Instrument for Nuclear Safety Cooperation

Project INSC IRN3.01/16 Lot 2

**SUPPORT IN THE STRESS TEST EXERCISE**

**MINUTES OF THE KICK-OFF MEETING**

28.-30. 4. 2018, NPP-1, Iran

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# Place and time

The Kick of Meeting (KoM) of the Project INSC IRN3.01/16 Lot 2 “Support in the Stress Test Exercise” was held in the Visitors Centre of NPP-1, Iran in the period 28th to 30th April 2018.

# Attendance:

**European Commission representatives:**

Mr. Olivier Luyckx

Mr. Pacsal Daures

Mr.

**End User**

**NPP:**

Mr. Hossein Ghaffari, Operating Co. Managing Director

Mr. Ebrahim Deylami, Deputy Chief Engineer, ST NPP Project Manager

NPP specialists according to the Attendance list (in the Attachment 2)

**INRA:**

Mr. Ali Takht Ardeshir, General Director Delegation

Mr. Seyed Hossein Hosseini Nasab, head quarter Inspector

Mr. A. Mohaved Nia, NNSD site Manager

Mr. Ehsan Babajani, Resident inspector

**TAVANA (TSO to NPPD):**

Mr. Hedayat Abbaspour, Executiv manager, TAVANA activities at NPP coordinator

Mr. Majid Talebi, Head of Engineering dpt.

Mr. Mohammad Hossein Raji, Head of Nuclear Engineering dpt.

Mr. Elham Tavakoli, Head of DSA section

TAVANA specialists according to the Attendance list (see the Attachment 2)

**Contractor:**

Mr. Jozef Misak, Key- expert, UJV Vice-president, Project Manager

Mr. Jiri Sedlak, Senior expert, Deputy Project Manager

Mr. Jaroslav Holy, Senior expert, UJV Nuclear safety division representative

Mr. Stanislav Hustak, Key-expert

Mr. Jan Maly, Key-expert

Mr. Vaclav Hakl. Senior expert

Mr. Roman Aldorf, Senior expert

# Introduction

The meeting was conducted according to the adopted agenda, see the Attachment 1.

All presentations delivered during the KoM will be attached to the Inception Report.

It was commonly agreed that the Project execution will follow the TOR. In the meeting, the TOR was presented and a general plan how to meet all Project goals was discussed. It is noted in accordance with the comment made by the EC representatives that minor differences from the TOR which would not jeopardize the overall Project objectives would be acceptable, if justified, explicitly documented and commonly agreed.

Specific topics discussed and agreed in the meeting are presented below in more details.

# Project management and responsible bodies

The Project will be managed in compliance with the TOR by a Joint Working Group (JWG) and supervised by a Steering Committee (SC).

As described in the TOR, the Project is subdivided into 7 tasks (T0 – T6). The technical work related to individual tasks will be performed by 4 topical working groups (WGs). The relationships between particular elements of the Project are shown in the following organisational chart.

## Steering Committee

The Steering Committee (SC) was formed, in accordance with the TOR, by representatives of EC, the Contractor, and the End User. The main role of the SC is to oversee the overall progress of the Project in accordance with the Work Plan, and to resolve any potential issues which could affect successful accomplishment of the Project. SC meetings are foreseen to be organized only exceptionally in case of a specific need.

The SC was constituted as follows:

|  |  |  |
| --- | --- | --- |
| EC | Contractor | End User |
| Mr. Luyckx  Mr. Hulsmans | Mr. Misak Mr. Sedlak | Mr. Ghaffari  Mr. Deylami |

## Joint Working Group

The Joint Working Group (JWG) will be the main managerial body to keep the Project in the line with the plans during whole Project execution.

The JWG consists of all Contractor´s key-experts and particular WG leaders, and their counterparts nominated by the End User. The communication within each particular working group will be between the WG leader and End User representative for the given WG. The JWG will be led by the Key-expert-1 – Project Manager Mr. Jozef Misak together with the End User manager responsible for the Project, Mr. Ebrahim Deylami.

The JWG has to monitor work progress in particular WGs and be responsible for harmonisation and consistency of individual chapters of the stress test self-assessment report. It will be also responsible for an effective solution of any potential issues between individual WGs.

If necessary, the JWG will in appropriate time report potential significant deviations from the Project plan to the SC and will cooperate on implementation of appropriate remedial actions. The JWG will assist the WGs in reaching general consensus regarding possible issues that might arise during the Project implementation and in case of a need will make the relevant decisions.

JWG meetings are preferably foreseen to be held alongside with the Project workshops and/or progress meetings. Separate JWG meetings can be organised any time in the case of a need.

