**CONTRACT FOR**

**CONSTRUCTION OF**

**BUSHEHR NUCLEAR POWER PLANT**

**(Bushehr-2 NPP)**

**ATTACHMENT B.G**

**STRUCTURE AND CONTENTS OF**

**THE PROJECT DATA BASES**

Number of pages: 47

|  |  |
| --- | --- |
| The Principal: | The Contractor: |
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**B.G.1 INTRODUCTION**

**B.G.1.1 GOALS AND OBJECTIVES**

The present Addendum is aimed at giving the general idea of the structure, contents and requirements for creation of the project data bases, as well as the general description and main relation of the data bases with other Information Management System facilities under Bushehr-2 NPP Project (hereinafter referred to as “the IMS”).

The present document is the Attachment to Appendix B.

**B.G.1.2 FUNDAMENTAL PROVISIONS**

The project data bases are the component (subsystem) of the IMS and all the documents having references in the data bases shall have the attributes, according to which their unique identification is possible, and which are listed in Sub-Clause В.2.1 of Appendix В to the Contract, as well as relations (hyperlinks) with their scanned copies/original formats in subsystems «Organizational, administrative and executive Document Flow (OEDF)» and/or «Electronic Technical Document Management (ETDM)» of the IMS and /or Project documentation repository.

Upon the additional agreement of the Parties, the list and contents of the project data bases can be extended on the basis of a separate agreement between the Principal and the Contractor.

**B.G.2 STRUCTURE OF DATA BASES**

**B.G.2.1 STRUCTURE OF DATA BASES. LINK CIRCUIT.**

All the data bases shall be created in the software similar to the software of subsystems « Organizational, administrative and executive Document Flow (OEDF)» and « Electronic Technical Document Management (ETDM)» of the IMS (hereinafter referred to as «Subsystems»). More detailed description of the Subsystem is specified in item 4 of the Terms of Reference for the IMS BU2.0120.0.0.PM.EC0002.

All the data bases shall be connected with the Subsystems. The references to the documents in the data bases shall be attached to the documents in the Subsystems. The responsibility for references of the documents to be developed by other subdivisions of the Contractor, except for the Moscow office, as well as by the Principle’s subdivisions, and the deadlines for reference of the documents shall be specified separately after description of the organizational interface processes between the Contractor’s subdivisions.



**B.G.2.2 STRUCTURE OF DATA BASES. DESCRIPTION.**

All the data bases shall have the similar structure and consist of 4 main field sets:

* Command fields;
* Compulsory Fields under Appendix В to the Contract (hereinafter referred to as «Appendix В»);
* Exclusive User fields;
* Relations (Hyperlinks).



All the data bases shall have the same set of fields in the part of command fields and the compulsory fields under Appendix В, and the diverse set of fields in the part of exclusive user fields and links. For some tables of data bases the set of exclusive user fields and links can be the same.

The fields of data bases are not strictly compulsory for filling in, in case if the documents do not have attributes for this field.

All the data bases can be presented in the form of one-page and two-page forms, including one and two tables correspondingly.

The data bases presented in the form of 2-page forms (main and supplementary tables) shall have unambiguous communications between the main and supplementary tables. Each record in the supplementary table shall have the record ID in the main table.



**B.G.2.2.1 STRUCTURE OF DATA BASES. DESCRIPTION OF COMMAND FIELDS.**

The command fields of the tables containing data bases include the information required for providing integrity of the data, identification of records inside the software, determination of access rights for the users and other information required for data base functioning.

The command fields in each line of the table shall have, at least, the following information:

* Time of the record creation;
* Creator of the record (the user according to his role);
* Executor (the user or the structural unit of the organizational Project structure that is responsible for record correction);
* Record number (record ID);
* Number of the subdivision created the record (subdivision ID);
* Time of the latest updating;
* Editor of the latest updating;
* Attribute of the updated record;
* Attribute of the cancelled record;
* Record version.

**B.G.2.2.2 STRUCTURE OF DATA BASES. DESCRIPTION OF COMPULSORY FIELDS UNDER APPENDIX В TO THE CONTRACT.**

The fields in all the tables of all the data bases under Appendix В shall be the same, include all the attributes of the documents listed in sections В.2.1-В.2.7 of Appendix В and contain the following information:

* Language of the document;
* Quantity of copies;
* Number of the Documentation set;
* Identification code according to Appendix N;
* Developer of the document;
* Title of the document;
* Number of pages in the document;
* Date of issue of the document;
* Number of the document revision;
* Number of the covering letter;
* Date of the covering letter;
* Type of works under the documentation;
* Document status (reference book, document status in compliance with Sub-Clause В.2.2.2.2 of Appendix В) to be filled in only for the documents with the category «For approval»;
* Category of documentation (reference book, document category in compliance with Sub-Clause В.2.2.1 of Appendix В);
* Project stage (reference book);
* Hyperlink with the document (Appendix B does not contain any requirements for this field);
* Note (Appendix B does not contain any requirements for this field);
* Document code (Appendix B does not contain any requirements for this field) – - the code is generated to search a document by its name or a code in all data base tables in case it’s unknown in which particular table it is located.

The code structure is the following: Field #1 Field #2 Field #3 Field #4, where:

Field 1 Name of the document

Field 2 Identification code as per Appendix N

Field 3 Section (data base) ID

Field 4 Table ID in a section

For example: Technical assignments for СУИ#BU2.0120.0.0.PM.EC0002#6(project management section) #40(Data base of standards and project management practices)

**B.G.2.2.3 STRUCTURE OF DATA BASES. DESCRIPTION OF EXCLUSIVE USER FIELDS.**

The exclusive user fields in the tables of the data bases shall contain the unique information and attributes on the documents, which is not related to its compulsory attributes.

The exclusive user fields in some tables can be completely unavailable, as for these tables there is a sufficient number of the document attributes from the compulsory fields under Appendix В.

The list of the exclusive user fields of the data bases under the project can vary in the course of implementation of the Project upon agreement of the Parties (the Principal and the Contractor).

