



ATOMSTROYEXPORT

JOINT STOCK COMPANY

19.05.2014 № 007/09-09/07- 23  
Your ref. LTR -4300-105666 dated 2014.05.19

Mr. M.Jafari  
Project Manager  
Bushehr NPP

Copy : Mr. S.Tajbakhsh  
manager of legal affairs and  
contracts department of NPPD Co

Copy: V.A. Skripichnikov  
Head of Rep. Office  
JSC ASE in Teheran

Addendum No 69 to the Contract

Dear Mr. Jafari,

In response to your letter No LTR -4300-105666 dated 19.05.2014 please find attached:

1. New version of Appendix No 4 Terms of Reference "Information Transfer and Submission System to ZV1 building (ITSS) of the Upper-Level System and Automated Radiation Situation Monitoring System", revised taking into account the accepted comments.
2. Detailed cost of list of works related to development of software of Information Transfer and Submission System for Bushehr NPP.
3. The timeframe of commencement and completion of the works related to the delivery of the system is specified in Article 7 of Appendix 4, it has no intermediate stages.
4. The warrantee period has been established in accordance with your proposal - 24 months from the date of the system take over (Article 6 of Addendum No 69).

Please note that this commercial proposal has a restricted validity, if the decision is delayed the prices can be re-considered and increased.

Yours sincerely,

I.F.Mezenin

Representative of JSC Atomstroyexport

Acting on the basis of Power of Attorney No 6-890 dated 18.10.2013

Encl.:

1. Addendum No 69 - 1 copy
2. Appendix No 4 - Terms of Reference - 1 copy
3. Calculation - 1 copy

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**Addendum No. 69**  
**to Contract No. 643/08641106/01 dt. 08.01.95**  
**for completion of Bushehr NPP Unit 1**

Nuclear Power Production and Development Co. of Iran (NPPD Co.) duly represented by Mr. M. Jafari, Bushehr NPP Project Manager, hereinafter referred to as "the Principal", on the one hand, and Joint Stock Company Atomstroyexport (JSC ASE), duly represented by Mr. I.F. Mezenin, acting on the basis of Power of Attorney No. 6-890 dt. 18.10.2013, hereinafter referred to as "the Contractor", on the other hand, jointly referred to as "the Parties", according to paragraph 1.4.5 of Contract No. 643/08641106/01 dt. 08.01.95 for completion of Bushehr NPP Unit 1, hereinafter referred to as "the Contract" concluded the present Addendum (hereinafter referred to as "the Addendum" on the following:

**Article 1. Subject of the Addendum**

1.1 Development and supply of the Information Transfer and Submission System (ITSS) to Building ZV1 of the Upper Level System (ULS) and Automated Radiation Situation Monitoring System (ARSMS) on condition of Bushehr NPP Unit 1.

1.2. The Principal shall accept and pay for the equipment, software (SW) and documentation for the works completed by the Contractor according to the terms and conditions of the present Addendum.

**Article 2. Scope of the Contractor's works**

2.1. The scope of the works to be executed and the equipment to be supplied, the Contractor's documents and magnetic medium to be submitted for implementation of the subject of the present Addendum shall be specified in «the Specification» of Addendum No. 1 and correspond to «the Terms of Reference» of Addendum No. 4 hereto.

2.2. It is understood that all the works required for implementation of the subject of the present Addendum by the Contractor are included in the scope of the works under the present Addendum, no matter whether they are specified directly in the text or not.

**Article 3. Price**

3.1. The price for the Contractor's works and services required for fulfillment of its obligations under the present Addendum is 480600 (four hundred eighty thousand six hundred) US Dollars. The price is fixed and shall not be subject to escalation.

3.2. The price specified in Paragraph 3.1 includes the cost of all the works, services, equipment to be delivered, using of the office equipment, machines and mechanisms required for execution of the works, as well as all contractual and binding levies and deductions, including taxes, duties and insurance of the Contractor and its employees according to the Contract, pursuant to the current laws and regulations of the IRI existing as of the date of signing the Addendum.

**Article 4. Payments**

4.1. In order to ensure fulfillment of the Contractor's obligations under Article 2 of the Addendum, the Principal shall introduce the required changes in the conditions of Letters of Credit No. 75010945 and FE 75011465.

4.2 The Principal within three months from the date of signing of the present Addendum shall replenish the said Letter of Credit for the US Dollar part of the Addendum. The Principal shall make the required changes in the above mentioned Letter of Credit and pay an advance payment to the Contractor amounting to 10% of the Addendum price against submission of an acceptable Bank Guarantee by the Contractor.