The composition of the JWG has been established as follows, with Mr. Misak as a JWG leader:

| Contractor | NPPD | Tavana |
| --- | --- | --- |
| Mr. Misak | Mr. Deylami | Mr. Raji |
| Mr.Sedlak | Mr. Rajabi Bonab |  |
| Mr. Maly | Mr. Valikhani |  |
| Mr. Kotouc | Representative of WG4[[1]](#footnote-2) |  |
| Mr. Hustak |  |  |
| Mr. Hakl |  |  |

## Work distribution

The topical working groups (WGs) will be performing technical activities of the Project. The specific tasks including their schedule, milestones and deliverables will be specified in more detail in the Inception Report.

The activities of the working groups will be governed and coordinated by the JWG headed by the Project Manager. The JWG will be responsible for information sharing and harmonisation between particular working groups.

The working group leaders were selected from the Contractor key and non-key experts during the KoM. The leaders will represent points of contact to the Project Manager, will control the activities of their working teams and provide inputs for all individual tasks of the Project and report the progress of the work to JWG.

The Contractor’s experts in the WGs were complemented by the End User specialists during the KoM. While stable composition of WGs contributes to smooths execution of the Project, it is understood that the assignment of members of WGs could slightly vary during the Project. Sharing of experts and specialists between particular groups may be needed. Working groups were constituted as follows:

**WG0 - Project Management**

Leader: Mr. Misak (UJV)

End User team leader: Mr. Deylami

Team members:

|  |  |  |
| --- | --- | --- |
| UJV | End User | |
| **NPPD** | **TAVANA** |
| Mr. Sedlak |  |  |
| Mr. Fiser |  |  |

**WG1 – Hazards**

Leader: Mr. Maly (UJV)

End User team leader: Mr. Raji (TAVANA)

Team members:

|  |  |  |
| --- | --- | --- |
| UJV | End User | |
| **NPPD** | **TAVANA** |
| Mr. Stanicek | Mr. Momeni nia | Mr. Talebi |
| Mr. Kolar | Mr. Golestan | Mr. Mollazeinal |
| Mr. Horak V. | Mr. Emami | Mr. Najafi |
| Mr. Vyvadil | Mr. Najafpour | Mr. Sirouspour |
| Mr. Hroch | Mr. Rostami | Mr. Tavakoli |
| Mr. Dlabal | Mr. Khosroabadi | Mr. Rezaee |
| Mr. Randa | Mr. Jafari |  |
|  | Mr. Kashkouli |  |

**WG2 – Safety Functions**

Leader: Mr. Hustak (UJV)

End User team leader: Rajabi Bonab (NPP)

Team members:

|  |  |  |
| --- | --- | --- |
| UJV | End User | |
| **NPPD** | **TAVANA** |
| Mr. Aldorf | Mr. Davarzani | Mr. Raji |
| Mr. Sedlak | Mr. Asadi | Mr. Tavakoli |
| Mr. Jaros | Mr. YarAhmadi | Mr. Hatami |
| Mr. Novotny | Mr. Janipur | Mr. Sirouspour |
| Mrs. Krhounkova | Mr. Rahmani Haghighi | Mr. Bashiri |
|  | Mr. Karami | Mr. Delgarm |
|  | Mr. Daneshtalab | Mr. Farhangi |
|  | Mr. Emami |  |
|  | Mr. Jafari |  |
|  | Mr. Sharifat |  |

**WG3 – Severe Accidents**

Leader: Mr. Kotouc (UJV)

End User team leader: xxxx Valikhani (NPP)

Team members:

|  |  |  |
| --- | --- | --- |
| UJV | End User | |
| **NPPD** | **TAVANA** |
| Mr. Vokac | Mr. Gol | Mr. Sheikhi Mobarakeh |
| Mr. Balaz | Mr. Mehrafshan | Mr. Golestani |
| Mr. Janda | Mr. Izadi | Mr. Ramezani |
| Mr. Kubicek | Mr. Mohamadi nejad | Mr. Sirouspour |
|  | Mr. Talepur | Mr. Moradi |
|  | Mr. Chekeni | Mr. Tavakoli |
|  | Mr. Radman |  |
|  | Mr. Kiani |  |
|  | Mr. Bahrani |  |
|  | Mr. Jafari |  |
|  | Mr. Ghaemi |  |

**WG4 – Safety measures (+ OSART)**

Leader: Mr. Hakl (UJV)

End User team leader: TB nominated later

Team members:

The members of the group will be selected later during the Project course according to the nature of the recommendations made. Involvement of the experts from WG 1-WG3 will be accompanied by other experts, covering all professions as necessary.

