Ministry of Economic Affairs
and Employment

Statement of Liaison Authority

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REPORT OF THE MINISTRY OF ECONOMIC AFFAIRS AND EMPLOYMENT ON THE ENVIRONMENTAL IMPACT ASSESSMENT PROGRAMME OF LOVIISA NUCLEAR POWER PLANT

On 13 August 2020, Fortum Power and Heat Oy submitted to the Ministry of Economic Affairs and Employment an assessment programme (EIA programme) in accordance with the Act on the Environmental Impact Assessment Procedure (252/2017). The assessment programme concerns the continuation of the operation of Loviisa Nuclear Power Plant for a maximum of approximately 20 years after the expiry of the current operating licences, after which the nuclear power plant would be decommissioned. Alternatively, Loviisa Nuclear Power Plant could already be decommissioned after the operating licences already in force have ended.

1 Environmental impact assessment procedure and project information

The aim of the Act on the Environmental Impact Assessment Procedure (EIA) is to promote the environmental impact assessment and the uniform integration of assessments into planning and decision-making, while also increasing access to information and participation for all.

The assessment programme is the plan of the party responsible for the project for the necessary studies and the organisation of an assessment procedure for the assessment of environmental impacts. The assessment programme shall contain information on the project, its options and a description of the current state of the environment. Section 3 of the Government Decree on the EIA procedure (277/2017, EIA Decree) lays down the information contained in the programme and the information presented therein.

In the next phase of the EIA procedure, the party responsible for the project shall prepare a report on the environmental impact assessments on the basis of the assessment programme and the statement of the liaison authority. The liaison authority shall communicate the statement by means of a public notification, inform at least one of the newspapers generally circulating in the area covered by the project, request opinions on the report and reserve the possibility for the expressing of opinions. After reviewing the adequacy and quality of the assessment report, the liaison authority shall prepare a reasoned conclusion on the significant environmental impact of the project and communicate it by means of a public notification. The environmental impact assessment report and reasoned conclusion shall be attached to any projects for authorisation under the Nuclear Energy Act (990/1987).

According to section 10 of the EIA Act, the Ministry of Economic Affairs and Employment acts as the joint authority for projects concerning nuclear facilities referred to in the Nuclear Energy Act.

1.1 Party responsible for project

The party responsible for the project is Fortum Power and Heat Oy (Fortum). Ramboll Finland Oy has acted as a consultant for Fortum Power and Heat Oy in the environmental impact assessment.

1.2 The project and its options

The assessment programme concerns the continued operation and, alternatively, the decommissioning of Loviisa Nuclear Power Plant. The valid operating licences for the Loviisa 1 and Loviisa 2 Nuclear Power Plant units and their buildings and storages necessary for the management of nuclear fuel and nuclear waste will expire in 2027 and 2030. The programme also deals with the use of a low- and medium-level nuclear waste disposal facility (VLJ repository). The valid operating licence for the VLJ repository expires in 2055. The programme examines three different options for further operations.

Under option 1 (VE1), the company would continue to use the Loviisa 1 and 2 Nuclear Power Plant units for a maximum of approximately 20 years after the current operating licences have ended. The use of buildings and storages necessary for the maintenance of nuclear fuel and nuclear waste from the Loviisa 1 and 2 Nuclear Power Plant units would also continue with the necessary extensions. It would also be possible to process, intermediately store and dispose of small amounts of radioactive waste generated elsewhere in Finland at the nuclear power plant.

Under option 0 (VE0), the nuclear power plant would be decommissioned at the end of the existing operating licences. Buildings and storages necessary for the maintenance of nuclear waste from plant units would continue to be used until they become redundant and decommissioned.

Option 0+ (VE0+) is, otherwise, the same as option 0, but it would also be possible to process, intermediately store and dispose of small amounts of radioactive waste generated elsewhere in Finland at the nuclear power plant.

1.3 Project relation to other projects

According to the assessment programme, the project is not directly related to other projects currently underway or planned at Loviisa Nuclear Power Plant.

The spent fuel of Loviisa Nuclear Power Plant is to be transferred to Posiva Oy's spent fuel disposal facility in Olkiluoto. The project will, therefore, have an impact on Posiva Oy's spent fuel disposal facility and the amount of spent nuclear fuel transferred there.

The assessment procedure examines various options that include the possibility of processing, intermediate storing and disposing of small amounts of radioactive waste generated elsewhere in Finland. In other words, the project is also related to projects in other parts of Finland that are typically carried out by industry, health care and research institutes, which result in the development of the aforementioned low- and medium-level waste.

The project is also related to decommissioning projects of VTT Oy's FiR 1 research reactor and the radioactive structural materials research laboratory located in Otakaari 3 (OK3). The assessment procedure takes into account the possible intermediate storage of low- and medium-level demolition waste from decommissioning projects at Loviisa Nuclear Power Plant and the final disposal in the VLJ repository. In addition, the procedure provides for the intermediate storage of spent and unused nuclear fuel from the FiR 1 research reactor at Loviisa Nuclear Power Plant. Intermediate storage would continue until VTT Technical Research Centre of Finland Ltd proceeds in the further preparation of nuclear fuel.

The project may relate to various plans and programmes for the use of natural resources and environmental protection, such as national target programmes and international commitments.

The programme states that, in the future, the project may have an impact on the further use of

existing power lines and on the possible utilisation of thermal energy (waste heat) produced by the plants, but their examination has been excluded from the current assessment procedure.

2 Licence procedures

The operation and decommissioning of a nuclear facility requires a licence in accordance with the Nuclear Energy Act. The licences are issued by the Government. The project may also require other licences granted by the STUK Radiation and Nuclear Safety Authority in accordance with section 21 of the Nuclear Energy Act.

The valid operating licences for the plant units of Loviisa Nuclear Power Plant will expire in 2027 (Loviisa 1) and 2030 (Loviisa 2). The valid operating licences for buildings and warehouses and their extensions for nuclear fuel and nuclear waste needed for the management of nuclear fuel and nuclear waste in plant units will expire in 2030. The valid operating licence of the nuclear power plant waste disposal facility (VLJ repository) expires in 2055.

If the party responsible for the project wishes to continue using nuclear power plant units, new operating licences must be applied for said plant units. Otherwise, a licence must be sought for the decommissioning of the nuclear facility. If the party responsible for the project wishes to use the VLJ repository for a longer period of time than the valid licence allows, this also requires applying for a new operating licence. Due to the longer operating time than the VLJ nuclear power plant units, it is practical to separate the VLJ repository licence into a separate licence decision.

Other possible licences discussed in the assessment programme include permits in accordance with the Land Use and Building Act (132/1999), an environmental permit in accordance with the Environmental Protection Act (527/2014), a water management permit in accordance with the Water Act (587/2011) and permits in accordance with the Chemicals Act (390/2005). The above acts also involve different notification obligations.

The existing local detailed plan for the area makes it possible to implement the options set out in the assessment programme.

2.1 Environmental impact assessment

Fortum Power and Heat Oy submitted the assessment programme to the Ministry of Economic Affairs and Employment on 13 August 2020. The submission of the assessment programme triggered the EIA procedure.

Fortum Power and Heat Oy shall prepare an environmental impact assessment report on the basis of an assessment programme and an opinion issued by the liaison authority. The company has estimated that it will submit the report to the liaison authority in the autumn of 2021.

The project is also subject to an intergovernmental assessment procedure for possible cross-border environmental impacts. In the procedure, the so-called Opportunity for States covered by the Espoo Agreement (67/1997) and their citizens to participate in the environmental impact assessment procedure is reserved. The Ministry of the Environment is responsible for the organisation of the international consultation.

2.2 Operating licences

The use of nuclear power plant units and the buildings and warehouses necessary for their operation and the maintenance of nuclear waste, as well as the use of the VLJ repository, require government-issued operating licences as provided for in section 20 of the Nuclear Energy Act.

The licence to operate a nuclear facility requires due consideration of the safety requirements of the Nuclear Energy Act, the safety of workers and the population, as well as the protection of the environment. The applicant shall have, at their disposal, adequate and appropriate methods for arranging nuclear waste management and, at their disposal, the necessary expertise. The applicant is considered to have the financial and other necessary conditions to carry out operations safely and in accordance with Finland's contractual obligations. In addition, the nuclear facility and its use must meet, among other things, the principle of the overall interest of society.

2.3 Decommissioning licence

After discontinuing the operation of a nuclear facility, the holder of a licence, in accordance with section 20 of the Nuclear Energy Act, is obliged to initiate measures to decommission the nuclear facility. Decommissioning is carried out in accordance with the plan and requirements referred to in section 7g of the Nuclear Energy Act. In addition, the licence holder must apply for a licence for the decommissioning of a nuclear facility. The licence shall be applied for in sufficient time so that the authorities have adequate time to evaluate the application before the end of the operating licence of the nuclear facility. The assessment programme provides two alternative times for decommissioning. In option 1, the decommissioning would take place between 2050 and 2060
In options 0 and 0+, decommissioning would take place already between 2030 and 2040.

The licence for the decommissioning of a nuclear facility requires, among other things, due account to be taken of safety requirements under the Nuclear Energy Act, the safety of workers and the population, as well as environmental protection.

3 Information and consultation on the assessment programme

The Ministry of Economic Affairs and Employment announced the assessment programme in accordance with the EIA Act and Decree in the areas affected by the project and organised a consultation on the matter. As of 27 August 2020, the consultation was announced on the websites of the Ministry and the municipalities of the affected area, as well as in the following newspapers: Helsingin Sanomat, Hufvudstadsbladet, Kymen Sanomat, Loviisan Sanomat, Uusimaa, Itäväylä, Östnyland and Nya Östis. The EIA programme was available to view during 27 August-26 October 2020 on the website of the Ministry of Economic Affairs and Employment.

