

### **The summarising statement of the Ministry of Industry and Trade**

pursuant to § 10g (5) of Act No. 100/2001 Coll. on the Environmental Impact Assessment and amending some related laws (the EIA Act), as amended, and Directive 42/2001 EC on the assessment of the effects of certain plans and programmes on the environment,

to the Statement of the Ministry of the Environment of the Czech Republic regarding the draft “Update of the Conception of radioactive waste and spent nuclear fuel management”

#### **A) Information on how the requirements and conditions resulting from the statement to the conception were regarded in the approved conception**

On 20 November 2017, under ref. No. MZP/2017/710/2721, the Ministry of the Environment issued its agreeing statement to the draft of the update of the Conception of radioactive waste and spent nuclear fuel management (hereinafter referred to as the conception). It includes the following requirements and conditions that shall be regarded during the implementation of the conception i:

1. It shall be ensured that the effort to maintain the time schedule for the whole process of selecting the final location of the deep geological repository (DGR) does not cause a lowering of the quality and scope of geological, geophysical, hydrogeological and geological research.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The requirement will be continuously fulfilled. The quality of the performed works is the base premise for the processing of the safety evaluation and documentation to relevant authorities that the location of the deep geological repository and its implementation correspond to the legislatively defined requirements.

2. It shall be ensured that the whole process of selecting the final location of the DGR is made within the stage of selecting geological research, research and detailed research on deep holes and the construction of an underground laboratory with minimum effect on the rock environment and natural sources according to the knowledge gained in previous stages and with the maximum technically feasible protection of the environmental components.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. All activities shall be scheduled so that they respect the maximum technically feasible protection of all environmental components. These measures shall be controlled and their fulfilment monitored within the following implementation. Additional measures shall be added as and when required.

3. When solving the surface geological research, the complex biological research on the interest area in order to exclude or limit sites of research with possible negative effect on biotopes and the population of specifically protected plants and animals or species that are nationally important will be ensured from the point of view of their protection.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. At the proposal and before the works are undertaken, the requirement shall be regarded.

4. For all considered locations, the geological, hydrogeological, geochemical and other research shall be done in such a scope and to such a depth that enable the sufficient characterisation of possible depositories and the selection of the most suitable location. Special attention shall be paid to proving the location's suitability from the hydrogeological point of view. The safety and hydrogeological criteria shall be considered as the main criteria for the selection of the final DGR location.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The process of DGR preparation is being made according to this recommendation. The selection of the most suitable location is made in subsequent steps that, based on the performed works, give detailed information and data on the specific location.

Within the first step of selection, the locations will be preliminarily evaluated based on the available archive data and data gained via non-technical works. Within the further step of selection (from the narrowed number of locations) it is assumed that the technical works performed can obtain more detailed data and information from checked locations.

The location will be evaluated based on set criteria (report by SÚRAO TR 2/2015) that include all summarised legislative requirements and relevant IAEA recommendations related to the location of the deep geological repository. According to the IAEA recommendations, the safety criteria shall have the maximum weight (hydrogeological criteria in TR 2/2015 are classified within the group of safety criteria).

5. During the stage of detailed research on deep holes (for four locations of narrower selection) and for the construction of an underground laboratory for the selected DGR location, all excluding criteria from the point of view of environmental effects and public health on the surface (invoked constructions and investments, connection of the underground with the surface), including the possible effect on the location of the Natura 2000 network for relevant concerned research territories, and similarly also all excluding criteria and criteria of conditioned acceptability for underground activities pursuant to Technical report 2/2015, the Requirements, indicators of suitability and criteria of location selection for the deep geological repository, SÚRAO, 2015 (hereinafter "TR 2/2015") shall be rigorously respected (evaluated in advance, and subsequently explained).

Submitter's opinion – Ministry of Industry and Trade:

The requirement will be respected within the process of preparing the DGR.

