for residual heat removal in case of total loss of AC is required. Its design basis for flooding has not yet been determined. The flooding protection of Olkiluoto interim storage for spent fuel will be considered in connection with the ongoing expansion of the storage.
Q14	1	9 (Section 2.3)	Why is the possibility for consequential fires due to an earthquake considered very small in Finland? For example, have potential fire spread between non-safety and safety equipment due to possible degradation in separation (considering fire dampers, etc.) been considered in the assessments?	The possibility of consequential fires due to earthquake is considered very small based on the low seismic activity in Finland and on the opinion of international seismic experts who have participated in seismic PSAs.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

<b>Question No</b>	<b>Topic number (1-2-3)</b>	<b>Page number of NAcP</b>	<b>Text of question / comment</b>	<b>STUK's answer</b>
<b>Q15</b>	1	10 (Section 2.6)	Are the existing walkdowns being carried out according to established procedures equivalent to recognised methodologies?	Seismic walk-downs have been carried out in connection with seismic PSAs. The walk-downs have been done according to the procedures of the participating well-known international seismic safety consultants.
<b>Q16</b>	1	7	It is stated that for events with "cliff edge type consequences" a longer return period (than 100000 y) is considered. Could it be clarified how much longer return period has been chosen and what is rationale behind the choice?	Events are typically analyzed down to the PSA lower screening limit frequency 1E-8/year. An exact lower frequency limit for events to be considered in design DEC C -events is not set forth in regulations. However, 1E-7/year can be considered as an indicative value, but uncertainties and physical margins are also considered.
<b>Q17</b>	1	10	Why has STUK not developed guidance for qualified walkdowns (which is what the recommendation asks for)? Are there plans to do so?	Regarding seismic walk-downs, international procedures are considered adequate. For other hazard appropriate line of action will be considered. However, regarding some hazards important in Finland, e.g., low temperature, snow storms, walk-downs are not the most relevant methods for ensuring safety.
<b>Q18</b>	1	7	Although mentioned in the bottom of pg7 of the NAcP document, it is unclear when and if STUK will consider additional assessment of critical SSC with respect to PGA=0.1g.	See above (Q10).
<b>Q19</b>	1	9	Section 2.4: When will the new guide be released with the new Seismic monitoring requirements ?	According to the current plans, the new guide YVL B.7 will be issued in 2013.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

<b>Question No</b>	<b>Topic number (1-2-3)</b>	<b>Page number of NAcP</b>	<b>Text of question / comment</b>	<b>STUK's answer</b>
<b>Q20</b>	1	Not addressed in NAcP - 2.3.2.5 peer review report	No reference is made in the NAcP regarding the statement in the peer review report (2.3.2.5) that a study on the effects of extremely low temperatures on SFS is to be included in the Olkiluoto SFS PSA as part of its extension project. What is the status of addressing this concern?	The PSA for the Olkiluoto interim storage for spent fuel is under preparation. The licensee will provide the SFS PSA with the application for commissioning license of the SFS enlargement during 2013.
<b>Q21</b>	2	-	In the report the topics to be considered are to a certain extent regrouped in comparison with the ENSREG compilation of recommendations and suggestions. Some kind of crossreferencing could be made easier by number referencing of the topics in the ENSREG document.	Cross reference table has been developed.
<b>Q22</b>	2	11	Is Finland (RB and utilities) considering to install bunkered or "hardened" system (for injecting into SGs, Rx, SFP)?	No specific "hardened" systems are to be installed. Some additional provisions are to be included, and it is being checked that the survivability of the systems and equipment is adequate for overall plant protection. The SAM systems have been installed at Finnish plants already years ago.
<b>Q23</b>	2	13 (Section 3.2)	Are any of the alternative connection points for the AC power supply systems qualified for natural hazards?	The strategy for using mobile power sources is under development for all units but the focus is on fixed systems. Currently AC connection points exist in OL1/OL2 for charging severe accident management system batteries. The connections are not formally qualified for natural hazards but they can be considered fairly resistant to hazards relevant at the site.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q24	2	14 (Section 3.3)	It is said that Olkiluoto unit 3 have separate and diversified 2h battery backed power supply system for electrical equipment which require uninterruptible power in the nuclear island and that there is no need for upgrading the battery capacity. Are there appropriate procedures in place to recharge batteries within 2h for Olkiluoto unit 3 in case of an extended SBO?	All 4 x 2h and 2 x 12h batteries are separated. 2h and 12h batteries are diversified. In case that all 4 EDGs are lost, there are 2 SBO diesel generators, diversified from EDGs, which have capability to recharge 2h and 12h batteries. The SBO diesels will be able to start after a prolonged loss of battery recharging capability. If also SBO diesels are lost, there are gas turbine plant at the site which have capability recharge all batteries. In addition, batteries most important consumptions are possibility to supply from neighbour divisions.
Q25	2	14 (Section 3.3)	Are batteries originally qualified for a autonomy time of 10 h at Olkiluoto unit 1 and 2 by supplier?	The original designed discharge time is 0.5h but actual loads have been reduced so that actual discharge times are longer.
Q26	2	11	In a lot of country actions and measures are taken or will be taken to review if the present (bunkered) systems and SAM-systems are suitably qualified and if additional systems (also mobile) are necessary to to improve te situation. An additional question is: is the emergency response organization able to operate from a bunkered and/or secrete location, are the tools they need available (stored in a secure building) and are possibilities for plant parameter monitoring and communication secured under severe circumstaces ?	Emergency response organisations have well protected facilities for prolonged operation. Finnish plants are required to manage the accidents with fixed systems, including monitoring of the plant status. Only for actions needed in long term mobile equipment may be credited.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