Together with the responsible party to the project, the Ministry organised a public event in Loviisa on 3 September 2020. Six people attended the public event on site and about 50 people online.

The Ministry of Economic Affairs and Employment requested opinions on the assessment programme from the Ministry of the Environment, Ministry of the Interior, Ministry of Foreign Affairs, Ministry of Defence, Ministry of Agriculture and Forestry, Ministry of Transport and Communications, Ministry of Social Affairs and Health, Ministry of Finance, Radiation and Nuclear Safety Authority, Regional State Administrative Agency of Southern Finland, Uusimaa ELY Centre, Helsinki-Uusimaa Regional Council, Finnish Safety and Chemicals Agency Tukes, Finnish Environment Institute, Eastern-Uusimaa Emergency Services Department, Eastern Uusimaa Police Department, City of Loviisa, Municipality of Myrskylä, Municipality of Pyhtää, City of Porvoo, Municipality of Lapinjärvi, City of Kouvola, AKAVA ry, Confederation of Finnish Industries EK, Finnish Energy ET, Geological Survey of Finland, Greenpeace, Fennovoima Oy, Fingrid Plc, The Central Union of Agricultural Producers and Forest Owners (MTK), Finnish Heritage Agency, Natur och Miljö rf, Posiva Oy, VTT Technical Research Centre of Finland, Teollisuuden Voima Oyj TVO, Finnish Confederation of Finnish Industries STTK, Finnish Association for Nature Conservation, Suomen Yrittäjät ry, Central Organisation

of Finnish Trade Unions SAK ry and WWF.

In addition to those mentioned, other parties and citizens have also had the opportunity to express their views on the project. The opinions and considerations that were expressed concerning the EIA programme are summarised in section 4.

In a request for action sent on 25 August 2020, the Ministry of Economic Affairs and Employment asked the Ministry of the Environment to organise an international consultation in accordance with the Espoo Agreement in connection with the EIA procedure of Loviisa Nuclear Power Plant and to forward the feedback received to the EIA liaison authority (Ministry of Economic Affairs and Employment) for consideration in its opinion on the EIA programme.

On 27 August 2020, the Ministry of the Environment sent a notification of the project to Sweden, Estonia, Latvia, Lithuania, Poland, Germany, Denmark, Norway and Russia. In addition, all other parties to the Espoo Agreement were informed about the project's EIA procedure. Austria and the Netherlands replied that they wished to receive the notification provided to them under the Espoo Agreement.

The alert, the EIA programme and the statements and opinions received during the consultation period can be found on the website of the Ministry of Economic Affairs and Employment at https://tem.fi/en/loviisa-1-and-2-eia-programme.

4 Summary of statements and opinions

A total of 39 statements and opinions of the national consultation were submitted to the ministry. The Finnish Heritage Agency announced that it had forwarded the request for a statement to the regional museum of responsibility of Eastern Uusimaa (Porvoo Museum). The following organisations did not respond to a request for comment: the Ministry of Defence, Ministry of Transport and Communications, Ministry of Social Affairs and Health, Finnish Environment Institute, Municipality of Myrskylä, City of Kouvola, AKAVA ry, Confederation of Finnish Industries, Finnish Energy, The Central Union of Agricultural Producers and Forest Owners (MTK), Suomen Yrittäjät ry, WWF.

In the statements, the assessment programme is considered to be largely comprehensive. However, the parties behind the statements made some individual comments that should be taken into account and assessed in the EIA procedure. Comments were received, especially, on the water impacts of the nuclear power plant and accident modelling.

The statements also commented on the project options set out in the programme. Several agents behind the statements said they were in favour of continuing the use of the nuclear power plant based on climate objectives and economic factors, among other things. Support for decommissioning was generally justified by the abandonment of nuclear energy or by the fact that the Loviisa plants are already old. On the other hand, modernisations also appeared in the statements.

In international consultation under the Espoo Agreement, Sweden, Estonia, Russia, Norway, Denmark, Lithuania, Germany and Austria have announced that they will participate in the EIA procedure for the project. Latvia and Poland do not consider themselves to be target parties and will not participate in the EIA procedure. However, the countries wish to be informed of the assessment report. A total of 20 statements were received from EU citizens and organisations. The international consultation highlighted the risks of a serious nuclear accident and its consequences.

Bulgaria, Canada, Greece, Romania and Hungary replied to the information sent on the pending employment of the EIA procedure. The countries do not consider themselves to be

target parties and it is, therefore, not necessary to continue the procedure laid down in the Espoo Agreement. Romania and Hungary request to be notified of the assessment report.

The statements and opinions are available on the website of the Ministry of Economic Affairs and Employment.

4.1 Requested statements of authorities

4.1.1 Ministry of Agriculture and Forestry

The Ministry of Agriculture and Forestry states that the effects of climate change should have already been taken into account in the assessment programme. Taking climate change into account is especially relevant if operations in Loviisa are discontinued. The Ministry recalls that the taking into account of the risks of climate change must be continuously developed and promoted in projects that, due to the nature of the operations and the long life of the operations, involve specific climate risks.

The Ministry notes that the programme had only addressed flooding as a risk posed by climate change. However, Loviisa is already a significant flood risk area, which should be taken into account in the programme. In addition, according to the Ministry, the programme should examine the possible adverse effects on fish, fisheries and marine mammals in accordance with the precautionary principle. For example, activities should be avoided in spawning and occurrence areas important for fish stocks.

4.1.2 Geological Survey of Finland (GTK)

The Geological Survey of Finland (GTK) states that under the terms of the environmental permits, a maximum temperature for cooling water returning to the sea has been set, which must not be exceeded. According to GTK, the assessment procedure should examine how an extension of 20 years of use, combined with the warming of seawater caused by climate change, will affect compliance with the permit conditions. This may have an impact on the production of the power plant and on any need to change the cooling water system as referred to in the programme.

The disposal of decommissioning waste requires a significant expansion of the VLJ repository. The extent of excavations resulting from the continued use of plant units is not sufficiently clear in the EIA programme.

GTK points out that the assessment should consider the need to update the Hästholmen rock model, especially from the point of view of water-leading structures. The moderately high need for expansion of the VLJ repository will probably increase the occurrence of water leaks and the amount of water pumped into the sea. In order to reliably estimate the volume and effects of increasing pumping, the design of the expansion (e.g. positioning and possible injection design) must be based on up-to-date structural geological and hydrogeological data.

In GTK's view, it is important to examine how the options presented affect the need to update environmental impact monitoring programmes. GTK highlights, in particular, the change in rock groundwater conditions due to the expansion of the VLJ repository. In addition, by 2060 or 2080, changes in the baseline may result from global warming, changes in precipitation and a shortening winter season. These may require increased monitoring for both the environment and the operation of the independent plant components.

4.1.3 Eastern-Uusimaa Emergency Services Department

The Eastern-Uusimaa Emergency Services Department states that it will draw up an external

emergency plan for the nuclear facility together with the operator. In the case of decommissioning, the Emergency Services Department shall maintain an emergency plan and organise statutory preparedness exercises until the site no longer poses a particular risk under section 48 of the Rescue Act (379/2011).

The Emergency Services Department states that in the project options, the operator must comply with the licence conditions and requirements set by STUK and the Finnish Safety and Chemicals Agency with regard to emergency arrangements. Upon request, the Emergency Services Department issues statements to the responsible authorities in matters in accordance with the steering obligation of the rescue services.

When applying for a decommissioning licence, the licence applicant must submit a plan regarding security and preparedness arrangements to STUK. If necessary, the Emergency Services Department will issue statements on the above plans concerning the implementation of the operating conditions for rescue operations.

4.1.4 Eastern Uusimaa Police Department

The Eastern Uusimaa Police Department says it will mark the project for information and take into account its impact on policing in accordance with their legislation. In its statement, the police department explains its own responsibilities, including regular planning and review of various preparedness and security arrangements and traineeships in cooperation with other security authorities. The police department emphasises the importance of regular and practical cooperation to prevent various threats and incidents between different authorities, operators and power plant personnel.

With regard to threats, the police department highlights e.g. the National Counter-Terrorism Strategy 2018–2021, which addresses the possible attempt by terrorist activities to exploit nuclear weapons or other radioactive substances. In addition, the police department points out that preparing for major accidents requires education, training and advance plans

4.1.5 Porvoo Museum

Porvoo Museum considers that the studies described in the programme are sufficient to assess the impact of the alternatives on the cultural environment and landscape of the area. The museum highlights, among other things, the cultural environment and relic area of the nationally significant Svartholma fortress, as well as the provincially significant western and southern parts of Gäddbergsö and the water area between them.

4.1.6 Radiation and Nuclear Safety Authority

According to STUK, the assessment programme meets the criteria of the EIA safety programme laid down in section 16 of the Nuclear Safety Act. STUK will assess the fulfilment of safety-related requirements in detail in connection with the processing of an application for a licence for use or decommissioning. Anticipating the future licencing process, STUK expects the responsible party to the project to supplement some areas in the assessment report and the studies in accordance with the assessment programme.

According to STUK, the report should address the application of the BAT principle to emission reductions. New solutions and procedures, known or planned, should be addressed, at least under option 1.

STUK states that it is not clear from the assessment programme which substances are included in the study of harmful substances in sediments on the seabed. STUK requires that the amounts of artificial radioactive substances in sediments in a possible dredging area be investigated and

the impact of their possible release on the environment be assessed in connection with dredging work. According to STUK, the effects of changes in flow fields on the transport of radioactive substances from the discharge opening should also be investigated in cooling water modelling that takes into account the new embankment structure and in expert assessments based on it.

Nuclear fuel used in option 1 is generated more than has been taken into account in the licence process and decisions of the Posiva final disposal project. In the assessment report, it would be a good idea to assess whether the spent fuel generated in connection with option 1, i.e. further use, has an impact on the decisions of principle and the construction licence granted to Posiva.