4.3 Payments to the Contractor for the completed scope of works will be effected against submission of documents under Paragraphs 1K3.2.1 and 1K3.4.1 of Appendix 1K to the Contract in accordance with the Milestone Schedule (Appendix No.2).

4.4. Payments in US Dollars shall be effected within the periods according to the Payment Schedule of Appendix No. 3.

4.5 10% (ten per cent) from the amount of each invoice shall be deducted as the deferred

payment according to Paragraph 10.9 of the Contract. The Principal shall pay to the Contractor all the amount of the deferred payment within 30 days from the date of signing the Report Acceptance Certificate according to Article 24 of the Contract.

#### **Article 5. Terms**

The Contractor shall develop and submit the required documentation, and render the services to the Principal, which are required for performance of the obligations under the present Addendum according to the terms specified in Appendix No. 2 hereto.

#### **Article 6. Guarantees**

6.1 The Contractor shall guarantee that the documentation developed under the present Addendum, equipment, SW shall comply with the norms, standards, regulations, guidelines, requirements, codes and measuring units of the Contract according to Supplement M and requirements of the Bushehr NPP Project. The guarantee for the services to be rendered by the Contractor under the present Addendum shall be similar to the guarantee for the Services to be rendered by the Contractor under the Contract.

6.2 The right of disposal of all types of the Documentation, SW developed and issued according to the Terms of Reference, and the equipment shall belong to the Principal.

#### **Article 7. Other terms and conditions**

7.1 For all other matters not covered by this Addendum the terms and conditions of the Contract are valid. Intellectual property rights.

7.2 The present Addendum shall come into force after the date of its signing.

The present Addendum is signed in \_\_\_\_\_ in Tehran city in three copies in the English language, two copies for the Principal and one copy for the Contractor.

THE PRINCIPAL:

THE CONTRACTOR:

M. Jafari

I.F.Mezenin

Bushehr NPP Project Manager

Representative of JSC Atomstroyexport  
under Power of Attorney No.6-890 dt.  
18.10.2013

## **Terms of Reference**

### **For elaboration and delivery of Information Transfer and Submission System to ZV1 building (ITSS) of the Upper-Level System and Automated Radiation Situation Monitoring System on BNPP-1 status**

#### **Article 1 Application of ITSS**

ITSS has 4N safety class under NP-001-97 (PNAE G-01-011-97). ITSS supplements the Upper-Level System on the NPP Power Unit and serves for providing of visual information on equipment operation and Unit status in volume and in the way how it is provided to ULS LCC AWS and given parameters set from ARSMS at workplaces of NPP staff in ZV1 administrative building.

#### **Article 2 Performance principles**

LCC server (00JCB90) is proposed as a tool for acquisition and processing of ULS and ARSMS data, which shall include the ITSS SW server that implements the functions of: acquisition and processing of ULS and ARSMS data, transfer of processed data to ZV1 building network, protection of ULS network from unauthorized access from ZV1 building network. ULS data are transferred to the server through ACC AWS (00JCV70); ARSMS data come to the server from CCS-2 (10JXY03). Processed data are transferred to ZV1 building network through the fiber-optic communication channel. ITSS SW users shall work on personal computers connected to a special independent LAN in ZV1 building providing for visualizing functions of required information.

#### **Article 3 ITSS structure and composition**

3.1 For ITSS structure see Figure 1.

3.2 The following technical tools are used for ITSS operation:

- ARSMS CCS-2 desk;
- ULS LCC AWS;
- CCS server;
- CCS switching unit;
- Optical converters;
- Fiber-optic line between buildings;
- Personal computers with software for information receipt and submission of Upper-Level System (PCSWI);
- PCSWI must be connected to a special independent LAN in ZV1 building.