The minimum required list of the exclusive user fields is specified in Appendix 1.

**B.G.2.2.4 STRUCTURE OF DATA BASES. DESCRIPTION OF HYPERLINK FIELDS.**

The fields for references include hyperlinks with the documents, which are in the IMS subsystems «Organizational, administrative & executive Document Flow (OEDF)» and «Electronic Technical Document Flow (ETDM)».

The documents shall be opened in the format, in which they are saved in the data base.

Opening of the saved document from the system using the hyperlink shall be made by clicking on the document title.

**B.G.3 CONTENTS OF DATA BASES.**

**B.G.3.1 CONTENTS OF DATA BASES. LIST OF SECTIONS.**

All the data bases shall be grouped in the main sections according to the documentation types specified in Sub-Clause В.2.1. of Appendix B (Types of the Contractor’s documentation). The minimum required list of sections of data bases is specified below:

* Data base of the documents for the NPP QAP, licenses;
* Data base of design documents;
* Data base of time schedules;
* Data base of programs;
* Data base of reports;
* Data base of the project management and procedures;
* Data base of certificates;
* Data base of operational documents, as well as at the commissioning stage;
* Data base for maintenance and repair documents;
* Data base for minutes of the meetings and other protocols;
* The documentation to be submitted by the Contractor with the equipment, as well as the quality management documentation of the equipment suppliers;
* Data base for start-up and adjustment documents;
* Data base of the equipment;
* Data base of the documents for the trial operation stage;
* Data base of the documents for the preliminary acceptance stage;
* Data base of the documents for the final acceptance stage;
* Data base of as-built documents;
* Other data bases;
* Data base of reference books.

**B.G.3.2 CONTENTS OF DATA BASES. LIST OF TABLES BY SECTIONS.**

The division of the table by sections can be modified in the course of the IMS development (without changing of the above mentioned total number of tables).

**B.G.3.2.1 SECTION “NPP QAP DOCUMENTS. LICENSES.”**

* Quality Plans;
* NPP QAPs (General, Designing, Construction, Commissioning);
* Siting license;
* Construction license;
* Commissioning license;
* Operating license;
* Registration documents of the Contractor.

**B.G.3.2.2 SECTION “DESIGN DOCUMENTS”**

* Engineering survey documentation for the design documents:
  + - * + Report on engineering survey and the Site initial data;
* Engineering survey documentation for the detailed design documentation:
  + - * + Preliminary Safety Analysis Report (PSAR);
        + Final Safety Analysis Report (FSAR);
        + Probabilistic Safety Analysis (PSA);
* Technical Assignments for NPP design;
* Technical Assignments
* Basic design;
* Detailed design, including:
  + Construction part (Structural Part, Civil Part, Architectural Part), ;
  + Process part (the section of the detailed design according to Sub-Clause В2.1 of Appendix В);
  + Electrical part;
  + I&C Part;
  + General layout and transport;
  + Construction Organization Plan (COP);
    - * + Technical solutions and Decisions;
        + Schedule for development (delivery) of the detailed design documentation (any schedules in MS Excel format or in another format, related to delivery of the documents for Bushehr-2 NPP Unit).

**B.G.3.2.3 SECTION “TIME SCHEDULES”**

* Time schedules of Levels 0, 1, 2 and detailed time schedules of Level 3;
* Detailed time schedules for specific construction stages;
* Other schedules, including schedules of subcontractors (any other schedules related to supplies, performance of local works, construction stages, etc.).

**B.G.3.2.4 SECTION “PROGRAMS”**

* Commissioning program;
* Operational control program;
* Pre-operational control program;
* Test program.

**B.G.3.2.5 SECTION “REPORTS”**

* Progress reports;
* Monthly reports to the Principal;
* Certificates of inspection of facilities/ premises;
* Non-conformity reports and corrective actions (including Start-up and Adjustment Works, operation, supply of the equipment, etc.).

**B.G.3.2.6 SECTION “PROJECT MANAGEMENT”**

* Working procedures of the integrated management system;
* Project management procedures, according to Appendix R to the Contract;
* Payment schedule (invoices to the Principal);
* List of Contracts;
* Tender data base;
* Data base for standards and practices in project management.

**B.G.3.2.7 CERTIFICATES**

* Quality certificates;
* Conformity certificates;
* Fire safety certificates.

**B.G.3.2.8 SECTION “OPERATIONAL DOCUMENTS, AS WELL AS AT THE COMMISSIONING STAGE.”**

* List of Spare and Replaceable Parts required for the Warranty Period (including consumables and tools) - 2 tables:
  + Nomenclature of lists of Spare and Replaceable Parts required for the Warranty Period (Parent table);
  + Specification of each list of Spare and Replaceable Parts required for the Warranty Period (Subsidiary table);
* List of Spare and Replaceable Parts for the 5-year period of the Plant operation - 2 tables:
  + Nomenclature of lists of Spare and Replaceable Parts for the 5-year period;
  + Specification of each list of Spare and Replaceable Parts for the 5-year period of the Plant operation (Subsidiary table);
* Operation manual;
* Inspection guidelines (during operation and fuel loading);
* Lists of tests;
* The results of the tests carried out in the course of construction and installation works, in the safety-related equipment and systems and which have an impact on the operability of the Unit;
* Commissioning reports;
* Data base for installation of the equipment and post-installation periodic tests;
* Data base of acceptance works.

**B.G.3.2.9 SECTION “ DOCUMENTS FOR MAINTENANCE AND REPAIR”**

* Manuals and procedures for maintenance and repair;
* Repair documentation for the safety-related equipment;
* Documentation on elimination of defects occurred during manufacturing, transportation, storage, installation, construction and maintenance;
* Repair design working documentation;
* Repair process documentation;
* As-built documents for performance of works;
* As-built documentation confirming quality of the works on elimination of defects occurred during repair;
* Other lists.

**B.G.3.2.10 SECTION “MINUTES OF THE MEETINGS AND OTHER PROTOCOLS”**

* Minutes of the meetings and other Protocols.

