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| Dr. Mohammed Saad Dwiddar  El-Dabaa NPP  Project Manager  .2023 | |  | | | A.V. Kononenko  El-Dabaa NPP  Project Manager  .2023 | | |
| MANAGEMENT OF AS-BUILT DOCUMENTATION | | | | | | | |
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TERMS AND DEFINITIONS

The terms and definitions used in this document are provided for by the EPC Contract [1] and PMM document ED.NPAS.PM.LST.PMD.EN-002 Terms, Definitions, Abbreviations and Interpretations [2].

**ABBREVIATIONS AND DEFINITIONS**

|  |  |
| --- | --- |
| **ABD** | As-Built Documentation |
| **APCS** | Automated process control systems |
| **ARE** | Arab Republic of Egypt |
| **ASE JSC** | Atomstroyexport, Joint-Stock Company |
| **CEW** | Construction and erection works |
| **CL** | Contractor’s construction laboratory |
| **CS** | Containment system |
| **DDD** | Detailed Design Documentation |
| **FCO** | Field change order |
| **FCR** | Field change request |
| **I&C** | Instrumentation and Control |
| **LSS** | Localizing safety system of NPP |
| **NPP** | Nuclear power plant |
| **NPPA** | Nuclear Power Plants Authority |
| **RF** | Russian Federation |
| **WEP** | Work execution plan |

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1. **INTRODUCTION**
2. **Purpose**
   * 1. This procedure Management of As-Built Documentation (hereinafter - the Procedure) has been developed in order to arrange timely execution, review, approval, signing, recording, handover and storage of as-built documentation during the construction of the El-Dabaa NPP. The procedure has been developed in addition to PMM document ED.NPAS.QI.PCM.PMD.EN-005 “Inspections during construction and installation works” [3].
     2. The purpose of this Procedure is to describe the requirements for the procedure of execution, composition, formats of As-Built Documentation in accordance with the EPC Contract [1], Applicable legislation, Rules and Regulations, Technical Documentation and other applicable documents.
3. **Scope of application**
4. Scope of application hereof covers the procedure of interaction between the Owner, the Contractor and Subcontractors in the process of generation and management of the ABD during the El-Dabaa NPP construction as part of the implementation of the EPC Contract [1] as presented in Appendix 1.
5. This Procedure does not in any way change the terms of the EPC Contract [1] or the Parties’ rights and obligations under the Contract. In case of any contradictions between this Procedure and the EPC Contract [1], the EPC Contract [1] provisions shall prevail.
6. **General** 
   1. The purpose of the As-Built Documentation management is the timely and correct documenting of information on the works performed, which presents the actual compliance with the design documentation including DDD, as well as confirmation of the completed works in the process of their acceptance and handover as part of fulfillment of the contractual obligations of the Owner, the Contractor and their Subcontractors during the construction of El-Dabaa NPP facilities.
   2. The ABD is issued by the Subcontractor in the process of performance of the respective stage of works and presented to the Contractor and Owner to inspect the works performed.
   3. The ABD shall be managed, stored and recorded in the project IMS.
   4. The Contractor (Subcontractor) has no right to commence the subsequent Works without an inspection of the Works previously performed and without signing the relevant certificate.
   5. The staged inspection of work and acceptance of the completed construction facilities is carried out by acceptance commissions as they are ready. The process for organizing and conducting acceptance inspections, completed Construction and Installation Works is described in the PMM document ED.NPAS.QI.PCM.PMD.EN-005 “Inspections during Construction and Installation Works” [3].
   6. The ABD management process includes:

* Development, execution and recording of the ABD;
* Generation of ABD sets;
* Handover and approval of ABD sets;
* Storage of ABD sets.
  1. The ABD is a part of the operating documentation.

1. **Responsibility**
2. **Subcontractor’s responsibility**
3. The Subcontractor is responsible for the following:

* Observance of the requirements hereof by the Subcontractor’s personnel;
* Timely development and execution, completing and handover of the ABD for the works performed to the Contractor;
* Timely resolution of comments and handover of the corrected set of the ABD to the Contractor’s person responsible for As-Built Documentation;
* Timely handover of the ABD sets issued both for the works performed on its own, and for the works performed by involved organisations.

1. **Contractor’s responsibility**
   * 1. The Contractor is responsible for the following:

* Development and issue of this Procedure;
* Observance of the requirements hereof by the Contractor’s personnel;
* Submission of proposals on updating this Procedure;
* Introduction of amendments and revision of this Procedure.

3.2.2 The Contractor’s Personnel are responsible for the following:

* **Project Manager:**
* Has the overall responsibility for implementing this Procedure in the Contractor’s Project team.
* **Construction Manager:**
* Coordination of work with the Owner in the course of application hereof;
* Suggesting improvements hereof as may be required.
* **Quality Manager:**
* Is responsible for the compliance with this Procedure and assists in the Procedure improvements as applicable.
* **Chief Engineer:**
* Control over the timely handover of the DDD to the Subcontractor;
* Regular conciliatory meetings with participation of representatives of subcontractors and members of the acceptance commissions to promptly resolve issues in the process of execution and control of the ABD timely delivery.
* **Contractor’s Personnel in charge of construction inspection:**
* Timely signing of inspection certificates for the works performed;
* Timely review of the ABD for its compliance with the DDD, Codes and Standards, etc. and issuing comments, if necessary;
* Control of the availability of hard copies and electronic versions, the completeness of the presented ABD;
* Control of timely and correct execution of the ABD by the Subcontractors for the works performed;
* **ABD department personnel is in charge of:**
* Recording and identification of the ABD for the completed works;
* ABD completeness for the works performed according to the scope of works specified in the DDD, WEP and requirements of this Procedure;
* Timely handover of ABD to the Owner;
* ABD archiving and storage.

1. **Owner’s responsibility**
   * 1. The Owner is responsible for the following:

* Review and approval of this Procedure;
* Observance of the requirements hereof by the Owner’s personnel;
* Submission of proposals on improvement of this Procedure.
  + 1. The Owner’s Personnel are responsible for the following:
* **Project Manager:**
* Has the overall responsibility for implementing this Procedure in the Owner’s Project team.
* **Head of Quality Assurance/Quality Control department:**
* Oversees compliance with this Procedure and provides assistance in the Procedure improvements as may be required.
* **Owner’s Personnel in charge of construction inspection:**
* Agreement of the Procedure by the Owner and approval of ABD forms;
* Appointment of representatives responsible for construction inspection (participation in inspections, verification and signing of inspection certificates, keeping records in construction logs, acceptance and verification of sets of as-built documentation);
* Signing of inspection certificates for the works performed;
* Verification and acceptance of the ABD for the works performed;
* Head of Information Technology and Document control department:
* Responsible for acceptance, recording, storage of ABD.

1. **development, execution and ReCORDING of the as-built documentation**
2. The ABD shall include textual and graphic materials that reflect the actual fulfillment of design solutions and actual positioning of construction facilities and their components during construction as the works are performed.
3. The ABD shall be maintained by the Subcontractor and issued in 6 (six) hard original copies in English.
4. The ABD shall include the following documents (but not limited to):

* Inspection certificates of the geodetic layout base points for the construction facilities;
* Certificates of layout axes of construction plant on land;
* Concealed Works Inspection Certificates, drawn up during the inspection of works that affect the safety of the construction facility and in accordance with the technology of construction, reconstruction, overhaul that cannot be followed up after the completion of other works;
* Critical Structures Inspection Certificates, drawn up during the inspection of civil structures, elimination of the deficiencies identified in the course of construction inspection, control over implementation of which can’t be performed without dismantling or damaging other civil structures;
* Utility Networks Inspection Certificates, drawn up based on the results of utility networks inspection examination, where it is impossible to eliminate the deficiencies identified in the course of construction inspection without dismantling or damaging other civil structures;
* A set of DDD taking into account the approved changes with inscriptions on the compliance of the work at site with these drawings, made by persons responsible for the performance of construction and installation works on the basis of an administrative document (order) confirming the authority of such persons;
* General and special works logs, designer’s supervision logs (if designer’s supervision is available);
* As-built geodetic diagrams;
* As-built diagrams and profiles of sections of utility networks;
* Certificates of testing and trial of technical devices, equipment, engineering and technical support systems;
* Results of measurements (tests), expert conclusions, surveys of the works performed;
* Documents that confirm the quality control of the applied construction materials (products, equipment);
* Manufacturer plant documentation confirming quality of the materials, items and equipment used;
* Pipelines and equipment installation certificates;
* Other documents, describing the actual implementation of design solutions (for example form M -21).

1. When issuing the ABD for the performed construction works, the list of forms specified in Appendix 2 hereto shall be used. The procedure shall be applied to the following types of construction works (the following list is not final; it can be supplemented):

* Geodetic works;
* Earth works;
* Concrete works;
* Reinforcement works;
* Erection of masonry structures;
* Formworks;
* Installation of prefabricated reinforced concrete structures;
* Installation of embedded parts and penetrations for pipelines;
* Manufacture and installation of steel structures;
* Repair works for concrete and steel structures;
* Welding works in performance of construction works;
* Arrangement of flooring and walls lining;
* Waterproofing and roofing;
* Anticorrosion protection, insulation and finishing coatings (fire protection);
* Installation of the windows, doors and gates;
* Arrangement of rubber seals, rubber-metal supports, etc.;
* Arrangement of lining and heat insulation of facades;
* Roads and bridge structures (bridges, overpasses, trestleworks).
  1. If the handover and acceptance of the work performed on concreting of the monolithic reinforced concrete structures was carried out before the concrete reaches the design age, then the ABD is enclosed with Strength Test Protocol for Concrete Test Specimens (cubes) at an intermediate age. In this case, the date of signing the inspection certificate for concealed works on the structures concreting shall not precede the date of testing the samples at the intermediate age. When the concrete reaches the design age, the Subcontractor shall transfer the Non-destructive Concrete Test Protocols and Strength Test Protocol for Concrete Test Specimens (cubes) at the design age to the Contractor, unless other requirements are stipulated in the DDD, to be further included in the ABD and subsequently transferred to the Owner.
  2. When inspecting the completed CEW on the lining of rooms and sumps, foundations for the technological equipment, installation of gates, sealed doors, CS metal structures, metal structures and service platforms, the Owner`s representative should be included in the commission as its member.

1. When issuing the ABD for the installation of technological equipment and technological pipelines, the list of forms specified in Appendix 3 hereto shall be used.

The procedure is applicable to installation of the following NPP components (the following list is not final and can be supplemented):

* Equipment and pipelines classified under categories A, B, C according to NP-089-15 “Rules of arrangement and safe operation of equipment and pipelines for nuclear power facilities” [7];
* Equipment in accordance with NP-044-03 “Rules for Design and Safe Operation of Pressure Vessels” [8];
* Localizing safety systems and their components in accordance with the NP-010-16 “Rules for design and operation of nuclear power plant localizing safety systems” [10];
* Pipelines subject to NP-045-03 “Rules for Design and Safe Operation of Steam and Hot Water Pipelines for Nuclear Facilities” [11];
* “Technological equipment and technological pipe-lines” SNiP 3.05.05-84 [12];
* Metal structures and embedded parts supplied with the equipment;
* Ventilation systems, internal and external utility networks in accordance with the SP 73.13330.2012, SNiP 3.05.01-85 “Internal sanitary-technical systems of buildings” [13];
* “Hoisting mechanisms in accordance with the Regulations for design and safe operation of lifting cranes for nuclear facilities” NP-043-11 [14].
  1. When inspecting the works performed on the installation of the technological equipment and technological pipelines belonging to safety classes 1, 2, 3 and 4 according to NP-001-15 [9], the Owner`s representative should be included in the commission as its member.
  2. After the installation of the technological equipment and technological pipelines, the Subcontractor shall draw up acceptance certificates for the technological system, certain equipment for commissioning works in accordance with the requirements of STO 1.1.1.03.003.0907-2018 [15].

1. When issuing the ABD for the performed electrical installation works, Automated process control systems and electrical equipment, the list of forms specified in Appendix 4 hereto shall be used.

The procedure is applicable to the following NPP components (the following list of NPP systems components is not final and can be supplemented):

* Electrical equipment of electrical systems;
* Low-voltage systems (security and fire alarms, communication, local computer network, etc.);
* External and internal power supply and lighting;
* APCS systems and sub-systems, I&C equipment.
  1. When inspecting the performed works on the installation of APCS, electrical equipment and products, instrumentation and control pipelines (pulse lines), instrumentation and control equipment, cable metal structures, cable products, the Owner`s representative should be included in the commission as its member.
  2. After the completion of electrical installation work, the Subcontractor shall draw up acceptance certificates for the technological system, certain equipment, APCS system (subsystem) for commissioning works in accordance with the requirements of   
     STO 1.1.1.03.003.0907-2018 [15].

1. When issuing the ABD for installation of LSS and their components, the Contractor with representatives of the Owner shall prepare and agree required list of ABD to obtain the passport for LSS (an approximate list of forms is given in Appendix 5 hereto).
   1. When inspecting the performed works on the installation of the LSS and their components, the Owner`s representative should be included in the commission as its member.
2. The generated inspection certificates for the works performed, shall be signed in 6 (six) copies during the work of the acceptance commission. In the event that the inspection certificates for the works performed have not been signed for some reason by the acceptance commission (errors in the ABD execution, minor deviations that can be easily eliminated, etc.) and the Subcontractor signs them without the commission's repeated summons in the regular course, the procedure for signing by the commission members shall be as follows:

* The Subcontractor’s representative
* The General Designer’s representative;
* Representative of the Contractor responsible for construction supervision (specialist for construction arrangement);
* The Contractor’s representative;
* The other representatives involved in the inspection (representative of the Owner, manufacturers’, etc.);
* The Owner’s representative.
  1. The period for review and signing of the inspection certificate for the works performed by the acceptance commission members shall not be more than 3 (three) business days.

1. When subsequent works are to be commenced after a suspension for longer than 6 (six) months from the date of completion of the stage-wise acceptance procedure, prior to resuming the works, these procedures shall be repeated with the execution of the relevant certificates according to the requirements of SP 48.13330-2011 [18].
2. The date of the inspection certificate for concealed works, inspection of critical structures, sections of utility networks, etc. shall correspond to the date of its signing. After the acceptance commission has completed the work and checked the availability of a complete ABD, the certificate signed by all members of the acceptance commission shall be assigned with a registration number in accordance with the PMM document ED.NPAS.QI.PCM.PMD.EN-005 Inspections during Construction Works and Installation Works [3].
3. If it is required to make minor amendments (the changes that do not affect the design solutions and scope of the work performed) to the completed documents, it is necessary to strikethrough by one line the incorrect data and enter the correct data next to the previous information. The corrections shall be made with black ink. Any amendment shall have a signature next to it with a transcript of the person making the change (authorized representative of the Contractor or the Owner who is also a member of the commission) specifying his/her position and date of signing. At the same time, the records in the forms shall be clear and legible, with no blots or erasures. An ABD page with more than two corrections shall be re-issued.
4. A document without signatures, names, positions specified in the relevant forms, as well as dates and stamps are incomplete. Incomplete documents are invalid. This requirement shall be applied to all types of ABD.
5. Empty fields or dashes (except for fields in the tables) are not allowed in the fields of as-built documents forms (“not required”, “not applicable”, and similar in essence shall be written).
6. It is allowed to correct as-built diagrams in the textual part (including stamp) after signing if there is a signature of the Contractor’s geodetic surveyor, for the welding logbook - if there is a signature of responsible representative of Welding Control of the Contractor. It is prohibited to correct as-built diagrams in the graphic part.
7. A name of the works in the ABD shall correspond to those that have been actually performed, indicating the exact location (room No., elevation, station (roads), axes) and shall be the same in all the documents. The ABD forms shall be filled in in accordance with the subscript of the document. Putting signatures on a separate page or blank page is not allowed without the text belonging to document. The dates of the documents confirming the quality of the applied materials shall correspond to the date of the works performance. It is not allowed to use materials or equipment, if the date of the quality document is later than the date of completion of the works, or if the document expired prior to the commencement of the works.
8. The procedure for maintaining a general and/or special log, which records performance of the works during construction is described in PMM document ED.NPAS.CA.PCM.PMD.EN-018 - Construction Logs [4].
9. GENERATION OF THE AS-BUILT DoCUMENTATION
10. The Subcontractor shall issue the relevant ABD consecutively, i.e. prior to commencement of performance of each subsequent stage of the works. The ABD related to all the previous works shall be issued. The ABD shall be issued according to the forms given in Appendix 11 hereto.
11. The ABD is filed into an A4 file folder with a hard cover and a pressing mechanism, indicating information on the construction facility on the spine and title page in accordance with Appendix 6 hereto. The maximum allowable folder size is 400 pages. The ABD is provided without paper clips, staples, bookmarks, plastic pockets and other stationery. The ABD is completed according to the technological process and in the scope of the Works according to separate title page of the DDD and in the scope of the agreed Milestone.
12. The register is signed by the Owner`s representative responsible for acceptance of ABD and by the responsible person of the Contractor for ABD. The ABD register shall contain information on the name of the document, its sequence number, number of sheets in the ABD and be signed in 6 copies.
13. The ABD for construction works is drawn up and generated by the Subcontractor for each section of the works performed in accordance with the requirements of Appendix 2 hereto, under supervision of the Contractor according to the DDD, Codes and Standards, etc.
14. The ABD sets for installation of technological pipelines and technological equipment are drawn up and generated by the Subcontractor for each DDD set, based on the boundaries of pipelines and equipment registration, and in accordance with the requirements of Appendix 3 hereto, under supervision of the Contractor according to the DDD, Codes and Standards, etc.
15. The ABD sets for ventilation and air conditioning systems, are generated separately for each system.
16. Two ABD sets are generated for I&C sampling and pulse lines:

* from the weld joint border after the main valve, up to the weld joint of the technological system;
* from the weld joint of the main valve (not including) and further to the sampling system or I&C system.

1. The ABD sets for electrical installation works are drawn up and generated by the Subcontractor for each DDD set, in accordance with the requirements of Appendix 4 hereto under supervision of the Contractor according to the DDD, Codes and Standards, etc.
2. The Subcontractor shall complete 6 (six) copies of the ABD, of which 4 (four) are to be transferred to the As-Built Documentation Department of the Contractor:

* the Subcontractor shall enclose the original documents (certificates, diagrams, conclusions, etc.) and certified copies of certificates for materials, indicating the number of the Incoming Inspection certificate, in the first copy of the ABD;
* the second, third, fourth, fifth and sixth copies of the generated ABD set shall be prepared by the Subcontractor from both the originals and copies taken from the documents of the first copy of the ABD set. All copy documents in subsequent copies of the generated ABD set shall be certified by the Subcontractor indicating: "True Copy", signature, full name, position and stamped by the original seal of the organisation. Photocopies of the colored documents can be made in black and white. Several copies on two sides of one sheet are not allowed.

1. Construction materials and cable products purchased by the Subcontractor, certificate originals or copies, certified by the supplier (original seal, position, organisation, full name, signature) and the original copies of Incoming Inspection certificates shall be transferred by the Subcontractor to the Group for Incoming Inspection of Equipment of Materials of the Contractor according to the register with color scanned copies of each certificate (separate files) in hard and soft copy based on the incoming inspection results.
2. The sets of the inspection certificates for the works performed shall be enclosed with certified copies of the construction materials certificate with an “Incoming inspection passed. Incoming Inspection Certificate No., date” note.
3. Based on the incoming inspection results, the Contractor shall provide the Owner with 2 (two) originals of the Incoming Inspection certificate and 1 (one) set of certified copies of the supporting documentation. The Contractor shall have 2 (two) originals of the Incoming Inspection certificate and 1 (one) set of the original supporting documents. The Subcontractor shall have 2 (two) originals of the Incoming Inspection certificate.
4. Originals or certified copies (original seal, position, organisation, signature and print full name) of the material certificates, original supporting documents for equipment and Incoming Inspection certificates shall be transferred by the Contractor to the Owner`s representative responsible for acceptance of ABD in accordance with the register in hard and soft copy upon completion of the facility construction.
5. The processes of arranging the storage and recording of documents supplied with the equipment, as well as the incoming inspection of equipment and materials are specified in the PMM documents listed in ED.NPAS.PM.LST.PMD.EN-003 List of PMM documents [5].
6. Upon the completion of Works within the scope of the DDD set, to the DDD set stamped with “issued for execution” shall be added a note which shall include information on compliance of actually performed works with the DDD and that all the changes in accordance with approved FCR/FCO have been reflected. The note shall be certified by the signature of the responsible person who performed the works (with his/her full name and position) in accordance with Appendix 7 hereto and handed over according to the register. A set of DDD shall be provided in archive boxes or binders with the name of the title page. This DDD set is a part of ABD.
7. Each page of DDD set that is part of the ABD shall be stamped, signed and dated by the Contractor and the Owner. The template of the stamps shall be presented in accordance with Appendix 8 hereto.
8. HANDOVER AND APPROVAL OF AS-BUILT DOCUMENTATION
   1. The Subcontractor shall deliver 4 (four) copies of the ABD with the attached documents on the completed construction works specified in the certificate upon inspection of the Works and electrical installation works within the scope of the DDD to the Contractor`s responsible person, in accordance with the ABD register, Appendix 9 hereto. The ABD shall be delivered on the date the Subcontractor reaches the Milestone to which the completed Works are related, but no later than the last calendar day of the reporting month (i.e. the month in which the relevant Works were inspected), whichever is earlier.
   2. The Contractor’s responsible person for As-Built Documentation shall verify the ABD for the works performed, generated by the Subcontractor. The verification period shall not exceed 10 business days; this period can be extended depending on the volume of the ABD.
   3. After verification of the delivered ABD, the Contractor`s responsible person shall collect an ABD set for the finished structural components according to the title page in the scope of the works performed under the respective milestone, considering the procedures for the CEW and the construction process. 3 (three) hard copies of the collected ABD along with soft copy shall be submitted to the Owner for verification in accordance with the ABD register, Appendix 10 hereto.
   4. The hard copy of the ABD register (Appendix 10 hereto) shall be signed by the Owner`s responsible person in the field “Accepted for verification”. The verification period shall not exceed 10 business days, unless the Contractor and the Owner have agreed otherwise.
   5. If there are comments, the Owner informs the Contractor and the Contractor retrieves the ABD and hands over to the Subcontractor for revision. The period for resolving the elimination of comments by the Subcontractor shall not exceed 5 business days, depending on the volume of the ABD. The comments shall be resolved in all copies of the ABD. After resolution of the comments, the ABD shall be transferred to the Owner for reverification. The period for the reverification of the ABD after the comments have been resolved shall not exceed 5 business days, unless the Contractor and the Owner have agreed otherwise.
   6. The handover of complete ABD to the Owner is confirmed by a cover letter in accordance with the PMM document ED.NPAS.PM.PCM.PMD.EN-002 General Rules of Correspondence [6].
   7. For construction and electrical installation works, the Contractor shall submit to the Owner the ABD as follows:

* 3 (three) hard copies ABD and 6 (six) hard copies of ABD of the register;
* 1 (one) non-editable soft copy of ABD scan hard copy (.pdf) (1 (one) DVD);
* 2 (two) soft copies in editable format of DDD (2 (two) DVD).

The Contractor will have 1 (one) hard copy of the ABD, the Subcontractor will have 2 (two) hard copies.

* 1. For installation of technological pipelines and technological equipment (including I&C sampling lines and pulse lines, LSS and their components, the spent fuel and refueling pool, the reactor shaft, the core catcher installation room, sealed and protection sealed doors, the lining of the premises for liquid radioactive waste tanks and other rooms, whose lining shall meet tightness requirements), the Subcontractor shall submit for verification 4 (four) ABD in hard copies with the original documents and the mandatory attachment of the ABD in electronic form on the electronic media of the installation organisation's documentation (in Word, Excel, AutoCAD, etc. formats) to the Contractor`s responsible person according to the register (the register in 6 copies). The ABD is verified for no longer than 10 business days, unless the Contractor and the Owner have agreed otherwise. If there are comments, the ABD is returned to the Subcontractor to resolve comments. The period for the comments resolution by the Subcontractor shall not exceed 5 business days, unless the Contractor and the Owner have agreed otherwise. The period for the reverification of the ABD after the comments have been resolved shall not exceed 5 business days, unless the Contractor and the Owner have agreed otherwise.
  2. If there are no comments from the Contactor or after their resolution in the ABD sets according to item 6.8:
* For technological systems (equipment, pipelines) not subject to regulatory registration the Contractor`s responsible person shall hand over the ABD for verification to the Owner as mentioned in item 6.7;
* The Owner`s responsible person shall sign all copies of the ABD register in an “Accepted by” field. The Contractor`s responsible person shall submit 2 (two) original copies of the ABD register to the Subcontractor, 1 (one) original copy of the ABD register shall remain with the Contractor`s responsible person;
* For technological systems (equipment, pipelines) that are subject to regulatory registration, the Contractor`s responsible person shall hand over the original ABD to perform the registration work, return to the Subcontractor 2 (two) original copies of the ABD register with a note “Accepted for regulatory registration” in each copy of the register;
* Based on the results of the regulatory registration of technological systems (equipment, pipelines), Contractor`s responsible person shall hand over 3 (three) ABD and 6 (six) original copies of the ABD register to the Owner`s responsible person for signing. After signing of the register, the Contractor`s responsible person shall submit to the Subcontractor 2 (two) original copies of the ABD register, and shall keep 1 (one) ABD and 1 (one) original copy of the ABD register signed by the Owner`s responsible person, in the “Accepted by” field.
  1. After completion of the full scope of the construction and installation works of each building, the set of construction logs for the building (general works log and special works logs) shall be handed over to the Owner and issued by a cover letter in accordance with the PMM document ED.NPAS.PM.PCM.PMD.EN-002 General Rules of Correspondence [6].

1. STORAGE OF ABD
2. The procedures for documenting, maintaining archive registers, storage of hard and soft copies of the ABD, shall be regulated by the Contractor, to allow identification and prompt submission of any requested ABD to the Owner, regulatory and supervisory authorities.
3. The Owner`s Information Technology and Document control department shall transfer ABD to the Owner’s archive.
4. The Contractor’s ABD copy shall be transferred to the Contractor’s archive for storage, to be retained in accordance with the retention periods established by the Federal Archival Agency of Russia (Rosarhiv) Order No. 142 dd. 28.12.2021 “On approval of the List of standard archival documents generated within the scientific, technical and industrial activities of organisations, indicating the storage periods” (registered in Ministry of Justice on 02.02.2022 N 67095) [17].
5. The Owner and the Contractor shall manage archiving system in accordance with the respective internal procedures.
6. In case of implementation of additional works and subsequent changes to the ABD accepted by the Owner, the Contractor`s responsible person shall send a request to the Owner about the withdrawal of the ABD for amendment. After completion of the works, the Contractor`s responsible person shall send the corrected set of ABD to the Owner in accordance with the provisions of Section 6 hereof. All copies of ABD shall be corrected.
7. **DOCUMENT REVISION**
8. This Procedure is subject to revision:

* Once every two years;
* Where applicable, in case of modifying the EPC Contract [1], requirements, regulatory framework of the Project, based on audit and inspection results, Non-conformances revealed, etc.;
* As agreed by the Parties.