The EIA report should also indicate the estimated amount of activity of waste coming from other parts of Finland to the Loviisa power plant, the composition of the nuclides and the physical/chemical state of radioactive substances.

In addition, STUK points out that section 3.1 refers to the activity limits set by the authority for water emissions. However, the authority, STUK, has not set any limits, but has established the limits proposed by the licence holder in accordance with section 7c of the Nuclear Energy Act.

4.1.7 The Centre for Economic Development, Transport and the Environment of Uusimaa (Uusimaa ELY Centre)

Uusimaa ELY Centre states that the assessment programme appears to be properly prepared and that the descriptions of the current state of the project and the environment are comprehensive. The ELY Centre proposes supplements to the following points, among others.

According to the ELY Centre, the studies carried out to assess the impacts must be described with sufficient accuracy, which was not achieved in the case of impacts on surface waters. The study of harmful substances in sediments, the impact of waterworks on flow conditions and the methods used in the assessment e.g. to assess underwater noise should have been described in more detail. The description of cooling water modelling should also be specified, e.g. with regard to starting assumptions and sensitivity analysis. The effects of the different options on the water quality and ecological status of Lake Lappominjärvi must be assessed.

The ELY Centre points out that the assessment report should present a model of soil, bedrock and groundwater conditions based on the latest studies, as well as an assessment of the leakage water accumulated in rock spaces. The information on the studies used should be specified in the report. Information on nearby wells, including heating wells, should be updated regularly.

The statements highlight the negative impact on fisheries of the continued operation of the power plant and the related water construction. The programme should examine the effects of condensing waters on both alien species and existing species more extensively than is presented.

According to the ELY Centre, it is important to describe the climate impacts of the project in the assessment report as a separate item, the effects of construction and decommissioning, as well as the long-term effects. As regards the climate impact assessment, it should be specified whether the effects of the nuclear fuel production chain and spent fuel disposal are included in the review. It would be a good idea to relate the direct climate impacts of project options, not only to national climate objectives but also to regional objectives. The report should set out the impact of continued use on the structure and emissions of domestic electricity production. The risks posed by climate change to the operation of the nuclear power plant should also be described in the statement.

The ELY Centre requests clarifications on the environmental and water permits required for the project. For example, in the case of the cessation of water intake, the removal of structures for

water intake requires a permit in accordance with the Water Act, which was not mentioned in the programme.
The opinion states that the impact of transportation and the assessment of noise and vibration effects should also be specified. The ELY Centre makes various comments related to, among other things, participation in pandemic arrangements, the affected area and exposed residents, the entry into force of the Uusimaa phase county plan, the utilisation of quarrying from the expansion of the VLJ repository and the sites of contaminated soil. In addition, the assessment report should clarify the manner in which the environmental impact of increasing the intermediate storage capacity for nuclear fuel will be assessed.

4.1.8 Helsinki Uusimaa Regional Council

The Helsinki Uusimaa Regional Council considers that the assessment programme provides sufficient conditions for the preparation of the assessment report. The council notes that the project options presented in the programme are in accordance with the current regional plans and the Eastern Uusimaa phase county plan 2050 approved by the Regional Council on 25 August 2020. The project area also has a waterfront plan and a change and extension of the town plan for the nuclear power plant area in Hästholmen. The regional plan is not valid in the area of a general or town plan with legal effect, but it is a guide when drawing them up and changing them.

4.1.9 Municipality of Lapinjärvi

The Municipality of Lapinjärvi considers that it is important to take sufficient account of safety and preparedness aspects for the entire area of impact of the project, regardless of the municipal limits.

4.1.10 The City of Loviisa

The City of Loviisa’s City Board is in favour of continuing the use of the nuclear power plant, as it does not see any problems with the safety or production capability of the nuclear power plant. The City considers nuclear power to be an invaluable way of producing carbon dioxide free and domestic electricity for growing needs.

The City notes that the infrastructure requires, and has required, significant investments, e.g. to ensure the safety of the electricity transmission. If the use is discontinued and a new nuclear power plant is built elsewhere, such investments will have been wasted. The City refers to the significant local economic impacts of the plant, such as local employment.

According to the City of Loviisa, Hästholmen is well suited for nuclear power plant operations, and the City has no plans or needs to change the planning of the area in such a way as to call the operation into question or become more difficult.

The City of Loviisa's Building and Environment Board considers it important to investigate and evaluate all activities that could reduce the thermal load at sea in the context of continued operations (VE1). Cooling water has a local impact on the surrounding area, such as the eutrophication of shallow sea bays. The programme has pointed out that water construction work may make it possible to reduce the temperature of cooling water discharged into the sea.

The board considers it important to examine the impact of the current water supply and the water level rationing it includes on Lake Lappominjärvi and its surroundings, as well as in Lappomviken. The domestic water is currently processed from raw water pumped from Lake Lappominjärvi. According to the programme, alternative ways of using water (process, fire, washing, rinsing and domestic water) will be considered.

4.1.11 City of Porvoo

The City of Porvoo considers the assessment programme to have been broadly and comprehensively developed and that the key impacts have been identified. In some places, however, the programme was difficult to understand, which should be taken into account during the reporting phase.

According to the City of Porvoo, the programme does not indicate whether the continued use is projected to increase the thermal load on the seawater and how the effects of any increase in the thermal load are to be assessed. The City of Porvoo also points out that the water impact assessment should take into account the combined effects of various load factors, such as the thermal load, water turbidity due to marine construction and nitrogen emissions from the treatment of evaporation concentrations.

The City of Porvoo proposes that the energy market and security of the supply section of the programme should present the plant's share of Finland's electricity production in a more transparent manner, including a long-term assessment of the electricity production and the share of Loviisa Nuclear Power Plant. In this case, it would be easier to compare the continuation of licences with substitute alternatives. In addition, the method of calculating CO2 emissions should be clarified, at the latest, during the report phase.

4.1.12 Municipality of Pyhtää (Environmental Services of the City of Kotka)

The Municipality of Pyhtää states that the assessment programme is comprehensive and that it has identified the most significant environmental impacts of the project. However, Pyhtää would like to emphasise Pyhtää and the proximity of key settlements (about 20 km from Loviisa). It is therefore important to identify sensitive sites and examine the main impacts to an adequate regional extent. The presenting of sensitive locations, their distances and impacts by using maps and rings would illustrate the situation and hence also preparedness measures.

4.1.13 Ministry of the Interior, Ministry of Foreign Affairs, Ministry of Finance, Ministry of the Environment, Regional State Administrative Agency for Southern Finland, Finnish Safety and Chemicals Agency Tukes

The above authorities had no statements on the project.

4.2 Other statements requested

4.2.1 Greenpeace

Greenpeace stresses the importance of complying with the Espoo and Aarhus agreements and the Environmental Impact Assessment Directive. The organisation notes that the overall economic impact should also be taken into account when examining the various options.

According to the organisation, the assessment procedure should also include a scenario in which the power plant would be shut down early due to a fault in the power plant. Finland's carbon neutrality target by 2035 and the EU's emission reduction target for 2030 should also be included in the review, and the achievement of the targets should be ensured even if the power plants are closed ahead of schedule or the use is not continued after the current licence period.

The organisation proposes that an assessment of the operating reliability of the power plant should be presented in the procedure until the end of any extension to be applied for. The assessment should examine, among other things, the ageing of the reactors and changes in natural conditions and the electricity market. Greenpeace considers the modelling of a serious nuclear accident and the subsequent contingency plan to be a key element of the assessment process.

Further information on the background to the statement was set out in the appendix accompanying the statement.

4.2.2 Fennovoima Oyj

Fennovoima Oyj declares its support for the continuation of the operation of Loviisa Nuclear Power Plant and trusts the authority's ability to assess the safety of the operation of the plant. The company justifies its position by, among other things, reducing greenhouse gases, the security of supply and cost-effectiveness. In addition, the statement mentions the excellent operating history of Loviisa Nuclear Power Plant in terms of safety, usability and reliability.

4.2.3 Natur och Miljö rf

Natur och Miljö rf considers the assessment programme to be, generally, carefully prepared. According to the organisation, the focus of the EIA procedure should be on the safe extension of the life of nuclear power plants, although a review of decommissioning is also essential. For the management of radioactive waste generated in Finland, it is important that option 0+ is also included in the assessment and Finland assumes responsibility for the disposal of these wastes.

Natur och Miljö states that a risk analysis of a nuclear accident is the most important part of the EIA procedure and suggests looking at several different accident scenarios. The organisation also suggests that the citizens' survey mentioned in the programme should cover at least the entire population of southern Finland, as a possible nuclear accident would affect a wider area than just the 20 kilometres proposed in the programme.

According to the organisation, the environmental impacts of fuel management should also be taken into account in the assessment procedure. Section 6.15 (exploitation of natural resources) of the programme should be supplemented by the environmental impact of the production of fuel rods in order to include the effects in the comparison of project options.

If the increase in the capacity of the intermediate storage facility for spent fuel is achieved by placing the fuel more frequently than before, this option shall be presented at the stage of the report with sufficient accuracy to assess the safety. It would also be a good idea to set out in the assessment programme how the thermal load from cooling water will affect the aquatic nature of the area during possible further use. Dredging - presented in the programme - also has side effects that, according to the organisation, can be reduced by choosing the right dredging time.

Natur och Miljö also declares their willingness to participate in stakeholder meetings organised in connection with the project.

4.2.4 Posiva Oy

Posiva Oy states that the various options in the assessment programme have sufficiently prepared for the final disposal of spent nuclear fuel. Posiva Oy has decisions in principle and a construction licence for the final disposal of spent nuclear fuel for a quantity corresponding to 6,500 tonnes of uranium (tU). According to the current service life, the amount of fuel to be finally sourced from the Olkiluoto and Loviisa Nuclear Power Plants is approximately 5,500 tU. If a decision is made to extend the use of the Loviisa 1 and 2 plant units by 20 years, the total amount of spent nuclear fuel would be approximately 6,000 tU. Posiva Oy sees no obstacle to the possible continuation of the use of Loviisa power plant units, as the implementation and safety of their disposal will not be compromised.

