STANDARD SUMMARY PROJECT FICHE FOR THE TRANSITION FACILITY

1. Basic Information

1.1 CRIS Number: 2006/018-175.04.01
1.2 Title: Strengthening human resources management at the Slovak Nuclear Regulatory Authority (UJD)
1.3 Sector: Energy / Nuclear Safety
1.4 Location: Slovak Republic, Nuclear Regulatory Authority, Bratislava

2. Objectives

2.1 Overall Objective:

To maintain a high level of safety of nuclear installations through adequate human resources management of UJD.

2.2 Project purpose:

To ensure that UJD has the adequate human resources and those adequate levels of competence are achieved and maintained, through well defined training programmes and tools. The training program should ensure that staff is aware of technological developments challenges, new principles and concepts.

2.3 Justification:

The Comprehensive monitoring report on Slovakia’s preparation for membership (2003) states: “… Slovakia furthermore committed itself to providing further information on measures taken to implement the recommendations of the June 2001 Council Report on Nuclear Safety in the Context of Enlargement. Slovakia provided such information in June, July and September 2001, and in March, April and June 2002. In June and September 2003, Slovakia submitted additional information covering recent progress made regarding all recommendations concerning nuclear power plants, and also reporting on developments in the field of radioactive waste.”

The above mentioned Council Report on Nuclear Safety in the Context of Enlargement mentions under item 1.3 General recommendations related to safety improvement programmes (second general recommendation - type I): Regarding resources of the regulator: “Adequate human and financial resources for the regulatory authority, including in particular access to independent technical support”.

This project aims at assuring adequate human resources from the point of view of knowledge management.

3. Description

3.1 Background and justification:

UJD is inter alia responsible for regulating safety of nuclear installations, rad-waste treatment, safeguards, supervision of decommissioning activities, nuclear fuel cycle and quality assurance programmes in nuclear industry.
In 2000 some training modules have been developed by UJD for some inspection activities (NPP operation, waste management, physical protection). These modules are describing the requirements for the training. However these modules do not contain the training materials itself. In this regard UJD was and is heavily dependent on the availability of training capacities at external institutions where NPP personnel are trained. The training materials at these institutions are not specifically designed for regulatory purposes and do not contain all the necessary training areas for the regulator (e.g. decommissioning).

Due to the fact that there are up to five new inspectors being hired at UJD during each year (high degree of fluctuation), it is not efficient also from the financial point of view to organize classroom training for these newcomers (because their areas of responsibilities are different). And in addition the knowledge levels of the employees and starting dates of employment are different.

Since the establishment of UJD the general experience is that UJD was able to recruit personnel with the required academic qualifications and years of relevant work experience. However, unless recruitment is from another regulatory body, it is unlikely that UJD can recruit personnel with the specific skills and knowledge necessary for conducting regulatory functions in the nuclear field.

The past practice was that specific training was delivered to UJD staff under bilateral cooperation (USA, Japan, etc). However these possibilities are not anymore available for different reasons (lack of resources and/or other target countries and other priorities of donor countries). This led to the decision to develop an independent, effective, efficient and advanced training tool for UJD.

To achieve the project purpose a training policy, training materials and a simple computer based testing program on nuclear safety of WWER 440 types of reactors and on related nuclear installations including decommissioning aspects will be prepared. This will assure an effective and efficient staff training of newcomers as well retraining of staff.

The proposed training program should include training for new staff to ensure that all staff has an adequate overview of the work they will be performing. Soon after recruitment each member of staff should be provided with a training to cover legislative framework, safety related matters, that are specific to the nuclear facilities being regulated, such as general design criteria and operational characteristics. Career progression should be considered in the training plans.

The periodic retraining will specify the nature of the trainings needed, also its timing and levels of competence to be achieved.

The training program will include also a refresher training program to maintain knowledge, especially if there are new challenges (e.g. decommissioning) change and to draw attention to important changes in the legal framework, procedures and technological development in the relevant area (safety of nuclear power plants, safety of waste management technologies etc.).

The conversion of a learning objective into a test item will measure the knowledge, skill and ability that it is intended to measure. Test item should consist of two components: the content (what is asked) and the format (the way it is asked).