1. During the revision hereof, the Revision Sheet section shall be filled in by the Contractor with a brief description of changes.
2. **REFERENCES**
3. The EPC Contract dd. December 31, 2016 between the Nuclear Power Plants Authority, established according to Law No. 13 dated 1976 ‘On Nuclear Power Plants Authority’ of the Arab Republic of Egypt, having its registered office at: 4 El Nasr Avenue, Nasr City, Cairo, Egypt (hereinafter - the Owner), and Atomstroyexport, Joint-Stock Company (ASE JSC ), established and existing according to the legislation of the Russian Federation, state registration number 1027739496014, having its registered office at: 3 Svobody Square, Nizhny Novgorod 603006, Russia (hereinafter - the Contractor), as amended on September 11, 2017 by the Amending Agreement between Nuclear Power Plant Authority (the Owner) and Atomstroyexport, Joint-Stock Company (ASE JSC ) (the Contractor)
4. ED.NPAS.PM.LST.PMD.EN-002 Terms, Definitions, Abbreviations and Interpretations
5. ED.NPAS.QI.PCM.PMD.EN-005 Inspections during Construction and Erection Works
6. ED.NPAS.CA.PCM.PMD.EN-018 Construction Logs
7. ED.NPAS.PM.LST.PMD.EN-003 List of PMM Documents
8. ED.NPAS.PM.PCM.PMD.EN-002 General Rules of Correspondence
9. NP-089-15 Rules of arrangement and safe operation of equipment and pipelines for nuclear power facilities
10. NP-044-03 Rules for Design and Safe Operation of Pressure Vessels
11. NP-001-15 General Provisions for Safety Assurance of Nuclear Power Plants
12. NP-010-16 Rules for design and operation of nuclear power plant localizing safety systems
13. NP-045-03 Rules for Design and Safe Operation of Steam and Hot Water Pipelines for Nuclear Facilities
14. SNiP 3.05.05-84 Technological equipment and technological pipe-lines
15. SP 73.13330.2012 (SNiP 3.05.01-85) Internal sanitary-technical systems of buildings
16. NP-043-11 Regulations for design and safe operation of lifting cranes for nuclear facilities
17. STO 1.1.1.03.003.0907-2018 with amendments 1, 2 Commissioning of Nuclear Power Plant Units. Reporting Documentation
18. RD-11-02-2006 Requirements for the composition of as-built documents and for the procedure to maintain them during the construction, reconstruction, and major overhaul of construction facilities and requirements imposed on inspection certificates for works, structures and parts of utility networks
19. Federal Archival Agency of Russia (Rosarhiv) Order No. 142 dd. 28.12.2021 On approval of the List of standard archival documents generated within the scientific, technical and industrial activities of organisations, indicating the storage periods (registered in Ministry of Justice on 02.02.2022 N 67095)
20. SP 48.13330.2011 Organisation of construction

**Appendix 1 The diagram of process management of abd**



**Appendix 2 List of reporting as-built documentation when performing construction and installation works**

**1 General documentation**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| 1.1 | General works logbook |  | - |  |
| 1.2 | General designer supervision logbook |  | - |  |
| 1.3 | Special work logbook |  | - |  |
| 1.4 | Non-conformity report |  |  |  |
| 1.5 | Set of DDD with the remarks “actually performed works comply with as-built DDD”. |  |  |  |
| 1.6 | Construction/Installation Works Completion Certificate | ED.NPAS.QI.PCM.PMD.EN-005 | **A-1** |  |
| 1.7 | Construction Works Acceptance Certificate | ED.NPAS.QI.PCM.PMD.EN-005 | **A-2** |  |
| 1.8 | Installation Works Acceptance Certificate | ED.NPAS.QI.PCM.PMD.EN-005 | **A-3** |  |

**2 Documentation by the types of works**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **2.1 Geodetic works** | | | | |
| 2.1.1 | Inspection certificates of the geodetic layout base points for the construction facility | SP 48.13330.2011  RD-11-02-2006 | **C-1** |  |
| 2.1.2 | Certificates of grid line layout of a construction facility at site | RD-11-02-2006 | **C-2** |  |
| 2.1.3 | Approved as-built diagrams | SP 48.13330.2011 | - |  |
| 2.1.4 | Inspection certificate for concealed works in arrangement of depth benchmark. |  | **C-4** |  |
| **2.2 Excavation installation works** | | | | |
| 2.2.1 | Certificate of examination of open ditches and foundation pits | SP 45.13330.2012 | **C-3** |  |
| 2.2.2 | Inspection Certificates for concealed works. | SP 45.13330.2012  RD-11-02-2006 | **C-4** |  |
| 2.2.3 | Approved as-built drawings of executed natural and artificial bases (pits, trenches) | SP 45.13330.2012 | - |  |
| 2.2.4 | Protocols of laboratory tests of the physical properties of soils indicating the locations of soil sampling for tests and the verification mark of the Construction Laboratory |  | **C-6,**  **C-7** |  |
| 2.2.5 | Certificates, data sheets for applied materials and reinforced concrete products with the incoming inspection mark | GOST 13015-2012 Appendix D | Supplier’s form |  |
| **2.3 Concrete works** | | | | |
| 2.3.1 | Data sheets, certificates, quality documents for the materials used for the preparation of mortars and concrete mix (sand, crushed stone, cement, additives) marked with the incoming inspection mark | GOST 8736-2014  GOST 30515-2013  GOST 8267-93  GOST 24211-2008 | Supplier’s form |  |
| 2.3.2 | Documents on the concrete mix quality | GOST 7473-94  GOST 7473-2010 | **C-10** |  |
| 2.3.3 | Strength test protocols for cube concrete test specimens with the verification mark of the Construction Laboratory | SP 70.13330.2012 GOST 10180-2012  GOST 18105-2010 | **C-11** |  |
| 2.3.4 | Non-destructive test protocols for concrete with a sampling/control points diagram and with the verification mark of the Construction Laboratory | GOST 18105-2010  GOST 22690-88 GOST 22690-2015 | **C-12**  **C-12a** |  |
| 2.3.5 | Strength test protocols for cube mortar test specimens with the verification mark of the Construction Laboratory | GOST 5802-86 | **C-13** |  |
| 2.3.6 | Waterproof test protocol on concrete test specimens with the verification mark of the Construction Laboratory | GOST 12730.5-84 | **C-14,**  **C-15** | As required by the DDD |
| 2.3.7 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| 2.3.8 | Approved as-built diagrams | SP 70.13330.2012 | - |  |
| 2.3.9 | Inspection Certificates for critical structures | SP 70.13330.2012  RD-11-02-2006 | **C-5** | As required by the DDD |
| **2.4 Reinforcement works** | | | | |
| 2.4.1 | Certificates for reinforcing bar steel and connecting components (compression couplings and sleeve nuts) with the incoming inspection mark | GOST 5781-82, i. 3 | Supplier’s form |  |
| 2.4.2 | Quality documents for steel civil structures with the incoming inspection mark | GOST 23118-2012  Appendix C |  |  |
| 2.4.3 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| 2.4.4 | Approved as-built diagrams | SP 70.13330.2012 | - |  |
| 2.4.5 | Tensile test protocols for mechanical connections with threaded couplings | GOST 10922-2012 | **C-16** |  |
| 2.4.6 | Visual and Measuring Inspection Certificate with the verification mark of Control of Welding and Metals Laboratory of the Contractor |  | **C-8** |  |
| 2.4.7 | Welding documentation |  |  | As required by the DDD |
| 2.4.8 | Copies of installation workers certificates |  |  |  |
| **2.5 Formwork** | | | | |
| 2.5.1 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| 2.5.2 | Approved as-built diagrams | SP 70.13330.2012 | - |  |
| 2.5.3 | Certificates for reusable formwork with the incoming inspection mark |  | Supplier’s form |  |
| **2.6 Installation of prefabricated reinforced concrete structures** | | | | |
| 2.6.1 | Data sheets for prefabricated reinforced concrete structures (beams and crossbars, floor slabs and concrete covers) with the incoming inspection mark | GOST 13015-2012  Appendix D |  |  |
| 2.6.2 | Inspection Certificates for critical structures | SP 70.13330.2012  RD-11-02-2006 | **C-5** | As required by the DDD |
| 2.6.3 | Approved as-built diagrams | SP 70.13330.2012 | - |  |
| 2.6.4 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| **2.7 Installation of embedded parts and penetrations for pipelines** | | | | |
| 2.7.1 | Quality documents (quality certificates) for embedded parts, Nelson anchor with the incoming inspection mark | GOST 10922-2012 | **C-17** |  |
| 2.7.2 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| 2.7.3 | Approved as-built diagrams | SP 70.13330.2012 | - |  |
| 2.7.4 | Welding documentation |  |  | As required by the DDD |
| **2.8 Installation of steel structures** | | | | |
| 2.8.1 | Technical certificates, certificates and/or quality documents for steel structures, items and applied materials with the incoming inspection mark | GOST 7566-94  GOST 14637-89  GOST 23118-2012  SP 70.13330.2012 | Supplier’s form |  |
| 2.8.2 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| 2.8.3 | Certificate of buildings and construction structures | SP 70.13330.2012  Appendix H  GOST R 53254-2009  Appendix F | **C-9** | As required by the DDD |
| 2.8.4 | Approved as-built diagrams | SP 70.13330.2012 | - |  |
| 2.8.5 | Inspection Certificates for critical structures | SP 70.13330.2012  RD-11-02-2006 | **C-5** | As required by the DDD |
| 2.8.6 | Welding documentation |  |  | As required by the DDD |
| **2.9 Waterproofing (including underground surfaces of civil structures and in process areas) and roofing works** | | | | |
| 2.9.1 | Certificates for materials with the incoming inspection mark |  | Supplier’s form |  |
| 2.9.2 | Ecological certificate of conformity |  |  | For hydraulic engineering structures |
| 2.9.3 | Inspection Certificates for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| 2.9.4 | Inspection Certificates for critical structures | SP 70.13330.2012  RD-11-02-2006 | **C-5** | As required by the DDD |
| 2.9.5 | Roof test reports |  |  |  |
| 2.9.6 | Protocols on moisture content measurement of concrete surfaces with a sampling/control points diagram and with the verification mark of the Construction Laboratory | SNiP 3.04.01-87  GOST 21718-84 | **C-18** | As required by the DDD |
| **2.10 Anti-corrosion protection, fire protection and fire safety, cathodic protection, insulation and finishing coatings** | | | | |
| 2.10.1 | Certificates for materials with the incoming inspection mark | Supplier’s form | - |  |
| 2.10.2 | Fire safety conformity certificate and/or declaration of their fire hazards for fire protection facilities of steel and /or reinforced concrete structures;  - fire protection facilities for timber and wood-based materials;  - cables fire protection means;  - other facilities | FZ No.123-FZ dd. 22.07.2008 |  |  |
| 2.10.3 | Technical documentation for materials containing information about their fire hazard:  - construction materials;  - textile and leather materials;  - design and finishing, facing materials and floor coatings along the escape routes and in hall-type premises | FZ No.123-FZ dd. 22.07.2008, clauses 134, 135, Table 27, 28, 29, 30 |  |  |
| 2.10.4 | Inspection Certificate for concealed works | RD-11-02-2006 | **C-4** |  |
| 2.10.5 | Acceptance certificate of the protective coating | SNiP 3.04.03-85 Appendix 2 |  |  |
| 2.10.6 | Protocols on paint coating thickness measurement | GOST 31993-2013 | **C-19** | As required by the DDD |
| 2.10.7 | Inspection (acceptance) certificate of ready surfaces |  | **C-20** | For anticorrosion coating surface preparation |
| 2.10.8 | Inspection (acceptance) certificate of ready surfaces |  | **C-20** |  |
| **2.11 Installation of windows, doors and gates** | | | | |
| 2.11.1 | Certificates for materials with the incoming inspection mark |  | Supplier’s form |  |
| 2.11.2 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| 2.11.3 | Integrity (leak-tight) test certificates |  | - | As required by the DDD |
| 2.11.4 | Approved as-built diagrams | SP 70.13330.2012 | - |  |
| 2.11.5 | Fire safety conformity certificate and/or declaration of conformity of fire safety equipment for:  - Fire resistant windows, doors, lift shafts doors with standardized fire resistance limit, gates, hatches, roller doors, window blinds, screens, curtains;  - Intersections of fire barriers with cable products, bus ducts, sealed cable glands, couplings and pipelines of engineering systems of buildings and structures;  - Fire resistant, smoke-and-gas tight doors, smoke tight doors;  - Structures for filling openings in fire barriers | FZ No.123-FZ dd. 22.07.2008 |  |  |
| **2.12 Arrangement of rubber seals, rubber-metal supports, etc.** | | | | |
| 2.12.1 | Certificates for materials with the incoming inspection mark |  | Supplier’s form |  |
| 2.12.2 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| **2.13 Arrangement of lining and heat insulation of facades** | | | | |
| 2.13.1 | Certificates for metal structures, products, heat insulation materials with the incoming inspection mark | GOST 7566-94  GOST 14637-89 | Supplier’s form |  |
| 2.13.2 | Fire safety conformity certificate and/or declaration of their fire hazard for applied materials:  - Waterproofing and vapor barrier materials more than 0.2 millimeter in thickness;  - Heat insulating materials | FZ No.123-FZ dd. 22.07.2008, clause 134, Table 27 |  |  |
| 2.13.3 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| **2.14 Roads and bridge structures (bridges, overpasses, trestleworks)** | | | | |
| 2.14.1 | Data sheets, certificates for materials with the incoming inspection mark | SP 34.13330.2012 | Supplier’s form |  |
| 2.14.2 | As-built diagram | SP 70.13330.2012 | - |  |
| 2.14.3 | Quality control certificate of crushed stone underlayment compaction | SP 34.13330.2012 |  |  |
| 2.14.4 | Inspection Certificate for concealed works | SP 70.13330.2012  RD-11-02-2006 | **C-4** |  |
| **2.15 Welding documentation** | | | | |
| 2.15.1 | Certified copies of certificates for welding materials (electrodes, wire, flux) marked with the incoming inspection mark |  | Supplier’s form |  |
| 2.15.2 | Conclusion on visual and measuring inspection of welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor |  | **C-21** |  |
| 2.15.3 | Copies of welders’ certificates |  | According to the recommended form |  |
| 2.15.4 | Welding formular with the verification mark of the responsible representative of the Welding Control of the Contractor |  |  |  |
| 2.15.5 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Materials Laboratory of the Contractor. |  | **M-1,**  **1a÷1g** | For the rooms where leak-tight lining requirements are applicable |
| 2.15.6 | Summary table of welding data with the verification mark of the responsible representative of the Welding Control of the Contractor |  | **M-7** |

**Appendix 3 List of reporting as-built documentation when performing installation works for technological pipelines and equipment**

**1 “Technological equipment and technological pipe-lines” SNiP 3.05.05-84**

| Item No. | Document title | | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- | --- |
| 1 | 2 | | 3 | 4 | 5 |
| **1.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings | |  | - |  |
| **1.2** | **Manufacturers’ documentation for products and materials used in installation of the technological equipment and pipelines** | | | | |
| 1.2.1 | Reports or Manufacturer’s Certificates for materials, pipes and fittings, support-and-suspension system used in the pipeline installation with the incoming inspection mark | |  | Supplier’s form |  |
| 1.2.2 | Supporting technical documentation for pipeline valves for the NPP with the incoming inspection mark | |  | Supplier’s form |  |
| 1.2.3 | Certificates for materials used in the equipment installation with the incoming inspection mark | |  |  |  |
| 1.2.4 | Fire safety conformity certificate and/or declaration of conformity of their fire hazard for: - fire cabinets; - fire hydrants, fire shut-off valves. | | FZ No.123-FZ dd. 22.07.2008 |  |  |
| 1.2.5 | Manufacturer’s certificate for equipment with the incoming inspection mark | |  |  |  |
| **1.3** | **Welding documentation** | | | | |
| 1.3.1 | Certified copies of certificates for welding materials (electrodes, wire, flux) marked with the incoming inspection mark | |  | Supplier’s form |  |
| 1.3.2 | Copies of welders’ certificates | |  |  |  |
| 1.3.3 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor | |  | **M-1,**  **1a÷1g** | As required by the DDD |
| 1.3.4 | Pipeline welding logbook with the verification mark of the responsible representative of the Welding Control of the Contractor | |  |  |  |
| 1.3.5 | Equipment welding logbook with the verification mark of the responsible representative of the Welding Control of the Contractor | |  |  | When performing welding works during installation (rework) of equipment |
| 1.3.6 | Welding Logbook | |  |  |  |
| 1.3.7 | Summary table of the equipment welding data with the verification mark of the responsible representative of the Welding Control of the Contractor | |  | **M-7** |  |
| **1.4** | **Technological pipelines installation documentation** | | | | |
| 1.4.1 | Inspection Certificate for concealed works | | SNiP 3.05.05-84  RD-11-02-2006 | **C-4** | As required by the DDD |
| 1.4.4 | The area as-built drawing attached to the installation certificate is made in an isometric view within the boundaries of connection to equipment or shut-off valves, without scale. It shall include the KKS codes of the pipeline components and the numbering of welded joints with marking-out erection welds. For pipelines to be insulated or embedded in channels, the distance between welded joints is to be indicated. The numbering of welded joints on the as-built drawing and in the installation certificate shall be the same. For pipelines with PN 10 MPa (100 kgf/cm²) and more, detachable connections shall also be numbered. | |  |  | As required by the DDD  To be submitted both in paper and in electronic form |
| 1.4.5 | Act of testing of compensators by tension (stress) | |  | **M-3** | As required by the DDD |
| 1.4.6 | Installation completion certificate | |  | **M-2** |  |
| 1.4.7 | Pipeline flush and blowdown certificate. | | SNiP 3.05.05-84 | **M-4** | As required by the DDD |
| 1.4.8 | Hydraulic (pneumatic) testing certificate of equipment, pipeline | | SNiP 3.05.05-84 | **M-5** |  |
| 1.4.9 | Installation certificate | |  | **M-6** |  |
| **1.5** | | **Documentation for technological equipment** | | | |
| 1.5.1 | | As-built geodetic diagram for equipment installation | SNiP 3.05.05-84 |  |  |
| 1.5.2 | | Act on checking of installation of equipment on foundation | SNiP 3.05.05-84 | **M-8** | with item 1.5.1 attached |
| 1.5.3 | | Certificate of tightening of threaded joints |  | **M-10** | As required by the DDD |
| 1.5.4 | | Clean condition certificate |  | **M-11** | To be drawn up before connecting pipelines |
| 1.5.5 | | Installation completion certificate |  | **M-2** |  |
| 1.5.6 | | Hydraulic (pneumatic) testing certificate of equipment, pipeline | SNiP 3.05.05-84 | **M-5** |  |
| 1.5.7 | | Act on testing of machines and mechanisms | SNiP 3.05.05-84 | **M-9** |  |

**2 “Rules of arrangement and safe operation of equipment and pipelines for nuclear power facilities” NP-089-15**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **2.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **2.2** | **Welding documentation** | | | |
| 2.2.1 | Copies of certificates for welding materials with the incoming inspection mark |  | Supplier’s form |  |
| 2.2.2 | Copies of welders’ certificates |  |  |  |
| 2.2.3 | Copies of certificates for inspectors and heat treatment operators |  |  |  |
| 2.2.4 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor | NP-089-15 | **M-1,**  **1a÷ 1g** | As required by the DDD |
| 2.2.5 | Welding logbook of equipment with the verification mark of the responsible representative of Welding Control of the Contractor |  |  | When performing welding works during installation (rework) of equipment |
| 2.2.6 | Pipeline welding logbook with the verification mark of the responsible representative of Welding Control of the Contractor |  |  |  |
| **2.3** | **Documentation for technological equipment** | | | |
| 2.3.1 | Equipment data sheet with attachments with the incoming inspection mark | NP-089-15 |  |  |
| 2.3.2 | Manufacturer’s certificate for equipment parts and assembly units with a quality plan, non-conformity report, certificates for materials (or their certified copies) with the incoming inspection mark | NP-089-15 |  | In case of rework by the installation organisation |
| 2.3.3 | As-built geodetic diagram for equipment installation |  |  |  |
| 2.3.4 | Act on checking of installation of equipment on foundation. |  | **M-8** | With item 2.3.3 attached |
| 2.3.5 | Inspection Certificate for concealed works | NP-089-15  RD-11-02-2006 | **C-4** | As required by the DDD |
| 2.3.6 | Certificate of tightening of threaded joints |  | **M-10** | As required by the DDD |
| 2.3.7 | Clean condition certificate |  | **M-11** | To be drawn up before connecting pipelines |
| 2.3.8 | Installation completion certificate |  | **M-2** |  |
| 2.3.9 | Hydraulic (pneumatic) testing certificate of equipment, pipelines. | NP-089-15 | **M-12** |  |
| 2.3.10 | As-built diagram for connection of the equipment indicating the operating medium, pressure sources and their parameters (maximum generated pressure and flow), fittings, safety devices, bleed, blowdown and drainage devices and I&C. | NP-089-15 |  | For equipment belonging to groups A and B, it shall be agreed by the general designer of the NPP.  To be submitted both in paper and in electronic form |
| 2.3.11 | Documents containing information on eliminated deviations, as well as documents on the results of conformity assessment and a non-conformity report | NP-089-15 |  | If there are deviations from the basic design and/or DDD |
| 2.3.12 | Installation certificate for equipment | NP-089-15 | **M-13** |  |
| 2.3.13 | Installation certificate | NP-089-15 | **M-14** |  |
| **2.4** | **Technological pipelines documentation** | | | |
| 2.4.1 | Manufacturing certificates for pipelines parts and assembly units with a quality plan, non-conformity report, certificates for materials (or their certified copies) with the incoming inspection mark | NP-089-15 |  |  |
| 2.4.2 | Certificates for the materials, pipes and fittings used in the pipeline installation with the incoming inspection mark | NP-089-15 | Supplier’s form |  |
| 2.4.3 | Accompanying technical documentation for pipeline valves for the NPP with the incoming inspection mark | NP-089-15 | Supplier’s form |  |
| 2.4.4 | Inspection Certificate for concealed works | NP-089-15  RD-11-02-2006 | **C-4** | As required by the DDD |
| 2.4.5 | Installation completion certificate |  | **M-2** |  |
| 2.4.6 | Acceptance certificate of the pipelines support-and-suspension system |  | **M-35** |  |
| 2.4.7 | Pipeline flush and blowdown certificate. |  | **M-4** |  |
| 2.4.8 | Hydraulic (pneumatic) testing certificate of equipment, pipelines. | NP-089-15 | **M-12** |  |
| 2.4.9 | Spatial as-built pipeline diagram indicating working environment parameters, geometry (diameters and wall thicknesses of pipes) and welded joint arrangement, heat insulation removal areas, support, benchmark, valve and I&C. | NP-089-15 |  | For equipment belonging to groups A and B, it shall be agreed by the general designer of the NPP.  To be submitted both in paper and in electronic form |
| 2.4.10 | Documents containing information on eliminated deviations, as well as documents on the results of conformity assessment and a non-conformity report |  |  | If there are deviations from the basic design and/or DDD |
| 2.4.11 | NPP pipeline installation certificate | NP-089-15 | **M-15** |  |
| 2.4.12 | Installation certificate | NP-089-15 | **M-14** |  |

**3 “Rules for design and safe operation of pressure vessels” NP-044-03**

| No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **3.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **3.2** | **Welding documentation** (when using welding works during installation (rework) of equipment) | | | |
| 3.2.1 | Copies of certificates for welding materials with the incoming inspection mark |  | Supplier’s form |  |
| 3.2.2 | Copies of welders’ certificates |  |  |  |
| 3.2.3 | Copies of certificates for inspectors |  |  |  |
| 3.2.4 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor |  | **M-1**  **1a÷ 1g** | As required by the DDD |
| 3.2.5 | Welding logbook of equipment with the verification mark of the responsible representative of Welding Control of the Contractor |  |  | When performing welding works during installation (rework) of equipment |
| **3.3** | **Documentation for technological equipment** | | | |
| 3.3.1 | Data sheets (manufacturing certificates) and other technical documentation of manufacturers for the installed equipment and used equipment items, valves and other components with the incoming inspection mark | NP-044-03 |  |  |
| 3.3.2 | Data sheet of safety valve with calculation of its flow capacity with the incoming inspection mark | NP-044-03 |  |  |
| 3.3.3 | Pressure vessel certificate with the incoming inspection mark | NP-044-03 |  |  |
| 3.3.4 | As-built geodetic diagram for equipment installation |  |  |  |
| 3.3.5 | Act on checking of installation of equipment on foundation. |  | **M-8** | With item 3.3.4 attached |
| 3.3.6 | Certificate of tightening of threaded joints |  | **M-10** | As required by the DDD |
| 3.3.7 | Clean condition certificate |  | **M-11** | To be drawn up before connecting pipelines |
| 3.3.8 | Installation completion certificate |  | **M-2** |  |
| 3.3.9 | Hydraulic (pneumatic) testing certificate of equipment, pipeline | NP-044-03 | **M-5** |  |
| 3.3.10 | The scheme of the vessel switching on with an indication of the pressure source, the parameters of its workspace, armature, instrumentation, automatic control means, safety and locking devices. | NP-044-03 |  |  |
| 3.3.11 | The certificate of the vessel assembling completion | NP-044-03 | **M-16** |  |

**4 “Rules for design and safe operation of steam and hot water pipelines for nuclear facilities” NP-045-03**

| No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **4.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **4.2** | **Welding documentation** | | | |
| 4.2.1 | Copies of certificates for welding materials with the incoming inspection mark | NP-045-03 | Supplier’s form |  |
| 4.2.2 | Copies of welders’ certificates |  |  |  |
| 4.2.3 | Copies of certificates for inspectors |  |  |  |
| 4.2.4 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor | NP-045-03 | **M-1,**  **1a÷ 1g** | As required by the DDD |
| 4.2.5 | Pipeline welding logbook with the verification mark of the responsible representative of Welding Control of the Contractor |  |  |  |
| **4.3** | **Technological pipelines documentation** | | | |
| 4.3.1 | Certificates for the materials, pipes and fittings with the incoming inspection mark. | NP-045-03 | Supplier’s form |  |
| 4.3.2 | Data sheets and other documentation for valves, vessels, safety devices that are an integral part of the pipeline with the incoming inspection mark | NP-045-03 | Supplier’s form |  |
| 4.3.3 | Pipeline components manufacture certificate with the incoming inspection mark | NP-045-03  Appendix 6 |  |  |
| 4.3.4 | Inspection Certificate for concealed works | NP-045-03  RD-11-02-2006 | **C-4** | As required by the DDD |
| 4.3.5 | Pipeline cold draw level certificate | NP-045-03 | **M-17** | As required by the DDD |
| 4.3.6 | Acceptance certificate of the pipelines support-and-suspension system |  | **M-35** |  |
| 4.3.7 | Pipeline as-built diagram with indication of:  a) steel grade, diameter and thickness of tubes, length of pipeline;  b) layout of supports, expansion joints, hangers, valves, vents and drains;  c) welded joints specifying distances between them and from them to wells and points;  d) location of indicators for controlling thermal displacements, specifying the design values of displacements, devices for measuring creep (for pipelines that operate at temperatures that cause metal creep) with the verification mark of the Control Welding and Materials Laboratory | NP-045-03 |  | To be submitted both in paper and in electronic form |
| 4.3.8 | Installation completion certificate |  | **M-2** |  |
| 4.3.9 | Pipeline flush and blowdown certificate | NP-045-03 | **M-4** |  |
| 4.3.10 | Hydraulic (pneumatic) testing certificate of equipment, pipelines. | NP-045-03 | **M-12** |  |
| 4.3.11 | Pipeline installation certificate | NP-045-03 Appendix 7 | **M-18** |  |
| 4.3.12 | Pipeline acceptance certificate accepted by the Owner of the pipeline for the installation organisation. | NP-045-03 | **M-19** |  |

**5 “Rules for design and operation of nuclear power plant localizing safety systems” NP-010-16**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **5.1** | A set of DDD submitted for the LSS component acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **5.2** | **Welding documentation** | | | |
| 5.2.1 | Copies of certificates for welding materials with the incoming inspection mark | PNAEG 10-031-92 | Supplier’s form |  |
| 5.2.2 | Copies of welders’ certificates |  |  |  |
| 5.2.3 | Copies of certificates for inspectors |  |  |  |
| 5.2.4 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor | PNAEG 10-032-92 | **M-1**  **1a÷ 1g** | As required by the DDD |
| 5.2.5 | Layout of LSS components welded joints with the verification mark of the responsible representative of Welding Control of the Contractor |  |  |  |
| **5.3** | **LSS components documentation** | | | |
| 5.3.1 | Certificate of LSS components manufacture with the incoming inspection mark | NP-010-16 |  |  |
| 5.3.2 | Inspection Certificate for concealed works | NP-010-16  RD-11-02-2006 | **C-4** | As required by the DDD |
| 5.3.3 | Inspection Certificates for critical structures | NP-010-16  RD-11-02-2006 | **C-5** | As required by the DDD |
| 5.3.4 | Installation completion certificate |  | **M-2** | For airlocks |
| 5.3.5 | Hydraulic (pneumatic) testing certificate of equipment, pipelines. | NP-010-16 | **M-12** |  |
| 5.3.6 | Containment and its components test protocols, sheets and certificates | NP-010-16  Appendix 5 | **M-20, 20a÷20g** |  |
| 5.3.7 | LSS components installation certificate | NP-010-16 | **M-21** |  |

**6 “Regulations for design and safe operation of lifting cranes for the nuclear facilities” NP-043-11**

| No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **6.1** | A set of DDD submitted for lifting cranes including the amendments made therein by the general designer and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **6.2** | **Welding documentation** | | | |
| 6.2.1 | Copies of certificates for welding materials with the incoming inspection mark |  | Supplier’s form |  |
| 6.2.2 | Copies of welders’ certificates |  |  |  |
| 6.2.3 | Copies of certificates for inspectors |  |  |  |
| 6.2.4 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor |  | **M-1**  **1a÷ 1g** | As required by the DDD |
| **6.3** | **Documentation for lifting cranes** | | | |
| 6.3.1 | Factory documentation for lifting cranes components with the incoming inspection mark | NP-043-11 |  |  |
| 6.3.2 | Certificates for materials, items used in installation with the incoming inspection mark | NP-043-11 |  |  |
| 6.3.3 | Inspection Certificate for concealed works | RD-11-02-2006 | **C-4** | As required by the DDD |
| 6.3.4 | Inspection Certificates for critical structures | RD-11-02-2006 | **C-5** | As required by the DDD |
| 6.3.5 | As-built geodetic diagram | NP-043-11 |  |  |
| 6.3.6 | Delivery and Acceptance Certificate of overhead tracks | NP-043-11 | **M-22** |  |
| 6.3.7 | Test protocol of lifting cranes and their components (idle and on-load) | NP-043-11 |  |  |
| 6.3.8 | Installation certificate (confirming compliance with the installation instruction) | NP-043-11 | **M- 14a** |  |