**B.G.3.2.11 SECTION “THE DOCUMENTS DELIVERED BY THE CONTRACTOR WITH THE EQUIPMENT, AS WELL AS THE QUALITY MANAGEMENT DOCUMENTATION OF THE EQUIPMENT SUPPLIERS (THE DOCUMENTS TO BE DEVELOPED BY THE EQUIPMENT MANUFACTURERS/ SUPPLIERS, AS WELL AS THE SUPPORTING DOCUMENTS ENCLOSED TO THE FIRST CARGO ITEM DURING SHIPMENT OF THE GOODS)**

* Summarized informational list for the lot of the goods and supporting documents;
* Packing list consisting of description of the equipment and tools, quantity, weight, sizes, dimensions, types of packaging;
* Certificates, manufacturer’s certificates, technical specifications for the equipment and appropriate drawings;
* Storage, transportation, installation, Commissioning, operation, repair and maintenance guides and manuals;
* Certificate of origin;
* Certificates of tests and inspections during manufacturing;
* Detailed list of spare and replaceable parts and tools:
  + Nomenclature of lists of spare and replaceable parts and tools (Parent table);
  + Specification of lists of spare and replaceable parts and tools (Subsidiary table);
* Qualification certificates of manufacturers for the equipment/components;
* Technical documentation (calculations, drawings, general assembly drawings, design deviations, as-built drawings, manuals, specifications, explanatory notes, system descriptions);
* Time schedules of manufacturing;
* Process charts;
* Manufacturers’ quality control programs.

**B.G.3.2.12 SECTION “START-UP AND ADJUSTMENT DOCUMENTS”**

* List of Spare and Replaceable Parts for Installation and Commissioning of the equipment (including the list of consumables and chemicals) - 2 tables:
  + Nomenclature of lists of Spare and Replaceable Parts for Installation and Commissioning of the equipment (Parent table);
  + Specification of each list of Spare and Replaceable Parts for Installation and Commissioning of the equipment (Subsidiary table);
* Reports on start-up and adjustment works.

**B.G.3.2.13 SECTION “EQUIPMENT”**

* Specifications for the equipment, articles and materials (2 tables):
  + List of specifications (Parent table);
  + Data for each specification (Subsidiary table);
* Warehouse receipts;
* Certificates for the Incoming Inspection equipment;
* Fault detection reports;
* Certificates for release of the equipment for installation.
* Data base for manufacturing and tests of the equipment;
* Equipment delivery schedule (any schedules in MS Excel format or in another format related to the delivery of the equipment/materials for Bushehr-2 NPP Unit).

**B.G.3.2.14 SECTION “TRIAL OPERATION”**

* Time schedules for Trial Operation.

**B.G.3.2.15 SECTION “PRELIMINARY ACCEPTANCE”**

* Reports on the preliminary acceptance.

**B.G.3.2.16 SECTION “FINAL ACCEPTANCE”**

* Reports on the final acceptance.

**B.G.3.2.17 SECTION “AS-BUILT DOCUMENTS”**

* As-built technical documents.

**B.G.3.2.18 SECTION “OTHER DATA BASES”**

* Database of buildings;
* Database of systems;
* Database of systems in the building;
* Data base of manufacturers/suppliers of the equipment;
* Data base of construction and erection companies;
* Data base for cable logs and cable trays;
* Data base for calibration of the equipment/measuring channels;
* Data base for warehousing and storage of the equipment;
* Data base of the project human resources;
* Database of Reports on verification/ validation of the software for calculations connected with the Unit tests;
* Data base for electrical connections (including panels of devices, junction boxes, switchgears, etc.);
* Data base for welded connections;
* Data base for emergency/contingency situations registration;
* Data base for document codes.

**B.G.3.3 CONTENTS OF DATA BASES. REFERENCE BOOKS.**

**B.G.3.3.1 DESCRIPTION OF REFERENCE BOOKS.**

Reference books shall be used for providing uniformity of the data in different tables of data bases, and they can be linked both with the compulsory fields under Appendix В and with the exclusive user fields.

For example, all the tables of data bases have field «The project stage» for avoiding different writing of stage names, the reference book for the project Stages shall be linked with all these fields.

These fields shall be filled in by selection of data from the reference book.

**B.G.3.3.2  LIST OF REFERENCE BOOKS**

Reference books contain the formalized data for providing uniformity of the data in different tables and avoiding of different writing of the same records.

* Reference book for the project stages;
* Reference book for the Contractor’s documentation categories;
* Reference book for the document statuses (the document status is in compliance with Sub-Clause В.2.2.2.2 of Appendix В);
* Reference book for types of protocols (Minutes of meetings of the top management of the parties, coordination meetings, etc.);
* Reference book for a status of equipment (Table 86, Subsection 13, Appendix 1)
* Reference book for safety classes (Table 86, Subsection 13, Appendix 1).

The quantity and contents of reference books will be correspondingly extended in the course of development of the Project, upon agreement of the Parties.

**B.G.3.3.3  DATA FROM REFERENCE BOOKS.**

**B.G.3.3.3.1  DATA FROM REFERENCE BOOKS. CONTENTS OF FIELDS.**

The contents of fields for the above mentioned reference books shall be modified:

* The project stage for the reference book for the project stages;
* The documentation category for the reference book for the Contractor’s documentation categories;
* The document status for the reference book for the document statuses;
* The type of the minutes for the reference book for types of minutes;
* Status of equipment for the reference book for a status of equipment
* Safety class of equipment for reference book for safety classes

**B.G.3.3.3.2  DATA FROM REFERENCE BOOKS. CONTENTS OF FIELDS.**

The contents of reference books shall, at least, contain the data, which are preliminary determined in sections В.2.1-В.2.7 of Appendix В.

For the cases if one document has several statuses simultaneously, for example, «For information» and «To be included in the Unit Dossier», reference books can contain combined statuses/categories in the following form: «For information/To be included in the Unit Dossier», which are available for selection in tables.

