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| APPROVED:BNPP-1Manager and Managing Director\_\_\_\_\_\_\_\_\_\_\_\_ Ghaffari“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_2016 г |  | APPROVED:Technical DirectorAtomtechexport, JSC\_\_\_\_\_\_\_\_\_\_\_\_Dubov, Andrey“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_2016 |
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TECHNICAL ASSIGNMENT

on

preparation for iaea osart mission at Bnpp-1

(Item 4.4 of Appendix 4, Contract №CNT-ETS/4100-1 dated 25.02.2015)

2016

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| CHAPTER 1. INTRODUCTION |
| Sub-Chapter 1.0 Title of Services |
| A preparation for IAEA OSART Mission at BNPP-1 |
| Sub-Chapter 1.1 Introduction |
| 1.1.1 The Services mentioned are performed in accordance with Item 4.4 of Appendix 4, Contract № CNT-ETS/4100-1 dated 25.02.2015 (hereinafter – the Contract).1.1.2 The purpose of the Services are to provide an assistance to BNPP-1 preparation for IAEA OSART Mission at BNPP-1/1.1.3 This Technical Assignment defines requirements to the Services, which should be provided in connection with the title mentioned above. If there are conditions and/or requirements in the Technical Assessment, which are not defined or in contradiction with the Contract, the Contract conditions and requirements should be applied. |

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| CHAPTER 2. SERVICE DESCRIPTION |
| Sub-Chapter 2.0 Definitions and abbreviations |
| Definitions: - AIP - Advanced Information Package- BNPP-1 - Bushehr Nuclear Power Plant, unit 1- Contactor – Atomtechexport, JSC- IAEA - International Atomic Energy Agency- Principal - NPPD and BNPP-1- Parties - Contractor and Principal, whenever those are together mentioned in the text- QPP - Quality and Project Plan- OSART - Operational Safety Review Team mission- SS – IAEA Safety Standards- TA - Technical Assignment- WANO – World Association of Nuclear Operators- WNO - working notes |
| Sub-Chapter 2.1 A scope of services to be provided  |
| Scope of the works and services to be rendered the Contractor for fulfillment of the objectives in accordance with Item 4.4 of Appendix 4 of the Contract are as follows:Task 1: Conduct a workshop for BNPP Top management on OSART methodology at the beginning of the Project (2 experts/ 3 working days).Task 2.1: An assessment of OSART review areas against IAEA Safety Standards during review visits for 10 OSART Review areas (20 experts/ 5 working days).Task 2.2 Development of integrated report on expert reviews (10 experts/ 5 working days).Task 3: Re-visits of expert to monitor a progress in OSART preparation and assistance, consultation in AIP development (10 experts/ 4 working days).Task 4.1: Translate and editing of AIP in English (2 interpreters/ 10 working days).Task 4.2: An assistance and consultation in AIP completion (2 experts/ 5 working days).Task 5: An assistance and consultation of BNPP staff during OSART mission at the site with the same main expert team of the Contractor be present during Pre-OSART (3 experts/ 7 working days). |
| Sub-chapter 2.2 A description of the services |
| 2.2.1 Task 1: Conduct a workshop for BNPP Top management on OSART methodology at the beginning of the Project.The workshop should be conducted by personnel participated in OSART missions and/or involved in OSART preparation activities to provide overview and focus-oriented information on OSART methodology and lessons learned followed by detailed discussions regarding the mission conduct and results. The self-assessment of operational safety to be made by the BNPP-1 staff shall be discussed and approached during the workshop. Duration of the Workshop is 3 days for two groups of BNPP-1 managers. It is planned to have two groups training during three days. One group will take first part of the day, the second one will take time after launch. Based on previous practice, it is suggested to have from 10 to 20 BNPP-1 managers and key persons in each training group, total amount is up to 40 persons. Content of the training shall be attached to the QPP.2.2.2 Task 2.1: An assessment of OSART review areas against IAEA Safety Standards.An assessment of OSART review areas should be made through Contractor's expert missions at the site. The Contractor's experts will use the following methods of assessment:* Walkthroughs and Observation of work performance;
* Review the selected and limited plant documentation;
* Interviews,