**7 “Safety rules for hazardous industrial facilities where hoisting devices are used”, Rostechnadzor Order No.533 dd. 12.11.2013**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **7.1** | A set of DDD submitted for hosting and elevating devices acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **7.2** | **Welding documentation** | | | |
| 7.2.1 | Copies of certificates for welding materials with the incoming inspection mark |  | Supplier’s form |  |
| 7.2.2 | Copies of welders’ certificates |  |  |  |
| 7.2.3 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor |  | **M-1**  **1a÷ 1g** | As required by the DDD |
| **7.3** | **Documentation for hoisting devices** |  |  |  |
| 7.3.1 | Certificates, manufacturing certificates for materials, items used in installation with the incoming inspection mark | Rostechnadzor Order No. 533 dd. 12.11.2013 |  | When supplied by the installation organisation |
| 7.3.2 | Factory documentation for hoisting devices with the incoming inspection mark |  |
| 7.3.3 | Inspection Certificate for concealed works | Rostechnadzor Order No. 533 dd. 12.11.2013 | **C-4** | As required by the DDD |
| 7.3.4 | Inspection Certificates for critical structures | Rostechnadzor Order No. 533 dd. 12.11.2013 | **C-5** | As required by the DDD |
| 7.3.5 | Protocols on insulation resistance measurements of conductors and grounding system |  |  |  |
| 7.3.6 | As-built geodetic diagram (actual results of conformity of the geometric dimensions of the installed hoisting devices) | Rostechnadzor Order No. 533 dd. 12.11.2013 |  |  |
| 7.3.7 | The data on the replacement of the failed components of drives, brakes, fasteners |  |  | If the replacement was made by the installation organisation |
| 7.3.8 | Description of additional limiters, indicators and recorders, if such works were performed in the process of hoisting devices installation activities |  |  |  |
| 7.3.9 | Acceptance certificate of the track erection section or delivery and acceptance certificate of the rail track for installation | Rostechnadzor Order No. 533 dd. 12.11.2013 |  |  |
| 7.3.10 | Crane test certificate (idle and on-load), results of adjustments, confirming operability of the hoisting devices control systems, electric, pneumatic, and hydraulic equipment, mechanisms and available limiters, indicators, recorders; | Rostechnadzor Order No. 533 dd. 12.11.2013 |  |  |
| 7.3.11 | Installation certificate (confirming compliance with the installation instruction) | Rostechnadzor Order No. 533 dd. 12.11.2013 | **M-14a** |  |

**8 Electric elevators. Installation and commissioning**

| Item No. | Document title | Regulatory document | | Form of document | | | Note | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | | 4 | | | 5 | | |
| **8.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings. |  | | - | | |  | | |
| **8.2** | **Civil documentation** | | | | | | | | |
| 8.2.1 | Certificate of civil part readiness for the performance of works on the elevator equipment installation | GOST 22845-85 Appendix 1 |  | | | |  | | |
| 8.2.2 | As-built diagram of the civil part of the lift shaft |  |  | | | |  | | |
| 8.2.3 | Certificate of readiness of the scaffolds installed in the shaft, and its doorways fences for the performance of work on the elevator installation | GOST 22845-85 Appendix 2 |  | | | | In the cases provided for by COP | | |
| **8.3** | **Welding documentation** | | | | | | | | |
| 8.3.1 | Copies of certificates for welding materials with the incoming inspection mark |  | | | Supplier’s form | | | |  |
| 8.3.2 | Copies of welders’ certificates |  | | |  | | | |  |
| 8.3.3 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor |  | | | **C-21** | | | |  |
| **8.4** | **Elevator documentation** | | | | | | | | |
| 8.4.1 | A set of supporting documentation supplied with the elevator with the incoming inspection mark | GOST R 53782-2010  Appendix C | | | | Supplier’s form | |  | |
| 8.4.2 | Certificate of equipment acceptance for installation | GOST 22845-85 Appendix 3 | | | |  | |  | |
| 8.4.3 | Inspection Certificate for concealed works | RD-11-02-2006 | | | | **C-4** | | As required by the DDD | |
| 8.4.4 | Certificate of the elevator readiness for the performance of finishing works | GOST 22845-85 Appendix 4 | | | |  | |  | |
| 8.4.5 | Protocol on inspection and testing of equipment grounding components |  | | | |  | |  | |
| 8.4.6 | Protocol on testing the insulation resistance of power electrical equipment, control and signaling circuits, power and lighting wiring |  | | | |  | |  | |
| 8.4.7 | Protocol on measuring the phase-zero loop impedance (in circuits with solidly grounded neutral) |  | | | |  | |  | |
| 8.4.8 | Certificate of the elevator readiness for the performance of mechanic and adjustment and commissioning works | GOST 22845-85 Appendix 5 | | | |  | |  | |
| 8.4.9 | Certificate of the elevator's technical readiness | GOST 22845-85 Appendix 6 | | | |  | |  | |
| 8.4.10 | Certificate of the elevator non-conformities revealed | GOST R 53782-2010 Appendix B | | | |  | |  | |
| 8.4.11 | Protocols on inspections, measurements and tests | GOST R 53782-2010 Appendix C | | | |  | |  | |
| 8.4.12 | Elevator Operation Test Protocol | GOST R 53782-2010 Appendix E | | | |  | |  | |
| 8.4.13 | A list of documents to be submitted to the certification body for registration of the declaration of conformity of the elevator with the requirements of [technical regulation 011/2011](https://docs.cntd.ru/document/902307835#64U0IK) Elevator safety requirements | GOST R 53782-2010 Appendix E | | | |  | |  | |
| 8.4.14 | Corrective actions completion certificate | GOST R 53782- 010 Appendix K | | | |  | |  | |
| 8.4.15 | Elevator acceptance certificate | GOST 22845-85 Appendix 7 | | | |  | |  | |

**9 “Internal sanitary-technical systems” SP 73.13330.2012 (SNiP 3.05.01-85)**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **9.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **9.2** | **Welding documentation** |  |  |  |
| 9.2.1 | Copies of certificates for welding materials with the incoming inspection mark |  | Supplier’s form |  |
| 9.2.2 | Copies of welders’ certificates |  |  |  |
| 9.2.3 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor |  | **M-1**  **1a÷ 1g** | As required by the DDD |
| **9.3** | **Manufacturers’ documentation for products and materials used in the installation** | | | |
| 9.3.1 | Certificates, technical certificates for the raw materials, equipment, mechanisms, structures and parts with the incoming inspection mark | SP 73.13330.2012 | Supplier’s form |  |
| 9.3.2 | Data sheets for valves, heating appliances, water-to-water heaters (WWH) etc. with the incoming inspection mark |  | Supplier’s form |  |
| 9.3.3 | Fire safety conformity certificate and/or declaration of conformity of their fire hazard for technical equipment operating as part of smoke ventilation systems:  - fire dampers normally open, fire dampers normally closed, smoke hatches;  - anti-smoke screens (curtains, blinds); - exhaust fans;  - air ducts | FZ No.123-FZ dd. 22.07.2008 |  |  |
| **9.4** | **Documentation for ventilation and air conditioning system** | | | |
| 9.4.1 | Inspection certificates for concealed works for installation/erection, painting of ventilation systems air ducts, tightness, hydrostatic (hydraulic) or manometric (pneumatic) testing of pipelines | SP 73.13330.2012  RD-11-02-2006 | **C-4** | As required by the DDD |
| 9.4.2 | Act on checking of installation of equipment on foundation. |  | **M-8** |  |
| 9.4.3 | As-built geodetic survey map for air ducts installation |  |  |  |
| 9.4.4 | Tightness test for air ducts sections embedded by civil structures by the aerodynamic method |  |  | As required by the DDD |
| 9.4.5 | Act of individual test of equipment | SP 73.13330.2012  Appendix F | **M-23** |  |
| 9.4.6 | Passport of ventilation (air conditioning) system | SP 73.13330.2012  Appendix G | **M-24** | In exceptional cases can be added more attribute, as agreed between the Parties |
| **9.5** | **Documentation for sanitary-technical systems** | | | |
| 9.5.1 | Inspection Certificate for concealed works | SP 73.13330.2012  RD-11-02-2006 | **C-4** | As required by the design |
| 9.5.2 | As-built diagram |  |  |  |
| 9.5.3 | Pipeline flush and blowdown certificate | SP 73.13330.2012 | **M-4** |  |
| 9.5.4 | Certificate for hydrostatic or manometric pressure leak testing | SP 73.13330.2012  Appendix D | **M-25** |  |
| 9.5.5 | Act of testing of internal sewerage and drains systems | SP 73.13330.2012  Appendix E | **M-26** |  |
| 9.5.6 | Certificate of heating systems thermal test for the even heating of heating appliances | SP 73.13330.2012 |  |  |

**10 “Water supply and sewerage external systems and structures” SNiP 3.05.04-85\* (as amended in 1995)**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **10.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **10.2** | **Welding documentation** | | | |
| 10.2.1 | Copies of certificates for welding materials with the incoming inspection mark |  | Supplier’s form |  |
| 10.2.2 | Copies of welders’ certificates |  |  |  |
| 10.2.3 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor |  | **M-1**  **1a÷ 1g** | As required by the DDD |
| **10.3** | **Manufacturers’ documentation for products and materials used in the installation** | | | |
| 10.3.1 | Certificates, technical certificates for the materials, equipment, mechanisms, structures and parts with the incoming inspection mark |  | Supplier’s form |  |
| **10.4** | **Documentation for external networks and structures for water supply and sewerage** | | | |
| 10.4.1 | Inspection Certificate for concealed works | SNiP 3.05.04-85\*  RD-11-02-2006 | **C-4** | As required by the DDD |
| 10.4.2 | As-built diagram with the verification mark of the Control Welding and Materials Laboratory |  |  |  |
| 10.4.3 | Strength and tightness preliminary test certificate for pressure pipelines | SNiP 3.05.04-85\* | **M-27** |  |
| 10.4.4 | Report on conduct of acceptance hydraulic test of pressure pipeline for strength and air-tightness | SNiP 3.05.04-85\*  Appendix 1 | **M-28** |  |
| 10.4.5 | Report on conduct of acceptance hydraulic test of pressure pipeline for strength and air-tightness | SNiP 3.05.04-85\*  Appendix 3 | **M-29** |  |
| 10.4.6 | Report on conduct of preliminary acceptance hydraulic test of pressure-free pipeline for strength and air-tightness | SNiP 3.05.04-85\* | **M-30** |  |
| 10.4.7 | Report on conduct of acceptance hydraulic test of pressure-free pipeline for strength and air-tightness | SNiP 3.05.04-85\*  Appendix 4 | **M-30** |  |
| 10.4.8 | Container structures waterproof (tightness) test certificate | SNiP 3.05.04-85\* |  |  |
| 10.4.9 | Report on conduct of washing and disinfection of pipelines (structures) of utility and drinking water supply. | SNiP 3.05.04-85\*  Appendix 6 | **M-31** |  |
| 10.4.10 | Inspection certificate of utility networks sections | SNiP 3.05.04-85\*  RD-11-02-2006 | **M-32** |  |

**11 “Heat supply networks”**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **11.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings |  | - |  |
| **11.2** | **Welding documentation** | | | |
| 11.2.1 | Copies of certificates for welding materials with the incoming inspection mark |  | Supplier’s form |  |
| 11.2.2 | Copies of welders’ certificates |  |  |  |
| 11.2.3 | Conclusions on the results of non-destructive methods for testing welded joints with the verification mark of the Control of Welding and Metals Laboratory of the Contractor |  | **M-1**  **1a÷ 1g** | As required by the DDD |
| **11.3** | **Documentation for heat supply networks** | | | |
| 11.3.1 | Certificates, technical certificates for the raw materials, equipment, mechanisms, structures and parts with the incoming inspection mark |  | Supplier’s form |  |
| 11.3.2 | Certificate for valves etc. with the incoming inspection mark |  | Supplier’s form |  |
| 11.3.3 | As-built drawing of the pipeline indicating the distance between welded joints, as well as from wells, chambers and house connections to the nearest welded joints with the verification mark of the Control Welding and Materials Laboratory |  |  |  |
| 11.3.4 | Inspection Certificate for concealed works | RD-11-02-2006 | **C-4** | As required by the DDD |
| 11.3.5 | Compensators tension certificate | SNiP 3.05.03-85  SP 74.13330.2011  Appendix 1 | **M-3** |  |
| 11.3.6 | Strength and tightness preliminary test certificate for pipelines | SNiP 3.05.03-85  SP 74.13330.2011 | **M-27** |  |
| 11.3.7 | Pipeline flushing (purging) certificate | SP 74.13330.2011  Appendix 3 | **M-33** |  |
| 11.3.8 | Pipeline strength and tightness test certificate | SNiP 3.05.03-85  SP 74.13330.2011  Appendix 2 | **M-34** |  |
| 11.3.9 | Inspection certificate of utility networks sections | RD-11-02-2006 | **M-32** |  |

Notes:   
- approved documents to be attached to the set of as-built documentation (if there is a deviation from the design).

**Appendix 4 List of reporting as-built documentation when performing electric installation works**

**1 General documentation**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **1.1** | A set of DDD submitted for the facility acceptance including the amendments made therein by the design organisation and the mark of compliance of the work actually performed with these drawings. |  | - |  |
| **1.2** | Certificates, technical certificates or other documents certifying the quality of used materials, structures and parts with the incoming inspection mark |  | Supplier’s form |  |
| **1.3** | Fire safety conformity certificate and/or declaration of their fire hazard for:  - cables fire protection means;  - molded wiring products from non-metallic materials;  - intersections of fire barriers with cable products, bus ducts, sealed cable glands, couplings and pipelines of engineering systems of buildings and structures;  - cable penetrations, cable boxes, channels and pipes made of polymeric materials for cable laying, sealed cable glands;  - cable products which fire safety requirements are set for:  a) cables and wires that do not spread combustion during single and/or group laying;  b) fire-resistant cables;  c) cables with reduced smoke and gas emission;  - as well as other products providing industrial safety as required by the project | No.123-FZ dd. 22.07.2008, Art. 146 |  |  |
| **1.4** | List of technical documentation submitted during the acceptance of electrical work | SNiP 3.05.06-85  (I 1.13- 07)  Form 1 | **E-1** |  |
| **1.5** | Certificate of technical readiness of electrical work | SNiP 3.05.06-85  (I 1.13- 07)  Form 2 | **E-2** |  |
| **1.6** | List of design changes and deviations | SNiP 3.05.06-85  (I 1.13- 07)  Form 3 | **E-3** |  |
| **1.7** | List of electrical installation imperfections that do not prevent comprehensive testing | SNiP 3.05.06-85  (I 1.13- 07)  Form 4 | **E-4** |  |
| **1.8** | List of installed electrical equipment  (with links to factory documentation) | SNiP 3.05.06-85  (I 1.13- 07)  Form 5 | **E-5** |  |
| **1.9** | Inspection Certificate for concealed works | SNiP 3.05.06-85  (I 1.13- 07)  RD-11-02-2006 | **C-4** | As required by the DDD |
| **1.10** | Protocol on inspection and testing of the insulation resistance of cables on the drum before laying | SNiP 3.05.06-85  (I 1.13- 07)  Form 15 | **E-7** |  |
| **1.11** | Cable Laying Log Book | SNiP 3.05.06-85  (I 1.13- 07)  Form 18 | **E-8** | If the cable log book is available under the DDD |
| **1.12** | Protocol on post-installation insulation resistance measurement | SNiP 3.05.06-85 | **E-10** |  |
| **1.13** | Test Protocol of Power Cables of Voltage Above 1000 V (Measurement of Isolation Resistance and Rectified Current Overvoltage Test) |  | **E-10a** |  |

**2 Documentation by the types of work**

| Item No. | Document title | Regulatory document | Form of document | Note |
| --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 |
| **2.1** | **Power supply and lighting** | | | |
| 2.1.1 | Inspection Certificates for critical structures | RD-11-02-2006 | **C-5** | As required by the DDD |
| 2.1.2 | Acceptance certificate of trenches, tunnels, channels, cable leathers, cable traces, blocks for cable mounting | SNiP 3.05.06-85  (I 1.13- 07)  Form 14a | **E-6** |  |
| 2.1.3 | Logbook of Cable Boxes, Joints and Cable Terminations | SNiP 3.05.06-85  (I 1.13- 07)  Form 19 | **E-9** |  |
| 2.1.4 | As-built layout of single-line, schematic, power supply, distribution, group and socket networks according to elevations, grounding, electric lighting, internal power wiring, etc. |  |  |  |
| 2.1.5 | Pressure test protocol for local and diaphragm seals or steel pipes for wiring in explosion-hazard areas of classes B-1 and B-1a | SNiP 3.05.06-85  (I 1.13- 07)  Form 12 | **E-11** |  |
| 2.1.6 | Inspection certificate of the conduit pipes before closing | SNiP 3.05.06-85  (I 1.13- 07)  Form 11 | **E-12** |  |
| 2.1.7 | Inspection certificate of the cable-conduit system in the trenches and channels before closing | SNiP 3.05.06-85  (I 1.13- 07)  Form 17 | **E-13** |  |
| 2.1.8 | Data sheet of Lightning and Grounding Devices | SNiP 3.05.06-85  (I 1.13- 07)  Form 24 | **E-14** |  |
| 2.1.9 | Phasing protocol | SNiP 3.05.06-85 | **E-15** |  |
| 2.1.10 | Inspection certificate of the network for starting and lighting of lamps | SNiP 3.05.06-85 | **E-16** |  |
| **2.2** | **Switchboards and distribution devices up to 10kV, power transformers 6-10kV, relay protection, excitation system for turbine generator, monitoring system of power transformer, battery charger, invertor** | | | |
| 2.2.1 | As-built diagrams of single-line, principal, supply, distribution devices |  |  |  |
| 2.2.2 | Protocol of inspection and testing the installed electrical equipment of switchgears with voltage up to 750 kV inclusive | SNiP 3.05.06-85 | **E-17** |  |
| 2.2.3 | Phasing protocol | SNiP 3.05.06-85 | **E-15** |  |
| 2.2.4 | Protocol on inspection and testing of the busbar contact connections | SNiP 3.05.06-85 | **E-18** |  |
| 2.2.5 | Data sheet of Lightning and Grounding Devices | SNiP 3.05.06-85  (I 1.13- 07)  Form 24 | **E-14** |  |
| **2.3** | **Overhead lines, gas insulated switchgear 110-750 kV, Power Transformers, shunt reactor, Generator Circuit Breaker,** **Gas Insulated Busduct HV** | | | |
| 2.3.1 | Inspection Certificates for critical structures | RD-11-02-2006 | **C-5** | As required by the DDD |
| 2.3.2 | As-built diagrams |  |  |  |
| 2.3.3 | Phasing protocol | SNiP 3.05.06-85 | **E-15** |  |
| 2.3.4 | Data sheet Lightning and Grounding Devices | SNiP 3.05.06-85  (I 1.13- 07)  Form 24 | **E-14** |  |
| 2.3.5 | Certificate of cast-in-place concrete foundation readiness for overhead transmission line (OHTL) support | SNiP 3.05.06-85  (I 1.13- 07)  Form 20 | **E-19** |  |
| 2.3.6 | Certificate of prefabricated reinforced concrete foundations readiness for mounting of OHTL support | SNiP 3.05.06-85  (I 1.13- 07)  Form 21 | **E-20** |  |
| 2.3.7 | Certificate of the overhead transmission line | SNiP 3.05.06-85  (I 1.13- 07)  Form 22 | **E-21** |  |
| 2.3.8 | Certificate of measurements on site of dimensions from the OHTL wire to crossed facility | SNiP 3.05.06-85  (I 1.13- 07)  Form 23 | **E-22** |  |
| 2.3.9 | Protocol on inspection and testing of the busbar contact connections | SNiP 3.05.06-85 | **E-18** |  |
| 2.3.10 | Acceptance and installation certificate of a power transformer | SNiP 3.05.06-85  (I 1.13- 07)  Form 7 | **E-23** | To be issued for transformers with power of more than 2500 kVA |
| 2.3.11 | Protocol of inspection and testing the installed electrical equipment of switchgears with voltage up to 750 kV inclusive | SNiP 3.05.06-85 | **E-17** |  |
| 2.3.12 | Protocol on installation of a power transformer with a voltage of 110-750 kV | SNiP 3.05.06-85 | **E-24** |  |
| 2.3.13 | Protocol on Inspection and Installation of Communication Condenser with Voltage of 110-750 kV | SNiP 3.05.06-85 | **E-25** |  |
| **2.4** | **Storage batteries** | | | |
| 2.4.1 | Acceptance certificates of racks for mounting batteries | SNiP 3.05.06-85 | **E-26** |  |
| 2.4.2 | Inspection and test protocol on the technical readiness of electrical work on the storage battery | SNiP 3.05.06-85  (I 1.13- 07)  Form 9 | **E-27** |  |
| 2.4.3 | Record of measurements during the controlled discharge of the storage battery | SNiP 3.05.06-85  (I 1.13- 07)  Form 10 | **E-28** |  |
| 2.4.4 | Approved as-built diagrams |  |  |  |
| 2.4.5 | Certificates and protocols specified by the manufacturer in the storage battery installation manual |  |  |  |
| **2.5** | **Bus ducts** | | | |
| 2.5.1 | Approved as-built diagrams |  |  |  |
| 2.5.2 | Phasing protocol | SNiP 3.05.06-85 | **E-15** |  |
| 2.5.3 | Protocol on inspection and testing of the bus bar contact connections | SNiP 3.05.06-85 | **E-18** |  |
| **2.6** | **Systems and complexes of security and fire alarms, communication systems, installation of telecommunications network for broadcasting and alerting** | | | |
| 2.6.1 | Approved as-built diagrams |  |  |  |
| 2.6.2 | Data sheet of the regeneration section of the optical cable (measuring the optical cable parameters after installation) | SNiP 3.05.07-85 (SP 77.13330.2016  Appendix A.19) | **E-29** |  |
| 2.6.3 | Data sheet of the mounted optical cable coupling | SNiP 3.05.07-85 (SP 77.13330.2016  Appendix A.19) | **E-30** |  |

