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Department of Environmental Impact Assessment and Integrated Prevention
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Comments on the EIA Documentation under Act No. 100/2001 Coll. on the project "New Nuclear Source SMR at the Temelín Site" (project code MZP528)

We have studied the EIA Documentation for the project "New Nuclear Source SMR at the Temelín Site", prepared for the notifier ČEZ, a. s., by Amentum Clean Energy s.r.o. (September 2026). The project aims to build and operate a new modular nuclear reactor next to the Temelín NPP site with an installed capacity of up to 500 MWe. In the preceding scoping procedure for this project we submitted our comments dated 19 December 2024. In our view, the Documentation has not addressed the comments contained therein. The development of the Rolls-Royce SMR reactor, which the investor has chosen since the scoping procedure and for which it has signed contracts with Rolls-Royce Limited to prepare the licensing documentation, has not yet been completed, and many specific parameters are not known. The Ministry of the Environment (hereinafter "MŽP") has nevertheless decided to assess the project under Act No. 100/2001 Coll. using the so-called plant parameter envelope method.

We submit these comments in accordance with Section 8(3) of Act No. 100/2001 Coll., on Environmental Impact Assessment. They constitute reasoned dissenting comments within the meaning of Section 17(1) of that Act. We request that the Documentation be returned for revision and that the procedure continue only once the specific details of the selected technology being assessed are known. At the same time, we request that a public hearing be ordered under Section 17(1) of Act No. 100/2001 Coll.

a) **Our comments from the scoping procedure have not been properly addressed**

In point 15 of the Scoping Conclusion, MŽP required the Documentation to include a chapter "describing how the individual comments were taken into account or addressed". Our comments are summarised in the Documentation in five lines (p. 37). They are then dissolved, without attribution, into the summary lists 15.1 to 15.15 together with the comments of other parties. It is practically impossible for the reader to trace how the individual points of our comments were dealt with.

Moreover, the Documentation author decided on its own which comments are "relevant" (p. 39). It addresses energy, legislative and strategic aspects only "in a more general form" or by referring to other procedures. Our request to halt the procedure is not explicitly mentioned anywhere in the Documentation.

We request that the Documentation be supplemented with a response to each individual set of comments, as required by the Scoping Conclusion.

b) **The envelope method used works with estimates rather than data, and in reality no reactor type other than the Rolls-Royce SMR fits within it**

To our main objection that it is not known which technology is being assessed, the Documentation repeatedly replies that the impacts "do not depend on the specific technical or technological solution of the project" (p. 44). They are assessed by means of a conservative envelope of environmental parameters into

which “any other manufacturer” would supposedly fit. This is not a serious claim; the Documentation itself shows the opposite.

The source term for SMR releases is not an envelope covering several designs. The release values “are based on the authorised estimates provided by the technology supplier Rolls-Royce SMR” (p. 327). Only tritium and C-14 have been increased. These are not final figures, however; those will only be known once the technology has been fully developed and licensed.

Releases to water are orders of magnitude below operating experience. While the stated releases to air are comparable with the existing units, for radionuclides discharged into the Vltava (e.g. Co-60, Cs-137) they are two to four orders of magnitude lower than the actual values at ETE 1,2 (see table below). This is therefore not a conservative envelope but a highly optimistic design estimate.

Radionuclide (pathway)	SMR ETE – Rolls-Royce SMR estimate	ETE 1,2 – measured maximum	NJZ ETE – envelope from 2010 EIA
Co-60 (to the Vltava)	0.23	1,000	290,000
Cs-137 (to the Vltava)	850	60,000	380,000
Tritium (to the Vltava)	1.0×10^{10}	2.5×10^{10}	3.5×10^{10}
I-131 (to air)	1.2×10^{5}	1.1×10^{5}	1.9×10^{5}

Annual releases in Bq per 1 MWe of installed capacity, recalculated from Tables 5–10 of Annex 5.1 (SMR 500 MWe, ETE 1,2 2 × 1,083 MWe, NJZ ETE 2 × 1,700 MWe).

Another supplier would probably not fit within an envelope set in this way. The Rolls-Royce SMR does not use boric acid, the main source of tritium in pressurised water reactors. Another PWR design, or the BWRX-300 boiling water reactor listed among the options considered (p. 75), would have a different and probably higher source term. The definition “Generation III+ LWR” does not exclude the boiling water type.

