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бул. "Шипченски проход" 69, тел. 9406 800

Per. № 192-00-32/27082024

## АГЕНЦИЯ ЗА ЯДРЕНО РЕГУЛИРАНЕ

### INVITATION TO PARTICIPATE IN MARKET CONSULTATIONS

on the basis of Art. 21, para. 2 and Art. 44, para. 1 of the ZOP to establish an estimated value when awarding a public contract with the subject: „*Technical support to the Bulgarian Nuclear Regulatory Agency in the authorization of the design and construction of KOZLODUY NPP unit 7*”

**DEAR LADIES AND GENTLEMEN,**

The Bulgarian Nuclear Regulatory Agency (BNRA) intends to contract a technical support organisation (TSO) for consulting the regulatory decisions to be made in the process of regulatory review of the design and the oversight of equipment manufacturing and preparatory construction works for unit 7 of Kozloduy Nuclear Power Plant (NPP). The purpose of this paper is to conduct market consultation in accordance with Article 44, para 1 of the Public Procurement Act in order to determine an estimated value when awarding the aforementioned public procurement.

The technical support shall consider the regulatory activities within a 5-year period and shall cover at least the regulatory review of the design and Intermediate Safety Analysis Report (ISAR), oversight of the manufacturing and testing of long lead items related to safety, preparation for construction inspections, inspection of construction programs, as well as review of potential design modifications.

Inquiries in connection with the conducted market consultations can be sent until 17:00 on 03.09.2024 to e-mail: [e.tsvetanova@bnra.bg](mailto:e.tsvetanova@bnra.bg), and the explanations will be published in the Profile of the buyer in the CAIS EOP.

**Deadline for submitting indicative offers: until 17:00 on 10.09.2024.**

Indicative offers are submitted by the specified deadline in a sealed envelope to the NRA office, or to e-mail: [e.tsvetanova@bnra.bg](mailto:e.tsvetanova@bnra.bg). Indicative offers submitted by e-mail must be signed with an electronic signature.

Indicative offers and any other information exchanged on the occasion of the market consultations will be published in the profile of the buyer in the CAIS EOP of the NRA, and the information protected by law will be deleted.

By submitting an indicative proposal, each participant in the market consultations agrees that the proposal and any other information provided as a result of the market consultations will be publicly available.

We inform you that the indicative proposals presented by you in the current market consultations are not binding in the event of subsequent participation in the public procurement, as they have the sole purpose of conducting a study of real market prices to serve as a basis for determining of



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the estimated value of the future public procurement.

## **Applications:**

1. Technical specification
2. Indicative proposal – sample

## **CONTRACTING AUTHORITY:**

**Tsanko Bachiyski,**  
**Chairman of the NRA**

**TECHNICAL SUPPORT TO THE BULGARIAN NUCLEAR REGULATORY AGENCY IN  
THE AUTHORISATION OF THE DESIGN AND CONSTRUCTION OF KOZLODUY  
UNIT 7 NPP**

The Bulgarian Nuclear Regulatory Agency (BNRA) intends to contract a technical support organisation (TSO) for consulting the regulatory decisions to be made in the process of regulatory review of the design and the oversight of equipment manufacturing and preparatory construction works for unit 7 of Kozloduy Nuclear Power Plant (NPP). The purpose of this paper is to conduct market consultation in accordance with Article 44, para 1 of the Public Procurement Act.

**General information**

The authorisation process of a new nuclear facility is regulated with the Bulgarian Act on the Safe Use of Nuclear Energy and the Regulation on the procedure for issuing licenses and permits for safe use of nuclear energy.

According to the legal requirements BNRA grants the following authorisations:

- Permit for site selection;
- Order for approval of the selected site;
- Permit for design;
- Order for design approval;
- Permit for construction;
- Permit for commissioning;
- Licence for operation.

Bulgaria is planning to build two new nuclear power units at the Kozloduy NPP site – unit 7 and unit 8. A new state-owned company “Kozloduy NPP – New Builds” PLC was established as a subsidiary of the existing company “Kozloduy NPP” PLC. The new company “Kozloduy NPP – New Builds” PLC is the holder of the Order for approval of the selected site for unit 7 and will be the applicant for permit for design. The authorisation of unit 8 has not been started yet.

The National Assembly of Bulgaria endorsed the AP1000® technology for the two new nuclear units, with vendor - Westinghouse Energy Systems LLC. The selection process for Constructor for engineering, construction, procurement and commissioning of the AP1000® units in Kozloduy was completed in April 2024. Currently the process for initial assessments and organization of project implementation is under way aimed at signing of EP+C contract.

The National Assembly of Bulgaria also approved a preliminary high level schedule for the project that foresees the following milestones:

- Contract for the supply of long lead items – September 2025;
- Application for design approval – December 2026;
- Order for design approval – August 2028;
- Permit for construction – May 2029.