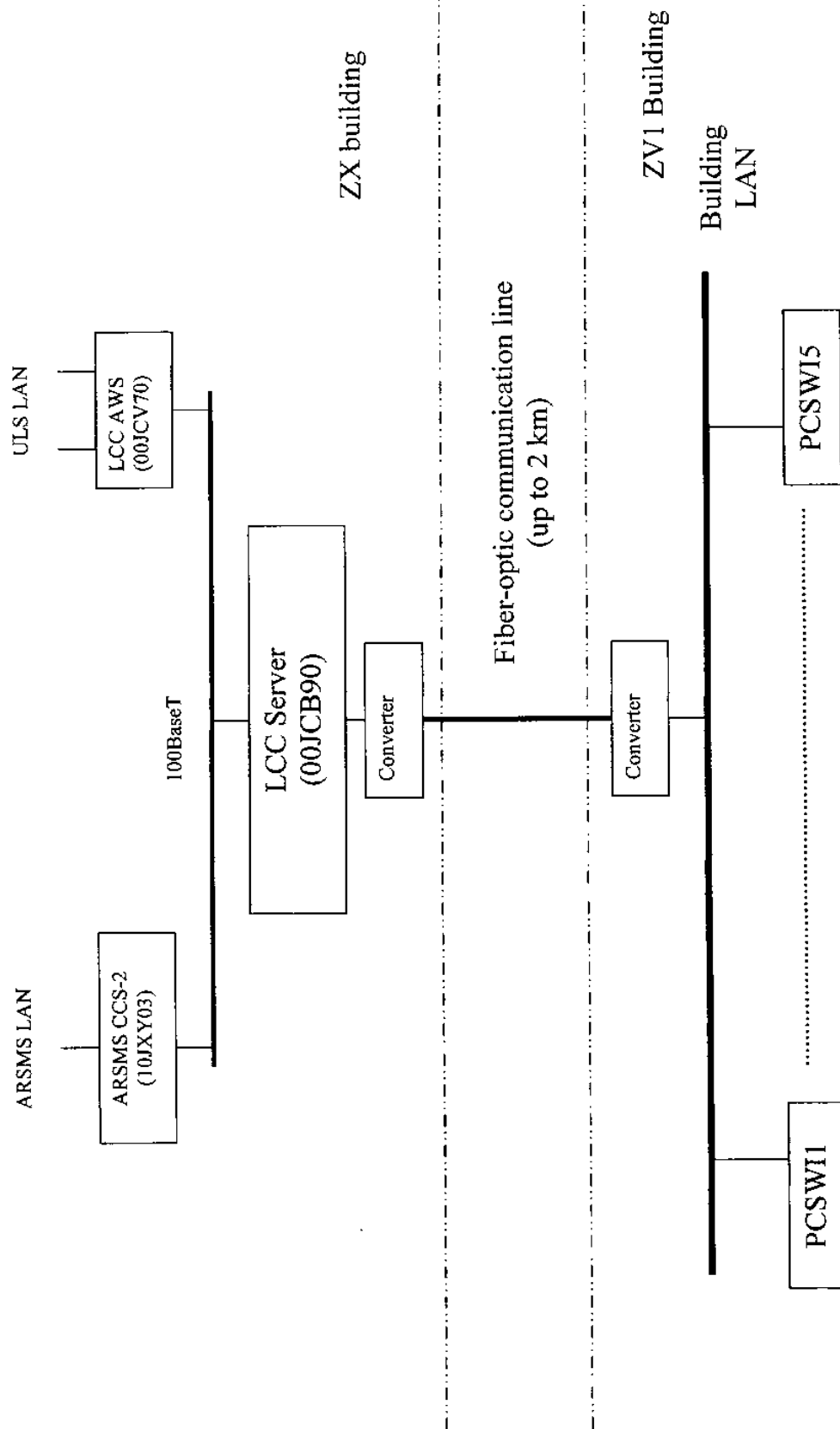


FIG. 1

#### Article 4 Basic technical parameters of ITT SWHWC

- 4.1 Operator' interface complies with ULS, control function is blocked.
- 4.2 List of transferred signals according to LCC signals list.
- 4.3 Information video formats composition according to LCC.
- 4.4 Communication line from server unit to the connection point of ZV1 building LAN – up to 2 km.
- 4.5 Delay of information representation at PCSWI – up to 5 sec.
- 4.6 Volume of browsed history on the list of transferred signals – up to 30 days.
- 4.7 Amount of connected PCSWIs – up to 5.
- 4.8 PCSWI software (including operational system and other required applications) must be developed and supplied for Linux OS (LICS 1000) (to be performed by the Contractor) and Windows (to be performed by the Principal).