6. Provided the relevant action is not the subject of an assessment of environmental impacts within the time schedule before the start of the detailed research on deep holes (for four locations of narrower selection) and of the underground laboratory construction for the finally selected DGR location, a specialised document shall be prepared on the effects of the activity in question on the environment and public health within the scope corresponding to EIA documentation, with regard to the fact that the stage of detailed research on deep holes and the underground laboratory construction can involve considerable intervention into the environments of the chosen location and affect public health. The results of this document shall be regarded in further stages of the final DGR location selection and the public in question shall be informed.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The requirement will be fulfilled within the process of preparing the DGR.

7. Within the selection of the final and backup DGR location and subsequent situation of new constructions, including the enlargement of current roads, territories outside undermined areas, protected depository areas, mining areas, deposits of minerals, lands for forest growing and agricultural lands under the I. and II. category of protection shall be preferred.

Submitter's opinion – Ministry of Industry and Trade:

The process of locating the DGR shall respect to the maximum scope the stated requirement. Localities and the subsequent location of the DGR area shall be evaluated based on set criteria (report by SÚRAO TR 2/2015) that summarise all legislative requirements and relevant MAAE recommendations related to the location of the DGR.

8. In the case that protected deposit areas, mining areas and mineral deposit areas are affected, a detailed engineering geological study shall be prepared. In the case of undermined areas, a mine history evaluation shall be prepared.

Submitter's opinion – Ministry of Industry and Trade:

As for the above-stated situation, the requirement will be fulfilled within the process of preparing the DGR.

9. As for the relation to all performed research on the final DGR locations it shall be ensured that the water system of the given area is not affected and the release or leakage of pollutants into surface as well as underground waters shall be eliminated.

Submitter's opinion – Ministry of Industry and Trade:

All activities shall be scheduled so that they respect the maximum technically feasible protection of the environmental components. Within the subsequent implementation, such measures shall be checked and their fulfilment monitored. If necessary, further measures shall be added.

10. Within the implementation of the goals of the update of conception, where the emissions and acoustic load can be expected within the stage of DGR and surface plant construction, the measures for emissions and acoustic load minimisation shall be performed. Within the operation of the DGR and the surface plant at the final selected location, the effects on emissions and namely noise load shall be minimised with regard to the closest dwelling area and in order to observe hygienic limits.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. Within the process of preparing the DGR the requirement will be respected and regarded in the location of the DGR as well as in the project documentation of the technical solution proposal.

11. The excluding criteria that will be obligatory to be observed for the whole process of final selection of the DGR and surface plant shall include the whole territories of national parks and protected landscape areas (not only the I. and II. zones of these large-surface specially protected areas of nature) as well as the lands of natural reservations and natural monuments (of which the occurrence at the territory of a part of the location determined for the surface plant of DGR is currently only a conditioning criterion). TR 2/2015 shall be updated within this sense of meaning.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The requirement will be regarded within the procedure of preparing the DGR.

12. The criteria that are necessary to be fulfilled within the whole process of final location selection shall also include the verification of the provable observation of safety criteria from the hydrogeological point of view in such terms that the proposed area for the underground laboratory and the surface plant of the DGR cannot hydrogeologically communicate with the surface waters within the research territories of the proposed locations. TR 2/2015 shall be updated within this sense of meaning.

Submitter's opinion – Ministry of Industry and Trade:

The requirement will be regarded to the maximum within the process of preparing the DGR.

As stated in Technical report SKB TR-00-12, with regard to the primary properties of the crystalline rock environment, the existence of a network of cracks and tectonic defects, the movement of underground water cannot be absolutely avoided in the area of the depository. The probable hydrogeological communication shall be small as it cannot make possible the rapid exchange of underground water and thus surface water contamination.

The selection of the location is ruled by strict regulations in which sites with the presence of continuous water zones and tectonic defects of a higher level are excluded. The deceleration of surface water course shall be ensured by the multi-barrier system that shall include, besides the natural barrier (the rock environment itself) preventing water migration, the container, bentonite cover and filling of storage corridors and shafts with water-proof material.