The reference design has not been approved. The expected completion of Step 3 of the UK Generic Design Assessment (GDA) of the Rolls-Royce SMR has been postponed from summer 2026 to December 2027 (p. 408). The Documentation tries to claim that SMR ETE “is not a prototype unit”. However, the first Rolls-Royce SMR is yet to be built at Wylfa, so Temelín would be one of the first units of its kind.

Moreover, the envelope is incomplete. Some environmentally significant parameters remain open, and for these the Documentation refers to the “specific design”. The use of natural-draught cooling towers “is not expected, but is not excluded” (p. 197). The parameters of the spent fuel store “will be specified by the specific design” (p. 158). The foundation depth of the reactor building is “at least 16 metres” in the main text (p. 373), but “approximately 14 m” in Annex 4.1.

Some of the data from which the envelope is modelled are outdated. The envelope of the New Nuclear Source (hereinafter “NJZ”) ETE comes from the 2010 EIA documentation, and the validity of the 2013 MŽP EIA opinion has merely been extended again. The measured releases from ETE 1,2 cover only the years 2004–2008, even though Annex 5.1 admits that higher values were recorded in some later years.

The Documentation still contains extensive general chapters on nuclear energy, reactor generations and their “economic characteristics” (B.I.6.2.1, pp. 76–82). The Documentation author itself admits that the detailed information is “indeed redundant from the point of view of environmental impact assessment” (15.2 ad k).

We request:

- **an explicit statement that the source term represents Rolls-Royce SMR design estimates, and documentation of their source;**
- **an uncertainty analysis and a sensitivity calculation using releases corresponding to the operating experience of pressurised water reactors;**

- **a complete table of the envelope parameters in one place, including the maximum foundation depth, the cooling tower type and the parameters of the fuel store, and an assessment of the impacts for these values;**
- **if an EIA opinion is issued, that it be explicitly tied to the Rolls-Royce SMR pressurised water reactor. Any other design, in particular a boiling water reactor or a reactor with boron reactivity control, must undergo a new assessment. The parameters of the selected design must be published and compared with the envelope.**

c) **The Documentation still uses the deliberately misleading name SMR for a project with an installed capacity of up to 500 MWe, which properly belongs among reactors classified as medium-sized**

In its response to point 1b of the Scoping Conclusion, the Documentation states that the name SMR is a "trade name" of Rolls-Royce. It refers to IAEA Technical Reports Series No. 499 (2026), according to which "small" reactors are below 300 MWe and "medium-sized" reactors are between 300 and 700 MWe. According to the definition cited by the Documentation itself, a project with a capacity of up to 500 MWe is therefore a medium-sized reactor. This confirms our original comment from the scoping procedure.

We request that the misleading designation be dropped and that the reactor categories of the International Atomic Energy Agency be followed consistently.

d) **A comparison of the modular reactor technologies considered is missing**

Annex 4 to Act No. 100/2001 Coll. requires a description of the alternatives considered "including a comparison of their environmental impacts". The Documentation, however, does not present a comparison of the four shortlisted technologies, namely AP300, BWRX-300, NUWARD and Rolls-Royce SMR.

We request a comparison of the environmentally significant parameters of the four shortlisted technologies (water withdrawal and evaporation, releases, waste and spent fuel, accident source terms, building heights).

e) The need for additional capacity at the site remains unjustified; a zero alternative is missing

To the objection that another source at the Temelín site is superfluous, the Documentation replies that the project "is not conceived as a local source". According to the Documentation, "in view of the results of the grid study", power evacuation will not pose a risk (15.1 ad a, p. 41). This grid study is neither cited nor attached to the Documentation. The Documentation did not dispute our specific figures but left them unanswered: Temelín NPP generates about 16 TWh per year, while consumption in the South Bohemian Region is at most about 3 TWh; the rest has to be transformed and transmitted to other parts of the Czech Republic and abroad with considerable losses.

On p. 71, the Documentation itself assumes a New Nuclear Source ETE with a capacity of 2 × 1,200 MWe. In the contract for the new nuclear reactors at Dukovany, the Korean supplier KHNP has been promised a possible order for two more reactors at Temelín by way of an option. At 1,200 MWe per reactor, these could generate about another 19 TWh of electricity at the Temelín site. The Documentation argues that the SMR "fits" within the previously assessed envelope of 2 × 1,700 MWe. In doing so it indirectly confirms our argument that the site is already earmarked for large units. Moreover, the NJZ ETE envelope is based on the 2013 EIA opinion, whose validity has been repeatedly extended.