The technical support shall consider the regulatory activities within a 5-year period and shall cover at least the regulatory review of the design and Intermediate Safety Analysis Report (ISAR), oversight of the manufacturing and testing of long lead items related to safety, preparation for

construction inspections, inspection of construction programs, as well as review of potential design modifications.

The financial assessment of the organisations expressing initial interest to the current request shall consider these activities. More detailed description of the tasks and activities will be provided in the ToR for an open tender procedure.

## **General description of the technical support**

*The expected tasks of the technical support are grouped in two main Components:*

### **Component 1. Support in the review of safety demonstration documents for design approval and subsequent authorization of design modifications**

The component would include at least the following activities:

- Review of the safety documentation submitted with the application for design approval, including ISAR, Probabilistic safety analysis, safety related parts of the basic design;
- Review of the vendor/applicant management systems, including the organization for project implementation, project quality plan, delivery model, etc.;
- Review of potential applications for design modifications to be made after the approval of the basic design.

A special focus shall be given to issues specific for new plant designs, such as:

- Safety concept and independence of the levels of defence in-depth;
- Definition of the design basis events for the site specific external hazards, protection against design basis external events, consideration in the design of events more severe than the design basis external events (extreme events);
- Analytical and experimental demonstration of the effectiveness of the passive systems;
- Verification and validation status of the computer codes used in the safety analysis;
- Radiation protection and management of the spent fuel and radioactive waste.

### **Component 2. Support to BNRA for inspection activities**

This support to BNRA would include an oversight of component manufacturing and preparation for construction inspections, as follows:

- Development of Regulatory Guide for inspections of equipment manufacturing, site preparation, construction and installation, equipment and systems testing and preoperational testing;
- Development of Inspection Plan covering the processes of fabrication, construction, installation and testing of safety related equipment;
- Oversight of the manufacturing and testing of long lead items related to safety,
- Preparation for construction inspections and oversight of construction programs, including quality management.

At the initial stage the supporting organization shall review the existing BNRA internal Procedure for regulatory inspections and shall develop a draft Regulatory Guide for inspections during manufacturing of equipment, site preparation, construction and installation works, equipment, systems and preoperational tests. The draft shall be based on the IAEA standards and best engineering practices considering the AP1000 specific issues.

An inspection plan shall be developed considering a flexible staffing model that can more readily adapt to the dynamic nature of construction and commissioning. The inspection planning shall allow more agile approach providing cross-trained inspectors that could support multiple disciplines throughout the construction.

The support in the oversight of long lead items fabrication shall include vendor inspections, indirect inspections (inspections of licensee's surveillance of the vendor), QA audits, sample technical inspections and witnessing of components testing.

The preparation for construction inspections and the oversight of construction programs shall involve, among others, review of procedures and programs for construction, installation, conducting of factory and on-site acceptance tests, inspections and experiments.

### **Organizational arrangements**

The following areas of competence shall be available within the supporting teams during the contract implementation:

- Legal requirements, regulations and regulatory guides in the area of nuclear safety;
- IAEA safety standards;
- ASME Section III Code;
- Deterministic and Probabilistic Safety Analysis;
- Nuclear Fuel;
- Geotechnical and Seismic aspects;
- Radiation protection;
- Systems Design: nuclear and turbine island;
- Passive systems;
- Core Components;
- Mechanical Systems;
- Electrical Systems;
- Operation and Control System;
- HVAC;
- Vessel, Piping and Ductwork;
- Heavy Lifting Equipment;
- Switchyard and Offsite Power System;
- Cooling and Service Water System and Sewage and Waste Water Treatment;
- First and second circuit Chemical System;
- Chemical, Fuel, and Gas Treatment Systems;
- Radioactive Waste Management System;
- Fire System;
- Quality Programs;
- Engineering Configuration Management;
- Virtual Design, 3D model and applications;
- Civil construction works;
- Plant Security;
- Safeguards;
- Emergency Preparedness;
- Cyber Security;
- Personnel Training and Simulator.

The following specialized engineering teams shall be available during the contract implementation:

- Site Engineering;
- Construction Inspections;
- Vendor Inspections.

The offers shall provide an indicative cost assessment based on an indicative number of allocated experts and their workloads both on site and in home office on monthly basis and per years.

## INDICATIVE OFFER

to determine an estimated value of upcoming public procurement with the subject:  
**„Technical support to the Bulgarian Nuclear Regulatory Agency in the authorization of the design and construction of KOZLODUY NPP unit 7"'**

From .....  
.....  
/ name of the participant /

with registered office and address of management  
..... represented by .....  
..... in  
the capacity of ....., tel.....  
e-mail:.....,

DEAR LADIES AND GENTLEMEN,

After reviewing the invitation and technical specifications for the above order, we have prepared and present to your attention our indicative proposal for determining the estimated value:

.....(.....)  
price in BGN, excluding VAT.

The price is in accordance with the technical specifications and the invitation for market consultations.

.....  
.....2024

Sincerely:.....  
/name, position, signature/