#### Article 5. List of the required works

##### 5.1 Description of the works

Description of the works	Responsible person
<b>1. Development and approval of the Terms of Reference</b>	The Contractor
<b>2. Adaptation of the ITTS to the NPP technical design</b>	The Contractor
2.1 The design documentation for laying optical fiber cable from Building ZX (room 0426) to Building ZV1 must be submitted and approved.	The Principal
2.2 Updating of the LCC design documentation in the part of the LCC additional network.	The Contractor
<b>3. Development of the ITTS software</b>	The Contractor
3.1 Development of the client's part of the ITTS SW	
a) Formulation of the requirements and supply of the client hardware	
b) Porting of software for the ULS working station for Windows Environment	
c) Static debugging of the client's part of the PCSWI SW	
d) Development and delivery of Linux OS and other necessary PCSWI SW	
e) Localized version of MS Windows Operational system – to be performed by the Principal	
3.2 Development of the server part of the ITTS SW	
a) Development of software for the ULS network protection (the fire wall SW)	
b) WDB development for the ITTS	
c) SW development for the ARSMS gateway	
d) Assembly and static debugging of the server part of the ITTS SW	
e) Dynamic debugging of the ITTS SW	
3.3 Updating of the applied ULS SW in the part of integration with the ITTS	
a) Updating of LCC WDB for the ITTS	The Contractor

b) Updating of ULS network debugging	The Contractor
c) Updating of the ASWHW sub-system in the part of submission of the ITTS diagnostic information	The Contractor
<b>3.4 Maintenance</b> a) changes of network maintenance (when required) b) Supply and hand-over of PCSWI (5 sets) – to be performed by the Principal c) Client's part of the ITTS SW (installation disc, record card) – 5 sets a) supply, configuration, testing and hand-over of the hardware fire wall b) Supply and hand-over of optical converters (2 sets) c) Hardware specification (description of parts) of workstations (in ZV1 building) and the hardware fire wall must be prepare by the Contractor and subsequently approved by the Principal	The Contractor
<b>4. Development of the PMT and comprehensive ITTS tests.</b>	The Contractor
<b>5. Purchasing and supply of components to the NPP site.</b>	The Contractor
<b>6. Laying of optical fiber cable to Building ZV1</b>	The Principal
<b>7. Carrying out of commissioning works on the NPP site.</b>	The Contractor

5.2 Two months before shipment of the System the Principal shall inform the Contractor of the readiness of the communication channel between the buildings.

5.3 Location of these clients will be determined by the Principal

## **6 Supply package**

- 6.1 ITTS SW, the server part (the installation disk, record card) - 1 set.
- 6.2 Switch-board 100BaseT 4 ports - 1 pcs and Switch-board 8 ports – 1 pcs for buildings ZX and ZV1 respectively;
- 6.3 Documentation such as design, production, operation, maintenance, testing procedures;
- 6.4 Hardware fire wall in ZX building
- 6.5 Optical converters (2 sets)

## **7. Terms of the works**

### **7.1 Commencement**

- 6 months from the date of approval of the Terms of Reference by the Principal.
- 6 months from the date of start of financing.

7.2 Completion - 12 months from commencement of the works.

## **8. List of abbreviations**

- ARSMS – Automated Radiation Situation Monitoring System.
- LCS –Local Crisis Centre
- CMP – Central Monitoring Post
- ITTS SW - Software of the Information Transfer and Transmission System.
- CCS – Central Control Station.
- AWS LCC ULS – Automated Workstation of the Local Crisis Center of the Upper Level System.

- LAN – Local Area Network.
- PCSWI – Personal Computers with Software for Receiving and Submission of the ULS Information.
- ITT SWHWC – Software and Hardware Complex for Information Transfer and Transmission.
- WDB - Working Database.
- ASWHW – Administrative Software and Hardware.
- PMT - Program of a method of tests.

**THE PRINCIPAL:**

**M. Jafari**

**Bushehr NPP Project Manager**

**THE CONTRACTOR:**

**I.F.Mezenin**

**Representative of JSC Atomstroyexport  
under Power of Attorney No. 6-890 dt.  
18.10.2013**



to letter No 007/09-09/07-

dated

Appendix No

Detailed cost of works related to development of software for Information Transfer and Submission System (ITSS) for Bushehr NPP.

1. Development and approval of the Terms of Reference	43 000
2. Attachment of ITSS to the NPP technical design	23 000
3. Development of software for ITSS	
3.1 Development of the client's part of SW for ITSS	55 000
3.2 Development of the server's part of SW for ITSS	106 000
3.3 Adjustment of SW for Upper-Level System in terms of integration with ITSS	55 000
4. Development of programs and methods of testing and implementation of comprehensive tests of ITSS	32 000
5. Procurement and delivery of components to the NPP site	8 000
6. Implementation of commissioning works at the NPP site	34 000
Total:	356 000