13. The proposed location of the surface plant of the DGR shall also regard the occurrence of important landscape elements, the scope of natural parks, the position of functional compositional elements of ÚSES, the more important biodiversity centres with a higher portion of natural

biotopes and the occurrence of specially protected species populations, and with the position of long-distance migration corridors in important territories of the Czech Republic from the point of view of migration, based on the outputs of preventive research work within the nature protection sphere. Provided it is proven that the interaction with these elements within the surface plant of the DGR cannot be fully eliminated, the location with the most minimal effect shall be chosen within the conception preparation of invoked investments in technical and transport infrastructure for the purpose of constructing and operating the DGR.

Submitter's opinion – Ministry of Industry and Trade:

The requirement will be respected within the process of preparing the DGR and shall be regarded at the location of the DGR area as well as in the project documentation of its technical solution.

14. The technical steps for selecting and characterising final depositories, as well as the criteria for selection pursuant to IAEA (2011a) and WENRA WGWD (2014a) shall be set.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The process of preparing the DGR is being done according to this recommendation.

15. Analyses of future geodynamic and climatic changes pursuant to IAEA (2011a) shall be performed for the candidate locations of final depositories.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The process of preparing the DGR is being done according to this recommendation.

16. The complex measure pursuant to the current status of science and technology, ensuring the safety for long-term storage and subsequent transfer into the DGR shall be defined.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The process of preparing the DGR is being done according to this recommendation.

The safety of stored spent nuclear fuel (SNF) is based on the used container (CASTOR). It is licensed by SÚJB and conforms to the legislative requirements of Directive 379/2016 Coll. on type approval. SÚJB monitors the observance of these requirements. From the long-term point of view, lifetime monitoring is ensured by the operator and documented in periodic safety reports presented to the State Office for Nuclear Safety (ÚSJB).

17. In the handling of RAW and SNF, including the preparation of the DGR, the results of technical development shall be respected, including the chosen criteria for selecting projects related to the update of the conception.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The process of handling RAW and SNF as well as the process of preparing the DGR is being done according to this recommendation.

18. Document TR 2/2015 shall be continuously specified from the point of view of surface plant and related infrastructure and the observance of new knowledge, including technical development and the chosen criteria for selecting projects related to the update of the conception.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The requirement will be observed within the process of preparing the DGR. The first update has been made in connection with the change of Act No. 263/2016 Coll. and related directives.

19. Decisions on future SNF management shall be made within the factual and documented decision-making process (pursuant to Directive 2011/70/Euratom, art. 4, par. 3, f).

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement.

20. Protection against external, extra-project effects, including possible terrorist attack, shall be newly considered for temporary storage. The decision on temporary storage shall be made within the factual and documented decision-making process (pursuant to Directive 011/70/Euratom, art. 4 par. 3, f).

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The securing of the fuel cycle end is being done according to this recommendation.

The inter-storage of spent nuclear fuel (temporary storage) is owned by the operator.

The safety of stored SNF is based on the used container (CASTOR). It is licensed by SÚJB and conforms to the legislative requirements given by Directive 379/2016 Coll. on type approvals. Such requirements also take into account the requirement on the leakage-proof character of the container under very extreme situations such as possible terrorist attacks. SÚJB monitors the observance of such requirements. The decision-making process is defined by Act No. 263/2016 Coll., the Atomic Act.

21. The neighbouring states shall be informed annually on the fulfilment of the schedule of the whole process of selecting the final DGR location during the bilateral meetings.

The bilateral meetings in the presence of Ministry of Industry and Trade representative are held with Austria and Germany. The issue of radioactive waste management is discussed pursuant to the requirements of the participating parties.

22. The complex transparency of the whole process of selecting the final DGR location shall be enabled, at the national as well as the cross-border level.

Submitter's opinion – Ministry of Industry and Trade:

The complex transparency of the whole process of selecting the final DGR location will be enabled.