**Appendix 5 Minimal required List of as-built documentation to obtain the passport for LSS**

**1 Containment system (CS)**

| Item No. | Document title | Note |
| --- | --- | --- |
| 1 | 2 | 3 |
| **1.1** | **Documentation for reinforced concrete structures and leak-tight linings of the containment foundation part** |  |
| **1.1.1** | Installation certificates of reinforced concrete structures and leak-tight linings of the containment foundation part |  |
| 1.1.1.1 | As-built diagrams of the foundation slab reinforcement |  |
| 1.1.1.2 | As-built diagrams of starter bars for overlying structures |  |
| 1.1.1.3 | As-built diagrams for concreting the foundation slab |  |
| 1.1.1.4 | As-built diagrams of geometry contours |  |
| 1.1.1.5 | As-built diagrams for containment (leak tight penetrations) installation |  |
| 1.1.1.6 | As-built diagram for containment concreting |  |
| 1.1.1.7 | As-built diagrams of starter bars after concreting |  |
| 1.1.1.8 | As-built diagrams of embedded parts installation |  |
| 1.1.1.9 | As-built diagrams of anchor boxes installation |  |
| 1.1.1.10 | As-built diagrams of grouting under the leak-tight liner |  |
| 1.1.1.11 | Documents, quality certificates for reinforcement with the incoming inspection mark |  |
| 1.1.1.12 | Mechanical tests protocols |  |
| 1.1.1.13 | Quality document (clamping coupler) with the incoming inspection mark |  |
| 1.1.1.14 | Test protocol on clamping coupling joints |  |
| 1.1.1.15 | Data sheet for reinforcement grid with the incoming inspection mark |  |
| 1.1.1.16 | Data sheets for reinforcement items with the incoming inspection mark |  |
| 1.1.1.17 | Test protocol on mechanical connections |  |
| 1.1.1.18 | Documents on the concrete mix quality |  |
| 1.1.1.19 | Test protocols on concrete samples |  |
| 1.1.1.20 | Waterproof test protocols |  |
| 1.1.1.21 | Non-destructive test protocols |  |
| 1.1.1.22 | Welding logbook |  |
| 1.1.1.23 | Visual and measuring inspection certificate |  |
| 1.1.1.24 | Quality certificates for welding materials with the incoming inspection mark |  |
| 1.1.1.25 | Inspector’s certificate |  |
| 1.1.1.26 | Welders’ certificates |  |
| **1.1.2** | Installation certificate of localizing safety system components. Containment system. Reactor building. Foundation slab. Steel structures of containment boundary at el. -5.450 |  |
| 1.1.2.1 | As-built diagram of steel structures of containment boundary at el. -5.450 |  |
| 1.1.2.2 | Welding logbook of steel structures of containment boundary at el. -5.450 |  |
| 1.1.2.3 | As-built diagrams of steel structures of floor lining containment boundary at el. -5.450 |  |
| 1.1.2.4 | Welding logbook of installation of steel structures of floor lining containment boundary at el. -5.450 |  |
| 1.1.2.5 | Visual and measuring inspection certificate |  |
| 1.1.2.6 | Certificate of tightness inspection |  |
| 1.1.2.7 | Certificates (electrodes) with the incoming inspection mark |  |
| 1.1.2.8 | Welder’s certificates |  |
| **1.1.3** | Installation certificate of localizing safety system components. Containment system. Reactor building. Steel structures of leak-tight liner from el. -5.450 to el. 0.000. |  |
| 1.1.3.1 | As-built diagram of steel structures of containment boundary at el. -5.450 |  |
| 1.1.3.2 | Welding logbook of steel structures of containment boundary at el. -5.450 |  |
| 1.1.3.3 | As-built diagrams of steel structures of walls lining containment boundary at el. -5.450 |  |
| 1.1.3.4 | Welding logbook of steel structures of walls lining containment boundary at el. -5.450 |  |
| 1.1.3.5 | Visual and measuring inspection certificates |  |
| 1.1.3.6 | Tightness inspection certificates |  |
| 1.1.3.7 | Certificates (electrodes) with the incoming inspection mark |  |
| 1.1.3.8 | Welder’s certificates |  |
| **1.1.4** | Installation certificate of localizing safety system components. Containment system. Reactor building. Steel structures of leak-tight liner from el. 0.000. |  |
| 1.1.4.1 | As-built diagrams of embedded parts installation at el. -0.008 |  |
| 1.1.4.2 | Welding logbooks of embedded parts at el. -0.008 |  |
| 1.1.4.3 | Welding logbook of installation of floor lining sheets at el. 0.000 |  |
| 1.1.4.4 | Welding logbook of installation of dead-ends to form air chambers at el. 0.000 |  |
| 1.1.4.5 | Welding logbook of cover strips installation on floor lining sheets at el. 0.000 |  |
| 1.1.4.6 | Welding logbook of cover strips installation at el. 0.000 |  |
| 1.1.4.7 | Visual and measuring inspection certificates |  |
| 1.1.4.8 | Tightness inspection certificates |  |
| 1.1.4.9 | Quality document with the incoming inspection mark |  |
| 1.1.4.10 | Mechanical tests protocol |  |
| 1.1.4.11 | Certificates for welding materials with the incoming inspection mark |  |
| 1.1.4.12 | Welders’ certificates |  |
| 1.1.4.13 | Manufacturing certificates of leak-tight liner components of the leak-tight enclosure foundation part with the incoming inspection mark |  |
| 1.1.4.14 | Visual and measuring inspection certificates |  |
| 1.1.4.15 | Ultrasonic inspection conclusion protocols |  |
| 1.1.4.16 | Leak tight integrity inspection protocols |  |
| **1.2** | **Documentation for reinforced concrete structures and leak-tight linings of the inner containment** |  |
| **1.2.1** | Installation certificate of localizing safety system components. Reactor building. Cylindrical part of the inner containment:  - Enlarged lining mounting blocks (for each tier of the inner containment);  – Liner moldings;  – Reinforcement (for each tier of the inner containment);  – Concreting (for each tier of the inner containment). |  |
| 1.2.1.1 | As-built diagram for the containment inner lining (for each tier of the inner containment). |  |
| 1.2.1.2 | As-built diagram for the containment inner lining (for each tier of the inner containment) after concreting |  |
| 1.2.1.3 | Documents, quality certificates for materials with the incoming inspection mark |  |
| 1.2.1.4 | Quality certificate (couplings) with the incoming inspection mark |  |
| 1.2.1.5 | Mechanical tests protocols |  |
| 1.2.1.6 | Certificates for welding materials with the incoming inspection mark |  |
| 1.2.1.7 | Welding logbooks (lining, reinforcement) |  |
| 1.2.1.8 | Visual and measuring inspection certificates |  |
| 1.2.1.9 | Leak tight integrity inspection protocols |  |
| 1.2.1.10 | Protocols on ultrasonic inspection results |  |
| 1.2.1.11 | Protocols on welded joints mechanical tests |  |
| 1.2.1.12 | Welders’ certificates |  |
| 1.2.1.13 | Conclusions on all types of inspection provided for by the project, as well as additional types of inspection provided for by the Decisions |  |
| 1.2.1.14 | As-built diagram. Embedded parts installation |  |
| **1.2.2** | Inner containment dome structures from el. +38.500 up to the top of pilasters. Flow diagram of the inner containment concreting from el. +43.150 to el.+51.550 |  |
| 1.2.2.1 | As-built diagram of the inner containment dome part after concreting from el. +43.150 to el. +61.700 |  |
| 1.2.2.2 | Documents, quality certificates for materials with the incoming inspection mark |  |
| 1.2.2.3 | Mechanical tests protocols |  |
| 1.2.2.4 | Certificates for welding materials with the incoming inspection mark |  |
| 1.2.2.5 | Welding logbooks (lining, reinforcement, moldings) |  |
| 1.2.2.6 | Visual and measuring inspection certificates |  |
| 1.2.2.7 | Leak tight integrity inspection protocols |  |
| 1.2.2.8 | Protocols on ultrasonic inspection results |  |
| 1.2.2.9 | Protocols on welded joints mechanical tests |  |
| 1.2.2.10 | Mechanical test protocol for mechanical connections with threaded couplings |  |
| 1.2.2.11 | Welders’ certificates |  |
| **1.2.3** | Manufacture certificates of the inner containment leak-tight liner components with the incoming inspection mark |  |
| 1.2.3.1 | Welding logbooks |  |
| 1.2.3.2 | As-built diagrams |  |
| 1.2.3.3 | Visual and measuring inspection certificate |  |
| 1.2.3.4 | Tightness test certificate |  |
| 1.2.3.5 | Ultrasonic inspection certificate |  |
| 1.2.3.6 | Quality documents for steel civil structures on a cantilever with the incoming inspection mark |  |
| 1.2.3.7 | Welding logbooks for cantilevers |  |
| 1.2.3.8 | Quality certificates with the incoming inspection mark |  |
| 1.2.3.9 | Visual and measuring inspection certificate |  |
| 1.2.3.10 | Tightness test certificate |  |
| 1.2.3.11 | Ultrasonic inspection conclusion protocol |  |
| **1.3** | **As-built documentation for anti-corrosion protection of the leak-tight lining** |  |
| **1.3.1** | Inspection certificates for concealed works of anti-corrosion protection of cover strips and angle joints of the reactor building containment boundary |  |
| 1.3.1.1 | As-built diagram for anti-corrosion protection of cover strips and angle joints |  |
| **1.3.2** | Inspection certificates for concealed works for anti-corrosion protection, deoiling of the leak-tight lining steel structures surfaces |  |
| 1.3.2.1 | As-built diagrams for anti-corrosion protection of the leak-tight lining steel structures surface |  |
| **1.3.3** | Inspection certificates for concealed works of anti-corrosion protection of mounting blocks |  |
| **1.3.4** | Inspection certificates for concealed works of anti-corrosion protection of the leak-tight lining (cylindrical part) steel structures |  |
| 1.3.4.1 | Developed view of the containment inner surface |  |
| **1.3.5** | Inspection certificates for concealed works of anti-corrosion protection of the inner containment mounting blocks |  |
| **1.3.6** | Inspection certificates for concealed works of anti-corrosion protection in the areas of welded joints of the inner containment mounting blocks cover strips |  |
| **1.3.7** | Inspection certificates for concealed works of anti-corrosion protection of steel structures of the inner containment dome lining |  |
| **1.3.8** | Inspection certificates for concealed works of anti-corrosion protection in the areas of welded joints of the inner containment steel structures |  |
| **1.3.9** | Quality certificates with the incoming inspection mark |  |
| **1.3.10** | Protective coating data sheets |  |
| **1.3.11** | Acceptance certificate of the protective coating |  |
| **1.3.12** | Acceptance certificates of the protective coating (embedded parts of electric penetrations) |  |
| **1.3.13** | Measuring diagram of the coating thickness |  |
| **1.4** | **Documentation for the containment pre-stressing system (CPSS) components** |  |
| **1.4.1** | Inner containment pre-stressing system:  - Anchor boxes |  |
| 1.4.1.1 | Diagrams of duct tube routing. As-built diagram of anchor boxes installation indicating lengths |  |
| **1.4.2** | Installation certificate of the inner containment pre-stressing system (CPSS) components |  |
| 1.4.2.1 | As-built elevation diagrams of horizontal bundles of 55 compacted strands by elevations (indicating the lengths) |  |
| 1.4.2.2 | As-built diagrams for arrangement of vertical bundles consisting of 55 compacted prestressing strands (indicating the lengths) |  |
| 1.4.2.3 | Protocols on determining the compressive strength of control samples of the injection solution |  |
| 1.4.2.4 | Quality documents with the incoming inspection mark |  |
| 1.4.2.5 | Certificates of conformity |  |
| 1.4.2.6 | Flow-chart of string measuring transducer (SMT) installation |  |
| 1.4.2.7 | Flow-chart of the anchor brackets installation on horizontal bundles of prestressing strands |  |
| 1.4.2.8 | Flow-chart of the anchor brackets installation on vertical bundles of prestressing strands |  |
| 1.4.2.9 | Tendon tension protocols |  |
| 1.4.2.10 | Pre-stressing tendon tension chart |  |
| **1.4.3** | Manufacture certificate (data sheets, licenses) of the containment pre-stressing system (CPSS) components with the incoming inspection mark |  |
| 1.4.3.1 | Test certificates (prestressing strands made during installation) |  |
| 1.4.3.2 | Visual and measuring inspection certificates |  |
| 1.4.3.3 | Certificate of rejected sections measurement |  |
| 1.4.3.4 | Sampling certificates |  |
| 1.4.3.5 | Tensile test certificates |  |
| 1.4.3.6 | Data sheets. Anchor bracket with the incoming inspection mark |  |
| 1.4.3.7 | Quality plan. Anchor bracket |  |
| 1.4.3.8 | Data sheets. Wedge-type clamp with the incoming inspection mark |  |
| 1.4.3.9 | Quality plan. Wedge-type clamp |  |
| 1.4.3.10 | Decision on the use of imported materials and components for the containment prestressing system (CPSS) (when using imported materials) |  |
| 1.4.3.11 | Quality control certificates with the incoming inspection mark |  |
| 1.4.3.12 | Quality plans |  |
| 1.4.3.13 | Inspection and test plans |  |
| 1.4.3.14 | Acceptance certificates |  |
| 1.4.3.15 | Acceptance inspection results |  |
| 1.4.3.16 | SMT verification/calibration certificate |  |
| **1.5** | **Documentation for the inner containment reinforced concrete structures** |  |
| **1.5.1** | Installation certificates of the inner containment reinforced concrete structures |  |
| 1.5.1.1 | As-built diagrams of geometry contours |  |
| 1.5.1.2 | As-built diagrams after concreting of the outer containment cylindrical part |  |
| 1.5.1.3 | As-built diagrams of geometry contours of auxiliary inner walls |  |
| 1.5.1.4 | Demarcation diagrams of geometry contours |  |
| 1.5.1.5 | As-built diagrams of embedded parts and foundation bolts after concreting |  |
| 1.5.1.6 | As-built diagrams of reinforcement |  |
| 1.5.1.7 | As-built diagrams for the installation of embedded parts and doorways (boxes) |  |
| 1.5.1.8 | As-built diagrams of the sealed doors installation |  |
| 1.5.1.9 | As-built diagrams of embedded parts installation for standard penetrations |  |
| 1.5.1.10 | As-built diagram of pre-assembly before welding the outer embedded part of the transport lock |  |
| 1.5.1.11 | As-built diagram of thermal containment |  |
| 1.5.1.12 | As-built diagrams for installation of the embedded part of the transport lock outer containment |  |
| 1.5.1.13 | As-built diagram for installation of the embedded part of a standard penetration (located on the outer containment), indicating the misalignment, relative to the embedded part for a standard penetration (located on the inner containment) |  |
| 1.5.1.14 | Diagrams of the reinforcement protective layer by elevations |  |
| 1.5.1.15 | As-built diagrams of starter bars installation by elevations |  |
| 1.5.1.16 | As-built diagrams of starter bars installation after concreting by elevations |  |
| 1.5.1.17 | Welding logbooks. Diagrams of the reinforcement welded joints by elevations |  |
| 1.5.1.18 | Welding logbook. Outer containment dome structure |  |
| 1.5.1.19 | Welding logbooks. Coupling of the inner and outer chord of horizontal trusses |  |
| 1.5.1.20 | Welding logbook. Cover strip |  |
| 1.5.1.21 | As-built diagram of welding pre-fabricated components joints |  |
| 1.5.1.22 | Welding logbooks. Layout of pre-fabricated components |  |
| 1.5.1.23 | Welding logbook. Seal welding of pre-fabricated components joints |  |
| 1.5.1.24 | Welding logbooks. Mounting blocks |  |
| 1.5.1.25 | Welding logbook. Outer containment of the dome vertex structure |  |
| 1.5.1.26 | Visual and measuring inspection certificates |  |
| 1.5.1.27 | Ultrasonic inspection certificates |  |
| 1.5.1.28 | Welders’ certificates |  |
| 1.5.1.29 | Quality documents for steel building structures with the incoming inspection mark |  |
| 1.5.1.30 | Products data sheets with the incoming inspection mark |  |
| 1.5.1.31 | Quality Certificates with the incoming inspection mark |  |
| 1.5.1.32 | Base metal mechanical tests protocols |  |
| 1.5.1.33 | Quality certificates for welding materials |  |
| 1.5.1.34 | Documents on the concrete mix quality |  |
| 1.5.1.35 | Test protocols on concrete samples |  |
| 1.5.1.36 | Test protocols on concrete samples batch waterproof |  |
| 1.5.1.37 | Non-destructive test protocols |  |
| **1.6** | **Documentation for cable penetrations** |  |
| **1.6.1** | Sealed grid connection. Blank forms |  |
| 1.6.1.1 | Identification maps |  |
| 1.6.1.2 | Quality plans. Sealed grid connection (sealed penetrations for high-voltage cables) |  |
| **1.6.2** | Manufacture certificates of sealed grid connection components for low-voltage cables with the incoming inspection mark |  |
| 1.6.2.1 | Certificates of conformity |  |
| 1.6.2.2 | Manufacture certificates of leak-tight enclosure system components with the incoming inspection mark |  |
| 1.6.2.3 | Labels |  |
| 1.6.2.4 | Quality plans |  |
| **1.6.3** | Certificates of localization safety systems (cable sealed penetrations) installation |  |
| 1.6.3.1 | Welding logbooks |  |
| 1.6.3.2 | Quality certificates for welding materials with the incoming inspection mark |  |
| 1.6.3.3 | Conclusions on the results of non-destructive methods for testing welded joints. |  |
| 1.6.3.4 | Pneumatic test protocols on mounting welded joints of cable sealed penetrations |  |
| 1.6.3.5 | Pneumatic leak-tight test protocols on cable penetrations and modules |  |
| 1.6.3.6 | Tightness test protocol for penetrations after installation |  |
| **1.6.4** | General documentation for performance of electrical works as per i.1.1-1.13 of appendix No.3 |  |
| **1.6.5** | Acceptance certificate of a premise for the penetrations installation |  |
| **1.6.6** | Copies of certificates for welding materials with the incoming inspection mark |  |
| **1.6.7** | Copies of welders’ certificates |  |
| **1.6.8** | As-built diagram of welded joints |  |
| **1.6.9** | Discrepancy card |  |
| **1.6.10** | As-built diagram of penetrations arrangement |  |
| **1.6.11** | Data sheet for nitrogen with the incoming inspection mark |  |
| **1.6.12** | Documentation provided for by the manufacturer’s installation manual for cable penetrations |  |
| **1.6.13** | Acceptance certificate of penetrations in the operational position |  |
| **1.6.14** | Certificate of penetrations acceptance for operation |  |
| **1.7** | **Documentation for pipelines penetrations** |  |
| **1.7.1** | Manufacture certificates (plugging components) with the incoming inspection mark |  |
| **1.7.2** | Installation certificates |  |
| 1.7.2.1 | As-built diagrams |  |
| 1.7.2.2 | Welding logbooks |  |
| 1.7.2.3 | Visual and measuring inspection certificates |  |
| 1.7.2.4 | Conclusion protocols upon liquid penetration test results |  |
| 1.7.2.5 | Welders’ certificates |  |
| 1.7.2.6 | Quality certificates for welding materials with the incoming inspection mark |  |
| **1.8** | **Documentation for lock equipment, doors** |  |
| **1.8.1** | Data sheets for personnel lock, transport lock, sealed doors. with the incoming inspection mark |  |
| **1.8.2** | Manufacturer’s certificates with the incoming inspection mark |  |
| 1.8.2.1 | Quality plans. |  |
| **1.8.3** | Manufacture certificate of cable sealed penetrations of CP type with the incoming inspection mark |  |
| 1.8.3.1 | List of penetration bodies |  |
| 1.8.3.2 | Quality plan |  |
| 1.8.3.3 | Technical acceptance (functional test) certificates |  |
| **1.8.4** | Installation certificates |  |
| 1.8.4.1 | As-built diagrams |  |
| 1.8.4.2 | Welding logbooks |  |
| 1.8.4.3 | Visual and measuring inspection certificates |  |
| 1.8.4.4 | Conclusion protocols upon liquid penetration test results |  |
| 1.8.4.5 | Pneumatic tests protocols |  |
| 1.8.4.6 | Functional tests protocols |  |
| 1.8.4.7 | Integrated testing protocols |  |
| 1.8.4.8 | Welders’ certificates |  |
| 1.8.4.9 | Quality certificates for welding materials with the incoming inspection mark |  |
| **1.8.5** | Preliminary test certificate for transportation lock |  |
| **1.8.6** | Preliminary test protocol for transportation lock |  |
| **1.8.7** | Integrated testing protocol for transportation lock |  |
| **1.9** | **Documentation for localizing groups of RT sampling pipelines** |  |
| **1.9.1** | Installation certificate of localizing safety system components. RT pipelines |  |
| 1.9.1.1 | Pipeline strength and tightness test certificate |  |
| 1.9.1.2 | Welding logbooks |  |
| 1.9.1.3 | Visual and measuring inspection certificates |  |
| 1.9.1.4 | Radiographic test protocols |  |
| 1.9.1.5 | Welders’ certificates |  |
| 1.9.1.6 | Quality certificates for welding materials with the incoming inspection mark |  |
| 1.9.1.7 | Quality certificate of products (pipe 18x2.5) with the incoming inspection mark |  |
| 1.9.1.8 | Data sheets. Bellows shut off valve with the incoming inspection mark |  |
| **1.10** | **Set of documentation for inner containment repair** |  |
| **1.10.1** | Non-conformity Notification |  |
| **1.10.2** | Non-conformity elimination certificate (Defects elimination certificate) |  |
| **1.10.3** | Handling map of defect areas of concrete surfaces indicating the absence of honeycombed concrete |  |
| **1.10.4** | Non-destructive test protocol of the near-defect area |  |
| **1.10.5** | Certificate of surface preparation for repair composition |  |
| **1.10.6** | Certificate of repair mixture Incoming inspection |  |
| **1.10.7** | Strength test protocols of specimens |  |
| **1.10.8** | Waterproof test protocol of specimens |  |
| **1.10.9** | Non-destructive test protocol |  |
| **1.10.10** | Repair mixture quality document with the incoming inspection mark |  |
| **1.10.11** | Inspection program |  |
| **1.10.12** | Technical inspection report |  |
| **1.10.13** | Process procedure for the inner containment repair |  |
| **1.10.14** | As-built diagrams incl. sampling of honeycombed concrete attached and the same after elimination |  |
| **1.10.15** | Inspection Certificate for concealed works |  |

**2 System for discharging pressure in the outer containment**

| Item No. | Document title | Note |
| --- | --- | --- |
| 1 | 2 | 3 |
| **2.1.1** | Manufacturer’s certificates of LSS components (for air ducts, if necessary) with the incoming inspection mark |  |
| 2.1.1.1 | Quality plans |  |
| **2.1.2** | Installation certificate of LSS components (for air ducts, fittings, filters, fans) |  |
| 2.1.2.1 | As-built diagrams |  |
| 2.1.2.2 | Documents, quality certificates for materials with the incoming inspection mark |  |
| 2.1.2.3 | Mechanical tests protocols |  |
| 2.1.2.4 | Certificates for welding materials with the incoming inspection mark |  |
| 2.1.2.5 | Welders’, inspectors’ certificates |  |
| 2.1.2.6 | Non-destructive test conclusion protocols |  |
| 2.1.2.7 | Installation completion certificates |  |
| 2.1.2.8 | Inspection certificates for installation of the equipment on the foundation |  |
| 2.1.2.9 | Welding logbooks |  |
| 2.1.2.10 | Civil structures quality documents with the incoming inspection mark |  |
| 2.1.2.11 | Quality certificates with the incoming inspection mark with the incoming inspection mark |  |

**3 Emergency hydrogen removal system**

| Item No. | Document title | Note |
| --- | --- | --- |
| 1 | 2 | 3 |
| **3.1.1** | Manufacturer’s certificates of LSS components (for fasteners manufactured on site) with the incoming inspection mark |  |
| 3.1.1.1 | Quality plans |  |
| **3.1.2** | Certificate of LSS components installation (for recombiners) |  |
| 3.1.2.1 | As-built diagrams |  |
| 3.1.2.2 | Documents, quality certificates for materials, fastening items with the incoming inspection mark |  |
| 3.1.2.3 | Mechanical tests protocols (if any) |  |
| 3.1.2.4 | Certificates for materials (used for welding in installation) with the incoming inspection mark with the incoming inspection mark |  |
| 3.1.2.5 | Welders’ (while welding), inspectors’ certificates |  |
| 3.1.2.6 | Non-destructive test conclusion protocols (according to the design requirements) |  |
| 3.1.2.7 | Installation completion certificates |  |
| 3.1.2.8 | Inspection certificates for critical structures. Recombiners installation |  |
| 3.1.2.9 | Welding logbook (while welding) |  |
| 3.1.2.10 | Protocols on recombiners loading |  |

**4 Hydrogen concentration monitoring system**

| Item No. | Document title | Note |
| --- | --- | --- |
| 1 | 2 | 3 |
| **4.1.1** | Manufacturer’s certificates of LSS components (for fasteners manufactured on site) with the incoming inspection mark |  |
| 4.1.1.1 | Quality plans |  |
| **4.1.2** | Certificate of LSS components installation (for HCMS sensors) |  |
| 4.1.2.1 | As-built diagrams (indicating the actual and design angles of sensors installation relative to the containment axis) |  |
| 4.1.2.2 | Documents, quality certificates for materials, fastening items with the incoming inspection mark |  |
| 4.1.2.3 | Mechanical tests protocols (if any) |  |
| 4.1.2.4 | Certificates for materials (used for welding in installation) with the incoming inspection mark |  |
| 4.1.2.5 | Welders’ (while welding), inspectors’ certificates |  |
| 4.1.2.6 | Non-destructive test conclusion protocols (according to the design requirements) |  |
| 4.1.2.7 | Installation completion certificate |  |
| 4.1.2.8 | Inspection certificates for critical structures. Installation of sensors and cable ducts |  |
| 4.1.2.9 | Welding logbook (while welding) |  |
| 4.1.2.10 | Cable ducts quality documents with the incoming inspection mark |  |
| 4.1.2.11 | Quality certificates with the incoming inspection mark with the incoming inspection mark |  |

**Appendix 6 FORMS OF THE TITLE PAGE AND ABD FOLDER SPINE**

**FORM OF ABD FOLDER TITLE PAGE (example)**

**UNIT No. 1**

**As-built documentation**

**Title of the drawing: Arrangement of waterproofing of the Nuclear and Turbine Island pit**

**Drawing number: ED.D.A200.1.0UZX&&&&&&&&.020.DC.0001**

**Copy No. 2**

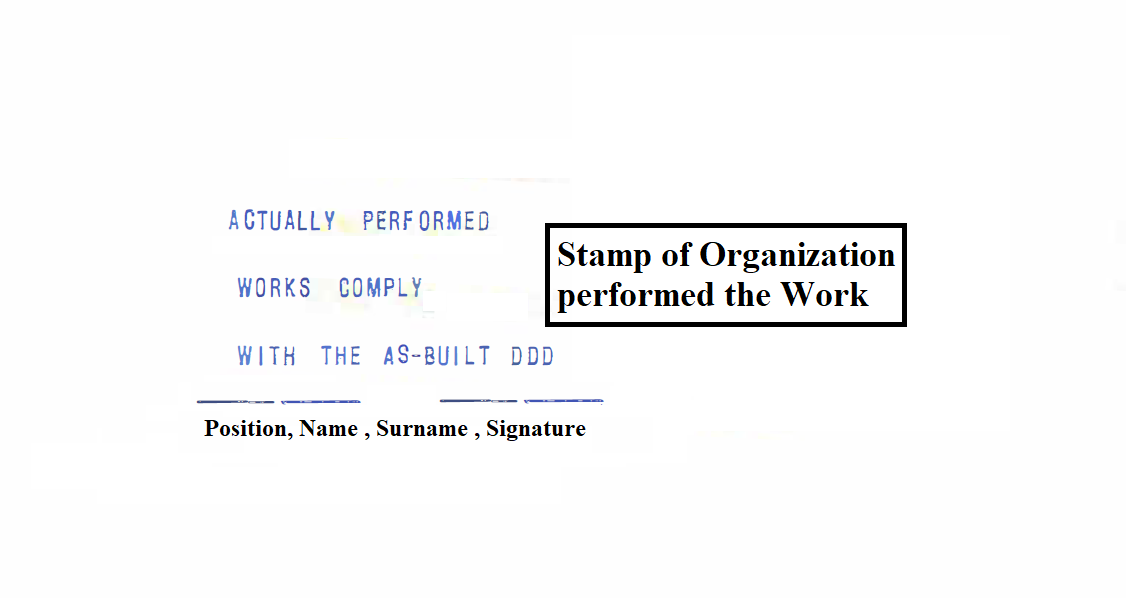
**Folder 6 of 21**

**Register No. 222**

**FORM OF THE ABD FOLDER SPINE**

|  |
| --- |
| **UNIT 1** |
| **As-built documentation**  **Arrangement of waterproofing of the Nuclear and Turbine Island pit**  **ED.D.A200.1.0UZX&&&&&&&&.020.DC.0001.E** |
| **Copy No. 1**  **Folder 4 of 6**  **Register No. 222** |

**APPENDIX 7 THE STAMP OF ORGANISATION PERFORMED THE WORK**



**APPENDIX 8 THE STAMPs OF the contractor and the owner of DDD set that is part ofthe ABD**



# APPENDIX 9 FORM OF REGISTER AS-BUILT DOCUMENTATION HANDOVER TO THE CONTRACTOR

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Contractor:** JSC ASE | | | | | **Subcontractor:** | | | |
|  |  |  |  |  | |  |  |
|  | | | | | | | | |
| Unit No.\_\_\_\_  **REGISTER OF AS-BUILT DOCUMENTATION NO. \_\_\_\_\_\_** | | | | | | | | |
|  |  |  |  |  | |  |  |
| **Name of facility:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | |
| **DDD Code: \_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; **archive (inventory) No.** \_\_\_\_\_\_ | | | | | | | | |
| **DDD titles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | | |
|  |  |  |  |  | |  |  |
| Item No. | Certificate No. | Sub-document No. | Document title | | | Page | Note |
| 1 |  |  |  | | |  |  |
| 2 |  |  |  | | |  |  |
| 3 |  |  |  | | |  |  |
| \* Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; Archive (inventory) No. \_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | |

to be specified in the last register of ABD package

|  |
| --- |
| HANDED OVER BY: |
| Subcontractor’s representative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Full name, date \_\_.\_\_.20\_\_ |
| ACCEPTED BY: |
| Contractor’s representative  of ASE JSC Branch Office \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Full name, date \_\_.\_\_.20\_\_ |

# APPENDIX 10 FORM OF REGISTER AS-BUILT DOCUMENTATION HANDOVER TO THE OWNER

**Register of As-built Documentation Handover to the Owner**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Owner:** NPPA | | | | | **Contractor:** JSC ASE | | | | |
|  | | | | **Subcontractor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | |
|  | | | | | | | | |
| Unit No.\_\_\_\_ | | | | | | | | |
|  | | | | | | | | |
| **REGISTER OF AS-BUILT DOCUMENTATION NO. \_\_\_\_** | | | | | | | | |
|  | | | | | | | | |
| **Name of facility:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | |
| **DDD Code: \_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; **archive (inventory) No.** \_\_\_\_\_\_ | | | | | | | | |
| **DDD titles: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | | |
|  | | | | | | | | |
| Item No. | Certificate No. | Sub-document No. | Document title | | | Page | Note |
| 1 |  |  |  | | |  |  |
| 2 |  |  |  | | |  |  |
| 3 |  |  |  | | |  |  |
|  | | | | | | | | |
| ABD has been handed over in full as per registers No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | |
| (to be specified in the last register of ABD package) | | | | | | | | |
| HANDED OVER BY: | | | | | | | | |
| Contractor’s representative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Full name, date \_\_.\_\_.20\_\_ | | | | | | | | |
| ACCEPTED FOR VERIFICATION BY: | | | | | | | | |
| Owner’s representative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Full name, date \_\_.\_\_.20\_\_ | | | | | | | | |
| ACCEPTED BY: | | | | | | | | |
| Owner’s representative \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Full name, date \_\_.\_\_.20\_\_ | | | | | | | | |
|  | | | | | | | | |
|  | | | | | | | | |

**APPENDIX 11 FORMS OF DOCUMENTS**

Form A-1

**Form of Construction/Erection Works Completion Certificate**

**Construction/Erection Works Completion Certificate No. \_\_\_\_\_\_\_\_**

**under the Contract No. \_\_\_\_\_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_\_\_ between \_\_\_\_\_\_\_ (the Owner) and \_\_\_\_\_\_\_\_\_\_\_\_ (the Contractor) (the “Contract”)**

\_\_\_\_\_\_\_\_\_\_\_ (Location) \_\_\_\_\_\_\_\_\_\_\_ (Date)

Unless otherwise specified in this certificate, capitalised terms used in this certificate shall have the meanings given to them in the Contract.

1. The authorized representatives of the Owner and the Contractor have signed this Construction /Erection Works Completion Certificate.
2. The following Construction Works or Erection Works (s) (structure(s)) has/have been completed

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of structure(s), brief description)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. The Construction Works or Erection Works has/have been completed according to the design

(Detailed Design document No., date of issue)

1. Date of commencement of Construction Works or Erection Works \_\_\_\_\_\_\_\_\_\_\_\_ Date of completion of Construction Works or Erection Works \_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The Construction Works or Erection Works comply with the Detailed Design documentation.
3. This certificate is executed in \_\_\_ copies with the equal legal force, with \_\_\_ copies for the Owner and \_\_\_\_\_ copies for the Contractor.
4. This certificate does not absolve the Contractor of liability for any Defects in the specified Construction Works or Erection Works during the Defects Liability Period.
5. The relevant Construction Works or Erection Works are ready for, as applicable: (a) use; (b) performance of the next stage of Construction Works or Erection Works; and (c) commencement of the relevant Commissioning Works.
6. During inspection of the Construction Works or Erection Works, certain Non-Preventing Defects were identified. These Non-Preventing Defects and the corresponding rectification deadline(s) are listed below. The Contractor shall rectify these Non-Preventing Defects in accordance with Clause 12 [*Defects Liability*] of the Contract and the applicable rectification deadline(s).

|  |  |  |  |
| --- | --- | --- | --- |
| **Item No.** | **Defect(s) description** | **Rectification Deadline** | **Notes** |
|  |  |  |  |
|  |  |  |  |

1. The existence of Defects mentioned in item 9 hereof, shall not impact the signing of the Payment Milestone Certificate mentioned in item 11 hereof.\*
2. This certificate is the basis for signing the Payment Milestone Certificate for Payment Milestone [insert number of the relevant Payment Milestone] in accordance with Appendix 27 [*Payment Schedule*].