3.2 Linked activities:

This project is aimed at to organise IAEA expert missions (e.g. expert mission to Review the Risk Assessment of the Bohunice V-1 NPP – 2005, Operational Safety Review Team - OSART - 2006) in Slovakia, to deliver equipment (for the emergency centre of UJD (e.g. mobile environmental monitoring equipment, technical literature and documentation) and to support participation of Slovak experts from different organisations (not only from UJD) at international workshops, scientific visits and conferences (e.g. International conference on Nuclear Power for the 21st Century - 2005, Nuclear Communicators ENS PIME – 2005, workshop on Monte Carlo methods – 2005 etc.) There is no overlap with the proposed project because the IAEA TC project has completely other objectives.

3.3 Results:

Results of the project will be as follows:

1. **Long term training policy (strategy document)** based on past experience in human resources development and based on a complex analyses of short and long term challenges of UJD including expected scientific and technological developments;
2. **Formal modular training program** in which the operational needs and the long term needs for experts and managers are taken into account (in Slovak language);
3. User friendly **simple computer based testing and certification tool and user’s manual (in Slovak language)**;
4. **Report** on the realised pilot training course (Slovak language).

3.4 Activities:

*Activities associated with result 1 (Long term training policy):*

The contractor will:
- analyse the existing framework for training (taking into account legal framework, nuclear program, etc.).
- identify training needs using SAT (Systematic Approach to Training) methodology; SAT methodology contains five phases: Analysis of training needs, Design of training program, Development of training materials - CBT, Implementation through pilot course and Evaluation of the application of CBT based on feedback from the pilot course (e.g. designed and developed pilot training course realisation and evaluation). On the basis of analysis results will be designed training program. Detailed training program description will be delivered.
- develop a long term training policy based on the identification of job specific training needs and requirements (taking into account also external factors like development in the nuclear industry etc.).

*Activities associated with result 2 (Formal modular training program):*

Based on the performed analyses a training program (documentation) will be developed for WWER 440 type reactors and related technologies in Slovak language (2nd phase of SAT). The module on basic knowledge will be prepared also in English for newcomers. The design of such a program should contain:
- the establishment of performance standards
- selection of training setting
- determination of trainee entry level knowledge skills
- development of learning objectives
- organisation and sequence of learning objectives
It is expected, that the technical elements of a regulatory training program will comprise the following modules:

Module 1: Basic knowledge of:
- radiation and industrial safety
- relevant legislation
- principles of nuclear, radiation, waste and transport safety
- safety culture

Module 2: Specific knowledge:
- facility and system knowledge (design, operation, maintenance, shut down)
- accident analysis
- emergency planning
- safety assessment
- decommissioning including radiological aspects
- decontamination
- waste management and disposal
- quality assurance and organizational matters

Module 3: Knowledge of (nuclear) regulatory policies and processes:
- legislative aspects
- regulatory policy and its objectives
- regulations and use of regulatory guides
- authorization stages and procedures, including the purpose and content of supporting documentation
- internal guidance and procedures of the regulatory body
- methods of review and assessment
- inspection techniques and skills
- enforcement procedures

Module 4: Continuing training:
- refresher training

The training program should be flexible to enable changing/adding/extending the existing ones in light of the future regulatory challenges and changes in the nuclear field. It should for example enable to add modules containing non-technical modules of general nature like module on personal skills (communication, leadership etc.) or module on general public servant knowledge (safety at work, confidentiality, obligations of a civil servant etc.).

Activities associated with result 3 (Computer based testing and certification tool)
Development of testing materials (designed under result 2) including the delivery of appropriate software environment.

The development of certification items confirming the trainee’s level of knowledge, skills and attitudes.

The following areas (content) will be covered by testing - Basic knowledge, Specific knowledge, Knowledge of regulatory policies and processes during the fundamental training and periodical training. The target testing groups of UJD staff will be inspectors, technical staff and others. Inspectors will be divided into 12 subgroups (according to their professional area). Each group will have the set of questions and will have special access to testing system. The evaluation system (criteria) will be set for each group and subgroups differently.
The following format of the test item should be developed and used: Multiple-choice test item, Matching test items. The testing tool (based on e.g. Macromedia product Authorware professional or similar) should contain up to one thousand questions and more than four thousand answers (one question - four answers principle).

