KOZLODUY NPP EAD Kozloduy

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CALL FOR MARKET CONSULTATION No. 56663
on: "Laboratory testing of "КПоСГ" and "КПоБОВ" cable types important for the safety of Kozloduy NPP Units 5 and 6 in order to evaluate their qualified service life and ability to perform their intended functions in harsh environments (LOCA)"

Kozloduy NPP EAD informs all interested parties that in relation to the preparation for the award of public procurement and determination of the estimated values pursuant to Article 44 of the PPA is collecting indicative proposals for: **"Laboratory testing of "КПоСГ" and "КПоБОВ" cable types important for the safety of Kozloduy NPP Units 5 and 6 in order to evaluate their qualified service life and ability to perform their intended functions in harsh environments (LOCA)"**

The proposals shall include:

1. Unit price for each stage for the performance of the service and total value for the performance of the service excluding VAT according to the requirements specified in Attachment 1 – Terms of reference;
3. Information about service implementation deadline;
4. Exact address and contact person, telephone, fax, e-mail, website.

Inquiries regarding the market consultations may be made by 15 August 2025 at the following e-mail: commercial@npp.bg and the clarifications shall be published in the Buyer's profile - Commercial Activities/Public Procurements/Market Consultations Section.

Deadline for the receipt of the indicative proposals: up to 20 August 2025 at the following e-mail address: commercial@npp.bg.

The indicative proposals and any other information exchanged during the market consultations held shall be published in the Buyer's profile - Commercial Activity/Public Procurements/Market Consultations.

By submitting an indicative offer, each participant in the market consultations agrees that the proposal and any additional information provided as a result of the market consultations will be made available to the public in the Buyer's profile.

The Contracting Authority retains the rights to use indicative proposals received in the course of market consultations for awarding public procurements up to the value thresholds of Article 20, para. 4 of the PPA.

Further information can be obtained from Head of Contracts Department, Commercial Division, telephone: +359 973 7 3977.

Enclosures:

1. Terms of reference and annexes thereto

TERMS OF REFERENCE

For service

SUBJECT: Laboratory testing of 'КПоСГ' and 'КПоБОВ' cable types important for the safety of Kozloduy NPP Units 5 and 6 in order to evaluate their qualified service life and ability to perform their intended functions in harsh environments (LOCA).

These ToR contain a technical specification in accordance with the Public Procurement Act.

1. Service Subject

Subject of these Terms of Reference is the conduct of laboratory testing of safety-important Soviet-manufactured cable samples operated at Kozloduy NPP Units 5 and 6 in harsh environments – LOCA (in the containment) of types 'КПоСГ' 14x2.5 and 'КПоБОВ' 14x2.5 in order to evaluate their qualified service life and ability to perform their intended functions in harsh environments (LOCA).

2. Service Scope

The service scope includes the following activities:

2.1. Development of a methodology (test plan) for the laboratory testing of cables.

2.2. Laboratory testing of the selected cable samples (two per cable type) as per the methodology specified in Section 2.1 covering accelerated thermal and radiation ageing and testing of the samples in a LOCA chamber. One of the 'КПоСГ' cable samples shall be aged to demonstrate 5 years of service life and the other sample shall be aged to demonstrate 10 years of service life from 30 June 2029. One of the 'КПоБОВ' cable samples shall be aged to demonstrate 5 years of service life and the other sample shall be aged to demonstrate 10 years of service life from 30 June 2033.

2.3. Testing results report with a conclusion on the demonstrated qualified service life of the cables.

3. Service delivery logistics

3.1. Service activity completion plan

The timeframe for completion of all the activities is 12 calendar months.

The work shall be carried out in stages, in the following sequence:

Stages	Timeframe for completion of the stage (X is the effective date of the contract)	Delivery (by the Contractor to the Contracting Authority)	Concurrence/ Acceptance at Kozloduy NPP
0. Quality Assurance Programme	X + 20 days	Quality Assurance Programme	Concurrence
1. Methodology (test plan) for the laboratory testing of cables	X + 3 months	As per Section 2.1 of these ToR	Acceptance at an expert panel sitting
2. Laboratory testing of cable type samples	X + 11 months	As per Section 2.1 of these ToR	Attendance of the Contracting Authority at the tests
3. Test records and Final Report on testing results	X + 12 months	As per Section 2.1 of these ToR	Acceptance at an expert panel sitting

3.2. Conditions for Service delivery

The cable samples required for service delivery shall be provided by the Contracting Authority. The Contracting Authority shall hand over the cables to the Contractor based on a bilateral handover certificate.