For the reference book of the project stages:

* Designing (Terms of Reference, Basic Design, Detailed Design);
* Construction (Civil, Procurement, Installation);
* Commissioning;
* Operation;
* Maintenance and Repair;
* Decommissioning.

For the reference book for the Contractor’s documentation categories:

* For information;
* For approval;
* For submission by the Principal to the Nuclear Regulatory Authority of Iran;
* To be included in the Unit Dossier.

For the reference book for the document statuses:

* Approved;
* Approved with comments;
* Not approved.

For the reference book of minutes of meetings:

* To be specified in the course of development of the Project and shall be agreed with the Principal.

For the Reference book for a status of equipment:

* Purchase order;
* Contracted;
* In production;
* Manufactured;
* Conserved;
* Ready for shipment;
* Shipment;
* Incoming inspection;
* At the warehouse;
* Installed.

For the reference book for safety classes of equipment:

* 1N
* 2N
* 2NPC
* 2NC
* 3N
* .......

And further on according to class designation as per OPB-88/97.

**B.G.4  REQUIREMENTS FOR THE DATA BASE.**

The requirements for creation of data bases shall meet the requirements of the Terms of Reference for the Information Management System under Project BU2.0120.0.0.PM.EC0002.

**B.G.4.1  REQUIREMENTS FOR THE DATA BASE. ROLE SYSTEM. ACCESS RIGHTS.**

The role system is used for differentiation of the users’ access to the records.

The requirements for the role system shall meet the requirements of items 2.15, 2.16 of the Terms of Reference for the Information Management System under Project BU2.0120.0.0.PM.EC0002.

The role system shall provide the following functions:

* Identification, authentication, authorization;
* Access control;
* Integrity control;
* Registration, including:
  + Functioning of the password protection system, application of the authentication systems;
  + Control of the Users’ access to the functions and system data;
  + Registration of the users’ activities in a special weblog. This weblog shall be available for reading, review, analysis, saving and backup only to the system administrator.

The system user can have the following rights:

* Reader – the user having the right only to review the records;
* Editor– the user having the right to adding and changing of the records;
* Supervisor – the responsible user, who has the rights to appoint/remove the executor (the editor) of records (lines);
* Administrator – the user, who is responsible for the Data Base administration.

The rights of users to operations with records are specified in the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Activities | Reader | Editor | Supervisor of subdivision | Administrator |
| Review, searching, selection | + | + | + | + |
| Printing | + | + | + | + |
| Record editing |  | + | + | + |
| Creation of a new record |  | + | + | + |
| Transfer of rights to another user |  |  | + | + |
| Adding of new fields in tables |  |  |  | + |
| Creation of tables, reference books |  |  |  | + |
| Contents of reference books |  |  |  | + |

The list of the names of Roles specified above can be extended in the course of development of the Project for providing the required level of access to the data for different participants of the Project.

Besides, the role system shall consider the life cycle stage of the document and apply the corresponding safety policies at each stage.

**B.G.4.2  REQUIREMENTS FOR DATA BASE. REPORTING PROCEDURES.**

For development of statistics for the data, data analysis and data uploading to the external systems, the mechanism for development of the reporting procedures shall be used.

The reporting requirements shall meet the requirements of the Terms of Reference for the Information Management System under Project BU2.0120.0.0.PM.EC0002.

The reporting procedures shall provide the following functions:

* Uploading of the screen form to MS Excel, taking into account the user sorting, filters, etc.;
* Uploading of tables with data to MS Excel;
* Creation of reporting forms (templates), as well as on the basis of the data from several tables (of data bases), which are interlinked by one or several criteria;
* Creation of interactive reports with several nesting levels.

The reports format and requirements will be developed together by the Customer and the Contractor during the Project implementation.

**B.G.4.3  REQUIREMENTS FOR DATA BASE. IMPORT – EXPORT OF DATA.**

The requirements for import-export of data to subsystem «Data bases» of the IMS shall meet the requirements of the Terms of Reference for the Information Management System under Project BU2.0120.0.0.PM.EC0002.

**B.G.4.3.1  REQUIREMENTS FOR DATA BASE. IMPORT.**

Subsystem “Data bases” shall have capabilities of data import to the tables with data bases from the external sources (MS Excel, XML files), in the structured form, through the data import-export module.

**B.G.4.3.2  REQUIREMENTS FOR DATA BASE. EXPORT.**

Subsystem «Data bases» shall have capabilities of data export from the tables of data bases to the external sources (MS Excel, XML files), in the structured form, through the data import-export module.

**B.G.4.4  REQUIREMENTS FOR DATA BASE. DISPLAY AND CONFIGURATIONS.**

The requirements for display of data and for screen configurations of subsystem «Data bases» of IMS shall meet the requirements of the Terms of Reference for the Information Management System under Project BU2.0120.0.0.PM.EC0002.

Fields of data bases tables shall be updated dynamically when changing one table, data in all related tables shall be changed.