4.2.5 STTK ry

STTK ry considers the environmental impact assessment programme to be sufficient. The modifications proposed in the programme are moderately small and do not have a significant impact on the environment of the area. STTK ry welcomes the further use of the power plant based on Finland's high level of nuclear safety and emission reduction targets.

4.2.6 The Central Organisation of Finnish Trade Unions (SAK)

The Central Organisation of Finnish Trade Unions (SAK) says that it strongly supports the continuation of the operation of Loviisa Nuclear Power Plant for 10–20 years, provided that it is safe according to STUK's estimates. SAK justifies its position on the greenhouse gas emissions of nuclear power, the increase in electricity consumption and energy security. In the opinion of the organisation, domestic and affordable electricity supports the competitiveness of Finnish industry.

4.2.7 Finnish Association for Nature Conservation

The Finnish Association for Nature Conservation (FANC) states that the assessment programme has not addressed the impacts of climate change on the operation of the power plant during the planned extension period. Possible impacts include an accelerated sea level rise, increased flooding, rising sea temperatures and mass deposits of new species, as well as increasing sediment runoff due to increasing rainfall, for example. The programme should assess the interactions between climate change and the impacts of the power plant on the water and its organisms (e.g. the presence of invasive alien species).

SLL considers that the environmental impact assessment should be based on the anticipated conditions close to the end of the planned extension period. The programme should assess changes in circumstances and the resulting effects and risks over a period of 20-50 years by using the precautionary principle.

4.2.8 VTT Technical Research Centre of Finland

According to VTT Technical Research Centre of Finland (VTT), the assessment programme is sufficient from the point of view of the EIA Act. VTT considers it a good thing to investigate the continued operation of Loviisa Nuclear Power Plant in terms of national and international climate objectives.

VTT says in its statement that Fortum's EIA programme includes an environmental impact assessment of radioactive waste from VTT, and VTT considers that the waste has been duly taken into account in the programme. VTT states that in March 2020 they signed an agreement with Fortum to dismantle the FiR 1 research reactor, as well as a research reactor and a decommissioned research laboratory (Otakaari 3) for radioactive waste management services. VTT's radioactive waste is generated by these demolition works. Fortum's EMI programme has also referred to the environmental impact assessment of the decommissioning of the FiR 1 research reactor previously carried out in 2013-2015.

VTT understands that radioactive waste generated elsewhere in Finland (up to 2,000 m3), which may be disposed of at Loviisa Nuclear Power Plant, also includes other radioactive waste that requires disposal from VTT, i.e. at least waste from the operation of VTT Centre for Nuclear Safety. The amount of these radioactive wastes has yet to be specified and has not been the subject of contractual negotiations. VTT considers that the maximum amount proposed by Fortum is sufficient preparedness.

VTT also considers it excellent that the VLJ repository should also be prepared to dispose of radioactive waste from other parts of Finland. According to VTT, this is very positive from the point of view of the national waste management of radioactive waste.

4.2.9 Fingrid Oyj, Teollisuuden Voima Oyj

Fingrid Oyj and Teollisuuden Voima Oyj have not provided statements on the project.

4.3 Statements of the international consultation

4.3.1 Austria

Austria's Ministry of Climate, Environment, Energy, Mobility, Innovation and Technology has announced Austria's participation in the environmental impact assessment procedure. According to the Ministry, the possibility of significant environmental impacts on Austria cannot be excluded in the event of a serious accident in the first place. It is hoped that Finland will later send Austria an assessment report, as well as information on public consultations and participation in the procedure.

The statement was accompanied by a statement commissioned by experts from the Austrian Environment Agency. The statement adopts a position on the content of the environmental report in several sectors. It states that the assessment of project options should take into account scenarios for future electricity needs, energy efficiency, energy saving and other alternatives to electricity generation.

The EIA report should include timetables and options for nuclear waste management arrangements in the event that the capacity necessary to dispose of low- and medium-level waste and spent fuel generated during continued use is not available. The report should also comment on the functionality of the KBS-3 method with regard to copper corrosion.

The statement addresses the aspects of the long-term use and ageing of the VVER 440 reactor type and highlights the studies carried out by several different parties in this regard. According to the statement, the EIA report shall include a comprehensive description of the current level of science and technology, as well as explanations of all cases in which derogations are made. The report should also include all measures to improve service life and prevent a serious reactor accident. The fragility of the pressure medium should also be treated.

The analysis of an accident situation should be updated to the updated probability-based risk analysis, as the source term presented in the programme is too low in this respect. The source term is also considered to be too low for the analysis of the potential impact on Austria. The EIA statement should explain how the safety issues related to the retention of molten core pressure have been resolved. The opinion states that situations related to earthquakes, floods and extreme weather phenomena (including safety margins, extreme consequences and planned measures to prevent these) should be presented in the EIA report. In addition, the review of accident situations should consider a situation in which a nuclear facility is attacked by a third party.

In its opinion, the Anti Atom Beauftragter des Landes Oberösterreich (state office) puts forward 12 arguments to which it proposes to waive the user life extensions of Loviisa Nuclear Power Plant units. In several of these parts, it notes that the information provided is incomplete and better and more complete information is necessary during the EIA report phase. The number one argument is that extending the use of the nuclear power plant raises the risks of nuclear energy in Europe, as the majority of European nuclear power plants are technically obsolete in terms of nuclear safety. An example of ageing phenomena has been the radiation framing of the reactor pressure container at VVER power plants, which also applies to the pressure containers of Loviisa Nuclear Power Plant. The statement states that the recovery heating of Loviisa 1 occurred in 1996 and that further processing by the PMI requires further information on the management of the life of the reactor pressure containers at the nuclear power plant. More concrete and complete information on decommissioning measures is also required for the

decommissioning of the entire plant during the report phase.

4.3.2 Latvia

The Latvian Environmental Authority declares that, though Latvia will not participate in the environmental impact assessment procedure, it hopes to be informed of the results of the assessment procedure.

4.3.3 Lithuania

The Lithuanian Ministry of Environment has announced Lithuania's intention to participate in the environmental impact assessment procedure. The Ministry points out that the procedure should focus, in particular, on the implementation and promotion of the management of the ageing nuclear power plant, and the related safety aspects should be dealt with in accordance with the Espoo Agreement.

4.3.4 Norway

The Norwegian Environmental Authority has no objections to the environmental impact assessment programme, but says that it wants to participate in the later stage of the procedure.

4.3.5 Poland

The Polish Environmental Authority declares that it does not intend to participate in the environmental impact assessment, but hopes to be informed of the results of the procedure and, in particular, accident modelling. The Environmental Authority says that it has taken into account protected species and habitats in the Gulf of Finland, as well as Natura 2000 sites, and has assessed radiation exposure in the event of a disturbance.

4.3.6 Sweden

The Swedish Environmental Protection Agency (Naturvårdsverket) has announced Sweden's will to participate in the environmental impact assessment procedure. The agency sought opinions on the assessment programme from authorities, organisations and citizens. Summaries of statements issued by organisations and citizens can be found in section 4.4. Other statements and opinions.

According to the Swedish Radiation and Nuclear Safety Authority (Strålsäkerhetsmyndigheten), a serious accident at the nuclear power plant is highly unlikely, but would affect the radioactivity of Swedish soil, for example. It is therefore important for Sweden to be involved in the assessment process. According to STUK, the assessment programme is well planned. According to their statement, however, the programme could emphasise the increase in the intermediate storage of spent fuel, as it increases the possibility of the release of long-life nuclides (Cs-137). The best available technology should be used to minimise emissions when extending the service life of a power plant. Moreover, according to the statement, the programme could make it clearer that the expert opinions used in the procedure are also based on various studies and measurements.

The Swedish Board of Agriculture (Jordbruksverket) states that the procedure should examine the effects of radioactive substances released in the event of an accident on Swedish agriculture, animal husbandry, fisheries, reindeer husbandry, farming, rural areas and forest management.

The Swedish Agency for Marine and Water Management (Havs och Vattenmyndigheten) states that the assessment of cross-border environmental impacts highlights accident situations that may have consequences for species and habitats in the Baltic Sea. The statement also states the effects of normal operations on water bodies in relation to the extraction and restoration of cooling water. However, the authority does not consider it necessary to participate in the

assessment procedure.

The Swedish Sámi Parliament (Sametinget) highlights the effects of a possible accident on reindeer herding. In the event of an accident, radioactive discharges may accumulate in reindeer which will have to be culled due to excessively high levels of harmful substances, which will then, as a result, cause economic damage. This is what happened as a result of the Chernobyl Nuclear Power Plant accident. The programme should examine the impact of an accident on the reindeer herding area, measures to mitigate any damage and who will be responsible for damages.

The following parties replied to the request for statements, but had no objections to the assessment programme: Totalförsvarets forskningsintitut, Sveriges meteorologiska och hydrologiska institut (SMHI), Myndigheten för samhällsskydd och beredskap, Länsstyrelsen i Uppsala, Länsstyrelsen i Stockholm.

4.3.7 Germany

Germany's statement is given primarily by the state of Mecklenburg-West Pomerania. The state of Mecklenburg-West Pomerania states that it is in favour of decommissioning the power plant on the basis of nuclear accidents. According to the state, the impact assessment of the continuation of the operation of the power plant (VE1) should take into account the fragility of the pressure containers.

A statement was also issued by the state of Rheinland-Pfalz, which states in its opinion that EU countries have the right to choose their own energy sources. Finland has chosen the path towards further construction of nuclear energy. The state prefers energy saving and the use of renewable energy resources. Rhineland-Pfalz adopts a negative view of Loviisa's further use, which means that it sees decommissioning as the best option in the EIA. It emphasises that, due to high-risk technology, an accident in Loviisa could affect a state 1,800 kilometres away within a matter of hours.