The Documentation author also acknowledged (15.1 ad k) that the 2015 State Energy Policy remains the only valid document. Nevertheless, the justification of the need for the project rests on the unapproved draft of its update.

The project is assessed in a single alternative only (p. 74), and the zero alternative explicitly does not cover other sources or savings. A comparison of alternatives was requested by, among others, Poland and Austria, with reference to Annex IV of the EIA Directive.

We request:

- **an assessment of a zero alternative in which electricity generation is provided by other sources and savings;**
- **submission of the cited grid study;**
- **a supplementary energy-balance justification of the need for an additional source specifically at the Temelín site, including transmission losses.**

f) The Documentation misrepresents water availability under climate change

According to the Documentation, the three potential power plants at the site (ETE 1,2, NJZ ETE and SMR ETE) are to withdraw about 135 million m³ of water per year from the Vltava at the Hněvkovice reservoir, i.e. 4.3 m³/s (Table D.51, p. 360). The Documentation states that the reliability of water supply is "satisfactory, even when taking into account … the impact of climate change" (p. 23). Annex 4.1 (pp. 22–27), however, shows that for the cumulative variant of 5,600 MWe + SMR and the taiesm1 model in 2080:

- the reliability of water withdrawals drops to 87.9%, with a shortfall lasting up to 11 months;
- the reliability of minimum flows at Hněvkovice and Kořensko drops to 88–89%;
- the reliability of maintaining the recreational water level of Lipno I drops to 40.7%.

The Documentation author describes this result as a "marginal" variant. At the same time, it retained only the middle emission scenario SSP2-4.5 in the updated study. It dropped the wider set of scenarios from the original DP20 study (p. 26 of the Annex). The project increases withdrawals by 12 million m³ per year in a system which, according to Annex 4.1, may fail in a drier climate.

The Documentation contradicts itself in its choice of scenario. It describes scenario SSP2-4.5 as "sufficiently conservative" (p. 320), yet Annex 4.1 itself calls it a middle scenario (p. 18/181 of the Annex). It estimates the SMR's water demand using the higher scenario SSP5-8.5 (Annex 4.1, p. 57/181), but assesses water availability only under the middle one. The European Commission considers a scenario corresponding to SSP2-4.5 usable only until around 2060 (Technical guidance 2021/C 373/01, Section 3.1). Yet the plant is to operate until around 2095 (pp. 188, 320), and neither the cooling system nor the water source can be adapted gradually later on.

For acute water shortages, the Documentation merely states that output will be reduced or the unit shut down, and that the procedure will be coordinated with the transmission system operator and the river basin authority (p. 179). It sets neither binding rules with threshold values nor the order in which the three power plants at the site would be curtailed.

We request:

- **a recalculation of the water management assessment (reliability of withdrawals and minimum flows, Lipno I water level) at least for scenario SSP5-8.5 based on the national climate scenarios of the Czech Hydrometeorological Institute (ČHMÚ) and CzechGlobe, and correction of the claim that the project is "reliably resilient" to climate change (p. 320);**
- **binding drought rules: threshold values (Lipno I water level, flows at Hněvkovice and Kořensko), the order in which the output of the individual power plants is reduced, and the means of maintaining the minimum residual flow;**
- **an assessment of alternative cooling with lower water consumption, in particular hybrid (wet-dry) towers or dry cooling.**

g) The impacts on waters around the project are described vaguely

The permanent lowering of the groundwater table and about 17 ha of paved surfaces will reduce inflow into the Dvorčice pond. Groundwater runoff may drop by 40–50%. An indirect impact on the Karlovec pond and drying of the upper reaches of the Strouha stream cannot be ruled out (Annex 4.1, p. 105/181). Remedial measures are formulated in the Annex only as "worth considering".

The Documentation estimates the reach of dewatering at 100–200 m for the SMR alone (pp. 373–374) and does not link it to the existing pumping at ETE 1,2, to reduced infiltration from paved surfaces, or to the decline of groundwater levels due to climate change. Annex 4.1 points out that old, unregistered household wells may still exist in the surrounding villages, particularly in Kočín and Malešice (p. 98/181 of the Annex). The Documentation contains neither an inventory of them nor baseline measurements, so it will later be impossible to prove whether a drop in a well's water level was caused by the construction.