The table below presents the team of experts potentially involved in execution of the WG4.

| Name | Position in Project | Years of relevant experience (ref. 2017) | Background | Type of work (Project relevant) |
| --- | --- | --- | --- | --- |
| Jozef Misak | Key expert-1, Project Manager | 47 | Nuclear | All-round NPP expert |
| Stanislav Hustak | Key expert-2 | 26 | Nuclear | Safety systems analysis |
| Jan Maly | Key expert-3 | 36 | Civil | Structures resistance |
| Jiri Sedlak | Senior Expert,  PM deputy | 31 | Electrical, I&C | Mgmt. + system analysis |
| Jiri Duspiva | Senior Expert | 26 | Mechanical | Severe accidents |
| Roman Aldorf | Senior Expert | 25 | Nuclear | External events + system analysis |
| Petr Vokac | Senior Expert | 23 | Nuclear | Severe accidents |
| Ladislav Kolar | Senior Expert | 25 | Nuclear | External events |
| Miroslav Kotouc | Junior Expert | 8 | Mechanical | Severe accidents |
| Jozef Balaz | Senior Expert | 17 | Mechanical | Severe accidents |
| Vaclav Horak | Senior Expert | 35 | Nuclear | External events + measures implementation |
| Ondrej Novotny | Senior Expert | 38 | Electrical | NPP power supply |
| David Krejci | Senior Expert | 20 | Electrical, I&C | NPP I&C |
| Jan Stanicek | Junior Expert | 13 | Civil | External events - flooding |
| Karol Fabian | Senior Expert | 34 | Nuclear | Safety Functions |
| Josef Klumpar | Senior Expert | 41 | Nuclear | Radiation protective |
| Milan Krivda | Senior Expert | 11 | Mechanical | Severe accidents |
| Vaclav Hakl | Senior Expert | 18 | Mechanical | Measures implementation |
| Jaroslav Holy | Senior Expert | 34 | Math. statistician | Human Factor,  procedures, probabilistic modelling |
| Peter Brocko | Senior Expert | 37 | Nuclear | Safety Functions |
| Jakub Vyvadil | Senior Expert | 8 | Mechanical | Safety systems, UHS |
| Tomas Hroch | Senior Expert | 10 | Mechanical | Initiating events, DGS |
| Milos Neuman | Senior Expert | 37 | Mechanical | Severe accidents, Conventional Island |
| Petr Dlabal | Senior Expert | 14 | Electrical, I&C | Safety Functions |
| Jiri Randa | Junior Expert | 7 | Electrical | Grid connection, reserve DGS |
| Milan Jaros | Senior Expert | 13 | Electrical | Safety systems analysis |
| Jan Kubicek | Senior Expert | 14 | Mathematics & Physics | Severe accidents, procedures |
| Vladimir Fiser | Senior Expert | 38 / QA 15 | Mechanical/ Nuclear | QA |
| Petr Kadecka | Senior Expert | 28 | Mechanical | Equipment qualification |
| Jelena Krhounkova | Senior Expert | 33 | Nuclear | Thermal hydraulic analyses |

# Quality assurance plan

Based on discussion during the KoM, the following items of the draft QA plan need to be finalized:

* Composition of the Steering Committee and the Joint Working Group
* Communication procedure with special emphasis on confidentiality, including disk space sharing for documents exchange (UJV will send details to NPPD for security approval).

Regarding communication procedure, UJV should prepare and send the proposal to NPPD for approval. Attachment 3 specifies the contact points for direct communication between Contractor’s and End User’s specialists.

# Activities

For the purposes of the Project, the plant reference date was tentatively set up as 1 May 2018.

This date will be discussed by the End User with INRA, thus it can be changed until 30 June 2018; otherwise the initially proposed date is supposed to be fixed.

## Work schedule

The work schedule mostly follows the splitting of Project into sequential tasks. Nevertheless, some tasks could overlap since works could start prior to the previous task is finished.

The overall plan is to finish the Tasks 1-4 in 18 months from obtaining the detailed INRA stress test requirements, which were in the draft form handed over to the Contractor during the KoM. For planning purposes, the draft requirements can be used. The final version of the requirements will be sent by the End User to the Contractor as soon as available (expected June 10th 2018).

After completion of the Tasks 1 – 4, the rest of the project period will be utilized to support the NPPD in implementation of the proposed measures, as required by the TOR in the description of the Task 5 and 6.

## Meetings

The Project goals require intensive personal interactions between the stakeholders. This objective will be achieved by organizing various meetings, workshops and visits both in Iran and EU.

### Workshops

There will be a set of workshops, meetings and visits both of Contractors experts to Iran and End User specialists to EU.

Timing and agenda of first two workshops to be organized in NPP within Task 1 was discussed and agreed in level of detail sufficient for future planning.

1st Workshop on methodology (Task 1)

Planned duration:

* 4-5 days;
* 23.-27. 6. 2018.

Planned venue:

* Iran (NPP)

2nd Workshop on methodology (Task 1)

Expected duration:

10. -14. 11. 2018

4 days

Connected with Progress meeting (JWG) – 1 day

Expected venue:

* Iran (NPP or Teheran / to be confirmed by the End User later)

Basic information about the planned workshops is included in the Attachment 4.