4.3.8 Denmark

The Danish Emergency Management Agency has declared its wish to participate in the environmental impact assessment procedure. According to the Emergency Management Agency, a more realistic source term should be used when calculating the health and environmental impact of a major accident as set out in the assessment programme, whilst a mixture of different isotopes should be considered. According to the Agency, the values now used (100 TBq Cs-137-nuklids) are an acceptable way to reduce the computational burden. However, they do not correspond to the real effects of an accident, as different isotopes, for example, affect different tissue types. In addition, the agency expects the responsible party to the project to supplement the chapter on the prevention and mitigation of harmful effects, including with regard to the release of radioactive substances.

4.3.9 Russia

The Ministry of Natural Resources and the Environment of the Russian Federation declares Russia's interest in international consultations on the EIA procedure concerning Loviisa Nuclear Power Plant, even though it is not a party to the Espoo Agreement.

4.3.10 Estonia

The Estonian Ministry of Environment has announced Estonia's participation in the environmental impact assessment procedure. The Ministry of Environment states that it has organised a public consultation on the matter, but there were no comments on the assessment programme.

The statement of the Ministry of Environment was accompanied by the statement of the Environmental Board. The statement concludes that the options set out in the programme do not entail any greater environmental impact or risk than at present. The Environmental Board supports the continued operation of the power plant and states that it is a more useful solution for both Finland and Estonia. The statement deals with well-functioning cooperation with STUK and states the assessment of exceptional and accident situations in accordance with the programme.

4.4 Other statements and opinions

4.4.1 Common Earth, Friends of the Earth Austria, Friends of the Earth Bulgaria, Friends of the Earth (FoE) Finland, South Bohemian Mothers, Verein Lebensraum Waldviertel, Wiener Plattform Atomkraftfrei

The abovementioned organisations submitted the same opinion to the Ministry. According to their statements, the environmental report should present an option based on renewable energy and a long-term forecast of Finland's energy needs. According to the organisations, the report needs to specify the risk assessments of serious nuclear accidents, use a larger source term and look at the wider scope. The statements refer to the flexRISK research project. The organisations point out that the report should also address the impact of the risks posed by the ageing of the facility, such as terrorism and climate change. In addition, the associations state that the assessment programme should take a position on the method of disposal of nuclear fuel used for copper corrosion research.

4.4.2 Folkkampanjen mot Kärnkraft & Kärnvapen

The Swedish organisation Folkkampanjen mot Kärnkraft & Kärnvapen supports the decommissioning of the power plant without the possibility of receiving waste from other parts of Finland (VE0). The organisation justifies its position on the safety risks arising from the ageing of the nuclear power plant, the proliferation and affordability of renewable energy sources and the need to protect the Baltic Sea from pollution and radioactive discharges.

4.4.3 Loviisan Seudun Vihreät ry

Loviisan Seudun Vihreät ry suggests that the assessment report should include a table comparing CO2 emissions from different forms of electricity generation sources, taking into account the entire life cycle, including fuel management. The procedure should also consider the option of extending the operating licences of Loviisa Nuclear Power Plant, but not the importing of radioactive waste from other parts of Finland into the plant area. The procedure should assess the impact of the continuation of use on the ecosystem of the Loviisa sea area, such as fisheries, plankton and demersal animals.

4.4.4 Miljöorganisationernas kärnavfallsgranskning

According to the Miljöorganisationernas kärnavfallsgranskning (MKG) organisation, extending the use of the nuclear power plant means a significant risk for Sweden, as the risks of an accident will increase as the plant ages. MKG refers to the flexRISK study, which suggests that the source term and scope used in the accident modelling are too small. The organisation states that the service life of the plant should not be extended if there is no guarantee that the nuclear waste processing will be sustained. MKG refers to the KBS-3 method and copper corrosion research.

4.4.5 Miljövänner för kärnkraft

Miljövänner för kärnkraft considers the assessment programme to be comprehensive and relies on the safety culture of the Finnish nuclear industry. The organisation says that it expects the operating licences of the plants to be extended, citing, among other things, greenhouse gas free use. The opinion highlights the global experience that the lifespans of pressure and light water reactors are longer than initial estimates. The statement states that, according to the organisation, Sweden does not need to participate in the assessment.

4.4.6 Naiset Atomivoimaa Vastaan and Naiset Rauhan Puolesta

According to the Naiset Atomivoimaa Vastaan and Naiset Rauhan Puolesta (Women against Atomic Power and Women for Peace movements), the operating licences for Loviisa Nuclear Power Plant should not be extended. The movements justify their position on the risks posed by the plant's ageing and climate change, among other things. The movements also call into question the safety of the disposal methods.

According to their statement, the assessment programme should present a risk report comparing the measures taken and plans to extend the service life with the safety requirements for new reactors. The movements stress that the risk of a nuclear accident should be dealt with in a transparent manner, and the assessment should also include an examination of the most serious accident possible.

The movements would like to know how the programme takes into account the principle of the best available technology in the EU and on which energy consumption forecasts the need to extend the life of the power plant will be established. The statement also highlights the potential impacts of climate change on activities and the impact on the environmental impacts of fuel production.

4.4.7 Ecomodernist Society of Finland (ESF)

The Ecomodernist Society of Finland advocates for the continuation of the operation of Loviisa Nuclear Power Plant for 10 or 20 years, provided that the operation is safe. According to the organisation, Loviisa Nuclear Power Plant will play an important role both in Finland's energy supply and in reducing greenhouse gas emissions between 2030 and 2050. As additional reasons, the organisation highlights the growing emission-free electricity demand of industry, the electrification of transport and the elimination of other stable and flexible production capacity.

4.4.8 Technology Industries of Finland

According to Technology Industries of Finland, the assessment has been properly prepared and meets the requirements of the act. The organisation declares itself in favour of continuing the operation of the power plant, as Finland will need more carbon dioxide neutral electricity over the next few decades. The organisation states that the operating factors of the Loviisa plant units are high, and the units are in a state of new condition as a result of modernisation work and the renewal of automation systems.

4.4.9 Vesiluonnon puolesta ry

The Vesiluonnon puolesta ry association takes a stand in favour of investigating the environmental impact of radioactive substances and environmental toxins. The procedure should assess the impact of the transportation and production of nuclear fuel with sufficient precision, and the organisation also considers it important, among other things, to protect the life of the region, e.g. in relation to the extraction of cooling water.

4.4.10 Opinions of private individuals

Opinion 1 supports the extension of the operating licences for Loviisa Nuclear Power Plant, as

this would contribute to achieving Finland's climate objectives in a cost-effective manner.

Opinion 2 deals with the eutrophication of Lappomviken and Lappomträsket, the fall in water levels and the disappearance of the bird population in the area. According to an individual, Fortum has failed to comply with the obligations under the water permit regarding the Lappomträsket landing stream to Lappomviken and Sundet's outfall. They suggest taking the power plant's domestic water from Valko, Loviisa, and stress the need to improve Lappomviken's condition as soon as possible.

Opinion 3 was signed by two citizens. The statement takes a position on the water observation programme under the responsibility of the ELY Centre, which, in the opinion of the statement-givers, is too limited. The statement states that the condensate of the power plant will also affect the wider areas of Hästholmsfjärden and Kristianslandet. The statement refers to a decision of the Supreme Administrative Court (508/2017) ordering Fortum to pay compensation for the difficulty of recreational use to owners of beach properties in the area.

In an international consultation under the Espoo Agreement, 11 German and Belgian citizens signed a statement with identical content (Opinions 1 to 9). The statement referred to nuclear accidents that have occurred and noted that the risks would increase as the nuclear power plant ages. According to the statement, nuclear waste cannot be stored safely for millions of years. Nuclear power is not climate-friendly, taking into account the entire lifecycle of production. The statement advocates investing in renewable energy sources.

Statement 10 states that Loviisa Nuclear Power Plant should be shut down as soon as possible. The VLJ repository and other storage facilities belonging to the plant complex should be moved off the coast. The statement also questions the safety of the final disposal of spent fuel.

Statement 11 opposes extending the life of the nuclear power plant. The writer refers to the increasing risks of an ageing nuclear power plant, the flexRISK study and uncertainties related to the method of disposal of spent fuel.

4.5 Remarks made at a public event

The Ministry of Economic Affairs and Employment organised a public event on the assessment programme in Loviisa on 3 September 2020. Fortum was responsible for the practical arrangements for the event. Six people attended the public event on site, and about 50 people followed the event online. The event discussed, among other things, possible investment needs, the reception of radioactive waste generated elsewhere in Finland and the fate of the plant building after decommissioning. In addition, the public were concerned about the impact of various further options on the value of nearby properties.

5 Statement of liaison authority

The statement of the Ministry of Economic Affairs and Employment is based on the requirements of the EIA Act and Decree (Law on the environmental impact assessment procedure section 16, section 18, section 3 Government Decree on the environmental impact assessment procedure) and on the statements and opinions obtained from the assessment programme.

The Law on the environmental impact assessment procedure section programme drawn up by Fortum Power and Heat Oy covers content requirements in accordance with section 3 of the Law on the environmental impact assessment procedure section. In the adopted statement, the assessment programme is considered to be largely comprehensive. The Ministry considers that the scope and accuracy of the assessment programme is a sufficient plan to assess the environmental impact of the project, provided that the issues set out in this statement are taken

into account as the project progresses and at the later stages of the EIA procedure. In addition, other questions, comments and considerations have been raised in the statements and opinions to which the responsible party to the project should pay attention.

The responsible party to the project shall examine the impacts of the project and its options on the basis of the assessment programme and the statement of the liaison authority. In accordance with Article 4(15) of the EIA regulation, the assessment report shall provide an explanation of how the liaison authority's statement on the assessment programme has been taken into account.

