

KOZLODUY NPP EAD, Kozloduy

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**TO ALL
INTERESTED PARTIES**

CLARIFICATIONS

REGARDING: Conducting market consultation on the grounds of Article 44 of the PPA for submission of indicative proposal for the “Design, procurement and commissioning of dry cask system for storage and transportation of spent nuclear fuel from WWER-1000 reactors”.

Ladies and gentlemen,

In connection with the conducting of market consultations for submission of indicative proposal for the “Design, procurement and commissioning of dry cask system for storage and transportation of spent nuclear fuel from WWER-1000 reactors”, Kozloduy NPP EAD provides the following clarifications:

Question No. 1: At what date is the project expected to be started?

Response The Project shall start with the Contract signing.

Question No. 2: Time schedule: Is it correct that the design shall be finalized 2 years after project start, and the license and the first 4 casks shall be delivered 2 years after design finalization (meaning 4 years after project start)?

Response: The Design completion deadlines are specified in Clause 1.8 of the ToR, with a timeframe of 4 years for the first two stages (2 years per stage). This period shall be taken as a maximum.

Question No. 3.: What type of equipment is expected to be delivered (e.g., for cask transportation, on-site-handling like lifting, loading, commissioning, He-LT-testing etc.)?

Response: Clause 2.1 of the ToR states that the Contractor shall assess the equipment and conditions available at the two SNF storage facilities. It is expected that the newly supplied equipment will be an upgrade of the existing equipment, taking into account existing constraints, selected design and cask storage period.

Question No. 4: Is it planned to unload the casks?

Response: In accordance with the regulations, the casks shall provide for fuel removal.

Question No. 5: In the ToR the term “operational states and emergency conditions” or “normal operations and emergency situations” is used very often. What is meant with “emergency conditions” or “emergency situations”?

Response: The requirements to the cask design for normal operation and emergencies shall comply with the regulations and requirements stipulated in the SNF dry storage standards.

Question No. 6: It is indicated in the ToR that the heat capacity shall be minimum 20 kW. What maximum heat capacity can be considered? This is relevant because of the direct influence in the outer dimensions / weight of the cask.

Response: The heat capacity, size and weight of the casks shall be consistent with the transport, handling and storage constraints at the two SNF storage facilities of the Plant.

Question No. 7: The FA-specification is very brief:

- Initial enrichment of fuel elements is up to 5%wt ²³⁵U;
- Average burnup up in the assemblies to 62,6 MWd/kgU;
- Amount of heavy metal up to 484 kg
- Could you provide further Information on the numbers of FA-types, burnup + cooling time, max. enrichment?

Response: Further information will be provided at a later stage.

Question No. 8: For clarification, the new cask will be loaded in the wet storage (named in the ToR as FSF-Facility, SNFSF, SNF refuelling bay) where the CONSTOR® 440/84 has been loaded and prepared for transport?

Response: Handling of the new casks (loading and unloading) shall be carried out at the Wet Spent Fuel Storage Facility of the Plant. Handling of different types of casks shall be carried out at the same location of the WSFSF.

Question No. 9: Can a drawing of the SNFS including loading bay and of the DSFSF be provided?

Response: Further information will be provided at a later stage.

Question No. 10: For clarification, the required approval from the Bulgarian Nuclear Regulatory Agency (NRA) will be for storage only or for transportation on public roads and storage?

Response: Clause 1.2 of the ToR specifies that the casks shall be dual purpose – for dry storage and transport of SNF.

Question No. 11: As the contractor is required to determine a storage regime in the DSFSF with and without existing CONSTOR® 440/84, what are the thermal limitations of the DSFSF (total heat of DSFSF, temperature of concrete ground and walls)?

Response: Further information will be provided at a later stage.

Question No. 12: Under item 1.9.2) of the ToR the following option is stated: “Stage 1 plus Stage 1A (without containers CONSTOR® 440/84 in Stage 1)”: Does it mean that the existing CONSTOR® 440/84 casks will be removed from Stage 1?

Response: The analyses need to determine the capacity for storage of the new casks in the existing Dry Spent Fuel Storage Facility.

Question No. 13: Under paragraph 1.7 the wording “non-dissemination” or under paragraph 2. “zero-release concept even after an event with low probability” is used. It is assumed that “non-dissemination” or “zero-release” is the covered by the IAEA definition for tightness (10⁻⁶ A2 per h under normal conditions and 10 A2 per week for accidental conditions). Is our assumption correct?

Response: The cask design shall comply with the applicable regulations and standards for dry storage of SNF.