<b>Question No</b>	<b>Topic number (1-2-3)</b>	<b>Page number of NAcP</b>	<b>Text of question / comment</b>	<b>STUK's answer</b>
<b>Q27</b>	2	13	At Loviisa NPP no action is deemed necessary to enhance AC power supplies; for Olkiluoto 1+2 an on going pre-Fukushima action is presented. It seems that no actions have started for enhancement of AC power supplies on the basis of the analysis of the Fukushima accident. Why not? The ENSREG recommendation is asking for this.	The referred renewal project of the diesel generators at olkiluoto has been initiated independently of the Fukushima accident, but is rather a long-term maintenance driven project. AC power supply, in general, has been considered adequate at both sites. Therefore the goal for the future is to guarantee cooling function without AC power.
<b>Q28</b>	2	14	The position of the licensee regarding the need of upgrading battery capacity at Olkiluoto 3 is presented. What is the position of STUK?	The battery capacity fulfils the Finnish requirements, and there is no need for upgrading the capacity. The capacities have been evaluated sufficient by STUK.
<b>Q29</b>	2	15 and 22	It is unclear (date) when the licensee will improve EOPs and SAMGs for SFP.	Monitoring instructions exist already. The new procedures will be implemented after installation of new equipment (2014).

List of Questions to Finland for the National Action Plans Workshop, April 2013

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q30	2	13	<p>See country peer review report (p19) "It is noted that Olkiluoto 1 &amp; 2 are vulnerable to SBO, particularly if it occurs at the time of reactor scram. The coping time in that case is very short at 30 to 35 minutes. This is quite a short time for implementation of corrective measure to restore the power supply to the core injection pump. Olkiluoto 1 &amp; 2 core cooling relies upon electrically driven pumps and sea water cooling. In this regard there are plans to improve the existing design, as well as to install independent means to provide for the core cooling function."</p> <p><b><i>Please mention if there are ongoing or planned corrective actions to improve the very short coping time, together with the associated expected date of completion.</i></b></p>	<p>Reliable AC supply has been the approach to ensure core cooling (pre-Fukushima). There are several ways to support AC supply for the pumps needed, and thus the total loss of AC power is extremely unlikely. However, ensuring core cooling even in the situation of total loss of AC power will be improved. The finalisation of these improvements is not yet available, as the renewal of the regulatory guidance is still underway. The final decision with specific requirements is to be given in 2013.</p>
Q31	2	14	<p>DC Power supplies. At the Olkiluoto site, the licensee is investigating the possibilities for fixed connection points for recharging of all safety important batteries using transportable power generators. Does Finland not think that this should be recorded as an action to be scheduled?</p>	<p>See action number 208 in the NAcP of Finland.</p>