5.1 Project description and options

In accordance with Article 3 of the EIA regulation, the assessment programme provides descriptions of the project, its purpose, the planning phase, location, size, land use needs and the project's connection to other projects. The programme shall contain information on the party responsible for the project, an assessment of the timetable for the design and implementation of the project and the plans and licences required for the implementation.

According to the EIA regulation, the assessment programme must present reasonable options to the project, which are worthy of the project and its specific characteristics. One option must be to not to carry out the project. The definition and review of options are key elements of the EIA procedure, as the aim is to provide information on the impact of alternative solutions to the project and to reduce the adverse environmental impact of the project.

5.1.1 Continuation of use

In project option 1, the power plant use would be extended for a maximum of approximately 20 years. The assessment programme states that the operation would be similar to the activities carried out so far, and there are no plans to increase the thermal power, for example.

However, further use may require some modernisation and construction work. The intermediate storage of spent fuel would either be expanded or its capacity increased. In connection with the cooling water supply structures, water construction work aimed at reducing the temperature of cooling water would possibly be carried out. Some old buildings, such as a reception facility and a sewage plant, may be replaced by new buildings, in addition to which changes may be made to the power plant's operating and wastewater connections.

Option 1 would also provide for decommissioning, including the extension and operation of the VLJ repository until approximately 2090 before closure, as well as preparatory work and use of the installations to be independent, and finally decommissioned.

5.1.2 Zero options

The assessment programme includes two zero options (VE0, VE0+), both of which would decommission Loviisa Nuclear Power Plant after the current operating licences have ended. The options are otherwise the same, but option 0+ would also make it possible to process, intermediately store and dispose of small amounts of radioactive waste generated elsewhere in Finland.

In the EIA programme, decommissioning refers to the dismantling of radioactive systems and equipment of the power plant and the disposal of waste resulting from the dismantling. During its operation, preparations for decommissioning will be made, e.g. by expanding the VLJ repository so that radioactive waste from decommissioning can be disposed of there. In addition, in connection with decommissioning, certain waste management activities and facilities must be independent, among other things. According to the assessment programme, the decommissioning phase of the power plant units would be set between 2030 and 2040. The

VLJ repository would continue to be used until about 2065.

A decommissioning licence must be applied for the decommissioning of the power plant. Decommissioning is regulated by the Nuclear Energy Act and Decree and STUK's decrees and guidelines.

5.1.3 Comparison of options

Comparing the options to the project and their environmental impact is a key part of the EIA procedure. The assessment programme states that during the procedure, comparisons will be made between the environmental impact of the project and its non-implementation and the differences between them. The assessment of the significance of the environmental impacts takes into account both the magnitude of the change and the sensitivity of the impact site. Impacts are classified on the basis of their significance as minor, moderate, large and very large. The impacts can be either positive or negative from an environmental point of view.

5.2 Impacts and their investigation

The assessment programme describes the current state and development of the likely scope of the project. The assessment programme shall detail the initial areas of the analysis and impact, the scope of which has been assessed on an impact-by-impact basis.

The assessment programme shall include a proposal on the identified and assessable environmental impacts, including transnational environmental impacts and interactions with other projects, as well as a justification for limiting the impacts to be assessed.

According to the programme, the most significant environmental impact of the project in the case of continued use, estimated on the basis of preliminary planning data, is the thermal load of cooling water in the nearby sea area. Similarly, the most significant environmental impacts of preparing for decommissioning have been provisionally identified as the effects of mining related to the expansion of the VLJ repository. Based on a preliminary assessment, the most significant environmental impacts of decommissioning are due to the dismantling of radioactive plant parts and the treatment, transport and disposal of waste.

The studies on environmental impacts, as well as the methodology used and related assumptions, are described in the programme. In addition to utilising previous studies, specific studies will be carried out as part of the assessment, including a study of sedimental harmful substances on the seabed and an assessment of regional economic impacts.

According to the assessment programme, the uncertainties associated with the assessment and their significance are described in the assessment report, which also provides a description of the prevention and mitigation of adverse effects. In the context of the environmental impact assessment, the existing environmental impact monitoring programme will be reviewed and, if necessary, updated.

Next, the Ministry will present some detailed points that the responsible party of the project should take into account in the further work of the project.

5.2.1 Continued operation and management of the ageing of the plant

In project option 1, the power plant use would be extended for a maximum of approximately 20 years. The assessment programme states that the ageing of systems, structures and equipment will be prepared for by design-phase solutions, in-service monitoring and by maintaining the plant's good condition until decommissioning. The assessment programme also mentions the

measures taken in recent years to modernise the plant and states that the power plant is in excellent technical and safety condition, which is what is required for the plant to continue its operation after the licence periods in force.

There was a mixed attitude towards continued use in the statements. A large number of Finnish statement providers said that they were in favour of further use of the power plant. The position was justified e.g. by the plant's good operating history, a high-quality safety culture, previous modernisation work, emission reduction targets and employment impacts.

There were objections to continued use in the opinions of the Austrian and German state statements and from NGOs and citizens. In particular, the growing nuclear safety risks, such as the fragility of the pressure testing system, were highlighted due to the ageing of the plant. In addition, according to Greenpeace, a scenario should be included in the assessment procedure in which the power plant would be shut down early due to a fault in the power plant. In its statement, Lithuania also stressed the importance of managing the ageing plant.

According to STUK and the Swedish Radiation and Nuclear Safety Authority, the BAT principle should be applied in the assessment report to reduce emissions, especially if the plant continues to be used. According to Austria's opinion, the EIA report should include a description of the current level of science and technology and a description of all the cases where these are deviated from. The report should also list all the planned actions to promote service life and safety.

The Ministry of Economic Affairs and Employment considers it important that the risk factors related to the possible continuation and decommissioning of use and the effects of the plant's ageing are investigated and that the means of preventing or mitigating the effects are carefully assessed. STUK will assess the safety of continued use or decommissioning later in connection with the processing of the licence application.

The Ministry believes that the report should describe closely the methods by which ageing is monitored and how the consequences of ageing will be reduced. In particular, the method of preventing potential risks of an accident due to ageing and therefore high emissions, such as the ageing of the pressure vehicle, should be described. The report should also address the application of the BAT principle in reducing or preventing emissions.

5.2.2 Cooling water supply, water construction, impacts on water bodies and their lives

According to the assessment programme, the most significant environmental impact of continued use is the thermal load on the local sea area due to the restoration of cooling water. In connection with option 1, possible hydraulic works in front of the cooling water intake structure and in the near-sea area have been described. The aim is to reduce the temperature of the cooling water to be taken and possibly restored. The programme has identified environmental impacts from dredging, mining and the construction of a new embankment structure related to water construction.

The effects related to the taking of cooling water were highlighted in several opinions. The City of Loviisa's Building and Environment Board considers it particularly important that the procedure assesses all measures to reduce the thermal load on the sea. According to the Geological Survey of Finland, the assessment procedure should take into account the effects of warming seawater caused by climate change on the temperature of the water returned to the sea.

STUK requires that the procedure investigates the amounts of artificial radioactive substances in sediments in the dredging area and assesses their possible release in connection with dredging work. Cooling water modelling that takes into account the new embankment structure should take into account the effects of changes in flow fields on the transport of radioactive substances.

The Uusimaa ELY Centre also proposes that the report should specify information on the harmful substance study of the sediment, the impact of waterworks on flow conditions and cooling water modelling.

The City of Porvoo points out that the combined effects of various factors, such as thermal load, water turbidity and nitrogen emissions, should be taken into account when assessing water impacts. The statements of the Ministry of Agriculture and Forestry and the ELY Centre draw attention to the impact on the lives of water bodies. The statement calls for compliance with the precautionary principle and states that activities in spawning and occurrence areas important to fish stocks, for example, should be avoided.

The domestic water of Loviisa Nuclear Power Plant is currently taken from Lake Lappominjärvi. The City of Loviisa's Building and Environment Board and the Uusimaa ELY Centre consider it to be important to investigate the impact of project exchanges on Lake Lappominjärvi, its surroundings and Lappominlahti bay. The area was also highlighted in one of the statements from the citizens on the eutrophication of Lake Lappominjärvi and Lappominlahti bay, the fall in water levels and the disappearance of some bird species.

The opinions also took a position on reducing the adverse effects of dredging by choosing the right time, the extent of the condensing water monitoring area, the protection of life and the assessment of marine ecosystem impacts.

The Ministry considers that the effects of cooling water are the most significant environmental impacts of a nuclear power plant during normal operation. Therefore, when considering the environmental impacts of the thermal load, the available information must be widely exploited. The modelling shall also take into account the impact of climate change on the plant's environmental load. The calculation of the environmental load due to cooling water should be presented conservatively and the results presented in an illustrative manner. The Ministry also notes that the environmental impact assessment of water bodies should not be limited to cooling waters, but should be assessed for the operation of the entire plant.

5.2.3 Exceptional and accident situations

According to the assessment programme, the EIA report includes the modelling of a serious reactor accident, which assumes that 100 TBq Cs-137-nuclides will be released in an accident. This amount corresponds to the limit value for serious accidents under the Nuclear Energy Regulation. The scope of the accident modelling set out in the assessment programme is 1,000 km from the power plant. In addition, the report also intends to cover other exceptional situations, such as fires or transport-related risk situations, as well as conflicting environmental and safety risks.

Several different statement providers drew attention to the accident modelling presented in the assessment programme. Among other things, the source term used in the modelling of the statements of Austria and several NGOs and citizens, as well as the area of impact examined, were considered too small for an environmental impact assessment In connection with the case, NGOs appealed for flexRISK studies.

The opinion of the Danish Emergency Management Agency also suggested that a more realistic source term should be used to assess the health and environmental impact of an accident situation and to address the mix of different isotopes. However, the Emergency Management Agency says it accepts the use of the chosen source term to reduce the computing burden. Natur och Miljö rf suggests that the assessment procedure should examine several accident scenarios.