The following review areas are to be assessed:- Leadership and Management for Safety (LM)- Training and Qualification (TQ)- Operations (OPS)- Maintenance (MAN)- Technical Support (TS)- Operation Experience (OPEX)- Radiation Protection (RP)- Chemistry (CH)- Emergency Preparedness and response (EPR)- Severe Accident Management (SAM)Based on received data during assessment, Expert area report shall be developed after completion of the expert visit, signed and sent to BNPP-1 management. Expert Area report shall be developed per every reviewed OSART area. Requirements to Expert area report shall be included in QPP.Every expert visits will be done by 2 Contractor' specialists. The experts should plan in a way that they can report all the working notes (WNO) based on the IAEA guidelines in the allocated period and submit the draft report of finding during the reviewing that area in the last day.Duration of the expert visit is 5 working days excluding travel days, where 4 days will be expert assessment and 1 day is a preparation of Expert area report, informing the results and training/coaching of the plant staff in the relevant area.Principal will allocate at least 2 plant staff per one expert area review. The results received during an assessment should be reported to the BNPP-1 management.2.2.3 Task 2.2 Development of integrated report on expert reviewsThe Contractor shall provide integrated report on experts review. Such a report should be developed in a way that the priority and importance of the issues be specified in it separately. The report should include a draft of Corrective Action Plan and be presented to the BNPP management for further development and implementation as appropriate. The final revision of the report shall be submitted within two weeks after last review visit. The report should include areas of improvement in particular areas, with indication of the particular chapters of the IAEA Safety Standards (IAEA SS), and recommendations, based on expert's experience and known best practices, what should be done to clear a gap between current status and IAEA SS.2.2.4 Task 3: Re-visits of expert to monitor a progress in OSART preparation and assistance, consultation in AIP development. The Contractor shall monitor a progress for each OSART review areas after initial Contractor's expert visits. The monitoring visits will be done during the preparation period to OSART mission. Every visit will be performed by one Contractor' expert in the area. Re-visits should be performed 5-6 months before OSART mission. The ten experts who are to be present in re-visits should be the same experts who are present during initial pre-assessment. A duration of every visit is 3 working days at the site.The Contractor should prepare a second integrated report on progress in preparation for OSART mission and submit the report to BNPP management; the submission should be done within two weeks after the last re-visit to the site.2.2.5 Task 4.1 Translate and editing of AIP in English.The Contractor will provide two Russian-English interpreters to translate and edit the AIP review areas in English. The interpreters will follow and implement IAEA Safety Standards and OSART related terminology while translating and editing AIP sections. Duration of stay is 10 working days.2.2.6 Task 4.2: An assistance and consultation in AIP completion.The Contractor will assist and consult in AIP preparation. It will be provided through providing good practice in writing AIP and a review of the AIP (Russian draft) developed by Principal before OSART mission. The contractor will provide 2 qualified experts to assist in completion of AIP. Duration of stay is 4 working days.2.2.7 Task 5: An assistance and consultation of BNPP staff during OSART mission at the site.The Contractor will assist and consult of BNPP staff during OSART mission at the site. At least 3 persons will assist and consult BNPP staff during the OSART mission. Duration of the stay at the BNPP-1 site is 7 working days. |
| Sub-chapter 2.3 A scope of services to be performed and Project schedule |
| 2.3.1 A scope and schedule of the services to be provided is in Quality and Project Plan and Project schedule. |