**ATTACHMENT 1 TO ADDENDUM B.G**

Minimum list of exclusive user fields

| Sub-section | | Table | | List of exclusive user fields | | Notes |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Title | No. | Title | No. | Title |
| 1 | NPP QAP documents. Licenses. | 1 | Quality plans. |  | The exclusive user fields are not required. |  |
| 2 | NPP QAPs (General, Designing, Construction, Commissioning) | 1 | Frequency of updating |  |
| 2 | Validity period |  |
| 3 | License for layout. | 1, 2, 3 | Validity period. The authority issued the license.  Facility for licensing. | For Tables 3-6 the fields are the same. |
|
|
| 4 | Construction License. |
|
|
| 5 | Commissioning License. |
|
|
| 6 | Operation License. |
|
|
| 7 | Registration documents of the Contractor. |  | The exclusive user fields are not required. |  |
| 2 | Design documents | 8 | Documentation for engineering survey for the design documents. | 1 | The scheduled deadline of supply. |  |
| 2 | Actual deadline of supply. |  |
| 3 | Number of the documentation package. |  |
| 9 | Report on engineering survey and the Site initial data. |  | The exclusive user fields are not required. |  |
| 10 | Documentation for engineering survey for the detailed design documentation. | 1, 2, 3 | The scheduled deadline of supply. Actual deadline of supply. Number of the documentation package. | For Tables 10-12 the fields are the same. |
|
|
| 11 | Preliminary Safety Analysis Report (PSAR) |
| 12 | Final Safety Analysis Report (FSAR) |
| 13 | Probabilistic Safety Analysis (PSA) | 1 | The scheduled deadline of supply. |  |
| 2 | Actual deadline of supply. |  |
| 3 | Number of the documentation package. |  |
| 4 | Frequency of updating (period of updating) |  |
| 14 | Terms of reference for NPP design | 1 | The scheduled deadline of supply. |  |
| 2 | Actual deadline of supply. |  |
| 3 | Number of the documentation package. |  |
| 15 | Basic design | 1 | Chapter |  |
| 2 | Part |  |
| 3 | Sub-Part |  |
| 4 | Volume |  |
| 5 | Book |  |
| 6 | The scheduled deadline of supply. |  |
| 7 | Actual deadline of supply. |  |
| 8 | Number of the documentation package. |  |
| 9 | The scheduled date of issuance of the updated revision. |  |
| 16 | Detailed design, including: | 1, 2, 3 | The scheduled deadline of supply. Actual deadline of supply. Number of the documentation package. | For Tables  16-21 the fields are the same. |
| 17 | Construction part |
| 18 | Process part (the section of the detailed design in compliance with Sub-Clause В.2.1 of Appendix В) |
| 19 | Electrical part |
| 20 | General layout and transport |
| 21 | Construction Organization Plan (COP) |
| 22 | Technical solutions | 1 | The subject of the technical solution. |  |
| 23 | Schedule for development (delivery) of the detailed design documentation (any schedules in MS Excel format or in another format related to delivery of the documentation for Bushehr-2 NPP Unit) | 1 | Number of sets of the DDD. |  |
| 2 | Released for production, sets. |  |
| 3 | Time schedules | 24 | Time schedules of Levels 0, 1, 2 and detailed time schedules of Level 3. | 1 | Baseline commencement date. | For Tables 24-25 the fields are the same. |
| 2 | Baseline completion date. |
| 3 | Actual commencement date. |
| 4 | Actual completion date. |
| 5 | Actual duration. |
| 6 | Date of the anticipated completion. |
| 25 | Detailed time schedules of specific construction stages | 7 | Work breakdown code (only for the schedules of Level 3) |
| 8 | Reference duration |
| 9 | Schedule level |
| 10 | Percentage of completion (except for Levels 0, 1) |
| 11 | Deviation from the deadline as of the date of updating (except for Levels 0, 1) |
| 26 | Other schedules, including schedules of subcontractors (any other schedules related to supplies, performance of local works, construction stages, etc.) | 1 | Number of schedule items |  |
| 2 | Completed. |  |
| 4 | Programs | 27 | Program for Commissioning | 1, 2, 3 | The scheduled deadline of supply. Actual deadline of supply. Number of the documentation package. | For Tables 27-30 the fields are the same. |
| 28 | Program for Operational Control |
| 29 | Program for Pre-operational control |
| 30 | Test program |
| 5 | Reports | 31 | Progress reports |  | The exclusive user fields are not required. |  |
| 32 | Monthly reports to the Principal |  | The exclusive user fields are not required. |  |
| 33 | Certificates of inspection of facilities/ premises |  | The exclusive user fields are not required. |  |
| 34 | Non-conformity reports and corrective actions (including Start-Up and Adjustment Works, operation, deliveries of the equipment, etc.) | 1 | Contents of non-conformity (subject of non-conformity) |  |
| 2 | No. of the Incoming Inspection Certificate |  |
| 3 | Date of Incoming Inspection Certificate 1 |  |
| 4 | Date of arrival at the site |  |
| 5 | The Supplier |  |
| 6 | The Manufacturer |  |
| 7 | Contract number |  |
| 8 | Contract date |  |
| 9 | The activities required for completion of the Non-conformity Report |  |
| 10 | Number of the Document confirming completion of the Non-conformity Report |  |
| 11 | Date of the Document confirming completion of the Non-conformity Report |  |
| 12 | Warehouse receipt |  |
| 13 | Date of arrival at the site |  |
| 14 | The receipt is signed (the goods are accepted) by:, Full name: |  |
| 15 | No. of the detailed packing list |  |
| 16 | Cargo Customs Declaration No. |  |
| 17 | CMR note No. |  |
| 18 | Invoice No. |  |
| 19 | Type of the equipment |  |
| 6 | Project Management | 35 | Working procedures of the integrated management system. |  | The exclusive user fields are not required. |  |
| 36 | Project Management procedures, including Appendix R to the Contract. |  | The exclusive user fields are not required. |  |
| 37 | Payment schedule (invoices to the Principal) | 1 | Invoice number |  |
| 2 | Date of the invoice |  |
| 3 | Gross amount of the invoice |  |
| 4 | Net amount of the invoice |  |
| 5 | Advance payment amount against the invoice |  |
| 6 | Delayed payment amount against the invoice |  |