A meeting to present the proposed methodology to INRA and discuss INRA comments is envisaged by the end of the Task 1.

### Presentation SAST meeting (at INRA) within Task 3

Expected duration:

2 days

Expected venue:

* INRA premises (Teheran).

Main topics:

Presentation of the methodology developed for the Stress Test implementation;

Presentation of the work and analyses performed in the framework of the Stress Test;

Presentation of the Self-Assessment Stress Test report results;

Overview of safety justifications, analyses and other materials used in the Self-Assessment Stress Test report as reference documents;

Overview of gaps identified by the Stress Test and preliminary proposals how to overcome them;

Discussion of the Stress Test results.

1-2 days preparation meeting right before to presentation meeting in Teheran is envisaged.

### Progress meetings and final meetings

Progress meetings and a final meeting are envisaged to be held in accordance with the TOR requirements. Those meetings will be mostly of managerial character in order to monitor and supervise the Project and to report the progress to SC, as well as to help to smooth the Project course in case of difficulties. These meetings will preferably be organized in conjunction with technical workshops or other meetings.

### End User’s visits to EU

One visit of End User’s specialists to two EU countries will be organized by the Contractor within the Task 1 and one visit to two EU countries within Task 5.

The arrangements of visits of NPP experts to EU NPPs within the Task 1 and 5 were discussed and preliminary agreed. Nominations of the participating experts and agenda of the first visit should be prepared as soon as possible in order to provide sufficient time for administration of the visit. Specification of the visits is presented in the Attachment 5.

### Additional Technical Meetings and Workshops

Non-mandatory meetings and workshops are envisaged to be held in accordance with the Project needs. The following additional Technical Meetings and Workshops are supposed to be held as needed within the Tasks 2 - 6:

* Workshops per each of WGs 1-3 to be held within the Task‑2 to support the progress in collecting and analysis of the documentation, and drafting the report. Expected duration is 2-4 days for each WG;  
  tentative location Iran.
* Workshops per each of WGs 1-3 to be held within the Task-2 to write/review parts of the SAST. Expected duration is 2-4 days for each WG;  
  tentative location Iran.
* Development of the Stress Test self-assessment report within the Task 2 or 4 could be, if needed, facilitated by another meeting at Contractor’s premises. Such meeting may also serve as on-the-job training of the End User specialists.
* Additional meetings may be organised, if considered necessary.

## Milestones

The general work plan with specified milestones was discussed and accepted during the inception meeting as follows.

| Milestone | Delivery [month] | |
| --- | --- | --- |
| from | to |
| Kick-of-Meeting | T0 + 4 | T0 + 4 |
| 1st Workshop (Iran) | T0 + 6 | T0 + 6 |
| 1st Progress report | T0 + 10 | T0 + 10 |
| 2nd Workshop (Iran) + 1st Progress meeting | T0 + 10 | T0 + 10 |
| Technical visit (EU) | T0 + 9 | T0 + 10 |
| Methodology report +  specific work plan | T0 + 10 | T0 + 10 |
| 2nd Progress report | T0 + 16 | T0 + 16 |
| Self-assessment - draft | T0 + 15 | T0 + 17 |
| Presentation of self-assessment report to INRA | T0 + 17 | T0 + 18 |
| 2nd Progress meeting TBC later | T0 + 19 | T0 + 21 |
| Self-assessment report - final | T0 + 20 | T0 + 22 |
| 3rd Progress report | T0 + 22 | T0 + 22 |
| 2nd Progress meeting | T0 + 22 | T0 + 26 |
| 4th Progress report | T0 + 24 | T0 + 24 |
| Scientific study visit (EU) | T0 + 21 | T0 + 32 |
| 5th Progress report | T0 + 28 | T0 + 28 |
| Dissemination meeting | T0 + 32 | T0 + 34 |
| Final Report | T0 + 34 | T0 + 36 |

The Gantt chart referring to the above mentioned milestones will be outlined in the Inception Report.

## End User Technical Expectations

End User expectations to be gained from the Project were presented by Mr. E. Deylami as follows:

* Experience/knowledge transfer in the area of management of safety enhancements, particularly the role of NPP designer in the implementation of safety recommendations.
* Experience/ knowledge transfer in the area of mobile equipment storage, maintenance and periodic tests.
* Use of DSA methods in identification of important safety improvements.
* Use of DSA methods in assessment of BDBA mitigation strategies (considering the impact of mobile equipment)
* Experience/ knowledge transfer in the area of operating documents, upgrades due to safety improvements.
* Experience/ knowledge transfer in the area of using stress test results in development of symptom-based EOP and SAMG.
* Clearly define the role of PSA/risk analysis in safety assessment of NPP and identification of safety improvements.
* Support End User for performing additional computational analyses for safety improvement (in line with Task 5).
* Review and assess relevant computational analyses performed by the end-user within WG2 and WG3.
* Enhancing the capabilities of End User in the field of nuclear safety in the areas of DSA/PSA and management of severe accidents
* Support End User in development of the calculation model and design for safety analysis

The Contractor clearly understands the End User expectations. However, the support in the analysis and calculations will be provided as much as the Project budget allows.