Cross-border participation for a larger selection of suitable locations for the DGR is not assumed. The EIA process will be run for two specific and most suitable locations selected from the larger selection, based on the evaluation of cross-border effects, with possible cross-border participation.

23. In the implementation of the conception update, i.e. at the preparation and implementation of individual projects and activities that shall fulfil the proposed targets and measures of the relevant update of the conception the criteria for selecting projects pursuant to Chapter 11 of the adapted SEA evaluation shall be applied.

Submitter's opinion – Ministry of Industry and Trade:

The requirement will be regarded within the process of preparing the DGR.

24. In the case of substantial changes to the conception, repeated evaluation within the SEA process shall be undertaken. Such a substantial change can include, for example, the enlargement of the list with a new candidate location for the final DGR (for example ETE South or EDU West, which are currently the object of preliminary investigation). The new update of the conception shall be processed sufficiently in advance before the expiration of the validity of this conception.

Submitter's opinion – Ministry of Industry and Trade:

Provided the conception is basically changed, the conception shall be subsequently updated and the evaluation of the effects on the environment shall be done within the scope given by the valid legislation (Act No. 100/2001 Coll.).

25. The measures for monitoring and analysing the effects of the updated conception on the environment and public health shall be ensured pursuant to § 10h of the Act on evaluation of effects on the environment. The development of environment quality shall be monitored in the relevant territory based on the monitoring indicators stated in Chapter 9 of the adapted SEA

evaluation. The effect of the updated conception implementation, including the effects on the environment, shall be evaluated at regular intervals with the publication of a summary report. In the case that serious negative effects on the environment are found, the continuous updating of this conception shall be made and further obligations resulting from the above-stated provisions shall be observed.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The requirement will be observed and gradually implemented.

26. The submitter of the update of the conception shall publish on its website the settlement of all received opinions and objections regarding the proposal of the conception update as well as its evaluation and shall publish the approved updated conception. In addition, the submitter shall prepare the reasoning pursuant to the provisions of § 10g par. 4, second sentence, of the Act on the evaluation of effects on the environment.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. Following the approval of the conception, the requirement will be fulfilled.

#### **Requirements from the point of view of the localities of the NATURA 2000 network:**

27. The situation of the surface area as well as its entry into the underground laboratory in the area of SCI or SPA shall be assumed to be unacceptable and the existence of SCI and SPA shall be considered as elimination criteria for the location of such surface plants, even in cases when, based on the evaluation of elimination criteria pursuant to TR 2/2015 out of the area of nature protection, the locations of the Hrádek and Kraví Hora research territories will be still considered for the purpose of DGR preparation.

Submitter's opinion – Ministry of Industry and Trade:

The requirement will be regarded within the process of preparing the DGR.

If the Hrádek and Kraví Hora localities are recommended for a further selection step, the conditions shall still be observed that the situation of the surface area as well as its entry into the underground laboratory in an SCI or SPA area shall be assumed to be unacceptable and the existence of SCI and SPA shall be considered as elimination criteria for the location of such surface plants.

28. The existence of SCI and SPA within the research territory shall be preliminarily considered as exclusion criteria pursuant to TR 2/2015 just for the location of research geological works in the form of deep holes. Provided proof of the necessity of performing such works in the territory of the SCI and SPA is presented due to the verification of structurally geological and hydrogeological conditions in these research territories, the preliminary evaluation of possible effects on the subject of the protection and integrity of these SCI and SPA shall be ensured based on the complex biological research and biotope mapping, and based on the outputs of this research, the scope of the research works of the given character shall be excluded or limited.

Submitter's opinion – Ministry of Industry and Trade:

We agree with the requirement. The requirement will be regarded within the process of preparing the DGR.

Provided it will be necessary to perform the research works in the territory of the SCI and SPA, all activities shall be scheduled so that they respect the maximum technically feasible protection of all environmental elements. During the following realisation, such measures shall be controlled and their fulfilment monitored. Additional measures can be added as and when necessary.