The Swedish Agricultural Board states that the procedure should examine the effects of radioactive substances released in the event of an accident on Swedish agriculture, animal

husbandry, fisheries, reindeer husbandry, farming, rural areas and forest management. In the event of an accident, the Swedish Sámi Parliament emphasises the impact on reindeer herding.

The Ministry of Economic Affairs and Employment states that in Finland (Section 22b of the Nuclear Energy Decree) a high emission limit value of 100 TBq for caesium-137 has been set, and this value has been used as a source term, which describes the accident in the INES 6 category in Finnish environmental impact assessments. However, a number of statements and opinions have suggested the inclusion of a more realistic source term in the reviews to be made. The Ministry considers that it is appropriate for the responsible party of the project to provide a comparison between the source term used and a more realistic emission estimated for the installation under consideration. At the same time, the responsible party of the project should also examine the safety principles of the installation aimed at preventing high emissions in the event of serious accidents.

In addition, the Ministry of Economic Affairs and Employment states that the impact assessment of exceptional and accident situations should not be limited to the protection zone or the emergency preparedness area. In accordance with the EIA Regulation, the EIA report shall present accident situations causing different emissions and describe, by means of illustrative examples, the extent of the affected areas and the impact of emissions on humans and nature.

5.2.4 External threats

The assessment programme states that the risks posed by climate change, such as floods and sea level rise, will be addressed in the assessment report. The Ministry of Agriculture and Forestry, the Uusimaa ELY Centre and the Finnish Association for Nature Conservation draw attention to the lack of discussion of the effects of climate change in the programme.

The Ministry of Agriculture and Forestry points out that consideration of the risks of climate change should be promoted in projects that, due to the nature or long life of the activity, involve specific climate risks. The Ministry states that the risk of flooding should have also been treated as a separate factor in the programme from climate change.

According to the Finnish Union for Nature Conservation, possible effects of climate change may include accelerated sea level rise, rising sea surface temperatures, increasing sediment runoff due to increasing rains, mass deposits of new species and floods. The Union considers that the environmental impact assessment should be based on anticipated conditions close to the end of the extension period.

The Ministry of Economic Affairs and Employment states that the external threats of the project and the risks arising from climate change must be taken into account when assessing the safety of the project. STUK will assess the safety of the project later in connection with the processing of the licence application. However, the Ministry of Economic Affairs and Employment considers that the analysis should assess the phenomena caused by climate change at the plant site and their preparedness.

5.2.5 Impacts on the climate

The assessment programme states that the climate impacts of the project will be examined through greenhouse gas emissions from the operation. The assessment programme will also compare CO2 emissions from different forms of energy production, based on, among other things, life cycle studies of different fuels.

The Uusimaa ELY Centre states that it would be important to describe the climate impacts of the project under its own heading, broken down by construction and decommissioning and long-term

impacts. In the case of climate impact assessments, the ELY Centre should specify whether the impacts of the nuclear fuel production chain and spent fuel disposal are included in the review, and it would also be a good idea to relate the direct climate impacts of project options not only to national climate objectives but also to regional targets.

Natur och Miljö, the Finnish Water Nature Association and several EU citizens pointed out in their statements that the environmental impact of the fuel supply should also be taken into account in the assessment procedure.
Loviisan Seudun Vihreät ry proposes that a table should be included in the assessment report comparing CO2 emissions from different forms of electricity generation, taking into account the entire lifecycle.

According to the City of Porvoo, the method of calculating CO2 emissions from the project should be specified in the assessment report. For its part, the Ministry of Agriculture and Forestry emphasises the importance of taking climate change into account, especially in the case of decommissioning.

The Ministry considers it appropriate for the project manager to examine the climate impacts through greenhouse gas emissions from operations and to compare different forms of energy production, taking into account the life cycle of different fuels.

5.2.6 Energy markets

According to the assessment programme, the impact on the electricity market will be examined, taking into account the different timetables of the options. However, the programme states that, in the case of decommissioning, it is difficult to assess the form and location of the replacement electricity.

The statements commented on Finland's forecasts for electricity production and consumption. According to the views of the Uusimaa ELY Centre and the City of Porvoo, the share of the power plant in Finland's electricity production should be presented in a more transparent manner, including a long-term forecast of the development of the power plant's share and the Finnish electricity market. According to the City, this would make it easier to compare different forms of energy production. According to Austria, the procedure should deal with different scenarios of future electricity needs and different options to electricity generation.

Greenpeace also points out that the overall economic impact of the project should be examined in the procedure.

The Ministry considers that it is appropriate to examine the effects on the electricity market, taking into account the timing of the different options. The results and the starting points of the report must be clearly and transparently expressed. The Ministry also notes that the responsible party for the project is the company producing and selling electricity. It is up to the state to carry out nationwide reviews of energy supply.
In addition, the Ministry notes that the Government, under the leadership of the Ministry of Economic Affairs and Employment, is currently preparing a new national climate and energy strategy with the aim of carbon neutrality in Finland in 2035, in accordance with Prime Minister Sanna Marin's Government Programme.

5.2.7 Impact of continued use on nuclear waste management

The continued operation of the power plant will increase the accumulated total amount of low- and medium-level waste and spent nuclear fuel. The programme estimates that an extension of approximately 20 years would produce approximately 600 m^3 of low-activity and 2,400 m^3 of additional medium-level waste packed.

However, the methods of nuclear waste management would, as a rule, remain the same, and the existing capacity of the VLJ repository is also estimated to be sufficient for the disposal of nuclear waste resulting from continued use. However, according to the GTK, the extent of the extraction in the case of continued use is unclear and the assessment programme does not sufficiently set out the requirements, in particular the increase in medium-level waste.
For excavating additional space in the VLJ repository.

According to the preliminary estimate, the most significant change caused by continued use related to nuclear waste management would be the intermediate storage of spent nuclear fuel at Loviisa Nuclear Power Plant. The annual accumulation of spent fuel is expected to be 24 tonnes of uranium (UO_2). Extending use by approximately 20 years would increase the amount of spent nuclear fuel by just under 500 tonnes of uranium.

According to the programme, the increase in intermediate storage capacity for spent nuclear fuel would be achieved either by expanding the intermediate stockpile or by placing nuclear fuel in intermediate storage tanks more frequently than at present. The cooling need for spent nuclear fuel in the intermediate storage facility is not expected to increase significantly, despite the increasing amount of fuel, as the fuel thermal output is constantly decreasing during the intermediate storage. However, it is possible to increase the cooling capacity if necessary.

The Uusimaa ELY Centre states that it is important to describe in the assessment report which option will be used to assess the environmental impact of the increase in intermediate storage capacity of spent nuclear fuel. According to the Swedish Radiation Authority, the EIA procedure should emphasise the increase in the intermediate storage of spent fuel, as this increases the possibility of releasing long-life nuclides. Natur och Miljö rf suggests that if the intermediate storage of spent fuel is carried out by placing fuel in storage basins more frequently, the alternative must be described in the assessment report with sufficient accuracy to ensure safety.

At the end of the intermediate storage, the spent nuclear fuel is to be finally deposited at Posiva Oy's disposal facility in Olkiluoto, Eurajoki. STUK's statement points out that more fuel used in connection with the possible continuation of use would be generated than previously taken into account in the licence procedures for the Posiva disposal project. However, Posiva Oy states in its own statement that the decision-in-principle and construction licence granted for the disposal project enable the final disposal of fuel, taking into account the aforementioned fuel increase.

The safety of the final disposal of spent nuclear fuel was called into question in the Austrian statement and in a number of statements by organisations and citizens. In particular, studies on the KBS-3 method on the premature corrosion of copper capsules were highlighted, which Austria said should be commented on in the assessment report. Greenpeace also argued that nuclear waste management should generally be dealt with more comprehensively in the procedure, in particular as regards disposal.

The Ministry of Economic Affairs and Employment states that despite the increase in the amount of nuclear waste caused by continued use, the methods of nuclear waste management will, as a rule, remain the same and it will be possible to increase the necessary capacity. The Ministry periodically assesses the effects of the increase in low- and medium-level nuclear waste and spent fuel as part of the Loviisa nuclear waste management package. If necessary, the increase in the amount of spent nuclear fuel and its impact on Posiva Oy's operations must be taken into account.

STUK assesses the safety of nuclear waste management in connection with the processing of possible operating licence applications for Loviisa Nuclear Power Plant. In addition, STUK assesses the safety of the final disposal of spent nuclear fuel in connection with the processing of Posiva's operating licence application. In the Ministry's view, it is sufficient at this stage for Fortum to ensure that the investigation related to corrosion of the copper capsule is carried out,

e.g. by Posiva Oy as part of the preparations for the operating licence phase of the encapsulation and disposal. In addition, the report shall specify on the basis of which option the environmental impact of the increase in intermediate storage capacity of spent nuclear fuel is assessed.

5.2.8 Decommissioning and independence of spent fuel intermediate storage facility, liquid waste storage facility, solidification plant and VLJ repository

After the operation phase of Loviisa Nuclear Power Plant, the decommissioning of nuclear power plant units will be carried out. The decommissioning strategy of the nuclear power plant has been selected as an immediate dismantling. However, the dismantling will be preceded by a preparatory phase lasting a few years. The assessment programme provides two alternative times for decommissioning. In option 1, the decommissioning would take place between 2050 and 2060. In options 0 and 0+ decommissioning would take place after an already valid operating licence in 2030–2040.

Loviisa Nuclear Power Plant has a decommissioning plan in accordance with the decommissioning strategy. The decommissioning plan is currently based on the nuclear power plant's 50-year service life and decommissioning after the current operating licence in 2030-2040. The decommissioning plan sets out all phases of decommissioning and their up-to-date plans. The decommissioning plan will be evaluated at regular intervals, and the plan will develop based on the operating experience of the nuclear power plant, regulatory feedback and the monitoring of international projects towards the final plan before the decommissioning is carried out.