## Participation of UJV in IAEA OSART mission

An optimum way for integration of recommendations made by the IAEA OSART mission (29 September -18 October 2018) and of the stress test recommendations was also discussed. It was agreed that direct participation of 2 UJV experts in an appropriate part of the mission would be useful. Options for optimum link between Tasks 5 and 6 will be considered and agreed upon in later stage of the Project.

## Documents handing over

During the course of the meeting, several documents important for starting the work has been handed over from NPP to UJV. The documents include:

* Report on safety analysis of NPP under conditions of extreme external hazards (in Russian);
* PSA Level 1
* Selected parts of SAR (Chapters 2, 6 and parts of Chapter 15).

Several other documents would also be important (including PSA Level 2); the list is to be completed in preparation of WS1.

## Specific actions to be implemented before the next workshop in NPP

Specific actions agreed to be performed before the next workshop to be held in June 2018 in NPP are as follows:

| Item No | Action | Responsible | Date |
| --- | --- | --- | --- |
| 1 | Minutes of KoM draft to be sent to NPP, EC, JRC for comments, | UJV | 14 May 2018 |
| 2 | Comments on draft minutes of KoM | NPP, EC, JRC | + 1 week |
| 3 | Communication procedure with special emphasis for treating confidentiality to be sent for comments to NPP and EC | UJV | 14 May 2018 |
| 4 | Comments on the communication procedure to be sent to UJV | NPP, EC, JRC | + 2 weeks |
| 5 | QA plan of the Project to be sent for comments to NPP and EC | UJV | 31 May 2018 |
| 6 | Comment on QA plan to be sent to UJV | NPP, EC, JRC | + 2 weeks |
| 7 | Final version of the INRA stress test requirements to be sent to UJV | NPP | 10 June 2018 |
| 8 | Inception Report draft to be sent to NPP, EC, JRC for comments | UJV | 15 June 2018 |
| 9 | Comments on Inception Report draft | NPP, EC, JRC | + 3 weeks |
| 10 | Comparison table with selected plant data relevant for the stress test (with VVER 1000/V320 data) developed and sent to NPP | UJV | 20 May 2018 |
| 11 | Finalized the comparison table with selected plant data relevant for the stress test (with NPP data) sent to UJV | NPP | 4 June 2018 |
| 12 | Stress test methodology draft (1st part, plant description) to be sent to NPP | UJV | 1 June 2018 |
| 13 | Comments on drafted stress test methodology | NPP | 20 June 2018 |
| 14 | Collection of additional plant specific information as required by the methodology for the 1st workshop | NPP | 20 June 2018 |
| 15 | Detailed draft of agenda of the 1st workshop | UJV | 1 June 2018 |
| 16 | Comments on draft agenda of the 1st workshop | NPP | 10 June 2018 |
| 17 | Draft agenda of the 1st visit of Iranian experts to Czech Republic and Slovakia | UJV | 15 June 2018 |
| 18 | Comments on draft agenda of the 1st visit, nomination and personal data of experts participating in 1st visit | NPP | 23 June 2018 |

## Final remarks

In addition to the topics already mentioned above, the discussions held at the Inception Meeting pointed out the following:

* The End User (BNPP and TAVANA) and the EC emphasize that this project is not limited to a descriptive approach (e.g. identifying strengths and weaknesses/gaps), but shall also advance and achieve progress in filling identified gaps – to the extent possible and covered by the project resources –, for instance in terms of input data, specific analyses and specific calculations. This is clearly described in the ToR and shall be part of the methodology.  
  The Contractor accepts this remark and will consider it further in more detail.
* The EC remarked that the Contractor has not yet addressed its approach to the specific work plan that will be another output of Task 1. In particular the possible types of cooperation with BNPP/TAVANA for the implementation of (the various parts of) the work plan should be addressed and agreed soon in the project.

List of Abbreviations

BDBA Beyond Design Basis Accident

DRF Document Review Form

DSA Deterministic Safety Analysis

EC European Commission

ENSREG European Nuclear Safety Regulators Group

ERO Emergency. Response Organization

EU European Union

EuropeAid EuropeAid Co-operation Office (EC)

INRA Iranian Nuclear Regulatory Authority

INSC Instrument for Nuclear Safety Cooperation (EC)

JCPoA Joint Comprehensive Plan of Action

JWG Joint Working Group

KoM Kick-of-Meeting

NPP Nuclear Power Plant

NPPD Nuclear Power Production & Development Company of Iran

OJT On-the-Job Training

OSART Operational Safety Review Team

PSA Probabilistic Safety Assessment

QA Quality Assurance

SA Severe Accident

SAM Severe Accident Management

SAMG Severe Accident Management Guideline

SAR Safety Analysis Report

SAST report Self-Assessment Stress Test report (from the Licensee)

SC Steering Committee

ST Stress Test

ToR Terms of Reference

TSO Technical Support Organisation (to a Regulatory Authority)

UJV UJV Rez, a. s.