*\*Instruction: Retain items 9 and 10 only if Defects were identified*

SIGNATURES of the PARTIES:

|  |  |
| --- | --- |
| Owner's Representative  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Signature) | Contractor's Representative  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Signature) |

**Form A-2**

**Form of Construction Works Acceptance Certificate**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CONSTRUCTION WORKS ACCEPTANCE CERTIFICATE** | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Construction facility** | | | | | | | | | | | | | |  | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of design documentation, mailing or construction address of construction facility)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Owner:** | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name, number and issue date of state registration certificate, PSRN, taxpayer identification number, place of location,* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *postal code, telephone/fax)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Contractor:** | | | | | | | | | | | | | |  | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name, number and issue date of state registration certificate, PSRN, taxpayer identification number, place of location,* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *postal code, telephone/fax)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **General Designer:** | | | | | | | | | | | | | | | | | |  | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name, number and issue date of state registration certificate, PSRN, taxpayer identification number, place of location,* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *postal code, telephone/fax)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Subcontractor:** | | | | | | | | | | | | | | | | | | | | | | | | | |
| *Petroje* | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name, number and issue date of state registration certificate, PSRN, taxpayer identification number, place of location,* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *postal code, telephone/fax)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | |  | |  | | |  | |  | | | | |
| **Certificate No.** | | | | |  | | | | Date of acceptance inspection: “ ” 20\_\_ | | | | | | | | | | | | | | | | |
|  | | | | |  | | | | (date) (month) (year) | | | | | | | | | | | | | | | | |
| **Representative of the Owner:** | | | | | | | | | | | | | | | | | | |  | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, full name, details of the document confirming authorities)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Representative of the Contractor:** | | | | | | | | | | | | | | | |  | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, full name, details of the document confirming authorities)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Representative of the General Designer:** | | | | | | | | | | | | | | | | | | | | |  | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, full name, details of the document confirming authorities)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Representative of the Subcontractor:** | | | | | | | | | | | | | | | | | | | | |  | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, full name, details of the document confirming authorities)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Other representatives of the persons participating in acceptance:** | | | | | | | | | | | | | | | | | | | | |  | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, company name, full name,* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *details of the document confirming authorities* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **have inspected the works completed** | | | | | | | | | | | |  | | | | | | | | | | | | | |
|  | | | | | | | | | | | | *(name of the organisation that has completed works subject to acceptance)* | | | | | | | | | | | | | |
| **and have drawn up this Certificate on the following:** | | | | | | | | | | | | |  | | | | | | | | | | | | |
| **1. The following construction works have been presented for acceptance:** | | | | | | | | | | | | | | | | | | | | | | | |  | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of construction works)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **2. Construction works have been completed as per design documentation:** | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |  |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(number, issue date and other details of drawing, name of detailed design documentation, WEP)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(information on persons providing preparation of the section of detailed design documentation, name of Owner of detailed design documentation)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **3. When completing the works, the following materials/equipment have been applied:** | | | | | | | | | | | | | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of construction materials (items/equipment), details of certificates and/or other documents confirming their quality)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **4. The documents confirming the compliance of works with the requirements set for them have been presented** | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | |  | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(as-built diagrams and drawings, results of expert reviews, examinations, laboratory* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *and other tests of completed works performed in the process of construction supervision)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **5. Date:** | | | **start of works** | | | | | | | ***“*** |  | | | ***”*** |  | | | | | 20\_\_\_. | | |  | | |
|  | | |  | | | | | | |  | *(day)* | | |  | *(month)* | | | | | *(year)* | | |  | | |
|  | | | **completion of works** | | | | | | | ***“*** |  | | | ***”*** |  | | | | | 20\_\_\_. | | |  | | |
|  | | |  | | | | | | |  | *(day)* | | |  | *(month)* | | | | | *(year)* | | |  | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **6. The works have been completed in accordance with** | | | | | | | | | | | | | |  | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(names of applicable legislation, regulations and rules)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of WEP and other technical regulations)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **7. Subsequent works are allowed** | | | | | | | | | | |  | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of works, structures, sections of utility networks)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Additional information** | | | | | | | | | |  | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **The Certificate has been drawn up in** | | | | | |  | | **copies** | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Appendices:** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. |  | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. |  | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. |  | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. |  | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. |  | | | | | | | | | | | | | | | | | | | | | | | | |
| *(as-built diagrams and drawings, results of expert reviews, examinations, laboratory and other tests)* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Representative of the Owner** | | | | | | | | | | | | | | | | |  | | | | | | | | |
|  | | | | | | | | |
| *(full name) Signature* | | | | | | | | |
| **Representative of the Contractor** | | | | | | | | | | | | | | | | |  | | | | | | | | |
|  | | | | | | | | |
| *(full name) Signature* | | | | | | | | |
| **Representative of the General Designer** | | | | | | | | | | | | | | | | |  | | | | | | | | |
|  | | | | | | | | |
| *(full name) Signature* | | | | | | | | |
| **Representative of the Subcontractor** | | | | | | | | | | | | | | | | |  | | | | | | | | |
|  | | | | | | | | |
| *(full name) Signature* | | | | | | | | |
| **Other representatives** | | | | | | | | | | | | | | | | |  | | | | | | | | |
|  | | | | | | | | |
| *(full name) Signature* | | | | | | | | |

**Form A-3**

**Form of Installation Works Acceptance Certificate**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **INSTALLATION WORKS ACCEPTANCE CERTIFICATE** | | | | | | | | | | | | | | | | | | | | | | | |
| **Construction facility** | | | | | | | | | | | | |  | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of design documentation, mailing or construction address of construction facility)* | | | | | | | | | | | | | | | | | | | | | | | |
| **Owner:** | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(name, number and issue date of state registration certificate, PSRN, taxpayer identification number, place of location,* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *postal code, telephone/fax)* | | | | | | | | | | | | | | | | | | | | | | | |
| **Contractor:** | | | | | | | | | | | | |  | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(name, number and issue date of state registration certificate, PSRN, taxpayer identification number, place of location,* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *postal code, telephone/fax)* | | | | | | | | | | | | | | | | | | | | | | | |
| **General Designer:** | | | | | | | | | | | | | | | |  | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(name, number and issue date of state registration certificate, PSRN, taxpayer identification number, place of location,* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *postal code, telephone/fax)* | | | | | | | | | | | | | | | | | | | | | | | |
| **Subcontractor:** | | | | | | | | | | | | | | | | | | | | | | | |
| *Petroje* | | | | | | | | | | | | | | | | | | | | | | | |
| *(name, number and issue date of state registration certificate, PSRN, taxpayer identification number, place of location,* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *postal code, telephone/fax)* | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | |  | | |  | |  | | | | |
| **Certificate No.** | | | |  | | | | Date of acceptance inspection: “ ” 20\_\_ | | | | | | | | | | | | | | | |
|  | | | |  | | | | (date) (month) (year) | | | | | | | | | | | | | | | |
| **Representative of the Owner:** | | | | | | | | | | | | | | | | |  | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, full name, details of the document confirming authorities)* | | | | | | | | | | | | | | | | | | | | | | | |
| **Representative of the Contractor:** | | | | | | | | | | | | | | |  | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, full name, details of the document confirming authorities)* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| **Representative of the General Designer:** | | | | | | | | | | | | | | | | | | |  | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, full name, details of the document confirming authorities)* | | | | | | | | | | | | | | | | | | | | | | | |
| **Representative of the Subcontractor:** | | | | | | | | | | | | | | | | | | |  | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, full name, details of the document confirming authorities)* | | | | | | | | | | | | | | | | | | | | | | | |
| **Other representatives of the persons participating in acceptance:** | | | | | | | | | | | | | | | | | | |  | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(position, company name, full name,* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *details of the document confirming authorities* | | | | | | | | | | | | | | | | | | | | | | | |
| **have inspected the works completed выпoлnennыx** | | | | | | | | | | |  | | | | | | | | | | | | |
|  | | | | | | | | | | | *(name of the organisation that has completed works subject to acceptance)* | | | | | | | | | | | | |
| **and have drawn up this Certificate on the following:** | | | | | | | | | | | |  | | | | | | | | | | | |
| **1. The following installation works have been presented for acceptance:** | | | | | | | | | | | | | | | | | | | | | |  | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of installation works)* | | | | | | | | | | | | | | | | | | | | | | | |
| **2. Installation works have been completed as per design documentation:** | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | |  |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(number, issue date and other details of drawing, name of detailed design documentation, WEP)* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(information on persons providing preparation of the section of detailed design documentation, name of Owner of detailed design documentation)* | | | | | | | | | | | | | | | | | | | | | | | |
| **3. When completing the works, the following materials/equipment have been applied:** | | | | | | | | | | | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of construction materials (items/equipment), details of certificates and/or other documents confirming their quality)* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| **4. The documents confirming the compliance of works with the requirements set for them have been presented** | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | |  | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(as-built diagrams and drawings, results of expert reviews, examinations, laboratory* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *and other tests of completed works performed in the process of construction supervision)* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| **5. Date:** | | **start of works** | | | | | | | ***“*** |  | | | ***”*** |  | | | | 20\_\_\_. | | |  | | |
|  | |  | | | | | | |  | *(day)* | | |  | *(month)* | | | | *(year)* | | |  | | |
|  | | **completion of works** | | | | | | | ***“*** |  | | | ***”*** |  | | | | 20\_\_\_. | | |  | | |
|  | |  | | | | | | |  | *(day)* | | |  | *(month)* | | | | *(year)* | | |  | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| **6. The works have been completed in accordance with** | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(names of applicable legislation, regulations and rules)* | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of WEP and other technical regulations)* | | | | | | | | | | | | | | | | | | | | | | | |
| **7. Subsequent works are allowed** | | | | | | | | | |  | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of works, structures, sections of utility networks)* | | | | | | | | | | | | | | | | | | | | | | | |
| **Additional information** | | | | | | | | |  | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |
| **The Certificate has been drawn up in** | | | | |  | | **copies** | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |

|  |  |  |
| --- | --- | --- |
| **Appendices:** | | |
| 1. |  | |
| 2. |  | |
| 3. |  | |
| 4. |  | |
| 5. |  | |
| *(as-built diagrams and drawings, results of expert reviews, examinations, laboratory and other tests)* | | |
|  | | |
| **Representative of the Owner** | |  |
|  |
| *(full name)* Signature |
| **Representative of the Contractor** | |  |
|  |
| *(full name)* Signature |
| **Representative of the General Designer** | |  |
|  |
| *(full name)* Signature |
| **Representative of the Subcontractor** | |  |
|  |
| *(full name)* Signature |
| **Other representatives** | |  |
|  |
| *(full name)* Signature |

**Form C-1**

**Form of Examination Certificate of Geodetic Control Network of Construction Facility**

**Construction facility** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(unit, title, code)*

**The Owner** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Contractor**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**General designer**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**CERTIFICATE**

**of Examination of Geodetic Control Network**

**of Construction Facility**

No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ “\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_

Representative of the Owner responsible for construction supervision

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the General Designer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the organisation who has completed works for creation of geodetic control network

*(position, full name, details of the executive document confirming authorities)*

have considered the submitted documentation on the geodetic control network for construction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(name of construction facility)*

and have inspected the benchmarks of this network fixed on the terrain.

The benchmarks of the geodetic control network for construction presented for examination, their coordinates, marks, places of installation and methods of fastening correspond to the requirements of design documentation and codes and standards\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(code and title of DDD,*

*codes and standards)*

and are executed with observance of the established construction and measurement accuracy.

Additional information \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Certificate has been drawn up in \_\_\_\_\_\_\_ copies.

Appendices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *(drawings, diagrams, lists)*

Representative of the Owner responsible for construction supervision \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(full name, signature)*

Representative of the Contractor

*(full name, signature)*

Representative of the Contractor construction, responsible for construction supervision (specialist for construction arrangement)

*(full name, signature)*

Representative of the General Designer

*(full name, signature)*

Representative of the organisation who has completed works for creation of geodetic control network \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(full name, signature)*

**Form C-2**

**Form of Certificate of Grid Line Layout of Construction Facility on Site**

**Construction facility** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(unit, title, code)*

**The Owner** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Contractor**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The General Designer**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**CERTIFICATE**

**of Grid Line Layout of Construction Facility on Site**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| No.\_\_\_\_\_\_\_\_\_\_\_\_\_ | “ |  | ” |  | 20 |  |  |

Representative of the Owner responsible for construction supervision

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the General Designer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the organisation who has completed works on grid line layout of the construction facility on site \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

have drawn up this Certificate confirming that the grid line layout has been actually provided \_\_\_\_\_\_\_

for the construction facility \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(name of construction facility)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| At the same time, the following has been stated:  1. The layout has been provided as per the data \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(code and title of DDD)*  2*.* The axes have been fastened \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  3. The designation of axes, numbering and location of points correspond to design documentation  The grid line layout of the construction facility on site corresponds to the requirements of design documentation and technical regulations, codes and standards \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(code and title of DDD)* | | | | | |
| and is executed with observance of the established construction and measurement accuracy. | | | | |
| Additional information | |  | | | |
| The Certificate has been drawn up in | | |  | copies. | |
| Appendices: |  | | | | |
|  | *(diagram of axes fastening)* | | | | |
| Representative of the Owner responsible for construction supervision \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(full name, signature)*  Representative of the Contractor  *(full name, signature)*  Representative of the Contractor construction, responsible for construction supervision (specialist for construction arrangement)  *(full name, signature)*  Representative of the General Designer of design documentation  *(full name, signature)* | | | | | |
| Representative of the organisation who has completed works on grid line layout of the construction facility on site \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| *(full anme, signature)* | | | | | |

**Form C-3**

**Form of Inspection Certificate of Open Ditches and Foundation Pits**

**CERTIFICATE No. \_\_\_\_\_\_\_**

**of Inspection of Open Ditches and Foundation Pits**

“\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ El-Dabaa NPP. Unit No. \_\_\_\_\_\_\_\_\_\_

Representative of the Owner: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name,)*

Representative of the Contractor: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name)*

Representative of General Designer of design documentation when designer’s supervision is carried out: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name)*

Representative of the organisation who has completed works subject to inspection:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(name of organization, position, full name)*

have inspected ditches and foundation pits for construction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

During the inspection, the following has been stated:

1. Soil at elevations of the foundation pit bottom has been provided \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Ground water during excavation of the foundation pit has been developed at elevation \_\_\_\_\_\_\_\_\_\_\_\_
3. Design elevations of surface \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Elevations of the foundation pit bottom are as follows (as per design) \_\_\_\_\_\_\_\_, in fact \_\_\_\_\_\_\_\_\_\_\_
5. When performing excavation works, (no) obstacles have been encountered (soft soils, old wells, piles, foundations of old buildings, waste pits, etc.), which require changes in the foundation design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Special comments of the commission \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion:**

Based on the above, the commission believes that the soils deposited at elevations of the foundation pit bottom according to the specified coordinates correspond to the package of detailed design documentation and may be used as a base for construction \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Appendices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Certificate has been drawn up in \_\_\_\_ copies.

Representative of the Owner:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position) (signature) (full name)*

Representative of the Contractor:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position) (signature) (full name)*

Representative of the General Designer preparation of design documentation when designer’s supervision is carried out:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position) (signature) (full name)*

Representative of the organisation who has completed works subject to inspection:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position) (signature) (full name)*

**Form C-4**

**Form of Examination Certificate of Concealed Works**

**Construction facility** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(design documentation, postal or construction address of a construction facility)*

**The Owner** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(name, number and date of issuance of a certificate of state registration, Primary State Registration Number, Taxpayer Identification Number, location, postcode, phone/fax of legal entities)*

**The Contractor**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(name, number and date of issuance of a certificate of state registration, Primary State Registration Number, Taxpayer Identification Number, location, postcode, phone/fax of legal entities)*

**The General Designer**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*(name, number and date of issuance of a certificate of state registration, Primary State Registration Number, Taxpayer Identification Number, location, postcode, phone/fax of legal entities)*

**The Subcontractor\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*(name, number, and date of issuance of a certificate of state registration, Primary State Registration Number, Taxpayer Identification Number, location, postcode, phone/fax of legal entities)*

**CERTIFICATE**

**of Examination of Concealed Works**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Acceptance inspection date: |  | ” |  | 20 |  |  |

**The Owner's representative**

*(position, full name, details of the executive document confirming the authority)*

**The Contractor’s representative** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming the authority*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

**The General Designer’s representative** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming the authority)*

**The Subcontractor’s representative**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming the authorit)*

**The other representatives involved in the inspection**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, name of the company, full name, details of the executive document confirming the authority)*

**inspected the work performed by:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

*(Name of the party that performed the work to be inspected*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **and made up this certificate of the following:** | | | | | | | | | | | | | | | | | | |
| **1. The following Concealed Work(s) has(have) been presented for inspection:** | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| *(name of concealed works)* | | | | | | | | | | | | | | | | | | |
| **2*.* The following Concealed Work(s) has(have) been completed according to design documentation:** | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| *(number of Detailed Design Documentation, date of issue, other drawing details, name of the project and/or work documentation)* | | | | | | | | | | | | | | | | | | |
| **3. During the work performance the following Materials/Equipment were used** | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| *(the name of Materials (Products)/Equipment), details of certificates and/or other documents, confirming quality)* | | | | | | | | | | | | | | | | | | |
| **4. The following documents confirming the compliance of the works with requirements have been submitted:** | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| *(as-built schemes and drawings of Detailed Design documentation, results of examinations, inspections, laboratory and other tests of the works carried out during the acceptance inspection)* | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | |
| **5. Dates:** | **work commencement** | | | | “ |  | ” |  | | | | 20 |  |  |  |  |
|  | **work completion** | | | | “ |  | ” |  | | | | 20 |  |  |  |  |
| **6. The work has been carried out in accordance with** | | | | | | | | | |  | | | | | | | |
|  | | | | | | | | | | *(Names of Applicable Laws, Codes and Standards)* | | | | | | | |
|  | | | | | | | | | | | | | | | | | |
| *Name of the work execution plans and other working documents)* | | | | | | | | | | | | | | | | | |
| **7. Subsequent work is allowed:** | | | | | | | | | | |  | | | | | | |
|  | | | | | | | | | | | | | | | | | |
| *(name of works, structures, systems, facilities, sections of engineering/utility networks)* | | | | | | | | | | | | | | | | | |
| **Additional information** | | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | |
| **The Certificate is made up in** | | | | **6** | | | | | **copies.** | | | | | | | | |
| **Attachments:** | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | |

*(as-built schemes and drawings, results of inspections and examinations, surveys, laboratory, tests and other documents)*

|  |  |
| --- | --- |
| **The Owner's representative** |  |
|  |
| *(full name)* *Signature* |
| **The Contractor’s representative** |  |
|  |
| *(full name)* *Signature* |
| **The Contractor’s representative** |  |
|
| *(full name)* *Signature* |
| **The General Designer’s representative** |  |
|  |
| *(full name)* *Signature* |
| **The Subcontractor’s representative** |  |
|  |
| *(full name)* *Signature* |
| **The representative of other parties** |  |
|  |
| *(full name)* *Signature* |

**Form C-5**

**Form of Examination Certificate of Critical Structures**

**Construction facility** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(unit, title, code)*

**The Owner** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Contractor**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The General Designer**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**CERTIFICATE**

**of Examination of Critical Structures**

No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ 20\_\_\_\_

Representative of the Owner responsible for construction supervision

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the General Designer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the organisation who has completed structures subject to inspection:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(name of organization, position, full name)*

as well as other representatives of the persons participating in inspection:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position with indication of name of organisation, full name, details of the executive document confirming authorities)*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| have inspected the critical structures completed | | | | | | | | | | | | | | | | |  | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of person (persons) who has (have) actually completed the structures)* | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. The following critical structures have been presented for examination | | | | | | | | | | | | | | | | | | | | | | |  | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name and brief characteristics of structures)* | | | | | | | | | | | | | | | | | | | | | | | | |
| 2*.* The structures have been completed as per design documentation | | | | | | | | | | | | | | | |  | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| *(code and title of DDD)* | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. The concealed works affecting the safety of the structure have been examined: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   *(concealed works, dates and numbers of certificates of examination thereof shall be specified)* | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. When completing the structures, the following has been applied | | | | | | | | | | | | | | | |  | | | | | | | | |
|  | | | | | | | | *(name of materials (items),* | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| *details of certificates and/or other documents confirming their quality and safety)* | | | | | | | | | | | | | | | | | | | | | | | | |
| 5. The documents confirming the compliance of structures with the requirements set for them | | | | | | | | | | | | | | | | | | | | | | | | |
| have been presented, including: | | | | | | | | | |  | | | | | | | | | | | | | | |
| a) as-built geodetic layouts of structures | | | | | | | | | | | | | | | | | |  | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of document, date, number, other details)* | | | | | | | | | | | | | | | | | | | | | | | | |
| b) results of expert reviews, examinations, laboratory and other tests of completed works  performed in the process of construction supervision \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of document, date, number, other details)* | | | | | | | | | | | | | | | | | | | | | | | | |
| 6. Necessary tests and trial runs have been performed | | | | | | | | | | |  | | | | | | | | | | | | | |
|  | | | | | | | | | | |  | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | |
| *(name of document, date, number, other details)* | | | | | | | | | | | | | | | | | | | | | | | | |
| 7. Dates: | start of works | | | “ |  | ” |  | | | | | | 20 | |  | | | |  |  |  | | |
|  | completion of works | | | “ |  | ” |  | | | | | | 20 | |  | | | |  |  |  | | |
| 8. The structures presented have been completed in accordance with technical regulations, other codes and standards and design documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | | | | | | | |
| *(names and structural units of technical regulations,* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| *codes and standards, sections of detailed design documentation)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9. Based on the above: | | | | | | | | | | | | | | | | | | | | | | | | | |
| a) use of structures as intended is allowed; | | | | | | | | | | | | | |  | | | | | | | | | | | | |
| b) use of structures as intended, loaded in the scope of \_\_\_\_ % of design loading, is allowed; | | | | | | | | | | | | | | | | | | | | | | | | | |
| c) full load is allowed, provided that the following conditions have been fulfilled: | | | | | | | | | | | | | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| d) subsequent works are allowed: | | | | | | | | | | | |  | | | | | | | | | | | | | |
| *(name of works and structures)* | | | | | | | | | | | | | | | | | | | | | | | | | |
| Additional information | | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | |
| The Certificate has been drawn up in | | | |  | | | | | copies. | | | | | | | | | | | | | | | | |
|  | | | |  | | | | |  | | | | | | | | | | | | | | | | |
| Appendices: | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | | | | | |

Representative of the Owner responsible for construction supervision

*(full name, signature)*

Representative of the Contractor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(full name, signature)*

Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(full name, signature)*

Representative of the General Designer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(full name, signature)*

Representative of the organisation who has completed contruction subject to inspection:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Representative of Other persons:

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*(full name, signature)*

**Form C-6**

**Form of Test Protocol. Determination of Density and Compaction Coefficient of Soil using Volume Replacement Method**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Logo of organisation | | | | | | Name of Laboratory | | | | | | | Code of Form |
| Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | Physical address of Laboratory | | | | | | | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ |
| **Test Protocol No. \_\_\_\_\_\_\_\_\_ dated** | | | | | | | | | | | | | |
| **Determination of Density and Compaction Coefficient of Soil using Volume Replacement Method** | | | | | | | | | | | | | |
| Test customer: | | | | | | |  | | | | | | |
| Name of construction facility: | | | | | | |  | | | | | | |
| Number of request for testing: | | | | | | |  | | | | | | |
| Name of product (description): | | | | | | |  | | | | | | |
| Point of sampling\*: | | | | | | |  | | | | | | |
| Basic information on specimens: | | | | | | |  | | | | | | |
| Product standard: | | | | | | |  | | | | | | |
| Place of sampling: | | | | | | |  | | | | | | |
| Methods of testing, measurement and analysis of results: | | | | | | |  | | | | | | |
| Place of testing: | | | | | | |  | | | | | | |
| Date of testing: | | | | | | |  | | | | | | |
| \* Information has been provided by the initiator of the request for testing.  Table 1 - Calibration and reference information | | | | | | | | | | | | | |
| Results of determination of maximum density of sand (soil)\*\* | | | | | | | | |  |  | Standards and bulk density | | |
| Maximum density | | |  | | | | | |  |  | Mass of sand for filling of container, g | | |
| Optimum water content (%) | | |  | | | | | |  |  | Bulk density of sand, g/cm3 | | |
| \*\* The data have been taken according to Test Protocol No. \_\_\_\_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_\_\_ as a result of determination of maximum density at optimum moisture content of soil.  1 of 2  Table 2 - Density of soil | | | | | | | | | | | | | |
| Verification of density after compaction | | | | | | | Number of sampling point | | | | | | | |
|  | | | | | | | 1 | | | | | | | 2 |
| Depth of sampling (mm) | | | | | | |  | | | | | | |  |
| Initial mass of vessel, cone and sand, g | | | | | | |  | | | | | | |  |
| Final mass of vessel, cone and sand, g | | | | | | |  | | | | | | |  |
| Mass of used sand, g | | | | | | |  | | | | | | |  |
| Mass of sand for filling of container, g | | | | | | |  | | | | | | |  |
| Mass of sample with natural moisture content, g | | | | | | |  | | | | | | |  |
| Density in wet conditions, g/cm3 | | | | | | |  | | | | | | |  |
| Mass of tare, g | | | | | | |  | | | | | | |  |
| Mass of wet sample, g | | | | | | |  | | | | | | |  |
| Dry mass of sample, g | | | | | | |  | | | | | | |  |
| Mass of water, g | | | | | | |  | | | | | | |  |
| Humidity, % | | | | | | |  | | | | | | |  |
| Density of dry compacted soil, g/cm3 | | | | | | |  | | | | | | |  |
| Compaction coefficient of soil, Kc | | | | | | |  | | | | | | |  |
| Table 3 - Applied equipment | | | | | | | | | | | | | |
| No. | Name of equipment | | | Factory No. | | | | | | Number of calibration certificate | | | | Valid until |
| 1 |  | | |  | | | | | |  | | | |  |
| **Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | | | | | | | |
|  |  | Testing has been conducted by | |  |  | | |  |  |  | | /\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/ | |  | |
| full name signature 2 of 2 | | | | | | | | | | | | | |

**Form C-7**

Form of Test Protocol. Determination of Density and Compaction Coefficient of Soil using Cutting Ring Method

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Logo of organisation | | Name of Laboratory | | Code of Form |
| Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Physical address of Laboratory | | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ |
| **Test Protocol No. \_\_\_\_\_\_\_\_\_\_ dated** | | | |
| Determination of Density and Compaction Coefficient of Soil using Cutting Ring Method | | | |
| Customer: | | |  | |
| Name of construction facility: | | |  | |
| Number of request for testing: | | |  | |
| Name of product (description): | | |  | |
| Basic information on specimens: | | |  | |
| Product standard: | | |  | |
| Information on test points: | | |  | |
| Methods of testing, measurement and analysis of results: | | |  | |
| Place of testing: | | |  | |
| Date of testing: | | |  | |

1 of 2

Table 1 - Testing results

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Sampling point | Marking of specimen | Information on material used \* | Testing results | | | | | | | | | | Evaluation of compaction degree | | | |
| Mass of soil with ring, g | Mass of ring, g | Soil mass, gr | Size of ring for sampling | | Volume of soil, cm3 | Moisture content of soil, % | | Density of soil, g/cm3 | | Density of soil skeleton, g/cm3 | | Compaction coefficient of soil, Kc, u.f. | |
| Internal diameter d, mm | Height, mm | Specimen | Medium | Specimen | Medium | Specimen | Medium | Specimen | Medium |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

\*\* The data have been taken according to Test Protocol No. \_\_\_\_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_\_\_ as a result of determination of maximum density at optimum moisture content of soil.

Table 2 - Applied equipment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Name of equipment | Factory No. | Number of calibration certificate | Date of calibration certificate, until |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |

Rule for decision-making: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion:** The actual compaction coefficient of sand (soil) for the whole section is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Testing has been conducted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

full name signature

The Test Protocol shall not be partially reproduced without written permission.

The Test Protocol applies only to those specimens that have undergone testing.

The Test Protocol has been drawn up in pcs. 2 of 2

**Form C-8**

**Form of Visual and Measuring Inspection Certificate**

**Certificate No.\_\_\_\_\_\_\_ dated**

**of Visual and Measuring Inspection**

In accordance with work order (application) No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

(type of inspection shall be specified)

inspection \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name and dimensions-type of inspected facility,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

code of design documentation, applied materials (with indication of certificates, certificates of incoming inspection)

Connections have been made by certified specialists:

(full name of installer, number of certificate)

Inspection has been completed

in accordance with: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name and (or) code of technical documentation)

Scope of visual inspection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Scope of measuring inspection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**As a result of visual inspection, the following has been determined:**

|  |  |
| --- | --- |
| Quality of surface of pre-treated reinforcement bars, availability of protective devices on couplings and bars with thread before connection |  |
| Correctness of assembly of mechanical connections before concreting |  |

**As a result of measuring inspection, the following has been determined:**

|  |  |
| --- | --- |
| Elongation of connection coupling of compressed connection after pressure testing |  |
| Control of tightening of threaded joints |  |

Inspection has been completed by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (full name)

(signature)

Head of quality control department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (full name)

(signature)

Form C-9

**Form of Certificate of building and construction structures**

CERTIFICATE No.\_\_\_\_\_\_\_\_\_\_  
of building and construction structures

\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_\_\_

Commission assigned \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation assigning Commission)

by Order dated\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20 \_\_\_ No. \_\_\_\_

consisting of:

chairman-representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name, position)

Commission members, representatives:

of Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name, position)

of Installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name, position)

HAS ESTABLISHED THAT:

1 The Installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation)

has submitted for test \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(building, facility name)

included in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of construction project)

2 The structures are installed according to the project documentation developed by

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(project code number)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of design organisation)

3 Construction works are performed by the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(work types)

4 Installation of equipment is performed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation and list of work types)

5 The documentation in the scope specified in SP 70.13330 (additional regulations for

Section 4), listed in the Appendix to this Certificate is submitted to the Commission.

6 Construction and installation works were carried out in terms of: work commencement \_\_\_\_\_\_\_\_\_\_\_\_\_\_ work

(month, year)

completion \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(month, year)

7 Tests were carried out as per WEP developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(project code number, name of organisation)

within the period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(test commencement and completion date)

8 During the tests the following was determined \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(specify test results)

**DECISION OF COMMISSION**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(building, facility name)

shall be deemed to have passed the test and ready for further works. Appendices to the Certificate:

1\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form C-10

**Form of Document on Concrete Mix Quality**

**Document on Concrete Mix Quality with Set Quality No. \_\_\_\_\_\_\_\_**

Issue date “\_\_\_”\_\_\_\_\_\_\_\_\_\_\_ 20\_\_

|  |  |  |
| --- | --- | --- |
| **No.** | **Description of information** | **Filling-in of information** |
| 1 | Manufacturer and supplier of concrete mix: name, address (legal and actual), telephone, fax |  |
| 2 | Consumer: name, address, telephone, fax |  |
| 3 | Facility |  |
| 4 | Structural components, its reference, drawing number |  |
| 5 | Date and time of shipment of concrete mix, **h-min** |  |
| 6 | Number of batch |  |
| 7 | Type of concrete mix and symbol |  |
| 8 | Number of nominal composition of concrete mix |  |
| 9 | Volume of concrete mix in batch, m3 |  |
| 10 | Brand of concrete mix as per placeability at the place of deposit of the consumer (cone slump or cone flow, cm) |  |
| 11 | Other standardized quality indicators at the place of deposit of the consumer |  |
| 12 | Persistence of placeability and other standardized indicators, h-min |  |
| 13 | Maximum size of aggregate, mm |  |
| 14 | Conformity mark (if the concrete mix is certified) |  |
| 15 | Design strength class of concrete Vnorm (% Vnorm) and required strength of concrete (strength rate) in batch, MPa:  - at design age, day  - at intermediate age, day |  |
| 16 | Other standardized quality indicators of concrete  (if necessary) |  |
| 17 | Variation coefficient of concrete strength, % |  |
| 18 | Design brand of concrete as per average density (per dry solids), kg/m3 |  |
| 19 | Name, mass of additive (per dry solids), **kg/m3** |  |
| 20 | Class of materials as per specific effective activity of natural radionuclides and digital value Aeff, Bq/kg |  |

Head of Shop (foreman) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Head of Laboratory \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

L.S. of concrete mix manufacturer

Note: correction of the information filled in by the manufacturer is not allowed.