Decommissioning is carried out in two phases in time. In the first phase, the intermediate storage of spent nuclear fuel from nuclear power plant units, the intermediate storage of liquid waste, the solidification plant and the VLJ repository will be independent, and the nuclear power plant units will be dismantled. At the end of the intermediate storage of nuclear fuel used in the second phase, i.e. in the 2060s at the earliest, the remaining plants will be dismantled and the VLJ repository will be closed.

The decommissioning and dismantling of Loviisa Nuclear Power Plant produces significant amounts of low- and intermediate-level waste, but the accumulation of spent fuel will end at the end of the operating phase. Decommissioning involves a significant amount of waste characterisation, sorting, packaging, transport and disposal. According to the programme, the amount of decommissioning waste to be disposed of is approximately 25,000 m3.

The assessment programme has provisionally identified, as the most significant environmental impacts possible, radiation exposure of personnel in the dismantling of radioactive plant parts, waste treatment, transport and disposal. In addition, impacts may also arise from process waters that are treated and discharged cleaned into the sea. Other environmental impacts related to the end of operations have also been provisionally identified.

In the Ministry's view, the decommissioning part of the programme is sufficient. The Ministry shall periodically evaluate the updated decommissioning plan for Loviisa Nuclear Power Plant. The decommissioning plan shall also discuss the radiation protection planning of personnel. In its previous assessment, the Ministry has drawn attention to the coverage of the plan with regard to the use of independent plants and, initially, their decommissioning. The final decommissioning plan for Loviisa Nuclear Power Plant will be approved by STUK during the decommissioning licence phase.

5.2.9 Expanding, operating and closing the VLJ repository

According to the programme, the VLJ repository will be expanded already during the operation of Loviisa Nuclear Power Plant for the disposal of decommissioning waste. If Loviisa Nuclear Power Plant enters the decommissioning phase after the expiry of the operating licence in force

(VE0 and VE0+), it will be expanded as early as the late 2020s and otherwise (VE1) in the late 2040s.

Disposal facilities for decommissioning waste are designed in connection with existing waste disposal facilities during operation, so that the facilities form a coherent and functional whole. The disposal facilities are located underground at a depth of about 110 metres from sea level.

The excavation and temporary storage of the quarry related to the expansion of the VLJ repository have been identified in the programme as the most significant environmental impact of preparing for decommissioning. According to the programme, the expansion requirement arising from the disposal of decommissioning waste is approximately 57,000 m3.

In its opinion, the Geological Survey of Finland (GTK) states that the need to expand the VLJ repository is significant. GTK also notes that the assessment should examine the need to update the Hästholmen rock model, especially from the point of view of water-conducting structures. The design of the extension must be based on up-to-date structural and hydrogeological data. The need to update environmental impact monitoring programmes must also be specified in terms of the impact of the various options. Global warming, changes in precipitation and the shortening winter season impact, among other things, the monitoring of rock groundwater.

The Uusimaa ELY Centre also considers it important that the report presents a model of soil, bedrock and groundwater conditions based on the latest research results, as well as an assessment of the leakage water accumulated in the rock spaces. The ELY Centre also proposes that the assessment report should specify the utilisation of the quarry resulting from the expansion of the VLJ repository.

According to the programme, the use of the repository shall continue until either the 2060s (VE0, VE0+) or about 2090 (VE1). At the end of the operation, the repository will be closed by filling in the spaces containing the barriers and the driving tunnel, after which the area will remain under the supervision of the authorities.

According to the programme, long-term safety after the closure of the VLJ repository will be assessed as part of the environmental impact assessment. In 2018, the responsible party of the project prepared a safety basis for the disposal of radioactive waste generated during the operation and decommissioning of Loviisa Nuclear Power Plant. The safety criterion demonstrates compliance with the long-term safety requirements for disposal. According to the programme, the assessment report will present the key results of the safety reasoning approved by STUK in 2019 and assess separately, among other things, the impact of extending the life of the power plant on long-term safety.

The Ministry of Economic Affairs and Employment considers it important that the project manager assesses the timeliness of models describing soil, bedrock and groundwater conditions, the amount of leakage water accumulated in rock spaces and the need to update the monitoring programme. The utilisation of the quarry resulting from the expansion of the VLJ repository should also be specified in the report. The expansion of the VLJ repository is significant compared to the existing scope. The lifespan of the VLJ repository will be extended beyond the current operating licence in the options presented. A longer service life requires applying for a new operating licence for the repository. The valid operating licence for the VLJ repository extends until 2055.

In the Ministry's view, it is a good idea to make clear in the report the future licence procedure for the VLJ repository, taking into account the need to expand the repository and the total amount of radioactive waste to be disposed of with a licence. If possible, the closure of the repository must also be taken into account in the length of the operating licence, as, according to the current Nuclear Energy Act, disposal facilities will be closed under the operating licence. In

connection with the operating licence procedure, STUK shall assess the long-term safety of the VLJ repository.

5.3 Nuclear waste management cooperation

Options 1 and 0+ include the possibility to receive, process, intermediately store and dispose of small amounts of radioactive waste generated elsewhere in Finland. Waste generated elsewhere typically comes from industry, universities, research institutes and hospitals. The programme has estimated that the amount of waste generated elsewhere in Finland at Loviisa Nuclear Power Plant will not exceed 2,000 m3, which is a fraction of the total amount of nuclear waste to be disposed of. VTT considers the amount of waste from other parts of Finland presented in the assessment programme to be sufficiently prepared for.

Waste from the operation and decommissioning of VTT's FiR 1 research reactor and Otakaari 3 research laboratory will also be located at the Loviisa power plant. Fortum and VTT have signed an agreement on the dismantling of the research reactor and the waste management services of the research reactor and the decommissioning research laboratory. In addition, one option for decommissioning the research reactor is to store spent and unused fuel at the Loviisa power plant. The import of VTT's waste to the Loviisa power plant area requires a licence in accordance with the Nuclear Energy Act.

The statements are largely positive about receiving waste generated elsewhere in Finland at Loviisa Nuclear Power Plant. VTT and Natur och Miljö rf state that the reception of such waste in Loviisa is important for Finland's national management of radioactive waste. VTT and Natur och Miljö rf state that the reception of such waste in Loviisa is important for Finland's national management of radioactive waste. Loviisan Seudun Vihreät argued that an alternative should be included in the procedure, in which the power plant would continue to be used, but that waste generated elsewhere in Finland would not be imported into the plant area.

According to STUK, the estimated amount of activity of waste from other parts of Finland, the composition of nuclides and the physical and chemical state of radioactive substances should also be reported in the assessment report.

In the view of the Ministry of Economic Affairs and Employment, there must be a treatment and disposal route for all radioactive waste that has been born in Finland. The treatment and disposal of waste generated elsewhere in Finland in the Loviisa Nuclear Power Plant area would significantly complement the national waste management of radioactive materials. The Ministry sees that it is possible for the responsible party for the project to refine the information on the properties of waste highlighted by STUK in the assessment report only in a fairly general way. STUK assesses the safety of the management of radioactive waste generated elsewhere in Finland as part of Loviisa Nuclear Power Plant's waste management package in connection with the licence procedures for Loviisa Nuclear Power Plant and the VLJ repository.

5.4 Competence of the responsible party of the project and the liaison authority

The assessment shall contain information on the competence of the authors of the assessment programme. The Ministry considers that the responsible party for the project has sufficient expertise at its disposal to draw up an environmental impact assessment programme.

The Ministry of Economic Affairs and Employment, which acts as the liaison authority, has ensured that its own personnel involved in examining the environmental impact assessment programme and drafting the liaison authority’s opinion has sufficient expertise necessary for the quality and scope of the project under assessment and the complexity of the task.

5.5 Plan for organising the assessment procedure and related participation

The assessment programme shall include a plan for the organisation of the assessment procedure and related participation and interaction. The programme describes public events organised in connection with the EIA programme and later in connection with the EIA report. A monitoring group of different stakeholders will be set up for the assessment procedure. In addition, a survey will be organised for nearby residents as well as small group events for different target groups during the reporting phase.

The Uusimaa ELY Centre and Greenpeace consider it important that the current pandemic situation be taken into account in the participation arrangements. Natur och Miljö rf proposes that the citizens' survey mentioned in the programme should cover the entire population of Finland, or at least southern Finland, as a possible nuclear accident would affect a wider distance than the 20 kilometres proposed in the programme.

The Ministry of Employment and the Economy states that upon completion of the EIA report, the Ministry will announce it and make it available for inspection, as well as request the opinions of the authorities and any other parties. A public event will be organised on the EIA report, in connection with which sufficient opportunities will be arranged for everyone to participate in the event, taking into account the circumstances. Ministry of Economic Affairs and Employment
The reasoned conclusion of the EIA report as a liaison authority shall be communicated to the municipalities and authorities concerned.

5.6 Timetable for the EIA procedure

The assessment programme includes the project and the preliminary timetable for the EIA procedure. According to the assessment presented in the programme, the party responsible for the project will submit the assessment report to the liaison authority in August 2021. The period of viewing of the assessment report will be in September and October 2021.
The reasoned conclusion of the liaison authority would then be adopted in December 2021.

6 Communication of the liaison authority’s statement

The liaison authority shall forward its statement and other statements and opinions to the project manager. At the same time, the statement of the liaison authority shall be communicated to the authorities concerned and published on the liaison authority’s website.

Minister of Economic Affairs Mika Lintilä

Senior Specialist Jaakko Louvanto

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Lintila Mika 912205413	2020-11-26T09:44:01	C=FI, O=Population Data Services Agency CA, OU=Organisational certificates, CN=VRK CA for Organisational Certificates - G3\ OK

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