VVER Vodo-Vodianoï Energuetitcheski Reaktor (Water-Water Energy Reactor)

WENRA Western European Nuclear Regulators Association

WG Working Group

# Attachments

## Attachment 1 Agenda of the KoM

## Attachment 2 List of participants in the KoM

## Attachment 3 Main contacts List

## Attachment 4 Planned workshops tentative agenda

## Attachment 5 Technical visits on the conduct and results of stress tests in EU countries

1. Agenda of the KoM

**Support in the Stress Tests Exercise**

**IRN3.01/16 Lot 2**

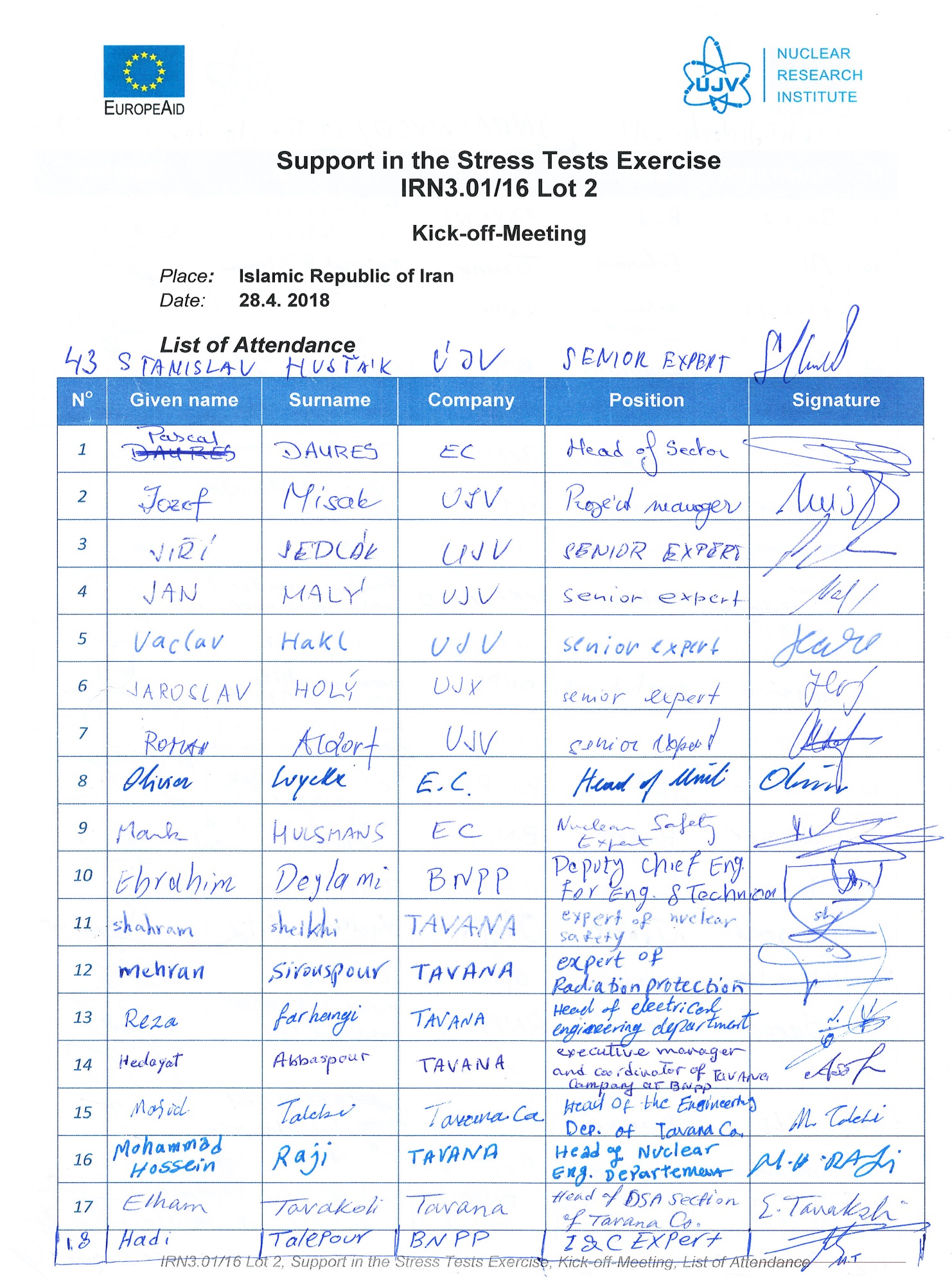
**Agenda of Kick-off-Meeting**

Place of the meeting**: Islamic Republic of Iran**

Date of the meeting: **28.4. – 30.4. 2018**

| **From** | **To** | **Topic** | **Responsibility** | **Presenter / Chair** |
| --- | --- | --- | --- | --- |
| ***Day 1, 28th April 2018*** | | | |  |
| 13:00 | 13:30 | Registration of participants | |  |
| **Session I: Introduction** | | | |  |
| 13:30 | 13:45 | KoM opening, welcome, logistic information | NPPD | Ghaffari |
| EC (DEVCO) | Luyckx |
| 13:45 | 14:00 | Introduction of attendees | all | Sedlak |
| 14:00 | 14:15 | Meeting agenda introduction, discussion, acceptance | UJV + all | Sedlak |
| 14:15 | 14:25 | DEVCO introduction | EC (DEVCO) | Daures |
| 14:25 | 15:15 | Introduction of UJV | UJV | Holy |
| 15:15 | 15:30 | Coffee break | |  |
| **Session II: 1st block of presentations** | | | |  |
| 15:30 | 15:55 | Presentation on EC support in stress tests implementation | JRC | Hulsmans |
| 15:55 | 16:35 | Presentation of project - Lot 2 | UJV | Sedlak |
| 16:35 | 16:55 | Presentation of INRA detailed stress test requirements | INRA | Takhtardeshir |
| 16:55 | 17:15 | Presentation of current status of NPP post-Fukushima activities (evaluation measures, etc.) | NPPD | Raji |
| 17:15 | 17:30 | Presentation of End User expectations concerning the project | NPPD | Deylami |
| 17:30 |  | End of day | |  |
| ***Day 2, 29th April 2018*** | | | |  |
| **Session II: 1st block of presentations (cont.)** | | | |  |
| 8:00 | 9:00 | Presentation of EU Stress Tests effort, conclusions, recommendations | UJV | Misak |
| **Session III: Organisational and administrative matters** | | | |  |
| 9:00 | 9:30 | Presentation and discussion of project general work approach | UJV | Sedlak |
| 9:30 | 10:00 | Discussion on communication procedure, rules and means | UJV+all | Sedlak |
| 10:00 | 10:20 | Presentation and discussion of tentative project schedule | UJV | Sedlak |
| 10:20 | 10:35 | Quality Assurance Plan presentation | UJV | Sedlak |