Form C-11

**Form of Test Protocol for Concrete Test Specimens for Compression at Quality Control of Concrete Mix**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Logo of organisation | | Name of Laboratory | | | Code of Form | |
| Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Physical address of Laboratory | | | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ | |
| **Test Protocol No. \_\_\_\_\_ dated \_\_\_\_\_\_\_\_** | | | | | | |
| **for Concrete Test Specimens for Compression at Quality Control of Concrete Mix** | | | | | | |
| Test customer: | |  | | | |
| Name of test facility: | |  | | | |
| Supplier of concrete: | |  | Request for testing**:** | |  |
| Name of structure:\* | |  | | | |
| Name of material: | |  | | | |
| Geodetic marks:\* | |  | | | |
| Condition for curing of specimens: | |  | | | |
| Name of standard: | |  | | | |
| Methods of testing, measurement and analysis of results: | |  | | | |

\* Information has been provided by the initiator of the request for testing.

Data on intraserial variation coefficient. Protocol number \_\_\_\_\_\_\_\_\_ ̅Vs, % =

1 of 2

Table 1 - Results of compression tests of concrete test specimens

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Marking of series of specimens | | | | Date of manufacturing | Date of testing | Age of specimens, day | Mass, g | Size of specimen, mm | | | Density, kg/m3 | | | Breaking load, kN | Scale coefficient | Area of useful cross-section of specimen, mm2 | | Compression strength, MPa | | Actual average strength in series of specimens, Rm (7) | Standard deviation of concrete strength on site, Sm, MPa | Current variation coefficient of internal concrete strength, Vm, % | Required strength, according to diagram D, RR (70%), MPa RR = 1.28\*Bnorm | Requirement for indicators Rm, Ri, GOST 18105-2018\* | Corresponds / does not correspond to requirements\* | Actual average strength in series of specimens, Rm (7) |
| Length | Width | Height | Specimen | | Series of specimens |  | Actual strength of batch of specimens, Ri (7) |
| 1 |  | | |  |  |  |  |  |  |  |  |  | |  |  |  |  | |  |  |  |  |  |  |  | Rm ≥ RT (14);  Rimin≥Bnorm (15). Rimin≥ RT -4 (15)\* |  |
| 2 |  | | |  |  |  |  |  |  | |  |  |  | |  |
| 3 |  | | |  |  |  |  |  |  | |  |  |  | |  |
| 4 |  | | |  |  |  |  |  |  | |  |  |  | |  |  |
| 5 |  | | |  |  |  |  |  |  | |  |  |  | |  |  |
| 6 |  | | |  |  |  |  |  |  | |  |  |  | |  |  |
| \*\* The rule for decision-making is simple. It shall be taken by comparing the average strength of the batch of specimens having maximum strength with the required strength value without considering measurement errors. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | Table 2 - Applied equipment | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | | Name of equipment | | | | | | | | | | | Factory No. | | | | | Calibration certificate No. | | | | | | Date of calibration certificate, until | | | |
| 1 | |  | | | | | | | | | | |  | | | | |  | | | | | |  | | | |
| 2 | |  | | | | | | | | | | |  | | | | |  | | | | | |  | | | |
| **Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Testing has been conducted by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

  full name signature

The Test Protocol shall not be partially reproduced without written permission.

The Test Protocol has been drawn up in \_\_\_\_\_ pcs. 2 of 2

Form C-12

**Form of Test Protocol for Concrete Test Specimens for Compression at Quality Control of Concrete Mix**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Logo of organisation | | Name of Laboratory | | Code of Form |
| Test Laboratory Accreditation Certificate No. \_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Physical address of Laboratory | | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_ 20\_\_\_ |
| **Test Protocol No. \_\_\_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_** | | | |
| **Determination of Concrete Strength of Monolithic Structure by Mechanical Methods of Non-destructive Test** | | | |
| Test customer: | | |  | |
| Supplier of concrete: | | |  | |
| Name of construction facility: | | |  | |
| Name of structure: | | |  | |
| Code of detailed design documentation: | | |  | |
| Request for testing (if available): | | |  | |
| Conditions for curing of structure: | | |  | |
| Conditions of testing: | | |  | |
| Product standard: | | |  | |
| Methods of testing, measurement and analysis of results: | | |  | |
| Place of testing: | | |  | |
| Date of manufacturing of structure: | | |  | |
| Date of testing: | | |  | |
| Information on test points: | | | Appendix No. (diagram of testing) | |
| Additional information: | | |  | |
| Data on existing calibration curve: Protocol No.\_\_\_\_\_ R = aH + b | | | | |
| Table 1 - Data on existing calibration curve   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | a (a1) | в (a0) | Sт | r | Hmax, MPa | Hmin, MPa | Conditions for application of calibration curve 〖𝑆 𝑇.𝐻.𝑀〗∕Ṝф | | |  |  |  |  |  |  | % | <15% |   Diagram of strength control and assessment: diagram C, GOST 18105-2010 “Concrete. Rules for strength control and assessment”  Testing results as per diagram B are provided on sheet \_\_\_\_\_.  Table 2 – Applied equipment   |  |  |  |  |  | | --- | --- | --- | --- | --- | | No. | Name of equipment | Factory No. | Calibration certificate No. | Validity term of calibration certificate, until | | 1 |  |  |  |  | | 2 |  |  |  |  | | | | |

Rule for decision-making \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1 of 2

Test Protocol No. \_\_\_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_

Testing results (diagram C, GOST 18105-2010)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of structure | Strength class of concrete in accordance with design Vnorm (% Vnorm) | Date | | Age of structure, day | Number of testing area | Indirect feature in testing area  **Hi,** MPa\* | Concrete strength in testing area **Ri**, MPa\* | Actual average concrete strength in structure **Rm**, MPa | Average squared deviation **Sm**, MPa | Current variation coefficient of concrete strength in batch, **Vm,** % | Coefficient of required strength, **Kr** | Actual concrete strength class in structure, **Bf** | Вf ≥ Вnorm(%Вnorm); |
| Date of concreting | Date of testing |
|  |  |  |  |  | 1 |  |  |  |  |  |  |  | Corresponds / does not correspond to requirements |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| \* The values, which are not included in the scope of values of calibration dependence (less than the minimum value of calibration dependence and more than the maximum value of calibration dependence), have been rejected.  A decision on the compliance shall be taken by comparing the actual class of concrete with the required strength class without considering measurement errors.  For this structure, the actual value of the variation coefficient of concrete strength in the batch Vm is %, the coefficient of required strength Kr is \_\_\_\_; according to GOST 18105-2010, the coefficient of required strength Kr= \_\_\_\_ is within the range of permissible values.  Testing has been conducted by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    full name signature  The Test Protocol shall not be partially reproduced without written permission.  The Test Protocol has been drawn up in \_\_\_\_\_\_\_ pcs. 2 of 2 | | | | | | | | | | | | | |

Form C-12а

**Form of Test Protocol for Concrete Test Specimens for Compression at Quality Control of Monolithic Structures**

|  |  |  |  |
| --- | --- | --- | --- |
| Logo of organisation | | Name of Laboratory | Code of Form |
| Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Physical address of Laboratory | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ |
| **Test Protocol No. \_\_\_\_\_ dated \_\_\_\_\_\_** | | | |

**for Concrete Test Specimens for Compression at Quality Control of Monolithic Structures**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Test customer: | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name of test facility: | | | | | | | | | | | | | | | Structure | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supplier of concrete: | | | | | | | | | | | | | | |  | | | | | | | | | Request for testing (if available): | | | | | | | | |  | | | | | | | |
| Name of structure:\* | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| Code of detailed design documentation: | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name of material: | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| Condition for curing of specimens: | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| Name of standard: | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| Methods of testing, measurement and analysis of results: | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| Additional information: | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| \* Information has been provided by the initiator of the request for testing.  Data on intraserial variation coefficient. Protocol number \_\_\_\_\_\_\_\_\_ ̅Vs, % =  1 of 2  Table 1 - Results of compression tests of concrete test specimens | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | Marking of series of specimens | | Date of manufacturing | Date of testing | Age of specimens, day | Mass, g | Size of specimen, mm | | | Density, kg/m3 | | | Breaking load, kN | Scale coefficient | | Area of useful cross-section of specimen, mm2 | Compression strength, MPa | | | | | | Actual average strength of concrete of structure Rm | | | Average squared deviation of concrete strength, Sm, MPa | | Current variation coefficient of internal concrete strength, Vm, % | | Compression class of concrete (or strength rate) in accordance with design, Vnorm (% Vnorm), MPa | | Actual strength class of concrete as per diagram G, Bf, MPa Bf = 0.8\*Rm | | | Requirements for compliance during acceptance of solid construction of GOST 18105-2010\*\* | | | Corresponds / does not correspond to requirements\* | |
| Length | Width | Height | Specimen | Series of specimens | | Unit value of specimen strength | | | Average strength of concrete in series, Ri | | |
| 1 |  |  |  |  |  |  |  |  |  |  |  | |  |  | |  |  | | |  | | |  | | |  | |  | |  | |  | | | Вf ≥ Вnorm; | | |  | |
| 2 |  |  |  |  |  |  |  |  |  | |  |  | | |
| 3 |  |  |  |  |  |  |  |  |  | |  |  | | |
| 4 |  |  |  |  |  |  |  |  |  | |  |  | | |  | | |
| 5 |  |  |  |  |  |  |  |  |  | |  |  | | |  | | |
| 6 |  |  |  |  |  |  |  |  |  | |  |  | | |  | | |
| \*\* The decision shall be taken by comparing the average strength of the batch of specimens having maximum strength with the required strength value without considering measurement errors.  Table 2 - Applied equipment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | Name of equipment | | | | | | | | | | | Factory No. | | | | | | Calibration certificate No. | | | | | | | | | | | | | Date of calibration certificate, until | | | | | | | | |
| 1 |  | | | | | | | | | | |  | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| 2 |  | | | | | | | | | | |  | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| 3 |  | | | | | | | | | | |  | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testing has been conducted by: | | | | | | | | | | | | | | | | | | |  | |  |  | | |  | |  | | /\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/ | | | |  |  | |  |  | |  | | |

The Test Protocol shall not be partially reproduced without written permission.

The Test Protocol applies only to those specimens that have undergone testing. 2 of 2

The Test Protocol has been drawn up in pcs.

Form C-13

**Form of Strength Test Protocol for Mortar Test Specimens**

|  |  |  |  |
| --- | --- | --- | --- |
| Logo of organisation | | Name of Laboratory | Code of Form |
| Test Laboratory Accreditation Certificate No. \_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Physical address of Laboratory | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ |
| **Test Protocol No. \_\_\_\_\_\_ dated \_\_\_\_\_\_** | | |

**of Strength Test of Mortar Test Specimens**

|  |  |
| --- | --- |
| Customer: |  |
| Request for testing: |  |
| Sampling: |  |
| Supplier of dry construction mortar:\* |  |
| Marking of dry construction mortar:\* |  |
| Name of product (description): |  |
| Conditions for curing: |  |
| Product standard: |  |
| Methods of testing, measurement and analysis of results: |  |

\* Information has been provided by the initiator of the request for testing.

Table 1 - Testing results

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Marking of series of specimens | | Date of production | Date of testing of sample | Age of mortar, day | Mass, g | Size of specimen, mm | | | Density, kg/m3 | | Breaking load, kN | Scale coefficient | Area of useful surface of specimen, mm2 | Compression strength, MPa | | Corresponds / does not correspond to requirements\*\* |
| Length | Width | Height | Specimen | Series of specimens | Unit value | Actual strength of batch of specimens |
|
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |
| \*\* It is not possible to take a decision on the compliance. | | | | | | | | | | | | | | | | | |

Table 2 - Applied equipment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Name of equipment | Factory No. | Calibration certificate No. | Date of calibration certificate, until |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |

**Rule for decision-making:**

|  |
| --- |
| **Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

Testing has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ / \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/

Form C-14

**Form of Protocol on Determination of Water Tightness of Concrete as per Wet Spot**

|  |  |  |  |
| --- | --- | --- | --- |
| Logo of organisation | | Name of Laboratory | Code of Form |
| Test Laboratory Accreditation Certificate No. \_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Physical address of Laboratory | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_20\_\_\_ |
| **Test Protocol No. \_\_\_\_\_\_ dated \_\_\_\_\_\_** | | | |

**Determination of Water Tightness of Concrete as per Wet Spot**

|  |  |
| --- | --- |
| Customer: |  |
| Supplier of concrete: |  |
| Facility name: |  |
| Name of structure: |  |
| Request for testing (if available): |  |
| Date of manufacturing of specimens: |  |
| Name of product (description): |  |
| Basic information on sampling: |  |
| Product standard: |  |
| Methods of testing, measurement and analysis of results: |  |
| Place of testing: |  |
| Date of testing: |  |
| Age of specimens: |  |
| Additional information: |  |

Table 1 - Results of waterproof tests of concrete test specimens

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Marking of samples | Water pressure, MPa | | | | | | | | | | | | | | | Mark on the appearance  of a wet spot on the upper  surface of the samples | Waterproof grade | | | |
| 0,2 | 0,4 | | 0,6 | | 0,8 | 1,0 | 1,2 | | 1,4 | 1,6 | 1,8 | | 2,0 | | Actual | | Design | Conformity according to design |
| The time (hour-min) of holding the samples on the stage with the appropriate water pressure until a wet spot appears on the upper surface of the samples or until the test stops when the concrete grade reaches the design value for waterproofness | | | | | | | | | | | | | | | single readings  of the device | sample series |
|  |  |  | |  |  |  | |  |  |  | | - | | - | | - |
|  |  |  | |  |  |  | |  |  |  | | - | | - | | - |  | W12 | W12 | W10 |  |
|  |  |  | |  |  |  | |  |  |  | | - | | - | | - |  | W10 |
|  |  |  | |  |  |  | |  |  |  | | - | | - | | - |  | W12 |
|  |  |  | |  |  |  | |  |  |  | | - | | - | | - |  | W12 |

Table 2 - Applied equipment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Name of equipment | Factory No. | Calibration certificate No. | Date of calibration certificate, until |
| 1 |  |  |  |  |

Rule for decision-making:

**Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Testing has been conducted by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

full name signature

The Test Protocol shall not be partially reproduced without written permission.

The Test Protocol applies only to those specimens that have undergone testing.

The Test Protocol has been drawn up in pcs.

Form C-15

**Form of Waterproof Test Protocol of Concrete as per its Air Permeability**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Logo of organisation | | Name of Laboratory | Code of Form | |
| Test Laboratory Accreditation Certificate No. \_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Physical address of Laboratory | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_20\_\_\_ |
| **Test Protocol No. \_\_\_\_\_\_ dated \_\_\_\_\_\_** | | | |

**Determination of Water Tightness of Concrete as per its Air Permeability**

|  |  |
| --- | --- |
| Test customer: |  |
| Supplier of concrete: |  |
| Facility name: |  |
| Name of structure: |  |
| Request for testing (if available): |  |
| Name of product (description): |  |
| Basic information on specimen (specimens): |  |
| Product standard: |  |
| Methods of testing, measurement and analysis of results: |  |
| Place of testing: |  |
| Additional information: |  |

Conditions for application of established statistical dependence (calibration curve W=): Protocol No. \_\_\_\_\_\_\_\_

Table 1 - Results of waterproof tests of concrete test specimens

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Marking of series of specimens | | Date of production | | Date of testing of sample | Age of concrete, day | Unit values of readings from device | Arithmetic average of readings from device | Water tightness class of concrete W | | | |
| Unit values | Average value\* | Required value | Corresponds / does not correspond to requirements |
|
| 1 |  |  | |  |  |  |  |  |  |  |
| \* A decision on the compliance shall be taken by comparing the average value of two medium specimens (the third one and the forth one from six specimens) specified in the order of increasing, with the required water tightness value, without considering measurement errors. | | | | | | | | | | | | |

Table 2 - Applied equipment

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Name of equipment | Factory No. | Calibration certificate No. | Date of calibration certificate, until |
| 1 |  |  |  |  |

Rule for decision-making: decisions shall be taken by comparing the testing results with the requirements of GOST 26633-2015 without considering measurement error.

**Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Testing has been conducted by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/

The Test Protocol shall not be partially reproduced without written permission.

The Test Protocol applies only to those specimens that have undergone testing.

The Test Protocol has been drawn up in pcs.

Form C-16

**Form of Tensile Test Protocol of Mechanical Connections with Threaded Couplings**

Name of controlling subdivision \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**PROTOCOL No. \_\_\_\_\_\_\_\_\_**

**of Tensile Test of Mechanical**

**Connections with Threaded Couplings**

“\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_

Data on place of connection \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Full name of installer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Connection type as per TS \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Batch volume, pcs., items \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sample number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Diameter(s) and class of connected reinforcement \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Marking of couplings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cross-section area of bar (mm2), to which control load is applied \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Testing results | Sample number | Breaking force R, kN | Deformability  under tension, mm | Uniform elongation of reinforcement  after destruction of connection, % |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |

CONCLUSION

Mechanical threaded joints tested \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the requirements of GOST 10922.

Batch of mechanical threaded joints \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Head of controlling subdivision \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name)

Testing has been conducted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name)

Form C-17

**Form of Quality Document**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of manufacturer organisation)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(address of manufacturer organisation)

**QUALITY DOCUMENT**

**No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** dated “\_\_\_” \_\_\_\_\_\_\_\_ 20\_\_\_\_

(document number) (issue date)

1. Name of facility \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(construction facility shall be specified)

2. Index and number of design documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Number of batch of items \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Name of items \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(brand of items, their quality in the batch shall be specified)

5. Date of manufacturing of batch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Items have been manufactured in accordance with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(regulatory document, design shall be specified)

7. During manufacturing, the following materials have been applied \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(materials, their brands with reference to certificates shall be specified)

8. Welded joints are executed by certified welders \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name and certificate No. of welder shall be specified)

and correspond to the requirements \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(regulatory document)

9. Welding materials applied \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(brand and Nos. of certificates)

10. The Quality Certificate has been drawn up on the basis of acceptance certificates:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nos. of acceptance certificates on item (results of destructive and non-destructive tests)

Acceptance certificates, certificates on raw and welding materials are stored with the manufacturer.

This Quality Certificate ensures the compliance of the manufactured batch of items with the requirements of design \_\_\_\_\_\_\_\_\_\_\_\_ and regulatory and technical documentation \_\_\_\_\_\_\_\_\_\_\_\_.

(designation of design) (designation of Regulatory Technical Documentation)

Responsible performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_ \_\_\_\_\_\_\_\_ 20\_\_

(signature of the person (with full name) responsible for acceptance inspection) (date)

Head of Quality control department \_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_ \_\_\_\_\_\_\_\_ 20\_\_

(signature and full name) (date)

L.S.

Quality control department of the Organisation

Form C-18

**Form of Protocol on Moisture Content Measurement of Concrete Surfaces using Dielectric Method**

|  |  |  |
| --- | --- | --- |
| Logo of organisation | Name of Laboratory | Code of Form |
| Test Laboratory Accreditation Certificate No. \_  Valid until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Physical address of Laboratory | APPROVED BY  Head of Construction Laboratory  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ |

**\_\_\_\_\_\_\_\_Test Protocol No. \_\_\_\_\_\_ dated \_\_\_\_\_\_**

**Determination of Moisture Content of Concrete Surface using Dielectric Method**

|  |  |
| --- | --- |
| Test customer: |  |
| Supplier of concrete: |  |
| Name of construction facility: |  |
| Name of structure: |  |
| Code of detailed design documentation: |  |
| Name of standard: |  |
| Methods of testing, measurement and analysis of results: |  |
| Place of testing: |  |
| Information on test points: |  |
| Date of testing: |  |
| Air temperature, °C: |  |
| Additional information: |  |

Data on existing calibration curve: Protocol No.\_\_\_\_\_

Table 1 - Results of tests of humidity and temperature monitoring in concrete structures

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Measurement No. | Number of area and place of testing | Results of measurement of instrument | | | | | | Results of calculation | | | | | |
| Unit values of concrete surface temperature T, °C | Average values of concrete surface temperature Tav, °C | | Unit values of concrete humidity W, % | Average values of concrete humidity Wav, % | | Average value of concrete humidity Wicp, % | Required value | Corresponds / does not correspond | | | Note |
| 1 |  |  |  | |  |  | |  |  |  | | |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| Table 2 - Applied equipment | | | | | | | | |  |  |  | |
| No. | Name of equipment | | | Factory No. | | | Calibration certificate No. | | | | | Valid until | |
|  |  | | |  | | |  | | | | |  | |
|  |  | | |  | | |  | | | | |  | |

Rule for decision-making: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Testing has been conducted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_

full name signature

The Test Protocol shall not be partially reproduced without written permission.

The Test Protocol applies only to those specimens that have undergone testing.

The Test Protocol has been drawn up in pcs.

Form C-19

**Form of Protocol of Paint Coating Thickness Measurement (Recommended)**

|  |  |
| --- | --- |
| ROSATOM STATE ATOMIC ENERGY CORPORATION, ATOMSTROYEXPORT,  JOINT-STOCK COMPANY, ASE Branch Office in ARE  General Contractor’s Directorate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Construction and Laboratory Control Department - Construction Laboratory \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Test Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | APPROVED BY  Head of Construction and Laboratory Control Department - Construction Laboratory  of ASE JSC  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ full name  ­  L.S. Date: |
| Postal code, country, region, city \_\_\_\_\_\_\_\_\_\_\_, industrial site \_\_\_\_\_\_\_\_\_\_\_\_. E-mail: \_\_\_\_\_\_\_\_\_\_\_\_ Tel. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Protocol No. \_\_\_\_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_\_**

**of Paint Coating Thickness Measurement**

Date of \_\_\_\_\_\_\_\_ the Construction Laboratory of ASE JSC has performed measurement of the thickness of corrosion-resistant coating in the section: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Organisation/work performer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Construction facility: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coordinates: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Measuring instruments used during testing | Date of scheduled calibration | Measurement error |
|  |  |  |

Testing results:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Item No. | Name, items, structures | Coordinates | Readings of thickness meter,  mm (μm) | Area of coating, m2 | Readings of thickness meter,  average (μm) | Note |
| 1 |  |  |  |  |  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Average thickness of corrosion-resistant coating – \_\_\_\_ μm, which corresponds to the requirements of the drawing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ coating in \_\_\_\_\_\_ layer.

Testing has been performed according to GOST 31993-2013.

Person responsible for execution of the Protocol:

Testing has been conducted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_\_\_\_\_\_\_/

The Test Protocol shall not be fully or partially reproduced without written permission of the Construction Laboratory of ASE JSC.

The present testing results relate only to submitted specimens/structures.

Form C-20

**Form of Examination (Acceptance) Certificate of Ready Surfaces**

**Construction facility** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(unit, title, code)*

**The Owner** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Contractor**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The General Designer**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**CERTIFICATE  
of Examination (Acceptance) of Ready Surfaces**

No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ 20\_\_\_\_

Representative of the Owner responsible for construction supervision

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the General Designer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the organisation who has completed structures subject to inspection:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(name of organization, position, full name)*

as well as other representatives of the persons participating in inspection:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position with indication of name of organisation, full name, details of the executive document confirming authorities)*

|  |  |  |  |
| --- | --- | --- | --- |
| have inspected the works completed | |  | |
|  | | | |
| *(name of person (persons) who has (have) actually completed the structures)* | | | |
| and have drawn up this Certificate on the following: | | | |
| 1. The following works have been presented for inspection: | |  | |
|  | | | |

*(name of works)*

|  |  |
| --- | --- |
| 2. The works have been completed as per design documentation: |  |
|  | |

*(code and title of DDD)*

|  |  |
| --- | --- |
| 3. When completing the works, the following has been applied: |  |
| *(name of construction materials* | |

*(items) with reference to certificates or other documents confirming quality)*

|  |  |
| --- | --- |
| 4. Concealed works have been examined: |  |
|  | |

*(concealed works, dates and numbers of certificates of examination thereof shall be specified)*

|  |  |
| --- | --- |
| 5. Dates: |  |
| start of works | “\_\_\_” \_\_\_\_\_\_\_ 20\_\_ |
| completion of works | “\_\_\_” \_\_\_\_\_\_\_ 20\_\_ |

|  |  |
| --- | --- |
| 6. The works have been completed in accordance with: |  |
|  | |

*(names and structural units of technical regulations* *codes and standards, sections of detailed design documentation)*

|  |  |  |
| --- | --- | --- |
| 7. Based on the above, use of the following as intended is allowed: | |  |
|  | | |
| Additional information: |  | |
|  | | |

|  |
| --- |
| The Certificate has been drawn up in \_\_\_\_\_\_\_\_ copies. |
| Appendices: |
|  |
|  |

Representative of the Owner responsible for construction supervision

*(full name, signature)*

Representative of the Contractor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(full name, signature)*

Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(full name, signature)*

Representative of the General Designer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(full name, signature)*

Representative of the organisation who has completed contruction subject to inspection:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Representative of Other persons:

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*(full name, signature)*

Form C-21

**Form of Conclusion on Visual and Measuring Inspection of Quality of Welded Joints of Metal Structures**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing inspection | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Conclusion on Visual and Measuring Inspection**  **of Quality of Welded Joints of Metal Structures**  **No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

1. Application for laboratory control: No. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

2. Name of facility (item): *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

3. Safety class, equipment group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. KKS code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Number of welding formular (diagram): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Methods of inspection and quality assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Category of welded joint (surfacing): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Scope of inspection, %: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Steel grade: *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

11. Welding method: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Heat treatment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Inspection has been conducted using (brand, Factory No., verification certificate/calibration certificate): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Process inspection chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. Inspection logbook No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing results**

Table No. 1

| Item No. | Welded joint No. | Dimension-type of welded joint (section, surfacing, part) in inspection point, thickness of welded items | Characteristics of revealed discontinuities, defects, coordinates, dimensions (mm) | Quality assessment (A-accepted,  R-not accepted) | Record No.  in inspection logbook | Date of testing |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Conclusion on the results of visual and measuring inspection: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and corresponds/does not correspond to DDD

Inspection has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for inspection \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-1

**Form of Conclusion on Visual and Measuring Inspection of Quality of Welded Joints of Pipelines and Equipment**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing inspection | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Conclusion on Visual and Measuring Inspection**  **of Quality of Welded Joints (Surfacing) of Pipelines and Equipment**  **No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

1. Application for laboratory control: No. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

2. Name of facility (item): *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

3. Safety class, equipment group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. KKS code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Number of welding formular (diagram): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Methods of inspection and quality assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Category of welded joint (surfacing): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Scope of inspection, %: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Steel grade: *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

11. Welding method: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Heat treatment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Inspection has been conducted using (brand, Factory No., verification certificate/calibration certificate): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Process inspection chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. Inspection logbook No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing results**

Table No. 1

| Item No. | Welded joint No. | Dimension-type of welded joint (section, surfacing, part) in inspection point, thickness of welded items | Coordinates of measurements | | | | | | Tolerance as per GOST | Characteristics of revealed discontinuities, defects, coordinates, dimensions (mm) | Quality assessment (A-accepted,  R-not accepted) | Record No.  in inspection logbook | Date of testing |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| T1 | | T2 | | T3 | |
| “e1”  mm | “g1”  mm | “e2”  mm | “g2”  mm | “e3”  mm | “g3”  mm |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Note:** **e** - width of butt weld in mm (leg of fillet parallel to axis of welded element);

**g** - reinforcement of butt weld in mm (leg of fillet perpendicular to axis of welded element)

Conclusion on the results of visual and measuring inspection:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and corresponds/does not correspond to DDD

Inspection has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for inspection \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-1a

**Form of Certificate of Layer-by-Layer Visual and Measuring Inspection of Quality of Welds during Joint Welding**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing inspection | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Certificate of Layer-by-Layer Visual and Measuring Inspection of Quality of Welds during Joint Welding**  **No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

|  |  |
| --- | --- |
| Name of system \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Number of drawing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| 1. This Certificate attests that the welder has completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| (full name, label, certificate number) | |
| welding of welded joint \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (fillet, butt) | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (steel grade, cast (batch), welding method, number of welded joint, | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  number of welding formular (diagram), record number and number of logbook for inspection of welds) | |
| Welding technology \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| The weld is not accessible for inspection using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| in accordance with the requirements of the document \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Inspection has been completed according to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (manufacturer`s documentation name and/or code)  with quality assessment as per regulations \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (codes and standards) | |
| Inspection has been conducted using \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Process inspection chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| 2. During layer-by-layer visual and measuring inspection with quality assessment as per regulations \_\_\_\_\_ | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for category \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| (codes and standards) | (category of welded joint) |
| It has been established that the welded joint is accepted and corresponds to the requirements \_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (codes and standards, ED, manufacturer`s documentation name) | |