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| CHAPTER 3. SERVICES REQUIREMENTS |
| Sub-chapter 3.1 General Requirements |
| 3.1.1 The Contractor is responsible for providing the technical guidance and overall management on consulting and engineering services, and adequate training on OSART-related topics of the BNPP-1 managers.3.1.2 The Contractor shall use the following publications:- IAEA Safety Standards, as of September 2016;- IAEA OSART Guidelines, 2015 Edition; - up-to-date Working Notes IAEA;- OSART mission report performed on other Russian plants;- OSART mission reports performed between Y2013 and Y2015 (if available).3.1.3 The Contractor shall use recommendations made to Russian plants while preparing OSART missions.3.1.4 All notices and other communications required under this Agreement shall be in writing and shall be given to each party at its address set forth in the present Agreement or other address to be specified by the Parties3.1.5 The changes in the schedule:Due to some cases/activities at the Principal side (i.e. BNPP mid-life repairs, WANO Follow-up, etc.,), or some cases at the Contractor side (i.e. expert personal cases, working schedule conflicts, illness, etc.) some of the parts of the schedule during the implementation of the project may undergo some changes and the Principal will inform the Contractor on the changes planned almost two months earlier.The Project schedule and changes to be made in it is a subject for approval by both Parties. |
| Sub-chapter 3.2 Quality requirements |
| 3.2.1 All activities shall be done with compliance to QPP. The Contractor shall develop the Quality and Project Plan and submit to the Principal for review and approval.3.2.2 The Contractor is responsible for expert’s competence as of sub-chapter 3.7. 3.2.3 All documents developed within the performance of the present Agreement, including results of the project, shall be submitted to the Principal by the Contractor, and shall be in an acceptable quality. The formats of documents shall follow the provisions indicated in the QPP. |
| Subchapter 3.3 Warranty Requirements |
| No special requirements. |
| Subchapter 3.4 Confidentiality requirements |
| 3.4.1 All findings and recommendations defined/developed during an execution of the Contract is solely property of the Principal. The Principal and the Contractor should keep confidentiality during the implement the agreement and should not divulge the results of the services and/or works. 3.4.2 The confidentiality requirements defined in Article 19 of the Contract should be applied. |
| Subchapter 3.5 Safety requirements |
| During performing services within the Contract, the Contractor’s staff shall follow BNPP-1 safety and general (administrative & etc.) rules and requirements. At the earlier stage of the project the Principal will provide, and the Contractor staff will follow requirements defined in BNPP-1 enter pre-job briefing. |
| Sub-chapter 3.6 Principal’ staff training requirements |
| 3.6.1 Top and middle level managers (2 training groups, one group per half-day load) shall be training on OSART methodology at the beginning of the Project. The content of the workshop should be provided in QPP.3.6.2 Training shall be conducted with compliance to sub-chapter 2.2.3.6.3 The Contractor shall ensure that, teaching plant personnel on OSART methodology will be provided in order to prevent any unplanned impersonal situations while conducting OSART mission at the plant, as well as desirable and expected plant performance.3.6.4 Principal shall ensure the presence of his staff during the training.3.6.5 Training shall be conducted in Russian. Presentations shall be in Russian.3.6.6 During assessment visits, the Contractor staff will provide an information on OSART missions experience on review areas to the Principal staff. |
| Sub-chapter 3.7 Special requirements |
| 3.7.1 Obligations of the Contractor.1) The Contractor staff should have the following competencies:- a preliminary assessment of current operational safety of the BNPP-1, consulting/training services shall be provided by experts which are IAEA experts, or have participated in OSART mission as an expert in the subject area (or Counterpart) of the Host plant, or have an experience in OSART pre-assessment missions before OSART followed by defining potential weaknesses and elaboration of preventive and corrective actions according to the IAEA Safety Standards.2) At earlier stage of the project, the Contractor is obliged to submit to the Principal the necessary documents, which have a confirmation that his experts have competencies and expertise as requested.3) The Personnel made available by the Contractor for the purpose of the present Technical agreement, shall be under technical management, direction and disciplinary control of the Contractor, who shall be liable for the consequences of the acts and omission of such Personnel.4) The preliminary assessment shall be made by performing an independent analysis of the status of operational safety in every area of the OSART review. The Contractor's staff shall provide results of such pre-assessment in a form of:- preliminary information/recommendations after completion of every experts' mission at exit meeting;- a preliminary written report (minutes of meeting) for the review area within 1 week after completion of every expert's visit.3.7.2 Obligations of the Principal.1) Consideration of recommendations submitted by the Contractor to the Principal and followed by the decisions on their implementation/rejection at all times, providing services under the present Technical Assignment, and the associated changes in the BNPP-1 performance, changes in organizational, technical systems, staff development, to be made at the site, to bring it into line with the recommendations of the IAEA Safety Standards, is solely under the full responsibility of the Principal.2) The Principal is responsible for providing at least 2 working rooms equipped by two PCs and one printer to the Contractor's staff during the performance at the site.3) The Principal shall provide at least two persons belonged to a particular OSART Review area for communicating with the Contractor's experts while at the site and after expert visit. The Principal shall provide a staff plan for each Contractor's expert mission mentioned in this Technical Assignment, including name, surname, job position title, and contact details for communication.4) The Principal shall issue an access permission to the plant documentation and BNPP premises for Сontractor's experts in order to observe equipment, plant premises, work performance etc. during the pre-assessment visits. A documentation submitted by the Principal, is to be in Russian or in English. |

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| CHAPTER 4. EXPECTED RESULTS OF SERVICES |
| Sub-chapter 4.1 A description of expected results of services |
| * + 1. Services provision on BNPP-1 preparation to OSART mission according to the requirements of the said Technical Assignment.
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| Sub-chapter 4.2 Requirements to Services acceptance  |
|  4.2.1 Principal accepts work performed according to the Project schedule and QPP. |
| Sub-chapter 4.3 Deliverables |
| 4.3.1 The following deliverables shall be submitted to the Principal:Deliverable 1.1. Materials for BNPP-1 Top and Middle Management workshop on OSART methodology.
2. A report on Workshop conduct for 2 groups of BNPP-1 top managers.

Delivery of Training certificates (shall be in English) is a confirmation of Task 1 completion. Deliverable 2.1. Expert’s review reports on completion of consulting on and an assessment of OSART review areas against IAEA Safety Standards.Delivery of Expert’s review reports on completion of consulting on and an assessment of OSART review areas is a confirmation of Task 2.1 completion. Deliverable 2.2. An integrated report on Expert’s reviews including a draft of Plan of corrective Actions.Delivery of the integrated report is a confirmation of Task 2.2 completion.Deliverable 3. Second integrated Expert’s review report on performing expert’s re-visits to monitor a progress in OSART mission preparation.Delivery of the Second integrated report is a confirmation of Task 3 completion.Deliverable 4.1. Translated AIP sections in English.Delivery of the translated AIP sections in English is a confirmation of Task 4.1 completion.Deliverable 4.2. An assistance and consultation in AIP completion.Delivery of the final translated version of AIP in English is a confirmation of Task 4.2 completion.Deliverable 5. A report on consultancy during OSART mission on site.Delivery of the report on consultancy during OSART mission on site is a confirmation of Task 5 completion.4.3.2 All deliverables shall be in Russian. An integrated report on Expert’s reviews (Deliverable 2.2) shall be in Russian and English.4.3.3 On a completion of the work, the Contractor will issue and submit to the BNPP-1 management a statement on work performance done by the Contractor at the BNPP-1 site on OSART preparation. |

CHAPTER 5.A LIST OF APPENDICIES

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| N of appendix | Title of the Appendix |
|  | none |

**Signatures:**

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**H. Abbaspour**

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