Special nuclear project fiche

1. BASIC INFORMATION

1.1 CRIS number: 2004/016-815.01.05

1.2 Title: Development of conceptual design of the national disposal facility for low- and intermediate-level short-lived radioactive waste.

1.3 Sector: 23064

1.4 Location: Bulgaria

2. OBJECTIVES

2.1 Overall Objective:

To improve safety of radioactive waste management and disposal in Bulgaria.

2.2 Project purpose:

To develop the conceptual design and technical specifications for the national disposal facility for low- and intermediate-level short-lived radioactive waste.

2.3 Accession Partnership and NPAA priority

This proposal is in accordance with the National Strategy on the Safety on Spent Fuel Management and on the Safety of Radioactive Waste Management where one of the objectives is the construction of National Disposal Facility for Low and Intermediate Level Radioactive Waste.

2.4 Contribution to National Development Plan

N/A

2.5 Cross Border Impact

N/A

3. DESCRIPTION

3.1 Background and justification

According to the Bulgarian national strategy on radioactive waste management a disposal facility for low- and intermediate-level short-lived radioactive waste should be operational by 2010. This disposal facility will mainly accommodate radioactive waste packages arising from the Kozloduy NPP operation and decommissioning.

Actually the siting process for the creation of a disposal facility for radioactive waste started in the late 70's. An assessment of the potential sites has been performed using 22 criteria recombined into four groups:
• Geological safety criteria  
• Engineering safety criteria  
• Environment impact criteria  
• Socioeconomic acceptability criteria.

System analysis was used to set up a site-selection procedure and establish a rating of the potential sites. The possibilities for site selection near the Kozloduy NPP have been studied in all previous investigation with regard to public acceptance, cost, and risk of waste transportation. Expanded studies in the area of Kozloduy NPP were carried out in 1998-1999.

This activity led to the recent selection of four potential sites:

• Two sites are located next to the Kozloduy NPP on the one loess-covered Danube terrace;  
• The third one is located on a high Danube terrace south of the Kozloduy NPP  
• The fourth one is situated about 1 km south of the Kozloduy NPP in the Marchin valog tributary valley.

A timetable with milestones has been established by the Bulgarian authorities concerning the main tasks to be implemented in 2004 and 2005 through national funding, namely:

• Task 1: Review of options for disposal of low-and intermediate-level short-lived radioactive waste;  
• Task 2: Development of criteria and methodology for selecting the site;  
• Task 3: Site selection;  
• Task 4: Development of preliminary safety assessment and environmental impact assessment;  
• Task 5: Licensing of the site.

3.2 Linked activities

Previous PHARE technical assistance related to radioactive waste management:
• Project BG 9107-02-04-01 - Radioactive waste management in Bulgaria;  
• Project BG 9809-02-01 - Support for the establishment of a state body for radioactive waste management.

3.3 Results

• Waste acceptance criteria for disposal of radioactive waste to be used in the further technical design activities  
• Conceptual design of the national radioactive waste disposal facility  
• Contribution to technical specifications for the subsequent tender documentation

All activities as well as the tender documentation should be implemented taking into account the requirements of the IAEA in this field and in accordance with the ISO 9000 series formats.
3.4 Activities

- Development of waste acceptance criteria for disposal of low- and intermediate-level short-lived radioactive waste
- Development of conceptual design
- Development of quality assurance system for the specific activities in accordance with IAEA requirements and following ISO 9000 series formats.
- Development of tender documentation including contribution to the development of technical specifications for the subsequent "technical design and construction" contract (to be funded outside this programme).

4. Institutional Framework

The project will support the work of the newly established State-owned Company on Radioactive Waste Management, which is responsible for collection, transportation, treatment/conditioning, storage and disposal of radioactive waste.

The contract will be managed by CFCU Directorate within the Ministry of Finance.

The Ministry of Energy shall provide project monitoring.

5. Detailed Budget

*Strictly follow the following format.*

<table>
<thead>
<tr>
<th>Phare Support</th>
<th>Support</th>
<th>Total Phare (I+IB)</th>
<th>National Cofinancing*</th>
<th>IFI</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Building</td>
<td>€ 1 million</td>
<td>€ 1 million</td>
<td>-</td>
<td>-</td>
<td>€ 1 million</td>
</tr>
</tbody>
</table>

*In cases of co-financing only

Note: expenditure for equipment should be put under Investment

6. Implementation Arrangements

6.1 Implementing Agency

Central Finance and Contracts Unit (CFCU)
Ministry of Finance
102, Rakovski St.
Sofia, Bulgaria
Tel: +359 2 9859 2771
Fax: +359 2 9859 2773
E-mail: cfcu@inet.bg

Following the approval of reports, a responsible CFCU Financial Manager will make the payments due the consultant. The Director of the CFCU is the responsible official who has to approve in advance and who bears responsibility for all acts of both the Contracting and the Financial Manager. The Secretary General of the Ministry of Finance will act as PAO for the project implementation.
6.2 Beneficiary: State-owned Company on Radioactive Waste Management

Contact person:
Tzvete Delcheva, Head of Department Nuclear Fuel Cycle and RAW, Ministry of Energy and Energy Resources
Tel.: +359 2 980 4876
Fax: +359 2 988 5688
E-mail: tzdelcheva@doe.bg

6.3 Twinning
N/A

6.4 Non-standard aspects
N/A

6.5 Contracts
One Technical Assistance contract for € 1 million.

7 Implementation Schedule

7.2 Start of tendering/call for proposals
April 2005.
7.3 Start of project activity
December 2005.
7.3 Project Completion
November 2007.