We request:

- **that wells and springs in Kočín, Malešice, Temelín and other settlements in the Dvorčický potok catchment be mapped at least 12 months before construction, and their water level, yield and quality be measured. They should be monitored during construction and for at least 5 years after dewatering starts, and, in the event of deterioration, an alternative water source should be provided at the notifier's expense;**
- **that the maximum foundation depth and the maximum permanent lowering of the groundwater table be set, and the reach of dewatering be substantiated by calculation for the combined effect of all interventions;**
- **a binding condition on supplying water to the Dvorčice and Karlovec ponds and the upper reaches of the Strouha stream.**

h) The landscape character assessment does not cover all the variants the Documentation allows

The Documentation states that waste heat will be removed by wet mechanical-draught cooling towers. At the same time, it allows that the use of natural-draught towers "is not expected, but is not excluded" (p. 197). The cooling tower type is therefore not one of the firmly defined parameters of the project.

The assessment of impacts on the landscape and landscape character, however, is based exclusively on the variant with low fan-assisted towers. It considers the reactor building, "whose height is not expected to exceed 60 m" (p. 394), to be the tallest structure of the project. This is also the basis for the conclusion that SMR ETE is "of a significantly smaller scale and lacking more prominent vertical elements" and "will represent neither a new (hitherto non-existent) nor a dominant object at the Temelín site" (pp. 61 and 394). The microclimate impact study likewise models only a block of fan cells 14.5 m high (p. 317).

If natural-draught towers were used, which for units of this size are considerably taller, the above conclusions would not hold. Such towers would bring:

- new prominent vertical landmarks and, with them, additional water vapour plumes;
- different shading and a different impact on the local microclimate;
- further cumulation with the ETE 1,2 towers (about 155 m) and the towers planned for NJZ ETE (up to about 180 m), which the Documentation itself mentions (p. 394).

The impact of a variant that the Documentation explicitly allows has thus not been assessed with respect to landscape character, microclimate or noise.

We request:

- **an assessment of the impacts on landscape character, visibility, plumes and shading, microclimate and noise for the variant with natural-draught cooling towers, including cumulation with the ETE 1,2 and NJZ ETE towers, or**
- **if this assessment is not supplemented, a condition in the binding EIA opinion that only mechanical-draught fan towers with the parameters assumed in the Documentation may be used for heat removal.**

i) The fate of radioactive waste and spent fuel has not been resolved

The Documentation states that radioactive waste from the SMR will be disposed of in the Dukovany repository. Waste that does not meet the acceptance criteria will be stored on site "until suitable repositories have been built" (p. 52). Annex 6.3 shows that the situation is less certain.

SÚRAO (the Czech Radioactive Waste Repository Authority) states that the capacity of the Dukovany repository "may not be sufficient" for the entire lifetime of all new sources and the SMR. Expansion or a new repository are so far only "options under consideration". For operational waste from SMR ETE, SÚRAO prefers only "time-limited disposal" at Dukovany followed by "possible" disposal in a deep geological repository. It recommends that the waste producer secure a reserve storage capacity of about 10 years at the point of origin. After 10 years in the pools, spent fuel is to be moved to a new store, which "will be built on the SMR ETE site or at another selected site" (p. 51). This store, however, has been separated from the assessment as a separate project (15.15 ad h). An essential part of the project's fuel cycle is thus not assessed at all.

The Rolls-Royce SMR reference design directly includes its own external spent fuel store. The store is to hold all the fuel from 60 years of operation, i.e. 1,889 fuel assemblies, on an area of about 3,000 m², with a design life of 120 years (Table B.11, p. 158). Fuel is to remain in the pool for no more than 10 years, and the deep geological repository is to be in operation in 2050 at the earliest. The store will therefore be needed while the SMR is still operating, roughly in the mid-2040s. Its location is not marked on any plan.

The Supreme Administrative Court has held that a project may not be artificially split up and that the combined impacts of all its parts must be assessed already at the first stage (judgment of 17 December 2021, ref. no. 1 As 236/2018-86, paras. 28, 30 and 34). For NJZ ETE, MŽP proceeded differently: it classified the spent fuel store among the structures without which the project cannot be operated. The EIA opinion on NJZ ETE contains condition no. 11, which requires preparation of the new store to begin within one year of the building permit.