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

<b>Question No</b>	<b>Topic number (1-2-3)</b>	<b>Page number of NAcP</b>	<b>Text of question / comment</b>	<b>STUK's answer</b>
<b>Q32</b>	3	22	Statement on NAP "...EOPs and SAM Guidelines are verified and validated. For Olkiluoto unit 3 this work is still continuing....." Could you explain the process of validation of SAM? What methodological assumptions are applied and what tools are available?	Selected severe accident sequences are to be studied that there is enough time to carry out the needed operator actions. The actions themselves are not very complicated and there are not too many of them. Integrated severe accident analyses tools are being used for analysing the situation, and eventually the measure will be checked at the plant after the control systems have been installed.
<b>Q33</b>	3	Mobile devices page 16(45)	Question: What kind of SAM systems powered by mobile generator?	The SAM systems rely on fixed power supply.
<b>Q34</b>	3	Emergency preparedness page 24(45)	Question: What is the planning base of Reserve Emergency Centre?	The regulatory guidance is not finalised yet. The off-site emergency centre could be used in case the site is not accessible due to an external hazard. No plant operation will be made from the off-site centre, but the on-site accident management would be supported.
<b>Q35</b>	3	page 24, section 4.5	Second para says that the Government Decree on Emergency Response Arrangements at Nuclear Power Plants is under renewal. The next paras tells that the licensees are also revising their arrangements. They are apparently parallel activities. How the consistency between the revised emergency arrangements and requirements will then be provided.	The changes to the Government Decree are not very drastic, and the licensees have possibilities to comment on the drafts of the new regulations. Thus they know what kind of changes are expected. Furthermore, STUK has required the licensees for these changes in separate decisions, as well.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

<b>Question No</b>	<b>Topic number (1-2-3)</b>	<b>Page number of NAcP</b>	<b>Text of question / comment</b>	<b>STUK's answer</b>
<b>Q36</b>	3	page 26, 4.6	Large volumes of contaminated water: on what basis you made this statement? This issue might come up in beyond design basis accident also not only in desing cases. Is this statement true for BDBA situations?	The Finnish approach requires the long-term leaktightness of the containment even in severe accident conditions. Thus accumulation of large amount of contaminated water outside the containment is prevented.
<b>Q37</b>	3	24	The strengthening of the power supplies of the authorities network base stations is under investigations. Does Finland not think that this should be recorded as an action to be scheduled?	This question will be handled in the National Nuclear Emergency Forum together with other authorities. This is also mentioned in the chapter 8, table 1 (item number 4).
<b>Q38</b>	3	25	Large volume of contaminated volume. Could Finland precise that there would be no need for treating large amounts of contaminated water in case of a severe accident?	See above (Q36).
<b>Q39</b>	3	19 (review report)	In the peer review report for Finland, the peer reviewers noted that Olkiluoto 1&2 are vulnerable to SBO, particularly at the time of a reactor scram, the coping time being very short. Is there an action planned or proposed to consider this conclusion?	See above (Q30).
<b>Q40</b>	3	20	It is stated that the availability of dedicated SAM systems and components in the severe accident environmental conditions has been verified as part of the qualification process, as required by Regulatory Guides. Could you explain which (international) standards are these requirements based on?	The required conditions are selected according to the analyses on severe accident progression. The qualification generally follows usual qualification process, but there are specific requirements on the conditions that the equipment have to withstand.

**List of Questions to Finland for the National Action Plans Workshop, April 2013**

<b>Question No</b>	<b>Topic number (1-2-3)</b>	<b>Page number of NAcP</b>	<b>Text of question / comment</b>	<b>STUK's answer</b>
<b>Q41</b>	3	18	Regarding the hydrogen concentration monitoring at the Loviisa NPP are there any plans to qualify the measurements for hydrogen burning conditions?	No further plans exist at the moment. The recombiners remove the hydrogen passively, and burns would remove the hydrogen even more rapidly. Global burns are prevented by the hydrogen control system, and thus other monitoring equipment would survive although a local burn would destroy one of the sensors.
<b>Q42</b>	3	23	Are there any plans to update simulators in a way that they could be used for simulation of severe accidents?	See the text on p. 23. For Loviisa NPP the new simulator will include severe accident capability. The new simulator will be taken into use in a few years as part of automation renewal project.
<b>Q43</b>	3	26	Are there any consideration to install emergency control room(s) for Olkiluoto 1 and 2?	There is planning on-going to implement secondary control rooms for Olkiluoto 1 and 2 (pre-Fukushima action).
<b>Q44</b>	3	24	Several different battery back up times are presented for different communication means (8 hours, 24 hours, 12 hours, 2 weeks, up till 3 months). What is the position of STUK on this matter? What is the rationale behind the battery duration time?	The different back up times represents the current performance of the systems and devices. Times are different due to the different power demand and the different age of the design.
<b>Q45</b>	3	25	It is stated that no preparation has started for possible solutions for treatment of large amounts of contaminated water because this is not expected for the NPP. The ENSREG recommendation is requiring this, just on the basis of the Fukushima accident. It is not clear why no actions is undertaken just on the basis of the design features.	See above (Q36). The Fukushima Dai-ichi had not adequate design provisions against external hazards or severe accidents.