29. If one of the chosen localities for the DGR solution is the location of the Čertovka research territory, its location in SPA Doupovské Hory shall be expressly avoided for the location of the surface plant.

Submitter's opinion – Ministry of Industry and Trade:

The requirement will be regarded within the process of preparing the DGR.

30. Special attention shall be paid to the occurrence of natural sites of SCI and SPA subjects of protection, and also of localities with the occurrence of species biotopes that are protected within SCI and SPA found in the updates of the conception of the given defined research territories of the DGR or selected research territories of the DGR or their vicinity. For this reason, when implementing specific future intentions that shall be based on goals and milestones given by the proposed update to the conception, the eventual collision of such intentions with such localities shall be evaluated in order to remove or minimise such possible interventions.

Submitter's opinion – Ministry of Industry and Trade:

The requirement will be regarded within the process of preparing the DGR.

**B) Information on how the statement of the relevant state was regarded in the approved conception provided such conception was the subject of inter-state evaluation pursuant to § 14a**

The inter-state consultations with representatives of Austria were held at the Ministry of Industry and Trade on 11 September 2017. The key topics, questions and recommendations to the conception adaptation were the main subject of the consultation. The report on this inter-state consultation, including a written settlement of Austria's opinion, were translated into German and sent to the Austrian party for evaluation. The final opinion of the Austrian party includes many recommendations that will be used during the implementation of the conception. At the same time, it was agreed to discuss the individual technical issues at bilateral Czech-Austrian meetings for issues around nuclear safety.

The opinions of surrounding states could not be regarded in the conception as they namely related to its implementation. The conception is prepared in general and the requirements stated in opinions will be regarded for specific projects. The settlement, together with the approved conception, will be sent to all surrounding states.

**C) Reasoning of the selected variant, in case the proposal of conception was made in various variants**

The update of the conception of RAW and SNF management considers only real and currently technically feasible variants:

- Zero variant (long-term storage in SNF storage). With regard to contained radionuclides in SNF and their half-life in tens of thousands of years, this is a variant of which the possibilities are technically limited by the lifetime of the technical equipment (storage and its technical equipment, and the storage packing sets). Following the expiration of its declared lifetime, the SNF (of which the structure material will degrade too) shall be repeatedly removed to new backing sets; in such a case it would be necessary to prepare the construction and long-term maintenance of a workplace that could repeatedly remove and transfer SNF in new package sets
- The use of reworked spent fuel in quick reactors of the IV. generations and storage of residuals of this process – this variant is shown in the conception and only influences the size of the DGR (not the size of the related surface plant)
- The storage of SNF or RAW in the DGR – from the safety point of view, with regard to the character of stored waste, this is the only suitable solution. Whether the deep storage can be international and cover the needs of various countries shall be solved by the legislation of individual countries. Currently, the import of radioactive waste is fully excluded; the exception relates to the return of waste from the reworking of SNF in the country of its originator.

As for the final storage of RAW (permanently not storable in surface storage) and SNF, under the current terms of development and research, the DGR is the only solution for the Czech Republic.

**D) Information on the public participation in preparing the conception and during environmental assessment of the conception**

The Czech public was involved just within the SEA process, including the public discussion of the update of the conception, including the SEA evaluation and nature evaluation held on 28 June 2017 according to the Act on evaluation of effects on the environment.

The public could comment on all stages of the SEA process. The received opinions were settled, as this is one of the prerequisites for the issuance of SEA opinion.

Even the cross-border effects of the update of the conception on the territories of surrounding states were not identified by the authorised person, based on the requirement resulting from Article 7 of the SEA Directive that all surrounding states received, on 21 June 2017, via electronic means, the proposal of the update of the conception with the SEA and nature evaluation (hereinafter the "SEA report") and a brief summary of these documents in Czech, German and English. At the same time, the surrounding states were asked for their opinion as to whether they wished to undertake an international consultation pursuant to the above-stated article of the SEA Directive. The Ministry of the Environment, based on the stated request, received opinions from all surrounding states, whereas only Austria asked for international consultation in the form of a bilateral meeting. Slovakia, Poland and Germany applied written notes to the discussed update of the conception and SEA report. The addressed states also ensured, according to the SEA Directive, the publication of the sent documents in their territories, thus the public of the surrounding states could be involved in the inter-state strategic environmental assessment(hereinafter the "SEA process").