We request:

- **a balance of spent fuel and radioactive waste at the site until the end of operation of all facilities, including the share that cannot be disposed of at Dukovany, and a timetable showing when the new store will be needed;**
- **the location of the spent fuel store and the waste store to be shown, and their impacts (radiation, transport, landscape, risks) described, including cumulation with the existing ETE store;**
- **the store to be assessed together with the project. If it is to remain a separate project, this must be justified on the merits with regard to the cited judgment, and a condition similar to condition no. 11 of the NJZ ETE EIA opinion must be set.**

j) Synergies with the potential deep geological repository at Janoch must be assessed

The Documentation refused to assess the combined effects with the possible deep geological repository at the Janoch site (15.14 ad a, ad c, p. 58). It justifies this by stating that "no underlying data are available". Its own Annex 6.3, SÚRAO's opinion of 15 June 2026, however, shows the opposite. SÚRAO explicitly calls for an assessment. On p. 7 it states: "At the same time, however, the possible impacts must also be assessed under Act No. 100/2001 Coll., on Environmental Impact Assessment."

The underground part of the deep geological repository is to cover about 3–4 km² at a depth of around 500 m, and the surface facility up to 15 ha. There are two alternative locations for the surface facility (Coufalka or Výšice); the potentially suitable rock blocks lie north of Nová Ves. According to the Documentation, the edge of the exploration area lies about 1.0 km from the SMR site and its centre about 2.8 km away (p. 68).

According to Table 2 of Annex 6.3, the final repository site is to be selected in 2028–2030. The EIA procedure for the repository is to start in 2031, and the characterisation facility, i.e. exploration of the site by mining methods, is to take place in 2031–2036. Construction of the SMR is to begin "after 2029" and operation "after 2034".

Yet the Scoping Conclusion (point 14c) requires an assessment of the impacts of "all existing and planned nuclear and non-nuclear facilities at the site", "already for the construction phase". Referring to the future repository EIA to take cumulation into account does not meet this requirement.

We request a scenario of concurrent construction and operation of SMR ETE with the exploration and construction of the deep geological repository at Janoch, based on SÚRAO data. The scenario should cover, in particular, traffic, noise, dust, land take and demands on labour and municipal infrastructure.

k) The most serious accident has not been assessed, the severe accident source term is derived from large units, and the impacts of an accident on food are not described comparably for the Czech Republic and abroad

The Scoping Conclusion (point 3d) requires the inclusion of the "worst realistic scenario" for an SMR accident. The Documentation, however, assesses a severe accident only with the integrity of the containment preserved. It refuses to model containment failure because such an event must be "practically eliminated" (p. 50). Under Section 2(a) of Decree No. 329/2017 Coll., however, a practically eliminated event is not impossible, merely extremely unlikely with a high degree of confidence. Its elimination still has to be demonstrated, yet no probabilistic safety analysis exists so far and the reference reactor has not been built anywhere. An assessment of containment failure was requested during the scoping procedure by both Austria and the Polish National Atomic Energy Agency (Państwowa Agencja Atomistyki).

Furthermore, the severe accident source term is not based on Rolls-Royce SMR analyses but on the safety reports of large units, scaled by the ratio of core sizes (p. 50).

The Czech territory is described in less detail than the neighbouring countries with regard to the impacts of an accident on food. For Austria and Germany, the Documentation states, commodity by commodity, with what probability, at what distance and for how long bans would be necessary (pp. 428, 432–433). For the Czech Republic it merely states that exceeding the intervention levels "cannot be ruled out" and concerns "many commodities" (p. 433), even though the calculation covers the area within 100 km. Farmers in the surrounding area, gardeners and other producers would, however, be directly affected.

We request:

- **a calculation of a severe accident with failure or bypass of the containment. The calculation should show over how large an area, including neighbouring countries, sheltering, iodine prophylaxis, evacuation and food restrictions would be necessary;**
- **documentation of the probability of a large release and a source term derived from analyses of the specific reference design;**
- **a description of the impacts of accidents on food for the Czech territory to the same extent as for the neighbouring countries (commodities, areas and distances, probabilities and duration of bans).**

Conclusion

In view of the deficiencies set out above, we request that the Ministry of the Environment return the Documentation for the project "New Nuclear Source SMR at the Temelín Site" to the notifier for supplementation and revision.

At the same time, we request that a public hearing be ordered under Section 17(1) of Act No. 100/2001 Coll. Should the Ministry not return the Documentation, we request that the author of the expert review (posudek) explicitly address the above points of our comments. Should a binding EIA opinion nevertheless be issued, it must be explicitly tied to the Rolls-Royce SMR pressurised water reactor and contain the conditions we request under the individual points.

České Budějovice, XX. November 2026

On behalf of Calla – Association for Preservation of the Environment

Edvard Sequens