| 10:35 | 11:05 | Discussion regarding collection and transfer of support documentation | UJV, NPPD | Misak, Sedlak |
| 11:05 | 11:30 | Presentation of lessons learned from organisation of previous stress tests projects, discussion | UJV | Misak |
| 11:30 | 13:30 | NPP-1 Walkdown | NPPD | Deylami |
| 13:30 | 14:30 | Lunch break | |  |
|  |  | **Session IV: 2nd block of presentations** | |  |
| 14:30 | 14:50 | Presentation of work approach suggested for WG on hazards | UJV | Maly |
| 14:50 | 15:10 | Presentation of work approach suggested for WG on safety functions | UJV | Hustak |
| 15:10 | 15:30 | Presentation of work approach suggested in WG on severe accident management | UJV | Misak |
| 15:30 | 15:50 | Presentation of work approach suggested for WG on safety measures implementation | UJV | Hakl |
| 15:50 | 16:10 | Coffee break | |  |
|  |  | **Session V: Work planning** | |  |
| 16:10 | 17:10 | Work organisation discussions | UJV+all | Misak, Sedlak |
| 17:10 | 17:30 | Detailed working plan and schedule adoption | UJV | Misak |
| 17:30 |  | End of the day | |  |
| 20:00 | 22:00 | Social event | NPPD | Ghaffari |
| ***Day 3, 30th April 2018*** | | | |  |
|  |  | **Session VI Summary/wrapping up of KoM results** | |  |
| 9:00 | 10:00 | Inception report TOC draft discussion | all | Misak, Sedlak |
|  |  | Coffee break as needed | |  |
| 10:00 | 12:30 | Minutes of KoM (protocol) discussion and adoption | UJV+all | Misak, Sedlak |
| 12:30 | 14:00 | Lunch break | |  |
| 14:00 | 15:30 | Minutes of KoM (protocol) discussion and adoption – cont. | UJV+all | Misak, Sedlak |
|  |  | **Session VII Closing the meeting** | |  |
| 15:30 | 15:50 | Summary and closing of the meeting | all | Misak et al. |
| 16:00 |  | Adjourn |  |  |

1. List of participants in the KoM



1. Main contacts List

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
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1. Planned workshops tentative agenda

**Draft of the agenda of the 1st Workshop**

Proposed date of the workshop:23-27June 2018

Place of the workshop: Bushehr NPP

Invited participants: NPP-1, TAVANA, NPPD, UJV, EC

Duration of the workshop: 4-5 days

Presentations to be sent in advance

Key objectives of the workshop:

* Lessons learned from EU stress tests and post-stress tests safety upgrading, collection of relevant plant specific information including drafting of parts of the stress test report, development of the draft stress test methodology. The workshop documentation should be supplemented with the workshop proceedings.