Inspection has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for inspection \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-1b

**Form of Conclusion on Radiographic Testing of Quality of Welded Joints**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing testing | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Conclusion on Radiographic Testing of Quality of Welded Joints (Surfacing) No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

1. Application for laboratory control: No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Name of facility (item): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Safety class, equipment group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. KKS code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Number of welding formular (diagram): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Methods of testing and quality assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Category of welded joint (surfacing): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Scope of testing, %: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Material of test facility: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Testing conditions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Heat treatment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Inspection has been conducted using (brand, Factory No., verification certificate/calibration certificate): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Equipment type (IRS):\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. Process testing chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. Testing logbook No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing results**

Table No. 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Number of weld, surfacing as per welding formular (diagram) | Dimension-type of weld, surfacing (diameter, wall thickness, mm) | Number of radiography image or coordinates of film belt | Length of testing area, mm | Sensitivity of image  (In mm) | Description of revealed  defects, coordinates | Quality assessment  (A-accepted,  R-not accepted) | Record No. in logbook  in testing logbook | Date of testing |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

Conclusion on the results of radiographic testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and corresponds/does not correspond to DDD

Testing has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-1c

**Form of Conclusion on Ultrasonic Testing of Quality of Welded Joints**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing testing | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Conclusion on Ultrasonic Testing of Quality of Welded Joints (Surfacing)**  **No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

1. Application for laboratory control: No. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

2. Name of facility (item): *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

3. Safety class, equipment group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. KKS code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Number of welding formular (diagram): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Methods of testing and quality assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Category of welded joint (surfacing): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Scope of testing, %: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Material of test facility: *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

11. Means of testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.1 Type of ultrasonic testing device (brand, Factory No., verification certificate/calibration certificate): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.2 PEP (type, frequency, angle of input, data on verification/data on calibration): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.3 Reference block (type, dimensions of reflector, data on verification/data on calibration): \_\_\_\_\_\_\_\_\_\_\_

12. Process testing chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Testing logbook No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing results**

Table No. 1

| Item No. | Number of weld, surfacing as per welding formular (diagram) | Testing area No. | Dimension-type of weld, surfacing (diameter, wall thickness, mm) | Scope of testing (% or weld meters) | Equivalent area of single discontinuities (mm)2 | | Description of revealed discontinuities, coordinates | Quality assessment  (A-accepted,  R-not accepted) | Record No.  in testing logbook | Date of testing |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Minimum fixed,  S min | Maximum permissible,  S max |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|  |  |  |  |  |  |  |  |  |  |  |

Conclusion on the results of ultrasonic testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and corresponds/does not correspond to DDD

Testing has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-1d

**Form of Conclusion on Ultrasonic Testing of Material and Equipment Thickness**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing testing | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Conclusion on Ultrasonic Testing of Material and Equipment Thickness**  **No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

1. Application for laboratory control: No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Name of facility (item): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Safety class, equipment group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. KKS code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Number of welding formular (diagram): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Methods of testing and quality assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Category of welded joint (surfacing): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Scope of testing, %: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Material of test facility: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Means of testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.1 Type of ultrasonic testing device (brand, Factory No., verification certificate/calibration certificate): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.2 PEP (type, frequency, angle of input, data on verification/data on calibration): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11.3 Reference block (type, dimensions of reflector, data on verification/data on calibration): \_\_\_\_\_\_\_\_\_\_\_

12. Process testing chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Testing logbook No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing results**

Table No. 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Name (code) of item | Dimension-type of assembly unit (part) in testing point, mm | Number of point  of thickness measurement | Thickness in accordance with DDD | Actual thickness value, mm | Assessment of suitability of item  (S-satisfactory,  U-not satisfactory) | Record No. in logbook | Date of testing | Diagram of marking of assembly unit (part) for thickness measurement |
|
| Tolerance range, mm |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|  |  |  |  |  |  |  |  |  |  |
| **Note:** if the measurement error of the tolerance range for the tested size and the ultimate measured value are not specified in engineering documentation, assessment of suitability of the item is not provided. | | | | | | | | | |

Conclusion on the results of testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and corresponds/does not correspond to DDD

Testing has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-1e

**Form of Conclusion on Leak Testing of Quality of Welded Joints (Surfacing)**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing testing | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Conclusion on Leak Testing of Quality of Welded Joints (Surfacing)**  **No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

1. Application for laboratory control: No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Name of facility (item): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Safety class, equipment group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. KKS code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Number of welding formular (diagram): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Methods of testing and quality assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Category of welded joint (surfacing): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Scope of testing, %: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Heat treatment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Leakage class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12. Steel grade: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Means of testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Test substance:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. Process testing chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. Testing logbook No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing results**

Table No. 1

| Item No. | Number of welded joint or section | Dimension-type of welded joint (section, surfacing, part) in inspection point,  mm | Parameters of testing | | Characteristics of revealed discontinuities, defects, coordinates, dimensions (mm) | Quality assessment (A-accepted,  R-not accepted) | Record No. in testing logbook | Date of testing |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Pressure, MPa | Holding time (min) |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

Conclusion on the results of leak testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and corresponds/does not correspond to DDD

Testing has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-1f

**Form of Conclusion on Penetrant Testing of Quality of Welded Joints (Surfacing)**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing testing | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Conclusion on Penetrant Testing of Quality of Welded Joints (Surfacing)**  **No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

1. Application for laboratory control: No. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

2. Name of facility (item): *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

3. Safety class, equipment group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. KKS code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Number of welding formular (diagram): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Methods of testing and quality assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Category of welded joint (surfacing): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Scope of testing, %: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Heat treatment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Susceptibility class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12. Steel grade: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Method of testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Flaw-detective kit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. Test specimen: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. Process testing chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

17. Testing logbook No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing results**

Table No. 1

| Item No. | Number of welded joint or section | Dimension-type of welded joint (section, surfacing, part) in inspection point, mm | Characteristics of revealed discontinuities, defects, coordinates, dimensions (mm) | Quality assessment  (A-accepted,  R-not accepted) | Record No. in testing logbook | Date of testing |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Conclusion on the results of penetrant testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and corresponds/does not correspond to DDD

Testing has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-1g

**Form of Conclusion on Magnetic Particle Testing of Quality of Welded Joints (Surfacing)**

|  |  |  |
| --- | --- | --- |
| Organisation, subdivision performing testing | Test Laboratory Accreditation Certificate No. \_\_\_\_\_\_\_\_\_\_\_, valid until \_\_\_\_\_\_\_\_\_ | Form No. |
| **Conclusion on Magnetic Particle Testing of Quality of Welded Joints (Surfacing)**  **No. \_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_20\_\_\_** |
| Organisation, company that has completed work | Building |

1. Application for laboratory control: No. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

2. Name of facility (item): *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

3. Safety class, equipment group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. KKS code: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Drawing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Number of welding formular (diagram): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Methods of testing and quality assessment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Category of welded joint (surfacing): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Scope of testing, %: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Susceptibility level: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 11. Steel grade: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Method of testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Flaw-detective kit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Test specimen: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. Process testing chart No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. Testing logbook No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing results**

Table No. 1

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item No. | No. of welded joint (deposition), sections, part | Dimensions of the testing area, mm | Scope of testing, % | Description of identified  defects, coordinates, dimensions (mm) | Quality assessment (A-accepted,  R-not accepted.) | Record No. in logbook | Date of testing |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

Conclusion on the results of magnetic particle testing: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and corresponds/does not correspond to DDD

Testing has been completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Conclusion has been issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name, certificate number, validity term)

Head of subdivision for testing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position) (signature) (full name)

Form M-2

**Form of Installation Completion Certificate**

**CERTIFICATE No. \_\_\_**

**of Installation Completion**

**(Equipment, Pipeline, Metal Structures)**

“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ The city of \_\_\_\_\_\_\_\_\_\_\_\_\_

El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |  |
| --- | --- |
| This Certificate attests that the following items installed and submitted for hand-over have been inspected \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name and KKS code of the equipment, pipelines, metal structures,  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  drawing No., their brief technical characteristics) | |
| Works have been completed as per the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (drawing No.) | |
| developed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| and in accordance with the Codes and Standards\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| **Conclusion:** |
| The specified equipment, pipelines, metal structures shall be considered to be completely installed, accepted from the installation organisation and ready for hydraulic testing.  Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the General Designer\* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the adjustment organisation\*  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  \* - if necessary |

Form M-3

**Form of Testing Certificate of Compensators by Tension (Stress)**

**CERTIFICATE № \_\_\_\_\_\_**

**of Pre-Tension of Compensators**

|  |
| --- |
| The city of \_\_\_\_\_\_\_\_\_\_\_ “\_\_\_” \_\_\_\_\_\_\_\_\_\_ 20\_\_\_ |

Commission consisting of:

Representative of the construction and installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

has inspected the works completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of construction and installation organisation)

and has drawn up this Certificate on the following:

1. The tension of the compensators listed in the table has been presented for examination and acceptance in the section from chamber (picket, mine) No. \_\_\_\_\_\_ to chamber (picket, mine) No. \_\_\_\_\_\_.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Compensator number as per drawing and KKS code | Drawing number | Compensator type | Tension value, mm | | Ambient air temperature, °C |
| design | actual |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

2. The works have been completed as per design and estimate documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of design organisation, numbers of drawings and date of preparation)

DECISION OF THE COMMISSION

The works have been completed in accordance with design and estimate documentation, state standards, construction regulations and rules and meet the requirements for acceptance thereof.

Based on the above, the tension of the compensators listed in the Certificate shall be considered to be completed.

Representative of the construction and installation

organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-4

**Form of Flush and Blowdown Certificate of Pipelines**

**CERTIFICATE No. \_\_\_\_\_\_\_\_\_**

**of Flush and Blowdown of Pipelines**

“\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_20\_\_\_ The city of \_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| (name of building) |
|  |
| |  | | --- | | This Certificate attests that the pipeline has been flushed and blown down  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of pipeline and KKS code, drawing No., their boundaries) | | as per the program \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  to diagram No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Flushing has been performed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ during \_\_\_\_\_\_\_\_\_\_\_\_ min,  (medium) | | at a temperature of \_\_\_\_\_\_\_\_ oK/oC, at a velocity of \_\_\_\_\_\_\_\_\_\_\_ m/s. | |
| **Results of flushing:** |
| Initial state of medium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| End state of medium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Blowdown has been performed during \_\_\_\_\_\_\_ min, pressure at the beginning of the pipeline is \_\_\_\_\_\_\_ MPa (kgf/cm2), pressure at the end of the pipeline is \_\_\_\_\_\_\_ MPa (kgf/cm2). |
| When opening dead ends and reinforcement, such dead ends and reinforcement have been cleaned and foreign particles and dirt have been removed. |
| **The pipelines shall be considered to be accepted in terms of their clean condition.**  Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date |

Form M-5

**Form of Certificate of Hydraulic (Pneumatic) Testing of Pipeline for Strength and Density (Leak Tightness)**

**CERTIFICATE No. \_\_\_\_\_\_\_\_\_\_\_\_**

**of Hydraulic (Pneumatic) Testing**

**of Equipment, Pipelines**

“\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_20\_\_\_ The city of \_\_\_\_\_\_\_\_\_\_\_

El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. This Certificate attests that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of the organisation that has performed testing) | | | | | | | | | |
| hydraulic (pneumatic) testing, external and internal inspection in accessible locations after installation of the following pipelines, equipment have been performed: | | | | | | | | | |
| Name of tested system, system part, pipelines, equipment and KKS code | Designation of drawing of pipeline, equipment | Number of test program | Testing medium | Holding time at test pressure, min | Pressure, MPa (kgf/cm2) | | | Temperature, oC | |
| design (operating) | during testing | during inspection | design | during testing |
|  |  |  |  |  |  |  |  |  |  |

2. During inspection of pipelines, equipment, the following has been stated:

2.1 In the process of tests and during inspection of pipelines, equipment, no leaks and ruptures of raw metal have been detected.

2.2 No signs of rupture or structural failure of connections, drops in welds, threaded joints, on the surface, etc. have been detected.

2.2 During the holding process, the fluctuations of pressure and temperature have not exceeded the limits stipulated in the working test program.

|  |
| --- |
| 2.3 After the testing, no visible permanent deformations have been revealed. |
| 3. **Testing results:** |
| The pipelines, equipment listed in clause 1 of this Certificate have withstood hydraulic (pneumatic) testing in accordance with the working program. |

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation\* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

\* - if necessary

Form M-6

**Form of Installation Certificate**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CERTIFICATE No. \_\_\_\_\_\_\_**  **of Installation of Pipeline** | | | | | | | | | | | | | | | | | | | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (purpose of pipeline, KKS code) | | | | | | | | | | | | | | | | | | | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of construction and installation organisation) | | | | | | | | | | | | | | | | | | | |
| Operating medium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | |
| Operating pressure, MPa (kgf/cm2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | |
| Operating temperature, oC \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Category of welded joints \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | |
| **1. Data on installation** | | | | | | | | | | | | | | | | | | | |
| The pipeline has been installed in full compliance with the design developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of design organisation) | | | | | | | | | | | | | | | | | | | |
| and manufactured by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of manufacturer) | | | | | | | | | | | | | | | | | | | |
| as per detailed design drawings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (number of assembly drawings) | | | | | | | | | | | | | | | | | | | |
| **2. Information on welding** | | | | | | | | | | | | | | | | | | | |
| Methods, scope and results of inspection of welded joints \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Weld No. as per diagram | Dimension-type | Steel grade | Welding method | Welding materials | | Full name of welder | Label of welder | Inspection method /  Designation and date of inspection | | | | | Brand | Certificate No. | VMI |  |  |  | | 1 | 2 | 3 |  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  | | | | | | | | | | | | | | | | | | | | |
| Welding of the pipeline has been performed in accordance with the requirements of Rules, Regulatory Technical Documentation on welding by welders who have passed testing in accordance with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (certification rules shall be specified) | | | | | | | | | | | | | | | | | | | |
| **3. Information on heat treatment of welded joints (type and mode)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | |
| **4. Information on the materials the pipeline is made of:** | | | | | | | | | | | | | | | | | | | |
| a) Information on pipes | | | | | | | | | | | | | | | | | | | |
| Item  No. | Name of element | | | Quantity | | | Outer diameter and wall thickness of pipe, mm | | | | | Brand of material,  GOST or TS | | | | Designation and No. of document | | | | |
|  |  | | |  | | |  | | | | |  | | | |  | | | | |
| b) Information of the main fittings/valves and shaped parts (cast and forged) | | | | | | | | | | | | | | | | | | | | |
| Item  No. | Name of element | | Place  of installation  (designation) | | | Nominal diameter, mm | | Nominal pressure, MPa (kgf/cm2) | | | Brand of body material | | | GOST or TS | | | | Designation and No. of document | | |
|  |  | |  | | |  | |  | | |  | | |  | | | |  | | |
| c) Information on flanges and fasteners | | | | | | | | | | | | | | | | | | | | |
| Item No. | Name of element | Quantity | | | GOST for flange, fastener | | Nominal diameter, mm | | Nominal pressure, MPa (kgf/cm2) | | | | Material | | | | Designation and No. of document | | | |
| Steel grade | | GOST or TS | |
|  |  |  | | |  | |  | |  | | | |  | |  | |  | | | |
| **5. Information on supports and hangers**   |  |  |  | | --- | --- | --- | | Designation of support (hanger) | Name of support (hanger) | Designation of drawing | | 1 | 2 | 3 |   **6. Information on positive material identification \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | | | | | | | | | | | | | | |
| **7. Results of hydraulic testing of pipeline** | | | | | | | | | | | | | | | | | | | | |
| The pipeline shown on the diagram attached has been tested by test pressure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | | |
| At a pressure of \_\_\_\_\_\_\_\_ the pipeline has been inspected and the following has been identified \_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | | |
| **8. Conclusion** | | | | | | | | | | | | | | | | | | | | |
| The pipeline has been manufactured and installed in accordance with “Recommendations on design and safe operation of technological pipelines”, as well as in accordance with the design and Regulatory Technical Documentation, and recognized as suitable for operation at a pressure of \_\_\_\_\_\_\_\_ MPa (kgf/cm2) and a temperature of \_\_\_\_\_\_\_\_\_\_oC | | | | | | | | | | | | | | | | | | | | |
| “\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_\_ | | | | | | | | | | | | | | | | | | | | |
| List of attached documents: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | | | | | | | | | | | | | | |
| Chief Engineer | | | | | | | | | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (signature) | | | | | | | | |
| Manager of installation works | | | | | | | | | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (signature)  L.S. | | | | | | | | |

Form M-7

**Form of Summary Table of Welding Information**

**Summary Table of Information on Welding and Inspection**

El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of equipment)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Drawing No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Appendix to welding formular No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weld No. as per diagram | Type and size of edge preparation | Steel grade | Welding method | Category of welded joint | Brand of electrodes or filler wire | Welding material certificate No. | Full name of welder | Label of welder | Inspection method /  Designation and date of inspection | | | | |
| External inspection and measurement |  |  |  |  |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |

Engineer for execution of technical documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(last name) (signature)

Form M-8

**Form of Act on checking of installation of equipment on foundation.**

**ACT No. \_\_\_\_\_\_\_\_\_\_\_\_**

**on checking of installation of equipment on foundation.**

“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ The city of \_\_\_\_\_\_\_\_\_

El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |
| --- |
| This Certificate attests that equipment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name and KKS code of equipment, number of position as per detailed design drawings) |
| has been installed on the foundation in accordance with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (instructions of manufacturer, designation and number  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  of instructions, installation drawing of general designer, designation and number of drawing) |
| CONCLUSION: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| (compliance or non-compliance with the requirements of instructions |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  of manufacturer and installation drawing of general designer) |
| An as-built geodetic diagram of equipment installation is attached to the Certificate: |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name, designation of diagram)  2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| PERMIT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (decision on grouting has been taken)  Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date |

Form M-9

**Form of Act on testing of machines and mechanisms**

**ACT No. \_\_\_\_\_\_\_\_\_\_\_**

**of testing of machines and mechanisms**

“\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_20\_\_\_ The city of \_\_\_\_\_\_\_\_\_\_\_

El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |
| --- |
| This Certificate attests that testing has been performed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (idle run or under load, type and method of testing) |
| for the following installed mechanism, machine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name and KKS code, position number as per detailed design drawings, factory number) |
| When testing the machine (mechanism) during \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (hours, minutes, days) |
| in accordance with the requirements of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name and designation of regulatory and technical document, instructions of manufacturer) |
| the testing parameters correspond to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (parameter value, measurement units)  and it has been stated that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (testing results) |
|  |
| CONCLUSION |
| The machine (mechanism) has withstood testing and is ready for subsequent works. |

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the General Designer\* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation\*  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

\* - if necessary

Form M-10

**Form of Certificate of Tightening of Threaded Joints**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(place of construction: room, elevation, axes)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the Contractor)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the Owner)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of installation organisation)

“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_

**CERTIFICATE No.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**of Tightening of Threaded Joints**

Tightening of threaded joints of the following equipment has been performed:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item No. | Name and KKS code of equipment | Number and name of detailed design drawings and/or operational, installation documentation (instructions on installation of manufacturer) | Characteristic of threaded joint | Quantity | Tightening torque |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Based on the above, subsequent works are allowed:

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-11

**Form of Clean Condition Certificate**

**CERTIFICATE No. \_\_\_\_\_\_\_\_\_\_\_\_**

**of Clean condition**

“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ The city of \_\_\_\_\_\_\_\_\_

El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |
| --- |
| At all stages of installation, testing and acceptance, the clean condition of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (item, assembly, pipeline, drawing No.) |
| Factory No. \_\_\_\_\_\_, is provided in accordance with the requirements of drawings and process operations. |
| As a result of the procedure for acceptance for clean condition performed, it has been stated that in the equipment finally installed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ :  (item, assembly, pipeline, drawing No.)  1. No contaminations on surfaces, foreign particles, loose sediments, leaks are available.  2. When wiping the surface, no traces of dust, rust, oil have been detected.  3. Corrosion protection grease has been fully removed.  4. De-preservation has been performed in accordance with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Conclusion:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is allowed for installation  (item, assembly, pipeline, drawing No.)  of pipelines to be joined.  Internal cavities have been blinded off, sealed by the owner, seal No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date |

Form M-12

**Form of Hydraulic (Pneumatic) Test Protocol** **of Equipment, Pipelines**

**PROTOCOL No. \_\_\_\_\_\_\_\_\_\_\_\_**

**of Hydraulic (Pneumatic) Test of Equipment, Pipelines**

“\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_20\_\_\_

El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. This Certificate attests that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of the organisation that has performed testing) | | | | | | | | | |
| hydraulic (pneumatic) testing, external and internal inspection in accessible locations after installation of the following pipelines, equipment have been performed: | | | | | | | | | |
| Name of tested system (part of system, equipment, pipeline, assembly units, parts), KKS code | Designation of drawing of pipeline, equipment, KKS code | Number of test program | Testing medium | Holding time under pressure, min | Pressure, MPa (kgf/cm2) | | | Temperature, oC | |
| design (operating) | during testing | during inspection | design | (min) of metal of equipment (pipeline) at testing |
|  |  |  |  |  |  |  |  |  |  |

2. During inspection of pipelines, equipment, the following has been stated:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| 3. **Testing results:**  3.1 In the process of tests and during inspection of pipelines, equipment, no leaks of testing medium and ruptures of raw metal have been detected.  3.2 No signs of rupture or structural failure of connections, drops in welds, threaded joints, on the surface, etc. have been detected.  3.3 During the holding process, the fluctuations of pressure and temperature have not exceeded the limits stipulated in the working test program.   |  | | --- | | 3.4 After the testing, no visible permanent deformations have been revealed. | |
| The pipelines, equipment listed in clause 1 of this Certificate have withstood hydraulic (pneumatic) testing in accordance with the working program. |

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation\* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

\* - if necessary

Form M-13

**Form of Installation Certificate of Equipment**

Installation license

No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

issued \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Certificate No. \_\_\_\_\_\_\_\_\_**

**of Installation of Equipment**

Name of installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of organisation/owner and its address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of equipment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

KKS code \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of manufacturing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Designation of drawing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Operating medium \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Design pressure, MPa kgf/cm2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Design temperature, °C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Safety class (as per [NP-001-15](consultantplus://offline/ref=52054930EF070B98F986641BE83BBBFE263DD4697BEF91E8BD7F822A67CB90FFDAAB084F853B478CE88226459309BC6E1AE3549E7ED4BA54J2aFL)) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Seismic category (as per [NP-031-01](consultantplus://offline/ref=52054930EF070B98F986641BE83BBBFE2531D16F72E991E8BD7F822A67CB90FFDAAB084F853B478DE28226459309BC6E1AE3549E7ED4BA54J2aFL)) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1 Data on fasteners and/or other parts [<\*>](#Par35)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Size | Quantity | Designation of standard or technical specifications | Material | |
| Brand | Designation of standard or technical specifications |
| 1 | 2 | 3 | 4 | 5 | 6 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| <\*> To be specified only for those parts, the data on which are not included in the data sheet for equipment. | | | | | |

2 Information on basic elements of equipment and materials

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of element and KKS code | Designation of drawing of element and/or item | Size (diameter, thickness, length), mm | Brand of material and type of blank | Designation of standard or technical specifications | Number of cast | Number of batch or semi-finished item | Designation (number),  date of certificate | Intergranular corrosion resistance | Data on non-destructive test | | | Designation of conclusion on testing results |
| Method of testing | Scope of testing | Testing result |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Note - The table shall contain data on the elements that are not included in the data sheet for equipment in the amount determined by standards, technical specifications on materials (semi-finished items). | | | | | | | | | | | | |

3 Information on welded joints and surfacing [<\*>](#Par104)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of elements to be connected and KKS codes | Designation of welded joint or surfacing as per diagram | Category of welded joint or surfacing | Welding (surfacing) method | Label (designation) of welder | Materials to be welded | | Welding (surfacing) materials | | | | Data on non-destructive test of welded joints | | | Designation and date of test protocol |
| Name, brand | Designation of standard or technical specifications | Name, brand | Designation of standard or technical specifications | Number of batch and/or cast | Designation (number) and date of certificate | Method of testing | Scope of testing, % | Testing results |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <\*> To be specified only for those welded joints that have been made during installation of equipment. | | | | | | | | | | | | | | |

4 Information on heat treatment [<\*>](#Par126)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of equipment (equipment part), KKS code | Designation of drawing | Brand of raw material | Type of heat treatment | Heat treatment temperature, °C | Holding time, h | Cooling method | Quantity of heat treatments and total holding time [<\*>](#Par126) | Designation and date of document on heat treatment |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |  |  |  |  |  |  |  |  |
| <\*> To be specified if it is regulated by production and process documentation. | | | | | | | | |

5 Information on valves and/or I&C [<\*>](#Par158)

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Valve name, type and KKS code | Designation of standard or technical specifications | Quantity | Factory number | Nominal diameter, mm | Operating pressure, MPa (kgf/cm2) | Coolant temperature, °C | Design parameters | | Material of body | | Designation (number) of data sheet (certificate, qualification) | Place and date of installation |
| Pressure, MPa | Temperature, °C | Brand | Designation of standard or technical specifications |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| <\*> To be specified only for those valves/I&C that have been installed during installation and directly on equipment. | | | | | | | | | | | | | |

6 Data on safety valves

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name and KKS code | Quantity | Place of installation | Area of minimum open flow section, mm2 | Capacity or flow rate coefficient and medium | Designation of data sheet | Start pressure of valve opening, MPa |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|  |  |  |  |  |  |  |

7 Information on correction of defects during installation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8 Information on supports and hangers

|  |  |  |
| --- | --- | --- |
| Name (KKS code, if applicable) | Designation of drawing | Place of installation |
| 1 | 2 | 3 |
|  |  |  |

9 Pressure test results

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name of equipment and KKS code | Testing medium | Test pressure, MPa (kgf/cm2) | Holding time, min | Wall temperature at testing, °C | Testing results | Date and designation of test protocol |
|  |  |  |  |  |  |  |

Attachment: Installation Completion Certificate with a drawing, on which actual data on installation of equipment, supports, movement limit stops, shock absorbers shall be specified

Conclusion

Based on the verifications and tests performed, the following is certified:

1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has been installed in accordance with the requirements of

(name of equipment, KKS code)

“[Rules](consultantplus://offline/ref=52054930EF070B98F986641BE83BBBFE2430D66A7BE891E8BD7F822A67CB90FFDAAB084F853B478CE88226459309BC6E1AE3549E7ED4BA54J2aFL) for design and safe operation of equipment and pipelines of nuclear power installations” and according to technical specifications for equipment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of technical specifications)

2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and its elements and components have been subject to

(name of equipment, KKS code)

verification and tests and correspond to the above-mentioned Rules and technical specifications.

3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and its elements and components have been subject to

(name of equipment, KKS code)

pressure test or will be tested under pressure upon their primary technical examination in accordance with the above-mentioned Rules.

4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has been recognized as suitable for operation with parameters

(name of equipment, KKS code)

specified in this Certificate.

Responsible representative Responsible representative

of the installation organisation of the owner organisation

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, stamp) (signature, stamp)

Date Date

Note - It is allowed to change the size of pages and columns, as well as to replace tables with copies of certificates containing necessary data.