**E) Information on the accepted measures for monitoring and analysing the impacts of the conception on the environment and public health pursuant to § 10h.**

In order to monitor the impacts of the updated conception on radioactive waste and spent nuclear fuel management on individual components of the environment, the SEA processing team has chosen a basic set of monitoring indicators (Chapter 9 Evaluation of the conception). To provide sufficiently effective monitoring of the impacts on the environment, the monitoring indicators will be included in the whole system of monitoring the impacts of the conception implementation. Their monitoring shall be done in the whole scope and the results will be published in periodic evaluations of the conception.

The indicators are designed so that they cover all aspects and topics of the environment solved within the evaluation.

<b>Environmental elements and problematic topics of environment protection</b>	<b>Proposal of environmental indicators for the performance of conception goals</b>	<b>Source</b>
Public health	Number of relevant inhabitants in possibly affected localities	ČSÚ
Public health – non-radiation charge	Emission background – air quality Acoustic charge	ČHMÚ MZd ČR, possibly authorised noise measurements
Public health – radiation charge	Release of radionuclides	SÚJB
Air	Emission background of possibly affected localities (5-year arithmetic averages of monitored pollutants)  Balance of emissions from the implementation of individual intentions of the conception	ČHMÚ  Implementation projects



	Balance of emissions from the operation of individual intentions of the conception	Summary operational records, ČHMÚ
Noise	Strategic noise maps (SHM) and related action plans (AP)	MZd ČR, or authorised noise measurement
Surface water	Quantitative and qualitative parameters of possibly affected water flows  Number of sampled surface waters  Quantity and quality of released waters (waste, process and rain waters)	ČHMÚ, Povodí s.p.  Implementation projects, VÚ TGM – HEIS  Implementation projects, VÚ TGM – HEIS
Underground water	Basic hydrogeological relations of potentially affected territory  Number of sampled underground waters  Quantity and quality of released waters (waste, process and rain waters)	ČGÚ, Geofond, or own hydrogeological research  Implementation projects, VÚ TGM – HEIS  Implementation projects, VÚ TGM – HEIS
Soil	Scope of new annexations of soil due to surface plant implementation	CENIA, ČÚZAK and Implementation projects
Mineral environment	Parameters of mineral massive regarding its suitability for DGR construction	ČGÚ, Geofond, and own geological research
Natural sources	Inventory of natural sources in possibly affected territory	Geofond, Mine Office
Waste – RAW	Inventory and prediction of volume of RAW stored in surface storage  Inventory and prediction of volume of RAW (except for SNF) unacceptable for surface storage  Inventory and prediction of volume of RAW of type NORM  Inventory and prediction of volume by SNF originators	SÚRAO  Originators, SÚRAO  Originators  SÚRAO
Fauna, flora, ecosystems	Surface scope of surface plant in protected territories pursuant to Act No. 114/1992 Coll. as amended	AOPK
Biodiversity	Scope of interventions in functional structural elements of ÚSES, important landscape elements “based on the law” and quality of natural biotopes	AOPK, CENIA and Implementation projects

Assets and cultural monuments	Number of endangered cultural monuments and assets in possibly affected territory	Central register of cultural monuments
-------------------------------	---	--

The results of monitoring the possible impacts of the conception on the environment will be published in the annual reports of SÚRAO based on the individual implementation stages. The annual reports of SÚRAO are discussed and approved, pursuant to the Atomic Act, by the Government each year, and are available on the SÚRAO website. The implementation of the conception shall regard the continuous monitoring of outputs of the general monitoring of the environment of the Czech Republic, made by the Ministry of the Environment, and any eventual negative effect shall be addressed in a further update of the conception.