The Contractor shall have a LOCA chamber capable of creating the required environmental parameters.

3.3. Regulatory and technical documents

The requirements of the following regulatory documents shall be complied with when delivering the service:

[1] Guide 'Qualification of nuclear power plant structures, systems and components important to safety', PP-21/2021, Bulgarian NRA

[2] IEC/ IEEE 60780-323:2016 Nuclear facilities – Electrical equipment important to safety – Qualification.

[3] IEEE std 383TM-2015 - IEEE Standard for Qualifying Electric Cables and Splices for Nuclear Facilities

3.4. Service acceptance criteria

The stages of service delivery, as specified in Section 3.1, shall be accepted by the Contracting Authority at an expert panel sitting.

4. Documentation

4.1. Documents submitted by Kozloduy NPP EAD

The input data required to complete the activities under these Terms of Reference shall be submitted to the Contractor in the form and format available at Kozloduy NPP in accordance with 'Quality procedure. Transfer of input data to Contractors', ДОД.ОК.ИК.1194.

The basic cable specifications are shown in Attachment 1.

The bounding temperature and pressure test profiles for the LOCA chamber test are shown in Attachment 2.

4.2. Documents submitted by the Contractor

The documents shall be submitted in their original language, in Bulgarian and English (three copies each), as well as digital versions.

4.3. Reporting documents

The Contractor shall provide the required reporting documents in accordance with the stages and timeframes set out in Section 3.1 as follows:

- Methodology for the laboratory testing of cables
- Test reports for each cable as per test methods
- Final service completion report.

4.4. Document enforcement procedure

The reporting documents submitted by the Contractor shall enter into force after their acceptance by the Contracting Authority at an expert panel sitting in accordance with the stages and timeframes set out in Section 3.1. The Methodology and Final Report shall be accepted at an expert panel sitting within 30 calendar days from the date of receipt by the Contracting Authority.

5. Quality assurance requirements

5.1. Contractor's management system (MS)

The Contractor shall apply a quality management system as per BDS EN ISO 9001:2015, 'Quality management systems – Requirements', covering the activities under these ToR, for which they shall provide a copy of a valid certificate, or other evidence of equivalent compliance with the requirements set out in these ToR.

5.2. Quality assurance programme (QAP)

The QAP shall serve to set up a detailed schedule, assign the responsibilities for each of the tasks under the Contract and define the sequence of their performance. The QAP shall cover a list of the Contractor's internal methodologies and applicable contract

performance standards.

The Contractor shall submit the QAP at the Safety and Quality Directorate not later than 20 calendar days from the date of contract signing. The Programme shall be a prerequisite for the commencement of contractual activities, subject to review and approval by Kozloduy NPP EAD, and prepared on the basis of:

- Terms of Reference and Contract;
- Contractor's management system;
- A sample table of content provided by the Contracting Authority;
- Other standards and regulations related to quality assurance, depending on the type of work.

5.3. Quality control plan (QCP) / Inspection and testing plan (ITP)

Within 20 calendar days after contract conclusion, the Contractor shall prepare and submit a Quality Control Plan (QCP) at the Safety and Quality Directorate for the performance of the works under these ToR with specified hold points by the Contractor and the Contracting Authority for the laboratory testing covered in the Plan.

5.4. Audit by Kozloduy NPP EAD (second-party auditing)

5.4.1. Kozloduy NPP EAD shall be entitled to audit the Contractor before commencement of the works under a signed contract and during the performance of contractual works.

5.4.2. Kozloduy NPP EAD shall audit the Contractor in compliance with 'Quality procedure. Organising and auditing of external organisations (second-party auditing), 10.ОиП.00.ИК.049.

5.5. Management of non-conformances

The Contractor shall notify the Contracting Authority for the non-conformances identified during the performance of contractual works.

Non-conformances of services requiring rework shall be reported to the Contracting Authority for a decision on the disposition of the non-conforming service.

5.6. Contractor's staff professional competence (qualification)

The Contractor shall have at least 2 specialists with professional competence in cable qualification, verified by referencing scientific publications/works and/or participation in teams that have designed/conducted identical/similar projects/tasks. The documents certifying the qualifications of personnel shall be presented in the tender proposal.