| 7 | Date of approval of the invoice by OCE |  |
| 8 | Date of approval of the invoice by NPPD |  |
| 9 | Date of shipment of the equipment/ documentation against the invoice |  |
| 10 | Date of the equipment/ documentation delivery against the invoice |  |
| 11 | Warehouse receipt date |  |
| 12 | Date of incoming inspection certificate II-1 |  |
| 13 | Payment date |  |
| 14 | Type of payment (equipment / documentation / services) |  |
| 15 | Currency of the invoice |  |
| 16 | Letter of Credit No. |  |
| 17 | Reference number of payment |  |
| 18 | Percentage of payment |  |
| 19 | Basic price |  |
| 20 | Deduction (withholding) |  |
| 21 | Description of payment |  |
| 22 | Number under Appendix К |  |
|  |  | 23 | Number of Certificate |  |
|  |  | 24 | Serial number of payment |  |
| 38 | List of Contracts | 1 | Contract / Addendum No. |  |
| 2 | Date of the Contract /Addendum |  |
| 3 | Subject of the Contract /Addendum |  |
| 4 | Basic price of the Contract /Addendum |  |
| 5 | Currency of the Contract/ Addendum |  |
| 6 | Deductions under the Contract / Addendum |  |
| 7 | Date of commencement of works under the Contract / Addendum |  |
| 8 | Date of completion of works under the Contract/ Addendum |  |
| 9 | Validity period of the Contract/ Addendum |  |
| 39 | Tender data base |  | The list of fields will be specified additionally. |  |
| 40 | Data base for standards and project management practices |  | The exclusive user fields are not required. |  |
| 7 | Certificates | 41 | Quality Certificates | 1 | Validity period. Consignee. Certification authority.  Subject of certification. |  |
| 42 | Conformity Certificates |
| 43 | Fire Safety Certificates |
| 8 | Operational documents | 44 | List of Spare and Replaceable Parts required for the Warranty Period. |  | The exclusive user fields are not required. |  |
| 45 | Nomenclature of lists of Spare and Replaceable Parts required for the Warranty Period (Parent table) |  | The exclusive user fields are not required. |  |
| 46 | Specification of each list of Spare and Replaceable Parts required for the Warranty Period (Subsidiary table); | 1 | Payment number |  |
| 2 | Item No. under the Addendum |
| 3 | KKS code of the equipment |
| 4 | Name of the equipment |
| 5 | Type, grade, drawing of the spare part |
| 6 | Deadline for supply under the Contract, months |
| 7 | Service lifetime, years |
| 8 | Safety class of the equipment |
| 9 | Unit of measurement |
| 10 | Unit weight, kg |
| 11 | Gross weight, kg |
| 12 | Material of spare parts |
| 13 | Quantity of the specified spare part in the equipment unit |
| 14 | Quantity for the 3-year period |
| 15 | Quantity for the overhaul maintenance |
| 16 | Quantity for the scheduled maintenance |
| 17 | Quantity for the current maintenance |
| 18 | Total quantity of spare parts |
| 19 | Number of the assembly drawing of the equipment |
| 20 | Item number of the spare part in the assembly drawing |
| 21 | Conditions for storage of the spare part/atmosphere type |
| 22 | The Supplier/Manufacturer |
|  |  | 23 | Period of warehouse storage |  |
| 47 | List of Spare and Replaceable Parts for the 5-year period of the Plant operation |  | The exclusive user fields are not required. |  |
| 48 | Nomenclature of lists of Spare and Replaceable Parts for the 5-year period of the Plant operation (Parent table) |  | The exclusive user fields are not required. |  |
| 49 | Specification of each list of Spare and Replaceable Parts for the 5-year period of the Plant operation (Subsidiary table); | 1 | Payment No. |  |
| 2 | Item No. under the Addendum |
| 3 | KKS code of the equipment |
| 4 | Name of the equipment |
| 5 | Type, grade, drawing of the spare part |
| 6 | Deadline for supply under the Contract, months |
| 7 | Service lifetime, years |
| 8 | Safety class of the equipment |
| 9 | Unit of measurement |
| 10 | Unit weight, kg |
| 11 | Gross weight, kg |
| 12 | Material of spare parts |
| 13 | Quantity of the specified spare part in the equipment unit |
| 14 | Quantity for the 3-year period |
| 15 | Quantity for the overhaul maintenance |
| 16 | Quantity for the scheduled maintenance |
| 17 | Quantity for the current maintenance |
| 18 | Total quantity of spare parts |
| 19 | Number of the assembly drawing of the equipment |
| 20 | Item number of the spare part in the assembly drawing |
| 21 | Conditions for storage of the spare part/atmosphere type |
| 22 | The Supplier/Manufacturer |
|  |  | 23 | Period of warehouse storage |  |
| 50 | Operation manuals | 1, 2 | Building System | For Tables 50-51 the fields are the same. |
| 51 | Inspection guidelines (during operation and fuel loading) |
| 52 | Lists of tests | 1 | Building |  |
| 2 | System |  |
| 3 | Date of carrying out tests |  |
| 4 | Purpose of tests |  |
| 5 | Test procedure |  |
| 6 | Place for carrying out tests |  |
| 7 | Test protocol |  |
| 8 | Results of tests |  |
| 53 | Results of the tests carried out in the course of construction and installation works in the safety-related equipment and systems and which have an impact on the Unit operability | 1 | Building |  |
| 2 | System |  |
| 54 | Reports on commissioning |  | The exclusive user fields are not required. |  |
| 55 | Data base for installation of the equipment and post-installation periodic tests |  | The list of fields will be specified additionally. |  |
| 56 | Data base for acceptance works |  | The list of fields will be specified additionally. |  |
| 9 | Documents for maintenance and repair | 57 | Manuals and procedures for maintenance and repair | 1 | Building |  |
| 2 | System |  |
| 58 | Repair documentation for the safety-related equipment | 1 | Building |  |
| 2 | System |  |
| 3 | Safety class of the equipment |  |
| 59 | Documentation for elimination of defects occurred during manufacturing, transportation, storage, installation, construction and maintenance | 1, 2 | Building  System | For Tables 59-64 the fields are the same. |
| 60 | Repair design working documentation |
| 61 | Repair process documentation |
| 62 | As-built documentation for performance of the works |
