

Ministry of the Environment
Department of Environmental Impact Assessment and Integrated Prevention
Vršovická 1442/65
100 10 Prague

Statement in the framework of the scoping procedure pursuant to Act No. 100/2001 Coll. on the project "New SMR nuclear source at the Temelín site" (code MZP528)

We examined the notification of the content "New SMR nuclear source at Temelín site", which was submitted to by the notifier ČEZ as prepared by prepared by Jacobs Clean Energy s.r.o. The aim of the project is the construction and operation of a new nuclear modular reactor (or two?) next to the Temelín NPP site with an installed capacity of up to 500 MWe.

We are sending our statements on this in accordance with Section 6(7) of Act No. 100/2001 Coll. on the assessment of impacts on environmental impact assessment:

a) It is not at all clear which of the as yet non-existent technologies is being considered, the submitted narrative talks about a nuclear unit with one or two reactors with a total capacity of up to 500 MWe, the technology may be either a boiling water reactor or a pressurised water reactor. Each of the modular reactor technologies under consideration at the time of the preparation of the background papers for the fact-finding procedure, was considered by the investor, has different parameters and therefore different environmental and human health impacts. The development of either of these technologies has not been finalised, and they are at different stages of development, where reality is still quite far away.

In addition, of the four models described, the development of the NUWARD reactor by the French Framatome (EdF) has already been halted. The Rolls-Royce SMR reactor is described as having an installed capacity of 498 MWe, the manufacturer states 470 MWe.

To start the EIA process in such a situation shows a significant erosion of this otherwise useful tool, this time under the leadership of the Ministry of the Environment, which should not have allowed the launch. The absence of specific data then the present work makes up for it with general talk about fission reactions and the operation of nuclear reactors, presumably to give the appearance of expert judgement.

b) The notification uses the deliberately confusing name SMR for a project that is supposed to have an installed capacity of up to 500 MWe and is correctly classified as a medium-sized reactor. The International Atomic Energy Agency's established reactor size category tells us (<https://www.iaea.org/newscenter/news/what-are-small-modular-reactors-smrs>) that as small (modular reactors) can be described as up to 300 MWe. 500 MWe reactors, which with 470 MWe include the type under development by Rolls-Royce, selected by CEZ, already belongs to the category of medium-sized reactors. Therefore, the investor was not referring to the SMR acronym, but rather to the Smart Marketing Reactor.

c) Justification of the project location (B.1.5.) describes the selected Temelín site in terms of accessibility the availability of the required areas and the infrastructure and operational links with the Temelín Nuclear Power Plant. It does not address the need for such high electrical capacity at this site.

That the close proximity to the Temelín nuclear power plant site may simplify the preparation and construction for the investor of the prototype reactor is obvious. On the other hand, from an energy point of view, the location of another such large (up to 500 MWe) source does not make sense and should have been justified in the documentation. If the existing two reactors of the Temelín Nuclear Power Plant supply about 16 TWh of electricity per year, the electricity consumption in the area South Bohemia Region is at most 3 TWh per year. This is less than a fifth of the amount produced, the rest is necessarily transformed and transmitted to other areas of the Czech Republic and abroad at considerable losses.

At the conclusion of the tender for the new nuclear reactors at Dukovany, the Korean supplier KHNP was promised a possible order for two more reactors at Temelín by way of an option in exchange for a lower overall delivery price.

With an output of 1,200 MW per reactor, these reactors at Temelín could generate an additional 19 TWh of electricity. Therefore locating another medium-sized modular reactor at this site is completely redundant for energy reasons.

The update of the State Energy Concept of the Czech Republic, cited in the justification for the project (B.1.5.1.2.), has not yet been adopted by the Government.

d) At the moment when no specific technology is being evaluated, only several possible theoretical designs exist and these have not yet completed their development, the descriptions of the containment (B.1.6.2.1.1.) or safety and economic characteristics (B.1.6.2.1.4) of reactors are unnecessarily confusing. It will only be possible and necessary to describe and evaluate the technological design of the specific reactor type selected and after its development has been completed, during which time many parameters may still change. Presumably, this is after CEZ's decision to enter into a strategic partnership with Rolls-Royce Limited is a superfluous comment, but in the case of the choice of a boiling water reactor, it would be necessary to prepare and adopt amended regulations to the law 263/2016 Coll. (Atomic Law). See (B.1.6.2.2.1.).

e) The output figures in Section B.III. are based on assumptions, not facts. Without selecting a specific technology that will be developed and licensed, it is not possible to credibly assess the impacts on individual components as defined by the Act,

However, if it is mentioned that there will have to be adjustments to various limits on water abstraction or discharge etc. it is clear,

that the impacts will have to be specifically calculated and laid out. However, this cannot be done now.

(f) The submitted Notification ignores the possible cumulative impacts with the Deep Repository Project for the disposal of high-level radioactive wastes, although the construction of an underground laboratory, should this site be selected, would be undertaken in parallel with the construction of the modular reactor.

The Radioactive Waste Management Authority is looking for a site for the construction of the final

underground repository, and the Janoch site, just a few kilometres away from the proposed modular reactor site, is of four under consideration.

Conclusions

In view of the above-mentioned fundamental deficiencies of the submitted notification, in particular the virtually non-existent technology to be assessed on the basis of only estimated data, we demand that the Ministry of the Environment should stop the assessment process of the project "New Nuclear Source SMR at the Temelín site".

In České Budějovice, 19 December 2024

On behalf of Calla - Association for Environmental Preservation

(DeepL Translation from Czech)