Delivery of a user’s manual that will give detailed guidance how to install and use the developed product (4 hard copies and 4 CD/DVD).

**Activities associated with result 4 (Report on the realised pilot training course):**

A pilot course (4th phase of SAT) will be organised (after completion of activities associated with result 3). Minimum up to four UJD staff members (per year) should be tested. The aim of the pilot course is:
- to assess the appropriateness of the testing and certification tool;
- functionality testing;
- user friendliness.

Feedback (evaluation) of the pilot course with the aim to make inputs for necessary adjustments if necessary. (5th phase of SAT). The results of the pilot course including the necessary adjustments will be included in a report.

The contractor will make the necessary corrections as contained in the report.

**Means (core staff):**

**Key expert (1) – Team Leader** for coordinating the activities, participating in task resolutions and contact point for the Project Steering Committee (14 month)

Qualification and skills
- Experience in team management for a minimum of 15 years
- Project management skills, experience in organizing large and detailed projects
- Ability to communicate effectively
- Very good command of English language (written and spoken) and Slovak is welcomed
- Experience with Phare/Tacis projects

General professional experience
- Professional experience in the nuclear field (at least 15 years experience)

Specific professional experience
- Experience and knowledge of training (at least 10 years experience)

Other requirement:
- full time engagement in the project

**Key experts (2) – Experts for implementing Systematic approach to training – analyses phase (1 month)**

Qualification and skills
- Ability to communicate effectively
- Good command of English language, written and spoken, Slovak is welcomed

General professional experience
- Professional experience in the nuclear field for minimum of 10 years in WWER and associated technologies

Specific professional experience
- Experience in the field of systematic approach to training (SAT) for at least 8 years

**Key experts (3) – Experts for implementing Systematic approach to training - design phase (7 month)**

Qualification and skills
- Ability to communicate effectively
- Good command of Slovak language written and spoken and basic knowledge of English language,

General professional experience
- Professional experience in the nuclear field for minimum of 10 years in WWER and associated technologies in human resources development and training

Specific professional experience
- Experience in the field of systematic approach to training (SAT) for at least 8 years

**Key experts (2) – Experts for implementing Systematic Approach to Training - development phase (3 month)**

Qualification and skills
- Ability to communicate effectively
- Excellent command of Slovak language written and spoken and basic knowledge of English language,

General professional experience
- Professional experience in the nuclear field for minimum of 10 years in the area of training in WWER and related technologies

Specific professional experience
- Experience in the field of programming computer codes for at least 5 years

**Key experts (2) – Experts for implementing Systematic approach to training - implementation and evaluation phase (1 month)**

Qualification and skills
- Ability to communicate effectively
- Excellent command of Slovak language written and spoken and basic knowledge of English language,

General professional experience
- Professional experience in the nuclear field for minimum of 10 years in the area of training and human resources development

Specific professional experience
- Experience in the field of training for at least 5 years
In total 45 man/month are expected for the project.

3.5 Lessons learned:

As regards lessons learned from previous projects under this instrument it should be emphasised that an early conclusion of the contract is an important factor for the success of the project whereby avoiding hasty actions (Internal Market Development Phare Sectoral Monitoring Sub-committee – November 2004).

In addition during the previous project implementation it was experienced that sufficient time should be available for reviewing draft documents for proposing corrective actions. However no specific recommendations are available from past Steering Committee meetings.

As regards bilateral training activities in the past these were evaluated by the donor country (e.g. Japan). Slovakia had no or very limited access to the internal evaluation documentation of these countries.

4. Institutional Framework

ÚJD is a central state administration authority and is the final beneficiary of this project. It is taking care of the exercise of state regulatory activities in the field of nuclear safety of nuclear installations, including regulation of the management of radioactive waste, spent fuel and other parts of the fuel cycle, as well as of nuclear materials, including their control and accounting. It is responsible for the assessment of the goals of the nuclear energy program and of the quality of selected facilities and equipment of nuclear technology, as well as for commitments of the Slovak Republic under international agreements and treaties in the above mentioned field.

No institutional changes are expected from the project implementation.