Agenda of the workshop:

Day 1: Presentations

* Compilation of recommendations and suggestions from EU stress tests
* Reflection of lessons learned in enhancements of international safety standards
* Overview of post-Fukushima design safety upgrading measures in EU countries
* Overview of results of accident analysis performed for VVER 1000/V320
* Approach to development of EOPs and SAMGs applicable to VVER reactors
* Approach to ERO in Czech Republic and Slovakia

After introductory presentations in a plenary meeting, the work will be organized in separate working groups

Day 2: Development of methodology

* Presentation and discussion of the draft methodology for the Stress Test (presentation UJV, discussion all)
* Description of NPP-1 relevant for Stress Test (NPP)
* Overview of accident analysis available for NPP-1 relevant for Stress Test (NPP, TAVANA)
* Specification of the needs for additional plant specific information (UJV)

Day 3: Collection of plant specific information

* Collection of relevant plant documentation, discussion of availability of documentation)
* Plant walk-down to collect relevant additional information
* Identification of key differences between VVER 1000/V320 and NPP-1

Day 4: Working group activities (WGs working in parallel)

* Drafting of plant description relevant for Stress Test
* Approaches to stress test used in the Czech Republic
* Results of the review of previously received documentation

Day 5: Summary and planning of activities

* Summing up the status of the work
* Detailed planning of activities in WGs
* Specification of the next steps in coincidence with the overall plan of the Project.

Among the outcomes of the workshop there will be the first part of the STSA report, containing description of relevant parts of the NPP.

**Draft agenda of the 2nd Workshop (combined with 1st progress meeting)**

Proposed date of the workshop: 10 -14 November 2018

Place of the workshop: TAVANA, Tehran (to be confirmed)

Participants: NPP-1, TAVANA, NPPD, UJV, EC

Major part of the work will be organized in separate working groups

Duration of the workshop: 4 days (plus one day of JWG and 1st progress meeting)

The methodology finalized during the workshop after internal agreement should be presented to INRA without any non-necessary delay.

Key objectives of the workshop:

* Finalization and approval of the stress test methodology by NPP, TAVANA and UJV
* Establishment of a detailed work plan involving the End User

Items of the agenda:

* Discussions and indicative gap analysis against typical stress test requirements
* Discussions on technical approaches enviseagable for the stress test of NPP-1
* Discussions on the required capabilities and on a concept for a practical work plan
* Finalization of the stress test methodology
* Specification of the scope and level of details of the information to be included in different chapters of the stress test report
* Comparison of the required scope of the information with information available in the vendor stress test report and other relevant documents, followed by identification of gaps in availability of the information,
* Detailed analysis of the gaps with detailed specification of the assessment methods. It should also include a detailed work plan for the implementation of the stress test methodology, systematically covering all the elements of the INRA detailed requirements, defining separate work packages / working groups as appropriate, outlining the (possibly iterative) development process in terms of roles and responsibilities, interaction mechanisms, mutual review, integration into one coherent SAST report, milestones, planning of further interactions with INRA on the SAST report.

1. Technical visits on the conduct and results of stress tests in EU countries

**1st visit**

Envisaged time of the visit: 3 – 7 September 2018

Place of the visit: Czech Republic (Temelin NPP – VVER 1000), Slovakia (Bohunice NPP- VVER 440)

Duration of the visits: 5 days

Number of Iranian participants: up to 4-5

Preparation of the visit to start immediately (includes visa issue)

Prior approval by the EC of the name list of the visitors and programme of each visit necessary

Agenda of the visit:

* Detailed presentation followed by discussion on the scope of Stress Test and the post-Stress Test safety upgrading measures adopted in each of the NPP involved
* Plant walk-down in each plant visiting the areas of specific interests in accordance with End User needs, relevant for the Stress Test

**2nd visit**

Envisaged time of the visit: Task 5 tbd

Countries to be visited: Germany and Slovenia (Westinghouse PWR – Krsko NPP) or other

Number of Iranian participants: up to 4

Prior approval by the EC of the name list of the visitors and programme of each visit necessary

Agenda of the visit:

* Introductory presentation in each NPP followed by discussion on the scope of the post-Stress Test safety upgrading
* Plant walk-down in each plant visiting the areas of specific interests, relevant for the Stress Test

1. To be delegated later, since WG4 work starts as late as in the second year of the Project. [↑](#footnote-ref-2)