8 Equal Opportunity

Equal participation in the project by women and men will be assured.

9 Environment
N/A

10 Rates of return
N/A

11 Investment criteria
N/A

12 Conditionality and sequencing

The main conditionality is that Tasks 1 to 5 (see section 3.1) are fulfilled before the launching of the tender dossier for the project.
ANNEXES TO PROJECT FICHE

1. Logical framework matrix in standard format
2. Detailed implementation chart
3. Contracting and disbursement schedule by quarter for full duration of programme
## Phare log frame

<table>
<thead>
<tr>
<th>LOGFRAME PLANNING MATRIX FOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project</td>
</tr>
<tr>
<td>Development of conceptual design for construction of National disposal facility for low and intermediate level radioactive waste.</td>
</tr>
<tr>
<td>Programme name and number</td>
</tr>
<tr>
<td>Contracting period expires</td>
</tr>
<tr>
<td>Execution of contract</td>
</tr>
<tr>
<td>Total budget: €1 million</td>
</tr>
<tr>
<td>Phare budget: €1 million</td>
</tr>
</tbody>
</table>

### Overall objective

- This project is part of a wider programme for construction of the National Radioactive Disposal Facility. After the project completion the outcomes will serve as a further basis for development of technical design.

### Objectively verifiable indicators

- Starting of the further activities for development of the technical design for construction of National Radioactive Disposal Facility.
- Final report approval together with the final outcome documents.
- Monitoring Reports
- Documents for approval issued by the Beneficiaries.

### Sources of Verification

- Work programme of the State-owned company on radioactive waste management.

## Project purpose

- Developed documentation available for further contracting of the technical designing and implementation of the civil construction works for

### Objectively verifiable indicators

- Final report approval together with the final outcome documents.
- Monitoring Reports
- Documents for approval issued by the Beneficiaries.

### Sources of Verification

- Permission for technical design from Nuclear Regulatory Agency.
<table>
<thead>
<tr>
<th>Results</th>
<th>Objectively verifiable indicators</th>
<th>Sources of Verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Defined waste acceptance criteria for disposal of RAW for usage in the further design activities.</td>
<td>- The whole documentation must be approved by the Beneficiary of the project.</td>
<td>- Technical assistance reports provided by contractor.</td>
<td>- Changes in the secondary legislation regarding RAW.</td>
</tr>
<tr>
<td>- Conceptual design for further development of the technical design for construction of National Radioactive Disposal Facility.</td>
<td></td>
<td>- Documents issued by the Beneficiary.</td>
<td></td>
</tr>
<tr>
<td>- All activities as well as the Tender Documentation should be implemented taking into account the requirements of the IAEA in this field and in accordance with the ISO 9000 series formats.</td>
<td></td>
<td>- Monitoring Reports and EC Delegation.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities</th>
<th>Means</th>
<th>Assumptions</th>
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<tbody>
<tr>
<td>- Development of waste acceptance criteria for disposal of RAW.</td>
<td>- A contract for technical assistance providing long and short term experts for implementation of the activities.</td>
<td>- Selection of possible sites together with the type of the repository and submitted to the Consultant.</td>
</tr>
<tr>
<td>- Development of conceptual design</td>
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<tr>
<td>- Development of quality assurance system for the specific activities in accordance with IAEA requirements and following ISO 9000 series formats.</td>
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<tr>
<td>- Development of Tender Documentation for “technical design and construction” contract.</td>
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</table>

Preconditions
• Establishment of a National Radioactive Disposal Facility is one of the objectives of the National Strategy on the Safety on Spent Fuel Management and on the Safety of Radioactive Waste Management.

• In early 2004, State-owned Company on Radioactive Waste management (SOCRWM) was established. This company should take over all activities dealing with radioactive waste treatment, conditioning, storage and disposal.
<table>
<thead>
<tr>
<th>Programme number</th>
<th>Document</th>
<th>Strategic Plan</th>
<th>Section</th>
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<tr>
<td></td>
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<td>Planning Period</td>
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</table>

**Programme Title**: Technical Assistance for Development of conceptual design for construction of National disposal facility for low and intermediate level radioactive waste.

<table>
<thead>
<tr>
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<th>Implementation Schedule</th>
<th>Budget Allocation</th>
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Legend:

D = design of sub-projects (ToR evaluation).
C = tendering and contracting.
I = contract implementation and payment.
<table>
<thead>
<tr>
<th>Date</th>
<th>31/12/05</th>
<th>31/01/06</th>
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