5.7. Specific quality assurance requirements

Testing of cable samples shall be conducted in laboratory conditions applying the methods

specified in BDS EN 60780-323:2016 and IEEE 383-2015.

5.8. Training of Kozloduy NPP EAD staff

Training of Kozloduy NPP EAD staff is not required.

6. Required Contractor's licenses, permits, certificates, etc.

The Contractor shall have a certificate for accredited laboratory in accordance with EN ISO/IEC 17025 standard - General requirements for the competence of testing and calibration laboratories.

7. Organisational requirements

The Contractor shall ensure at its own expense the presence of its competent personnel involved in the performed activities at working meetings and expert panel sittings

held on the site of Kozloduy NPP.

8. Additional requirements

The Contractor shall have performed activities with subject matter and scope identical or similar to the subject of this tender procedure over the last 3 (three) years and shall prove it by providing references in its tender proposal. 'Similar' shall be understood as testing and examining cables to qualify them for LOCA conditions.

Testing in the LOCA chamber shall be carried out in the presence of at least two representatives of the Contracting Authority.

The Contractor shall ensure at its own expense the transport of the obtained samples from the Kozloduy NPP site to the laboratory for testing.

9. Control by Kozloduy NPP EAD

Kozloduy NPP EAD shall be entitled to audit the Contractor before commencement of the works under a signed contract and during the performance of contractual works in compliance with *'Quality procedure. Organising and conducting audits of contractors (second-party auditing)'*, 10.ОиП.00.ИК.049.

The Contractor shall confirm in writing its agreement with this condition in its tender proposal.

Representatives of Kozloduy NPP shall be entitled to attend the cable testing in a LOCA chamber.

10. Requirements to the Contractor when using subcontractors/third parties

When using subcontractors/third parties, the main Contractor shall:

- Be liable for the compliance with the ToR on behalf of the subcontractors/third parties in respect of the activities performed by them as well as the quality of their work;

- Define the channels for communication and interaction with their subcontractors/third parties as well as the means of control over the subcontracted activities and the persons in charge of such control;

- Properly and adequately define the provisions of the ToR applicable to the subcontractors/third parties under the contract depending on the activities they perform;

- Define the minimum requirements to the subcontractors'/third parties' management system (MS): need for QAP, applicable codes and standards, non-conformance management procedure, scope of the documentation, tests and inspections, etc.;

- Approve the subcontractors'/third parties' QAP and submit the approved QAP to Kozloduy NPP EAD for information;

- Include all aforementioned requirements in the documentation under the contract with subcontractors/third parties.

ATTACHMENTS:

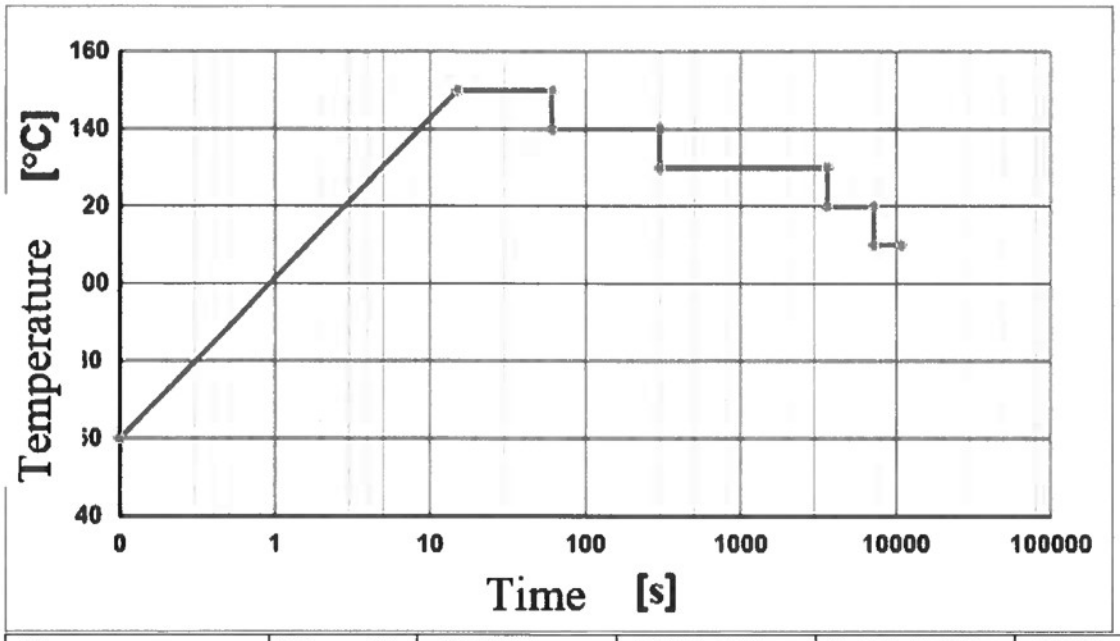
Attachment 1 - Contains technical specifications of cables