Recipient:

Nuclear Regulatory Authority of the Slovak Republic - ÚJD
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P.O.BOX 24
820 07 Bratislava 27
Slovak Republic
Phone: +421 2 58 221 111
Fax: +421 2 58 221 166
E-mail: mikulas.turner@ujd.gov.sk

Based on previous experience a project Steering Committee (SC) will be established shortly after the contract with the supplier will be signed. The SC will consist of ÚJD staff (project manager - SPO and experts responsible for training), external organisations (e.g. CFCU, NAC) and external experts with relevant experience (Technical University Bratislava). The SC will assure relation between supplier and recipient. The aim of this Steering Committee is to continuously monitor the implementation of the project and to propose corrective actions when and if necessary. The SC will meet at least quarterly and if necessary after a project task is completed. The SC will approve the Inception, Quarterly, Final and Task Reports.
5. Detailed Budget

<table>
<thead>
<tr>
<th>Contract 1</th>
<th>Transition Facility support in €M</th>
<th>Co-financing in €M</th>
<th>Total in €M</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Investment Support</td>
<td>Institution Building</td>
<td>Total Transition Facility (=I+IB)</td>
</tr>
<tr>
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</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>0.400</td>
<td>0.400</td>
</tr>
</tbody>
</table>

(*) contributions from National, Regional, Local, Municipal authorities, FIs loans to public entities, funds from public enterprises
(**) private funds, FIs loans to private entities

VAT does not constitute eligible expenditure to be financed by the Transition Facility funds except where it is genuinely and definitely borne by the final beneficiary. VAT which is considered recoverable, by whatever means, cannot be considered eligible, even if it is not actually recovered by the final beneficiary or individual recipient.

6. Implementation Arrangements

6.1 Implementing Agency
CFCU
Sylvia Czuczorová, PAO
Štefanovičova 5,
817 82 Bratislava
Phone: +421 2 5958 2545
Fax: + 421 2 5958 2559

CFCU is responsible for tendering, contracting, financing, auditing and control.

Senior Project Officer – SPO:
Dr. Ren. nat. Mikuláš Turner
Nuclear Regulatory Authority of the Slovak Republic
Bajkalská 27
820 07 Bratislava
Phone: + 421 2 58221114
Fax: + 421 2 58221166
E mail: mikulas.turner@ujd.gov.sk

6.2 Beneficiary institutions for twinning
Not applicable.

6.3 Non-standard aspects
Not applicable.

6.4 Contracts
1 service contract – 400 000 EUR

7. Implementation Schedule

7.1 Start of tendering: 2007
7.2 Start of project activity: 1Q 2008
7.3 Project Completion: 2 Q 2009
8. **Sustainability**

The main preconditions for the use of nuclear energy are to ensure that nuclear energy is used only for peaceful purposes and to protect the health of workers and the public against the dangers arising from ionising radiation. The project will assure during the whole operation of the nuclear installations that there will be an adequately trained and retrained staff at UJD to supervise the safety of nuclear installations in accordance with good international practices.

In 2004 the new Atomic act entered into force and the relevant regulations entered into force by March 2006. Therefore it is not expected that fundamental changes in the legal framework will occur during the next 5-10 years.

As regards the future of nuclear energy in Slovakia this was subject of the document “Long term energy policy” which was approved by the government in January 2006. Based on this document nuclear energy will remain also in the long run an important energy source taking into account the challenges like (shut down of the V-1 NPP at Jaslovske Bohunice, decommissioning of the A-1 NPP, safety upgrading of the V-2 NPP and the possible completion of Mochovce 3,4 NPP.

Therefore no major changes are expected which would require a significant change in the training package. Maintenance and upgrade will be ensured by UJD within its regular budget (for 2006 an amount of 20 000 EURO is devoted to different training activities). In addition there are two staff members within UJD which are responsible for training activities (both in the Division of Emergency Preparedness, Informatics and Personnel Training). These persons in cooperation with the Division of International Relations will be responsible to implement the project (1) and to maintain and update (2) the results of the project.

