Rovno NPP – On-site Assistance (PPP-OSA) to the Ukrainian Operator at Rovno NPP

Description

Background

Rovno NPP located in Kuznetsovsk, Rivne Region, Ukraine comprised 4 power units thereof 2 VVER440 type reactors and 2 VVER1000 type reactors.

Within the scope of the "TACIS Nuclear Safety Programme" Electricite de France – EDF, was contracted by the European Commission (EC) to provide support for improving the operational safety at Zaporozhye NPP.

The TACIS nuclear safety programme is now focusing on the implementation of a limited number of large scale projects having significant safety impact and the implementation of the selected projects will be conducted using the 2 + 2 approach.

It is planned that a large scale project will take place in two stages:

- the Preliminary Project Planning (PPP), aimed to complete all technical and licensing steps necessary to launch the procurement of the equipment,
- the Plant Improvement Project (PIP), aimed to carry out the procurement, installation and commissioning of the equipment with a complete safety analysis and a reinforced licensing process.

Objectives

The objective of the present contract was to provide operational safety experience exchange to the NPP as well as the necessary services related to preparation of supply projects started under the TACIS 2001 programme. The objectives of the operational safety experience exchange was to demonstrate EU best operational safety practices and their impact on plant operation safety to experts, managerial and operation staff of the NPP. This contract is aiming at providing technical support and transfer of know-how to Rovno NPP.

This service contract applies only to the above mentioned first stage of the large scale project. It describes the nature of the involved preparatory work, sets out the way in which it will be carried out and sets the outline timetable for the work completion.

Under this service contract financed by Tacis 2001 budget, the Consultant will carry out the following services:
Implementation of the Preliminary Project Planning of the new PIP for Rovno NPP: “Solid Radioactive Waste Treatment Facilities”

The “large scale” Plant Improvement Project (PIP) is aimed at delivering “facilities for the treatment of solid radioactive waste” at Rovno NPP and is planned to be financed by Tacis programme.

This contract provides for the implementation of the corresponding Preparatory Planning Phase (PPP), aimed to issue the main necessary documents with a view to launch the PIP project:

- Technical specifications approved by the End-User, the Beneficiary and by the Commission;
- Preliminary schedule for implementation of the PIP (based on a preliminary licensing plan);
- Cost analysis and a funding strategy;
- Possible share of activities between Supply Contractor(s) and Ukrainian organizations involved in the implementation of the PIP.

On Site Assistance / Soft OSA to the End User related to the waste management.

“Soft On Site Assistance” will be provided with reference to the ‘radioactive waste management’ and particular attention will be given to operational safety issues directly linked with the waste treatment facilities.

- The key-issue of the Soft On-Site Assistance at Rovno NPP is to contribute to improve the nuclear safety culture in the field of radioactive waste management.
- Seminars on waste treatment strategies and methods as well as technical visits in facilities and NPPs will be a means to achieve this issue.

Specific objectives of the “SRWT” PIP project

The purpose of the project implementation is to enable Rovno NPP to fulfil requirements of the law of Ukraine "On radioactive wastes management", and the laws of Ukraine "On environmental protection", by having comprehensive facilities for treatment of all types of LLW & ILW solid radioactive wastes for all 4 Units of Rovno NPP.

The objective of the project, in accordance with IAEA recommendations, is to enable Rovno NPP to produce waste packages that meet the acceptance criteria for storage. In order to resolve the issues of treatment and storage of SRW already accumulated and to be produced during plant operation, it is proposed to install SRW treatment facilities.

This project will contribute to

- Reduce the volume of solid radioactive waste
- Transform them in stable and inert solid waste
- Condition them for safe interim and long term storage

The project will propose an overall strategy of waste management and processing and specify the waste treatment process that could allow the following operations by Rovno NPP
SRW retrieval and drying
- Sorting of the waste with pre-pressing
- Compaction activity
- Incineration activity
- Activity measurement
- Intra-plant transport
- Grouting activity (cementation)

**Project Results**

The direct agreement contract implementation with Electricité de France – EDF as consultant started on 28th December 2004 and ended on 30th April 2007. The progress achieved during the contract period was as specified in the ToR.

Following technical documents/deliverables were provided to the End user/Beneficiary:

- Deliverable no1 "Synthesis of Ukrainian basic data for solid radioactive waste treatment facilities at Rovno NPP" - Revision C, dated 26.9.2005
- Deliverable no2 "Waste management strategy at Rovno NPP" - Revision B, dated 15.12.2005
- Deliverable no3 "Survey report on potential suppliers" - Revision B, dated 5.4.2005
- Deliverable no4 "PIP Cost evaluation & Schedule" - Revision A, dated 5.4.2007
- Deliverable no5 Technical specifications presented in 5 Lots
  - o Lot1 - Retrieval Facility, Revision C, dated 20.4.2007
  - o Lot2 - Fragmentation and Sorting Facility, Revision C, dated 20.4.2007
  - o Lot3 - Super Compaction Facility, Revision C, dated 20.4.2007
  - o Lot4 - Activity Measurement, Revision C, dated 20.4.2007
  - o Lot5 - Cementation facility, Revision C, dated 20.4.2007
- Deliverable no6 "Report on Soft On Site Assistance" - Revision A, dated 5.4.2007

The PIP project preparation is not completed at the end date of this contract period and continues in the next OSA contract.
<table>
<thead>
<tr>
<th>Types of activities:</th>
<th>On Site Assistance</th>
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<tbody>
<tr>
<td>NPP:</td>
<td>Rovno</td>
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<tr>
<td>Duration (months):</td>
<td>28</td>
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<td>Contracting authority:</td>
<td>European Commission</td>
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<td>Partner (Beneficiary):</td>
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<td>Contractors:</td>
<td>EDF (Electricité de France)</td>
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**procurement:**

- **Signature date:** 23/12/2004
- **Effective contract date:** 24/12/2004
- **Contract end date:** 24/04/2007
- **Closure date:** 18/10/2007