Attachment 2 - Contains environmental parameters in LOCA conditions.

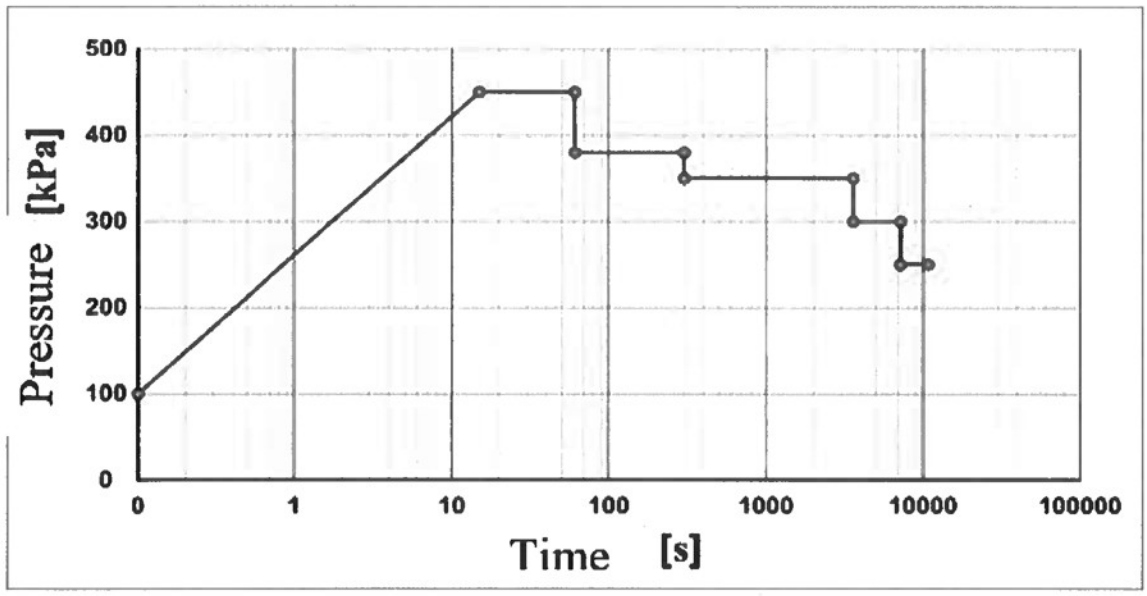
Attachment 1

No.	Cable type	Intended function	Technical specifications
1.	КПоСГ – control cable with irradiated polyethylene insulation in lead sheath	The cables are designed for operation in Kozloduy NPP in alternating current networks with frequency up to 100Hz and voltage up to 660V and environmental parameters as follows: - Temperature from -50 to +60°C - Pressure from 70 to 300kPa - Relative humidity from 20% to 100% - Radiation levels up to 0.1 Gy/h	TY 16-505.949-76
2.	КПоБОВ - control cable with irradiated polyethylene insulation in lead sheath	The cables are designed for operation in Kozloduy NPP in alternating current networks with frequency up to 100Hz and voltage up to 660V and environmental parameters as follows: - Temperature from -50 to +60°C - Pressure from 70 to 300kPa - Relative humidity from 20% to 100% - Radiation levels up to 0.1 Gy/h	TY 16-505.949-81

Attachment 2



Time, s	Up to 60	60-300	300-3,600	3,600-7,200	7,200-10,800
Temperature, °C	150	140	130	120	110



Time, s	Up to 60	60-300	300-3,600	3,600-7200	7,200-10,800
Pressure, kPa	450	380	350	300	250

Dose rate during normal operation conditions – 0.1Gy/h
Accident dose - 3kGy