9. **Conditionality and sequencing**

<table>
<thead>
<tr>
<th>Start of the project</th>
<th>To = 2008</th>
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</thead>
<tbody>
<tr>
<td>Task 1 –</td>
<td>To + 2 month</td>
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<tr>
<td>Task 2</td>
<td>To + 2 to To + 9</td>
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<tr>
<td>Task 3</td>
<td>To + 8 to To + 11</td>
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<tr>
<td>Task 4</td>
<td>To + 11 to To + 14</td>
</tr>
</tbody>
</table>
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
4. List of relevant Laws and Regulations
### LOGFRAME PLANNING MATRIX FOR

**Project**

**Strengthening human resources management at the Nuclear Regulatory Authority of the Slovak Republic (UJD)**

**Programme name and number**

2006 Transition Facility programme

2006/018-175.04.01

**Contracting period expires:**

15 December 2008

**Disbursement period expires:**

15 December 2009

**Total budget:** 0,400 MEUR

**TF budget:** 0,400 MEUR

<table>
<thead>
<tr>
<th>Overall objective</th>
<th>Objectively verifiable indicators</th>
<th>Sources of Verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To maintain a high level of safety of nuclear installations through adequate human resources management of UJD</td>
<td>• Competent staff (verified by appropriate test and certification tool and inspector’s licence examination). The overall number of trainees is expected to be up to 70 (over the coming year).</td>
<td>• Certificates</td>
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</table>

<table>
<thead>
<tr>
<th>Project purpose</th>
<th>Objectively verifiable indicators</th>
<th>Sources of Verification</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To ensure that UJD has the adequate human resources and those adequate levels of competence are achieved and maintained, through well defined training programmes and tools. The training program should ensure that staff is aware of technological developments challenges, new principles and concepts.</td>
<td>• Training documentation and computer based testing and certification tool.</td>
<td>• Technical documentation and computer CDs</td>
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</table>

<table>
<thead>
<tr>
<th>Results</th>
<th>Objectively verifiable indicators</th>
<th>Sources of Verification</th>
<th>Assumptions</th>
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</thead>
<tbody>
<tr>
<td>1. <strong>Long term training policy (strategy document)</strong></td>
<td>• Document containing the results of: analyses and definition of future training policy and needs. Developed modules on: - basic knowledge - specific nuclear knowledge - regulatory knowledge - retraining</td>
<td>• Technical documentation • Task reports</td>
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<tr>
<td>2. <strong>Formal (modular) training program</strong></td>
<td></td>
<td></td>
<td>• Technical documentation • Task reports</td>
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</table>
3. User friendly computer based test and certification tool and user’s manual.


<table>
<thead>
<tr>
<th>Activities</th>
<th>Means</th>
<th>Assumptions</th>
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<tr>
<td>- Team leadership</td>
<td>TA- service contract</td>
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<tr>
<td>- Activities associated with result 1</td>
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<td>Analyses of training program (SAT)</td>
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<td>Development of a long term training policy</td>
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<td>- Activities associated with result 2</td>
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<td>Development of a training program</td>
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<td>- Activities associated with result 3</td>
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<td>Development of testing and certification  tool</td>
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<td>- Activities associated with result 4</td>
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<td>Pilot course and evaluation</td>
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Preconditions
**ANNEX 2**

**Time Implementation Chart**

Project CRIS number: 2006/018-175.04.01

**Project title:** Strengthening human resources management at the Nuclear Regulatory Authority of the Slovak Republic (UJD)

<table>
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<th>2008</th>
<th>2009</th>
<th>2010</th>
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<tr>
<td>Analyses of training needs and training policy</td>
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<td><strong>Project Activity 2</strong></td>
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<tr>
<td>Development of formal training program</td>
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<td><strong>Project Activity 3</strong></td>
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<tr>
<td>Development of testing tool</td>
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<td><strong>Project Activity 4</strong></td>
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<tr>
<td>Pilot training course</td>
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<tr>
<td><strong>Management reports</strong></td>
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<td><strong>Task Reports</strong></td>
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Cumulative Contracting and Disbursement Schedule

Project CRIS number: 2006/018-175.04.01

**Project title:** Strengthening human resources management at the Nuclear Regulatory Authority of the Slovak Republic (UJD)

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* according to payment conditions of the contract (60% advanced payment)
List of relevant Laws and Regulations

1. Act No. 541/2004 Coll. amended lex posterior, on the peaceful use of nuclear energy (Atomic Act).