List of Questions to Finland for the National Action Plans Workshop, April 2013

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q46	3	15, 22	<p>For spent fuel pools, the approach in Finland is to “practically eliminate” the possibility of fuel damage. At the same time, it is mentioned that at the Loviisa NPP, licensee will improve both EOPs and <b>SAM</b> procedures to support heat removal from spent fuel pools by pool boiling and supplying additional water to the pools.</p> <p>Are any specific SAM strategies envisaged in case of fuel severe damage at SFP? Do you consider supplying SFP with non-borated (pure) water?</p>	<p>In case of severe accident of a reactor, spent fuel pool cooling still need to be ensured. Thus it is important that the actions to support the decay heat removal from the spent fuel pool. This does not mean the fuel in the spent fuel pools would undergo significant damage. Extreme actions may still be needed, such as supporting coolant injection by mobile equipment, and this kind of actions are not necessary part of EOPs.</p>
Q47	3	26	<p>OL1&amp;2 lacks a backup Emergency Control Room (ECR) (where planning is underway to develop such a facility). <i>Is there a clear action linked to it in the implementation table ? Please confirm that a backup ECR will be build in OL1-2 and precise the expected completion schedule.</i></p>	<p>See above (Q43).</p>
Q48	3	18	<p>Compilation of ENSREG recommendations "3.3.1WENRA Reference Levels: Containment overpressure protection - Containment venting via the filters designed for severe accident conditions. " <i>Will a filtered venting be implemented in Lovisa?</i></p>	<p>No. This is explained e.g. in the National Report (p. 89).</p>
Q49	3	18-19	<p>Hydrogen measurement devices: will they be upgraded for SA conditions ? (temperature issues for Lovisa and pressure for OL1&amp;2)</p>	<p>No such plans exist. See above for Loviisa. At the Olkiluoto plant, hydrogen does not cause a threat to the containment integrity due to nitrogen inerting of the containment.</p>

List of Questions to Finland for the National Action Plans Workshop, April 2013

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q50	3	23	Reserve Emergency centres: the decree is due in 2013 but when will the effective construction be completed?	There are already off-site centres of the rescue services that are available for the licensees, as well. The final requirements on the off-site emergency centre to support on-site activities will affect the schedule of possible upgrades of these centres, and thus the finalisation of this work is not yet defined.
Q51	3	25	Is there any conceptual planning foreseen for the management of Large Volumes of Contaminated Water ?	See above (Q36).
Q52	3	34	Will long duration exercises (>24h) be included in the emergency drills?	See action no. 6 in Table 1 of Chapter 8 in NAcP. Change of shift has already been tested during shorter exercises.
Q53	3	Not addressed in NAcP - 4.2.2.3 peer review report	No reference is made in the NAcP regarding the statement in the peer review report (4.2.2.3) that habitability of control centres are not discussed in connection with SFPs for Loviisa 1 and 2. What is the status of addressing this concern?	Ambiguous reference. No fuel damage is expected in SFPs (practical elimination), and thus control room habitability is not threatened.

List of Questions to Finland for the National Action Plans Workshop, April 2013

Question No	Topic number (1-2-3)	Page number of NAcP	Text of question / comment	STUK's answer
Q54	3	N/a	<p>ENSREG Peer review has outlined the important issue: management of large volumes of contaminated water (ENSREG recommendation #42). Current difficulties being exercised with this issue by TEPCO further emphasize on its importance. Action Plans of most countries envisage conceptual preparations of solutions for post-accident contamination and treatment of potentially large volumes of contaminated water.</p> <p>It would be mutually beneficial for all countries to discuss conceptual approaches on contaminated water management, and further establish communication/cooperation on this.</p>	See above (Q36).
Q55	General	Not addressed in NAcPs	<p><b>For all countries: Can you give an estimate on the overall cost-benefit ratio of the measures already implemented and those still planned for the future, i.e. investment effort versus gains in safety? - Alternatively, if no data are available or if data are not to be disclosed, is it possible to give at least a qualitative statement?</b></p>	This kind of information is not available. It is not a task for Finnish Regulatory Body to evaluate the cost benefit of the safety enhancements.