| 63 | As-built documentation confirming quality of the works on elimination of the defects occurred during repair. |
| 64 | Other lists. |
| 10 | Minutes of the meetings and other Protocols | 65 | Minutes of the meetings and other Protocols | 1 | Venue for meetings |  |
| 2 | Type of the protocol (reference book) |  |
| 3 | Performance status |  |
| 4 | Responsible person |  |
| 11 | The documentation to be delivered by the Contractor with the equipment, as well as the quality management documentation of the equipment of the suppliers (the documents to be developed by the manufacturers/ suppliers of the equipment, as well as the supporting documents enclosed to the first cargo item during shipment of the goods) | 66 | Summarized information list for the lot of the goods and supporting documents |  | The exclusive user fields are not required. |  |
| 67 | The packing list consisting of description of the equipment and tools, quantity, weight, sizes, dimensions, types of packaging | 1 | Invoice number |  |
| 2 | Contract No. with the supplier |  |
| 3 | The Supplier |  |
| 4 | Date of the Contract |  |
| 68 | Certificates, manufacturer’s certificates, technical specifications for the equipment and corresponding drawings |  | The exclusive user fields are not required. |  |
| 69 | Storage, transportation, installation, Commissioning, operation, guidelines and manuals for repair and maintenance |  | The exclusive user fields are not required. |  |
| 70 | Certificate of origin | 1 | Date of issue |  |
| 2 | Validity period |  |
| 71 | Certificates of tests and inspections during manufacturing |  | The exclusive user fields are not required. |  |
| 72 | Detailed list of spare and replaceable parts and tools |  | The exclusive user fields are not required. |  |
| 73 | Nomenclature of lists of spare and replaceable parts and tools (Parent table) |  | The exclusive user fields are not required. |  |
| 74 | Specification of lists of spare and replaceable parts and tools (Subsidiary table) | 1 | Payment number |  |
| 2 | Item No. under the Addendum |  |
| 3 | KKS code of the equipment |  |
| 4 | Name of the equipment |  |
| 5 | Type, grade, drawing of the spare part |  |
| 6 | Deadline for supply under the Contract, months |  |
| 7 | Service lifetime, years |  |
| 8 | Safety class of the equipment |  |
| 9 | Unit of measurement |  |
| 10 | Unit weight, kg |  |
| 11 | Gross weight, kg |  |
| 12 | Material of spare parts |  |
| 13 | Quantity of the specified spare part in the equipment unit |  |
| 14 | Quantity for the 3-year period |  |
| 15 | Quantity for the overhaul maintenance |  |
| 16 | Quantity for the scheduled maintenance |  |
| 17 | Quantity for the current maintenance |  |
| 18 | Total quantity of spare parts |  |
| 19 | Number of the assembly drawing of the equipment |  |
| 20 | Item number of the spare part in the assembly drawing |  |
| 21 | Conditions for storage of the spare part/atmosphere type |  |
| 22 | The Supplier |  |
| 75 | Qualification certificates of manufacturers for the equipment /components | 1 | Validity period |  |
| 2 | The Manufacturer |  |
| 3 | The Supplier |  |
| 4 | Certification authority |  |
| 5 | Subject of certification |  |
| 76 | Technical documentation (calculations, drawings, general assembly drawings, design deviations, as-built drawings, manuals, specifications, explanatory notes, system descriptions) |  | Code of the developer’s document (e.g. Documents codes developed by Manufacturers) |  |
| 77 | Time schedules of manufacturing |  | The exclusive user fields are not required. |  |
| 78 | Process charts |  | The exclusive user fields are not required. |  |
| 79 | Manufacturers’ quality control programs |  | The exclusive user fields are not required. |  |
| 12 | Start-up and adjustment documents | 80 | List of Spare and Replaceable Parts for Installation and Commissioning of the equipment (including the list of consumables and chemicals |  | The exclusive user fields are not required. |  |
| 81 | Nomenclature of lists of Spare and Replaceable Parts for Installation and Commissioning of the equipment (Parent table) |  | The exclusive user fields are not required. |  |
| 82 | Specification of each list of Spare and Replaceable Parts for Installation and Commissioning of the equipment (Subsidiary table) | 1 | Payment number |  |
| 2 | Item No. under the Addendum |  |
| 3 | KKS code of the equipment |  |
| 4 | Name of the equipment |  |
| 5 | Type, grade, drawing of the spare part |  |
| 6 | Deadline for supply under the Contract, months. |  |
| 7 | Service lifetime, years |  |
| 8 | Safety class of the equipment |  |
| 9 | Unit of measurement |  |
| 10 | Unit weight, kg |  |
| 11 | Gross weight, kg |  |
| 12 | Material of spare parts |  |
| 13 | Quantity of the specified spare part in the equipment unit |  |
| 14 | Quantity for the 3-year period |  |
| 15 | Quantity for the overhaul maintenance |  |
| 16 | Quantity for the scheduled maintenance |  |
| 17 | Quantity for the current maintenance |  |
| 18 | Total quantity of spare parts |  |
| 19 | Number of the assembly drawing of the equipment |  |
| 20 | Item number of the spare part in the assembly drawing |  |
| 21 | Conditions for storage of the spare part/atmosphere type |  |
| 22 | The Supplier |  |
| 83 | Reports on start-up and adjustment works |  | The exclusive user fields are not required. |  |
| 13 | Equipment | 84 | Specifications for the equipment, articles and materials |  | The exclusive user fields are not required. |  |
| 85 | List of specifications (Parent table) |  | The exclusive user fields are not required. |  |
| 86 | Data for each specification (Subsidiary table) | 1 | Payment number |  |
| 2 | Item No. under the Addendum |  |
| 3 | KKS code of the equipment |  |
| 4 | Name of the equipment |  |
| 5 | Type, grade, drawing of the spare part |  |
| 6 | Deadline for supply under the Contract, months. |  |
| 7 | Service lifetime, years |  |
| 8 | Safety class of the equipment | Reference book |
| 9 | Unit of measurement |  |
| 10 | Unit weight, kg |  |
