Strålsäkerhetsmyndigheten
Swedish Radiation Safety Authority

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Samråd enligt artikel 4-5 ECE-konventionen om miljökonsekvensbeskrivningar i ett gränsöverskridande sammanhang gällande Polens planer på att bygga kärnkraftverk

Strålskyddsmyndigheten (SSM) har av Naturvårdsverket getts möjlighet att lämna synpunkter på miljökonsekvensbeskrivningen för de polska planerna på att bygga kärnkraftverk, med avseende på projektets konsekvenser och miljöpåverkan på Sveriges territorium. Eventuella kommentarer ska lämnas på engelska. SSM lämnar härmed följande kommentarer.

General comments
The Polish plans for a nuclear power plant considered in the Environmental Impact Assessment, EIA, include three nuclear power reactors, AP1000,Westinghouse Electric Company LLC pressurised light water reactors (Generation III+) with a total capacity of 3,750 MWe. However, the final choice of reactor technology has not yet been made.

SSM notes the Commission delegated regulation (EU) 2021/2139 which establish technical screening criteria concerning environmentally sustainable economic activities and their potential implication concerning e.g. reactor technology, accident tolerant fuel, plans for waste management including geological final disposal of spent fuel and decommissioning and funding thereof. This regulation enter into force in January 2023. SSM therefor assume that the final choice of technology will ensure that any radiological consequences from the NPP in Sweden will be in the same or less than as presented in the EIA.

Part 1 Chapter 4
SSM notes that the EIA includes a new chapter (Chapter 4 Description of nuclear fuel cycles) with a brief description of the fuel cycle including management and final disposal of radioactive waste including spent fuel. According to the EIA no front-end fuel cycle components, comprising uranium ore mining and processing, chemical conversion, uranium enrichment and nuclear fuel fabrication in Poland, are planned in the foreseeable future.

Part 2 chapter VI.2
The chapter presents a detailed description of the Project implemented with the use of three nuclear power units with AP1000 reactors and a total capacity of up to 3,750 MWe along with the infrastructure ensuring their proper operation.

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In section VI.2.4-2.6 the construction-, operation- and decommissioning phase of the project is described. According to the Investor's assumptions, the decommissioning of the nuclear facility will end with obtaining the so-called "greenfield" status.

Section VI.2.3 provides a comparison of the proposed solution with BAT on a general level. For emissions it is concluded that they would not result in exceeding any environmental standards or lead to unacceptable exposure of people or the environment. However, the emissions presented in Part IV table II.10.4 for normal operations are order of magnitude higher compared to the actual emissions from Swedish PWRs. It is not clear how Poland will ensure the use of BAT in order to minimise the emissions of radioactive substances under normal operation.

Part 3 Chapter I.10.2
It is mentioned that Helcom recommendations were taken into account in the development of the EIA Report but the use of BAT concerning emissions due to normal operation is not properly addressed. See about BAT above.

Part 4 Chapter II.11
The chapter *Hazards and severe accidents* provides information on the UK's regulator (ONR) conclusions in the review of the AP1000's defence-in-depth with passive safety systems and provisions to maintain the containment integrity. The postulated core melt included in the environmental impact assessment is an event where the molten core is cooled and kept inside the vessel and the containment stays intact resulting in negligible radiological impact in Sweden (as presented in Part 1 Chapter 6.1.1). An event with a larger release, although extremely unlikely, may lead to radiological impact in Sweden. Such event is not included in the environmental impact assessment. However, from a Swedish perspective that is not needed at this stage since the Swedish emergency planning for nuclear emergencies is present already.

Part 6 Chapter IV.17
The chapter provides information on the radiological impact in the event of a bounding design basis accident (LB LOCA), as well as a severe accident with core melt considered as design extension conditions (with frequency of occurrence estimated in the order 10^{-7} per year). The later is selected as representative for determining the emergency planning zones and distances around the two different alternative sites. SSM notes that in Part 4 Chapter II.11.4.2 the use of the above severe accident as the postulated accident for emergency preparedness purposes specified in the GDOŚ Decision is motivated by that fact that the plant vendor use a different plant state classification. The plant state classification is thoroughly explained in Part 4 Chapter II.11.1.2.

Part 7
The part incudes descriptions of the models used for dose assessment under normal operation. The models are internationally accepted and widely used. The maximum annual effective dose to members in the Public is estimated during normal operations. The resulting doses are well below any dose limits and indicates that the doses to the public in Sweden negligble due to the dispersion and the distance.

I detta ärende har avdelningschefen Anna Törner beslutat. Utredaren Anders Verneholt har varit föredragande. I den slutliga handläggningen har också rådgivaren Anki Hägg och utredaren Anna Maria Blixt deltagit.

Detta beslut expedieras utan underskrift.

STRÅLSÄKERHETSMYNDIGHETEN

Anna Törner

Anders Verneholt