| 11 | Gross weight, kg |  |
| 12 | Material of spare parts |  |
| 13 | Quantity of the specified spare part in the equipment unit |  |
| 14 | Quantity for the 3-year period |  |
| 15 | Quantity for the overhaul maintenance |  |
| 16 | Quantity for the scheduled maintenance |  |
| 17 | Quantity for the current maintenance |  |
| 18 | Total quantity of spare parts |  |
| 19 | Number of the assembly drawing of the equipment |  |
| 20 | Item number of the spare part in the assembly drawing |  |
| 21 | Conditions for storage of the spare part/atmosphere type |  |
| 22 | The Supplier/Manufacturer |  |
|  |  | 23 | Status of Equipment |  |
| 87 | Warehouse receipts | 1 | Warehouse receipt No. |  |
| 2 | Date of the warehouse receipt |  |
| 3 | Invoice No. |  |
| 88 | Certificates for the Incoming Inspection equipment | 1 | Date of arrival at the site |  |
| 2 | Number of cargo items |  |
| 3 | Cost of the Incoming Inspection Certificate 1 |  |
| 4 | The Supplier |  |
| 5 | CMR note No. |  |
| 6 | Contract No. |  |
| 7 | Date of the Contract |  |
| 8 | No. of the Non-conformity Report |  |
| 9 | Date of the Non-conformity Report |  |
| 10 | Invoice No. |  |
| 11 | Type of the equipment |  |
| 89 | Fault detection reports | 1 | Issued by the RA |  |
| 2 | Date of the Certificate for the RA completion |  |
| 3 | Number of the Certificate for the RА completion |  |
| 4 | The organization revealed the defect |  |
| 5 | The organization eliminating the defect |  |
| 6 | The date (stage), by which it is required to eliminate the defect |  |
| 7 | The Manufacturer |  |
| 8 | The Supplier/Manufacturer |  |
| 9 | Non-conformity category |  |
| 10 | Assumed reason for the defect precipitation |  |
| 11 | Description of the defect |  |
| 12 | Revealed during |  |
| 13 | Safety class |  |
| 14 | The Supplier/Manufacturer |  |
| 15 | System |  |
| 90 | Certificates for release of the equipment for installation | 1 | Grounds for drawing up the certificate |  |
| 2 | Erection organization |  |
| 3 | Place of drawing up the certificate |  |
| 4 | Equipment code |  |
| 5 | Quantity of the equipment |  |
| 6 | KKS code of the system |  |
| 7 | Date of release for installation |  |
| 91 | Data base for manufacturing and tests of the equipment |  | The list of the fields will be specified additionally. |  |
| 92 | Schedule for the equipment delivery (any schedules in MS Excel format or in another format related to delivery of the equipment/ materials for Bushehr-2 NPP Unit) | 1 | Number of items |  |
| 2 | Delivered items |  |
| 14 | Trial operation | 93 | Time schedules for Trial Operation | 1 | Baseline commencement date |  |
| 2 | Baseline completion date |  |
| 3 | Actual commencement date |  |
| 4 | Actual completion date |  |
| 5 | Actual duration |  |
| 6 | Date for the anticipated completion |  |
| 7 | Code of work breakdown (only for the schedules of Level 3) |  |
| 8 | Reference duration |  |
| 9 | Schedule level |  |
| 10 | Percentage of completion (except for Levels 0, 1) |  |
| 11 | Deviations from the deadline as of the date of updating (except for Levels 0, 1) |  |
| 15 | Preliminary acceptance | 94 | Reports on the preliminary acceptance |  | The exclusive user fields are not required. |  |
| 16 | Final acceptance | 95 | Reports on the final acceptance |  | The exclusive user fields are not required. |  |
| 17 | As-built documents | 96 | As-built technical documents |  | The exclusive user fields are not required. |  |
| 18 | Other data bases | 97 | List of buildings | 1 | Building code |  |
| 2 | Designation of the building |  |
| 98 | List of systems | 1 | System code |  |
| 2 | Name of the system |  |
| 99 | List of systems in buildings | 1 | Building code |  |
| 2 | Designation of the building |  |
| 3 | System code |  |
| 4 | Name of the system |  |
| 100 | Data base of manufacturers/ suppliers of the equipment | 1 | Name of the manufacturer/ supplier of the equipment |  |
| 2 | Type of activity |  |
| 101 | Data base of construction and erection companies | 1 | Name of the construction and erection company |  |
| 2 | Type of activity |  |
| 102 | Data base of cable logs and cable trays | 1 | KKS code of the cable channel |  |
| 2 | Type of cable routing (reference book, drop-down list) |  |
| 3 | Cable designation |  |
| 4 | Designation of the cable outlet device |  |
| 5 | Place of location of the cable outlet device |  |
| 6 | Designation of the cable inlet device |  |
| 7 | Place of location of the cable inlet device |  |
| 8 | Cable type |  |
| 9 | Cable length |  |
| 10 | Application of cable |  |
| 11 | Notes |  |
| 103 | Data base for calibration of the equipment/ measuring channels |  | The list of fields will be specified additionally. |  |
| 104 | Data base for warehousing and storage of the equipment |  | The list of fields will be specified additionally. |  |
| 105 | Data base of the project human resources |  | The fields in the scope meeting the requirements of Addendum L.G to Appendix L to the Contract. |  |
| 106 | Reports on verification/validation of software for the calculations connected with the Unit tests |  | The exclusive user fields are not required. |  |
| 107 | Data base of electrical connections (including panels of devices, junction boxes, switchgears, etc.) |  | The list of fields will be specified additionally and approved by the Protocol, which shall be an integral part of Attachment B.G to Appendix B to the Contract. |  |
| 108 | Data base of welded connections |  | List of fields will be additionally defined and agreed by the Protocol, which shall be the integral part of Appendix B.G to Appendix B to the Contract. |  |
| 109 | Data base for emergency/contingency situations |  | List of fields will be additionally defined and agreed by the Protocol, which shall be the integral part of Appendix B.G to Appendix B to the Contract. |  |
| 110 | Data base of the document codes | 1 | Document code |  |
| 2 | Document title |  |
| 3 | Number of the covering letter |  |
| 4 | Date of the covering letter |  |
| 5 | Name of the data base |  |
| 6 | Name of the data base table |  |