Form M-14

**Form of Installation Certificate**

|  |  |
| --- | --- |
| APPROVED BY: | APPROVED BY: |
| Head of the installation organisation | Chief Engineer of El-Dabaa NPP |
| *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* |  |
| “\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_\_ | “\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_\_ |

**CERTIFICATE No. \_\_\_\_**

**of Installation**

**(Equipment, Pipeline)**

“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ The city of \_\_\_\_\_\_\_\_

El-Dabaa NPP Unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |
| --- |
| This Certificate attests that installation and mounting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name and KKS code of equipment, pipelines, their brief characteristic)  have been completed in accordance with the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (drawing No.)  developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of general designer)  and the requirements of “[Rules for](consultantplus://offline/ref=52054930EF070B98F986641BE83BBBFE2430D66A7BE891E8BD7F822A67CB90FFDAAB084F853B478CE88226459309BC6E1AE3549E7ED4BA54J2aFL) design and safe operation of equipment and pipelines of nuclear power installations” NP-045-03 and are in good order. |
|  |
| **Conclusion:**  **The specified equipment, pipelines shall be considered to be completely installed and accepted from the installation organisation.**  Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date |

Form M-14a

**Form of Installation Certificate of HE&M (HD)**

**CERTIFICATE No. \_\_\_\_\_\_\_**

**of Installation**

**(hoisting and lifting devices)**

“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ The city of \_\_\_\_\_\_\_\_

El-Dabaa NPP unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |
| --- |
| This Certificate attests that installation and mounting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name and KKS code of equipment, their brief characteristic)  have been completed in accordance with the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (drawing No.)  developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of general designer)  and the requirements of “[Rules](consultantplus://offline/ref=52054930EF070B98F986641BE83BBBFE2430D66A7BE891E8BD7F822A67CB90FFDAAB084F853B478CE88226459309BC6E1AE3549E7ED4BA54J2aFL) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_”, and are in good order. |
|  |
| **Conclusion:** |
| **The specified equipment shall be considered to be completely installed and accepted from the installation organisation for performance of electrical works.**  Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date |

Form M-15

**Form of NPP Pipeline Installation Certificate**

Installation license

No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Issued on \_\_\_\_\_\_\_\_\_\_\_

**Certificate No. \_\_\_\_\_\_\_\_\_**

**of NPP Pipeline Installation**

Name of installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of organisation/owner and its address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of pipeline\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

KKS code\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Drawing designation\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Working environment\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Operating pressure, MPa(kgf/cm2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Operating temperature, °C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Safety class\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Seismic resistance category\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1 Information on pipes [<\*>](#Par38)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name and KKS code | Quality document No. | Item designation as per the diagram (drawing) | Quantity | Nominal outer diameter and pipe wall thickness, mm | Grade of material | Designation of standard or technical specifications | Batch and cast [<\*\*>](#Par39) number | Designation (number) and date of the certificate [<\*\*>](#Par39) |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| <\*> To be specified only for pipes, information on which is not included in the Certificate on the pipeline parts and assembly units manufacture.  <\*\*> To be filled-in for pipes of austenitic class with an outer diameter of 57 mm or more and for pipes made of steels of other structural classes with an outer diameter of 108 mm or more, operating at a pressure of 3.93 MPa (40 kgf/cm2) or more. For pipes of group B systems of the indicated standard sizes, metal control data (certificates) are provided in the scope provided for by standards or specifications. | | | | | | | | |

2 Information of shaped parts (welded, cast, forged, stamped and sheets)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Element name and KKS code  Quality document No. | Place of installation | Nominal diameter (nominal pipe size), mm | Operating temperature °C | Operating pressure, MPa (kgf/cm2) | Material [<\*>](#Par59) | |
| Brand | Designation of standard or technical specifications |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| <\*> For pipes of group B systems of austenitic class with an outer diameter of 57 mm or more and for pipes made of steels of other structural classes with an outer diameter of 108 mm or more, operating under a pressure of 3.93 MPa (40 kgf/cm2) or more, metal control data (certificates) are additionally provided in the scope provided for by the technical documentation. | | | | | | |

3 Information about flanges and fasteners

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item  No. | Name of the part and KKS code (manufacture certificate) (if any) or other | Quantity | Standard for flange, fastener | Nominal diameter (nominal pipe size), mm | Quality document No. | Material of flanges | | Material of studs, nuts and bolts | |
| steel grade | GOST or TS | steel grade | GOST or TS |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |

4 Information on valves and/or I&C <\*>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name and KKS code, valve type | Quantity | Nominal size, mm | Designation (number) of data sheet (certificate, qualification) | Place of installation according to (diagram) drawing |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| <\*> To be specified for valves and/or I&C only installed during installation and directly on the pipeline. | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Valve name and KKS code, type | Standard or TS designation | Quantity | Factory number | Nominal size, mm | Operating pressure, MPa (kgf/cm2) | Coolant temperature, °C | Design parameters | | Material of body | | Date sheet (certificate), qualification designation (number) | Place of installation according to the diagram, drawing | Date of installation | Signature of the authorized person |
| Pressure, MPa (kgf/cm2) | Temperature, °C | Brand | Standard or TS designation |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

5 Information on safety valves <\*>

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name and KKS code | Quantity | Place of installation | Area of the minimum open flow section, mm2 [<\*\*>](#Par151) | Capacity or flow rate coefficient and medium | Designation of data sheet | Valve full opening pressure, kgf/cm2 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| <\*> In case of installation of safety membrane plates, their dimensions, material and limits of destructive pressures are indicated, and when other devices that limit pressure are installed, their characteristics are specified; for safety valves, capacity calculations are included.  <\*\*> The value taken when calculating the valve capacity is to be specified. | | | | | | |

6 Information about welded joints, surfacing <\*>

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of elements to be connected (welded) and KKS codes | Designation of a welded joint (surfacing) according to the diagram | Category of welded joint | Welder’s stamp (designation) | Welding (surfacing) method | Welding (surfacing) materials | | Information of non-destructive testing of welded joints, surfacing | | | Designation (number) and date of inspection protocol |
| Brand | Standard or TS designation | Method of testing | Scope of testing, % | Testing results |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| <\*> To be indicated only for welded joints and surfacing made during installation. | | | | | | | | | | |

Information on welders

|  |  |  |  |
| --- | --- | --- | --- |
| Full name | Stamp | Details of the documents confirming their qualification and certification | Qualification date |
|  |  |  |  |

7 Information about heat treatment <\*>

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Name of assembly unit or item and KKS code | Designation of drawing | Brand of basic material | Type of heat treatment | Heat treatment temperature, °C | Holding time, h | Number of heat treatments and total holding time[<\*\*>](#Par211) | Designation and date of document on heat treatment |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| <\*> To be indicated for welded joints made during installation, as well as during repair of welded joints.  <\*\*> To be specified if it is regulated by production and process documentation. | | | | | | | |

8 Information about correcting defects during installation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9 Information about supports and hangers

|  |  |  |
| --- | --- | --- |
| Support (hanger) designation and KKS code (if applicable) | Name of support (hanger) | Designation of drawing |
| 1 | 2 | 3 |
|  |  |  |

10 Pipeline cold tension value (if provided for by the EDD) \_\_\_\_\_\_

11 Pressure test results

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name of pipeline section and KKS code | Testing medium | Hydraulic test pressure, MPa (kgf/cm2) | Holding time, min | Minimum temperature for of the wall, °C | Testing results | Date and designation of test protocol |
|  |  |  |  |  |  |  |

Attachment: Installation completion certificate including a dimensional as-built drawing of the pipeline attached indicating the parameters of the operating medium, geometric dimensions and location of welded joints, places for removing thermal insulation, installing supports, benchmarks, valves and I&C.

**Conclusion**

1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(pipeline name as per it`s purpose and KKS code)

manufactured and installed in accordance with the requirements of the Rules for design and safe operation of the equipment and pipelines of nuclear power units NP-089-15, standards and/or specifications \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(document designation and name)

and as per the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(drawing number)

developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of general designer)

of assembly units fabricated by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of manufacturer)

2) The pipeline will be subject to a pressure test in accordance with [i. 172](consultantplus://offline/ref=B1B032AA4DC678265BFB362E4F605B123B23A47712D150373A7B7E47A02A30DACCF3645FF31CA72F98F5B453850C69DF8D4DCFA669BD5D1Es2U3L) [of NP-089-15](consultantplus://offline/ref=B1B032AA4DC678265BFB293B4A605B123A23AC7319DA0D3D32227245A7256FCDCBBA685EF21CA42993AAB146945465D79A52CFB975BF5Fs1UDL) “Pressure tests after completion of equipment and pipelines installation of ...”.

3) The pipeline is classified as fit for operation under pressure, MPa (kgf/cm2) \_\_\_\_\_\_\_\_\_\_\_ and temperature, °C \_\_\_\_\_\_\_

4) Attachments:

- Installation completion certificate;

- Pressure test protocol;

- Welding and Assembly Form (WAF), approved by the welding control service.

5) Description of attached documents:

- as-built drawing of the pipeline attached indicating the parameters of the working environment, geometric dimensions and location of welded joints, places for removing thermal insulation, installing supports, checkpoints, fittings and I&C; Documents containing information on closed deviations, as well as documents on the conformity assessment results and a non-conformity report (if any), drawings;

- certificates (data sheets) of elements, parts and fittings;

- certificates for materials (or their certified copies);

- documents confirming the performance of quality control of work based on the results of incoming inspection, destructive and non-destructive testing of materials and welded joints;

- and other documents specified by the contract (contract for the performance of work).

Responsible representative Responsible representative Responsible representative  
of the installation organisation of the Contractor of the Owner

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, stamp) (signature, stamp) (signature, stamp)

Date \_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Note - It is allowed to change the size of sheets and columns, as well as to replace tables with copies of certificates containing the necessary data.

Form M-16

**Form of the certificate of the vessel assembling completion**

**CERTIFICATE No.\_\_\_\_\_\_\_\_\_**

**of the vessel assembling completion**

“\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_20\_\_\_ The city of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

El-Dabaa NPP unit No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |  |  |  |
| --- | --- | --- | --- |
| 1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of vessel)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Item No. (KKS code) as per detailed design drawings, installation drawing, its designation, No.)  Factory No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| 2.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of installation organisation, date of installation)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of the owner) | | | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of manufacturer, manufacture date) | | | |
| 3. Information of the materials used by the installation organisation additionally specified in the data sheet. | | | |
| Name of material | Grade of material | GOST or TS | Notes, additional information (for carbon steel, “rimming” or “killed” steel is to be specified) |
|  |  |  |  |

1. Information of the main fittings, flanges and fasteners, shaped parts:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| a) Information of the main fittings and shaped parts (cast and forged) | | | | | | | | | | | | | | | | |
| Name of element and KKS code (if applicable) | | Place  of installation  (designation) | | Nominal size, mm | | | Nominal pressure MPa (kgf/cm2) | | | Grade of body material | | GOST or TS | | | Designation and No. of document | |
|  | |  | |  | | |  | | |  | |  | | |  | |
| b) Information about flanges and fasteners | | | | | | | | | | | | | | | | |
| Name of element and KKS code (if applicable) | | Quantity | GOST for flange, fastener | | | Nominal size, mm | | Nominal pressure, MPa (kgf/cm2) | | Material | | | | Designation and No. of document | | |
| Grade of steel | GOST or TS | | |
|  | |  |  | | |  | |  | |  |  | | |  | | |
| 5. Information on welding | | | | | | | | | | | | | | | | |
| Type of welding | | Type and brand of welding materials | | | | Full names of welders | | | | Welder's stamp | | | | Welders’ certificates Nos. | | |
|  | |  | | | |  | | | |  | | | |  | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Designation of a welded joint as per the diagram | Welder's stamp | Type of welding | Welding (surfacing) materials | | Information of non-destructive testing of welded joints, surfacing | | | Designation (number) and date of inspection protocol |
| Brand | Standard or TS designation | Method of testing | Scope of testing, % | Testing results |
|  |  |  |  |  |  |  |  |  |

Information of the welded joints heat treatment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(type and mode, charts)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Full names of heat-treatment operators and their certificates)

|  |  |
| --- | --- |
| 6. Conclusion  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of vessel and KKS code)  has been installed in full compliance with the “Equipment subject to the rules for design and safe operation of pressure vessels” NP-044-18, operation manual (instruction) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (document title and designation)  design and process documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (document designation and title) | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of vessel and KKS code)  was subject to hydraulic test at the test pressure of \_\_\_\_\_ MPa (kgf/cm2) ata temperature of, °C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and is classified as suitable for operation under the parameters specified in the data sheet. | |

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the General Designer\* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-17

**Form of Pipeline Cold-Draw Certificate**

**CERTIFICATE No. \_\_\_\_\_\_**

**of Pipeline Cold-Draw**

“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ The city of \_\_\_\_\_\_\_\_\_\_\_

El-Dabaa NPP unit No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

Commission consisting of:

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name, position)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name, position)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name, position)

has inspected the works completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of installation organisation)

and has drawn up the present certificate as follows:

1. The pipeline cold-draw has been presented for examination and acceptance

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of pipeline and KKS code)

|  |  |  |  |
| --- | --- | --- | --- |
| Joint No. as per  as-built drawing | Tension value, mm | | Ambient temperature,  C |
| design | actual |
|  |  |  |  |

2. Works have been performed as per the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(drawing number)

developed by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of general designer and date)

DECISION OF THE COMMISSION

The works have been completed in accordance with design and estimate documentation, state standards, construction regulations and rules and meet the requirements for acceptance thereof.

Based on the above, the pipeline cold-draw is considered to be completed.

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-18

**Form of Pipeline Installation Certificate**

|  |  |  |  |
| --- | --- | --- | --- |
| Permit for the pipeline installation  No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  dd. “\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_  Issued \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of Rostechnadzor body,  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  issued the installation permit) | | | |
| **CERTIFICATE No. \_\_\_\_\_\_\_**  **of Installation of Pipeline** | | | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (purpose of pipeline and KKS code) | | | | | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of construction and installation organisation) | | | | | |
| Working environment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| Work pressure MPa (kgf/cm2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| Working temperature, °C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| **1. Data on installation** | | | | | |
| The pipeline has been installed in full compliance with the design developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of general designer) | | | | | |
| and manufactured by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of manufacturer) | | | | | |
| in accordance with working drawings\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (number of assembly drawings) | | | | | |
| **2. Welding information**  Type of welding used during pipeline installation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Information on filler material \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (specify the type, brand, GOST or TS)  Methods, scope and results of inspection of welded joints \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  The pipeline has been welded in accordance with the requirements of  Regulations of Gosgortechnadzor of Russia, RD on welding by welders who have been tested in compliance with the Procedure for qualification of welders and specialists in the field of welding (PB 03-273-99), approved by resolution of Gosgortechnadzor of Russia No. 63 dated 30.10.1998 and registered by the Ministry of Justice of Russia on 04.03.1999, registration No. 1721. | | | | | |
| **3. Information of the welded joints heat treatment (type and mode)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | |
| **4. Information of the materials the pipeline is made of**: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Note. This information is recorded only for those materials, the data on which were not included in the manufacturer’s certificate | | | |
| a) Information on pipes   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Item  No. | Name of element and KKS code | Quantity | Outer diameter and wall thickness of pipe, mm | Steel grade, GOST or TS | Pipes, GOST or TS | Designation (No. ) and document date | |  |  |  |  |  |  |  | | | | |
| Note. For pipelines of category I, except for the data specified in the table, certificates for metal and inspection data shall be attached to the certificate. | | | |
| b) Information on the main fittings and shaped parts (cast and forged)   |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | Item  No. | Name of element and KKS code | Place of installation (designation) | Nominal size, mm | Nominal pressure MPa (kgf/cm2) | Grade of body material | GOST or TS | Designation (No. ) and document date | |  |  |  |  |  |  |  |  | | | | |
| c) Information on flanges and fasteners   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Item No. | Name of element | Quantity | GOST for flange, fastener | Nominal size, mm | Nominal pressure, MPa (kgf/cm2) | Material of flanges | | Material of studs, nuts and bolts | | | Steel grade | GOST or TS | Steel grade | GOST or TS | |  |  |  |  |  |  |  |  |  |  | | | | |
| **5. Information on supports and hangers**   |  |  |  | | --- | --- | --- | | Designation of support (hanger) | Name of support (hanger) | Designation of drawing | | 1 | 2 | 3 |   **6. Information of positive material identification** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| **7. Results of hydraulic testing of pipeline** | | | |
| The pipeline shown on the diagram attached has been tested by test pressure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| Under pressure of \_\_\_\_\_\_\_\_\_\_\_\_ the pipeline has been inspected, in doing so, the following has been revealed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| **8. Conclusion** | | | |
| The pipeline has been manufactured in accordance with “Pipelines subject to the rules for design and safe operation of steam and hot water pipelines for nuclear facilities” NP-045-18, as well as in accordance with the design and RD and recognized to be suitable for operation under pressure of \_\_\_\_\_\_\_\_ MPa (kgf/cm2) and temperature of \_\_\_\_\_\_\_\_\_\_oC | | | |
| “\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_\_ | | | |
| List of attached documents: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| Chief Engineer | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (signature) |
| Manager of installation works | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (signature) |

Form M-19

**Form of Pipeline Acceptance Certificate Issued by Owner of Installation Organisation**

**PIPELINE ACCEPTANCE CERTIFICATE No. \_\_\_\_\_\_\_\_**

**Issued by Owner of Installation Organisation**

“\_\_\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_ The city of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

El-Dabaa NPP unit No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of building)

|  |
| --- |
| This Certificate attests that installation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of pipelines and KKS code, their brief characteristic)  have been completed in accordance with the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (drawing No.)  developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of general designer)  and the requirements of Regulations for Design and Safe Operation of Steam and Hot Water Pipelines for Nuclear Facilities, NP-045-03 and are in good order. |
|  |
| **Conclusion:**  **The specified pipelines shall be considered to be completely installed and accepted from the installation organisation.**  Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date  Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Position Last name Signature Date |

Form M-20

**Form of Protocol test results of the sealed enclosure and its components**

**PROTOCOL № \_\_\_\_\_\_\_\_\_\_\_**

**of test results of the sealed enclosure**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(preliminary after the construction completion, periodic)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole or its self-contained part)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(for tightness, strength)

Power No. \_\_\_\_ of El-Dabaa “\_\_” \_\_\_\_\_\_\_\_\_\_ 20\_\_

1. On test results \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(preliminary, after the construction completion, periodic)

the sealed enclosure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole or its self-contained part)

for tightness.

1.1. Tests have were carried out base on Clause No. \_\_\_\_\_\_\_\_\_\_ of the program within the period from \_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_

The graph of air pressure variance in the accident confinement area, the records of parameter registration for determining the leakage values, as well as the sealed enclosure defect sheet are attached to this record.

1.2. The leakage values are determined for the following number of tests:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The values of the test air pressure inside the sealed enclosure and the results of the calculations are given below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Leakage value and absolute  measurement error, %/day | Confidence probability | Initial test pressure, kPa | Test start at the indicated pressure | |
| Date | Time, h |
|  |  |  |  |  |
|  |  |  |  |  |

1.3. The leakage values obtained are compared (in accordance with the requirements of clause No. of the test program) with leakage criteria and comply (do not comply) with the specified requirements.

2 On test results \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(preliminary, after construction completion, periodic)

of the sealed enclosure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole or its its self-contained part)

for strength.

2.1. The tests were carried out based on Clause No.\_\_\_\_\_\_ of the working program within the period from \_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_ (see [clause 1.1](#Par25) of this protocol).

The records of paramentrs registration, as well as as the sealed enclosure defect sheet are attached to this record.

2.2. Strain-stress state of the sealed enclosure

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole or its self-contained part)

is determined for \_\_\_\_\_\_\_\_\_\_\_ the value of test air pressure in the accident confinement area equal to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_kPa.

The strain-stress state was assessed based on the readings of \_\_\_\_\_\_\_\_\_\_\_ transducers with simultaneous surface examination of concrete for cracks detection (in accordance with the requirements of Clauses No.. \_\_\_\_ of the work program).

Values of stresses in the reinforcement at the test pressure of \_\_\_\_\_\_\_ kPa do not exceed \_\_\_\_\_\_\_ kPa. The exception are areas \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, whereat stresses up to \_\_\_\_\_ kPa are recorded.

At marks \_\_\_\_\_\_\_\_ in the areas \_\_\_\_\_\_\_\_, cracks are found with opening of \_\_\_\_\_\_\_ mm.

After reducing the pressure in the sealed enclosure cracks\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(closed, did not close)

2.3. Measured values of stresses, strain (displacements), inclinations, detected crack opening \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ design values.

(do not exceed, exceed)

**CONCLUSION**

The sealed enclosure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole or its self-contained part)

of unit No.\_\_\_\_ of El-Dabaa NPP:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

(passed, did not pass) the leak tests

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(passed, did not pass) strength tests

Chairman of the Commission \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, fullt name)

Members of the Commision \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signatures, full name)

Form M-20a

**Form of Protocol of parameters registration during testing the sealed enclosure for tightness**

**PROTOCOL № \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**of parameters registration during testing the sealed enclosure tightness**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(preliminary, after the construction completion, periodic)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole as whole or of its self-contained part)

Unit No. \_\_\_\_ of El-Dabaa NPP “\_\_” \_\_\_\_\_\_\_\_\_\_ 20\_\_

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date of testing | Time of measurement, h, min | Pressure inside containment, kPa | | | Mass-average temperature inside the SE, °C | Mass-average gas constant inside the SE, J/(kg ·°C) | Time from the test start, h, min | Note |
| manometric | barometric | absolute |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

Responsible person \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signatures, full name)

Form M-20b

**Form of List of flaws found during testing the sealed enclosure**

**LIST № \_\_\_\_\_\_\_\_\_\_\_\_\_**

**of flaws found during testing the sealed enclosure**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(preliminary, after construction completion, periodical)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole or its self-contained part)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(for tightness, strength)

Unit No. \_\_\_\_ of El-Dabaa NPP “\_\_” \_\_\_\_\_\_\_\_\_\_ 20\_\_

Date and time of flaws (leakiness) detection \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group (team) for flaws detection \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Head \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name)

Search route for flaws (leakiness) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Point No.)

Additional data of the route \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(elevation)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Testing conditions | Location of faults (leakiness) | Marking of faults | | Detailed description of flaws | Note |
| Flaw No. | Date of testing |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Responsible person  
 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signatures, full name)

Form M-20c

**Form of Protocol of parameters registration during testing the sealed enclosure for strength**

**PROTOCOL № \_\_\_\_\_\_\_\_\_\_\_\_**

**of parameters registration during testing the sealed enclosure for strength**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(preliminary, after the construction completion, after repair)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole or of its self-contained part)

Unit No. \_\_\_\_ of El-Dabaa NPP “\_\_” \_\_\_\_\_\_\_\_\_\_ 20\_\_

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date of test start | Time of test start h, min | Test pressure inside the SE, kPa | Moisture content inside the SE | Location of the pressure transducer inside the SE | | Pressure transducer | | Countdown  from the test  start, s | Measured value of temperature inside SE, °C | Increase in the measured value of temperature inside the SE, °C | Note |
| Elevation | Gate | No. | Type |
|  |  |  |  |  |  |  |  |  |  |  |  |

Responsible person \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signatures, full name)

Form M-20d

**Form of Certificate of the elimination of flaws detected during testing**

**CERTIFICATE № \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**of of the elimination of flaws detected during testing**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(preliminary, after the construction completion, after repair)

the sealed enclosure\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(as a whole or its self-contained part)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(for tightness, strength)

Unit No. \_\_\_\_ of El-Dabaa NPP “\_\_” \_\_\_\_\_\_\_\_\_\_ 20\_\_

1. The flaws were eliminated that are specified in defect sheets:

No.\_\_\_\_dated. \_\_\_\_\_\_\_\_to test protocol № \_\_\_\_\_\_\_\_\_\_\_dated\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. All reveled flaws \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(eliminated, not eliminated)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(if not, indicate the marking of the flaw and the reason why the elimination is not possible)

The repair was carried out by the group headed by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name)

3. The repair works were inspected using the method of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Inspection results \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Responsible persons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signatures, full name)

Responsible person from acceptance subdivision \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, last name

Responsible acceptance inspector \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, last name)

Form M-21

**Form of Certificate of Localization Safety Systems (Localization Safety Systems Elements) Installation**

Installation license

No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

issued on\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CERTIFICATE No. \_\_\_\_\_\_\_\_\_**

**of Localization Safety System Installation**

(localization safety system elements),

performed in accordance with the requirements of “Regulations on arrangement and operation of localization safety systems (LSS) of nuclear power plants”

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of localization safety system )

(localization safety system element)

**1 General data of LSS elements**

|  |  |
| --- | --- |
| LSS name |  |
| KKS code |  |
| Name of the design organisation |  |
| No. of assembly drawing |  |
| Name of LSS elements manufacturer |  |
| Name of installation organisation |  |
| Name of the organisation - owner |  |
| Name of working environment |  |
| Design pressure of working environment, MPa |  |
| Design temperature of working environment, °C |  |
| Seismic resistance category |  |

**2 Information of the localization safety system materials**

**(localization safety system elements)**

**of nuclear power plants**

Information of metal sheets, structural steel/rolled shape, forgings

(closed die forgings), untensioned, prestressed reinforcement, concrete

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name of element and KKS code | Sheet width, mm (No. of rolled products) | Steel (concrete) grade | GOST or TS for material | Batch number | Certificate number |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Information on pipes

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Name of localization safety system and KKS code | Nominal outer diameter and pipe wall thickness, mm | Grade of material | GOST or TS for supply | Pipe length, m | Cast No. | Certificate number |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Information of items to be installed in building

leak-tight-related structures

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name of equipment (penetrations, hatches etc.) and KKS code | Quantity, pcs. | Drawing number (TS, OST, GOST) | Basic dimensions, mm | Maximum leakage value during testing, m3/h |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Information of installed isolating valves

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Valve type and KKS code | Quantity, pcs. | Place of installation, systems, room | Nominal diameter, Dnom | Design pressure, MPa | Design temperature, °C | Data sheet (Certificate) No. | Maximum permissible leakage value, m3/h |
|  |  |  |  |  |  |  |  |

**3 Welding information** [**<\*>**](#Par134)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of a welded joint as per the diagram | Category of welded joint | Type of welding | Information of filler materials | | | | | Method of testing | Scope of testing | Testing results |
| type | grade | GOST or TS for supply | certificate number | Batch number |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| <\*> To be indicated only for welded joints made during installation. | | | | | | | | | | |

**4 Information on welders**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Full name | No. of weld joints | Grade | Qualification protocol No. and date of qualification | Certificate No. | Admitted to \_\_\_\_\_\_\_\_ (list of works) |
|  |  |  |  |  |  |

**5 Tensile reinforcement pre-stressing results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Tendon Nos. and KKS code | Tension in the containment cylindrical part | | Tension in the containment dome part (to be filled-in if such system is available) | |
| Tension force | Date | Tension force | Date |
|  |  |  |  |  |

**6 LSS elements test results**

|  |  |  |
| --- | --- | --- |
| Name of elements and KKS code | Testing results | Note |
|  |  |  |

**7 Conclusion**

LSS elements have been installed and tested in accordance with the “Rules for Arrangement and Operation of Localizing Safety Systems of Nuclear Power Plants” NP-010-98 and in compliance with the project requirements.

Chief Engineer

of installation organisation \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Signature, full name)

“\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

Head of Technical control department \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Signature, full name)

“\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

L.S.

Form M-22

**Form of Certificate of Overhead Track Delivery and Acceptance for Operation**

**CERTIFICATE**

**of Overhead Track Delivery and Acceptance for Operation**

No. \_\_\_\_\_\_\_\_\_\_\_ “\_\_” \_\_\_\_\_\_\_\_\_\_ 20\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name and address of the organisation where the overhead track was installed)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Overhead track

KKS code (if applicable)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Length of the track, m \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nominal track gage (span) size, mm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Rail track tolerance class \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Design documentation availability \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(project Owner)

Compliance of the rail track structure with design documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The rail track run was performed by cranes (indicate the number of drives):

without load \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. with the maximum work load \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Measurement results of the parameters provided in table D.2 of appendix D GOST R 56944-2016

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Designation of the limit deviation according to** [**table D.2**](consultantplus://offline/ref=EB7A668A1EE9DE79741172240AA5AA3765D18529FE3CC026736AEA52AD01BFCDF16ADA24E1C8A4FDEBF79DB4D1AD0707F31EB7FF5B4191i8x6P) **of Appendix D (in mm)** | | | | | | | | |
| ***A*** | ***B*** | ***b*** | ***C*** | ***c*** | ***E*** | ***F*** | ***G*** | ***K*** |
| **Maximum actual deviation from design position** | | | | | | | | |
|  |  |  |  |  |  |  |  |  |

Availability and operability of cut-off devices \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Availability and operability of track buffer stops \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Track grounding

Grounding structure\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name, type and number of the device for measuring grounding resistance, verification/calibration information  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Information of the environment parameters during the last three days and on the day of measurements

|  |  |  |
| --- | --- | --- |
| Date | Temperature, °C | Humidity, % |
|  |  |  |
|  |  |  |

Grounding resistance, Ohm \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tracks grounding complies with regulations \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Grounding of the crane track has been performed\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(organisation, position, last name, signature)

<1> The acceptance certificate must be attached with the actual results of the planned high-altitude geodetic survey, including graphic material, information about measuring instruments, their verification/calibration, as well as data on the specialists who carried out the measurements (organisation, position, surname, signature).

Measurement of the grounding resistance has been made by

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(organisation, position, last name, signature)

The work on rail track arrangement has been performed and delivered by

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(organisation, position, last name, signature)

The rail track has been accepted for operation by

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(organisation, position, last name, signature)

Form M-23

**Form of Individual Test Certificate of Equipment**

**Act No. \_\_\_\_\_\_\_\_\_\_\_\_**

**of Individual Test of Equipment**

performed in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of construction facility, KKS code)

The city of \_\_\_\_\_\_ “\_\_\_\_” \_\_\_\_\_\_\_\_ 20 \_\_\_

Commission comprising representatives of:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

made the present act regarding the following:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(fans, pumps, couplings, self-cleaning filters with electric drive,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

regulating valves of ventilation (air conditioning) systems

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(numbers of systems shall be indicated and KKS code)

have passed running for \_\_\_\_\_\_\_\_\_\_\_\_\_\_ according to the technical specifications, the passport.

1. As a result of running of the specified equipment it was established that the requirements

for its assembly and installation given in the manufacturers' documentation are observed and

no malfunctions in its operation are found.

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-24

**Form of Passport of Ventilation (Air Conditioning) System**

**PASSPORT No. \_\_\_\_\_\_\_\_\_\_\_\_\_**

**of Ventilation (Air Conditioning) System**

Name of the system, installation\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

KKS code \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Object\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Area (workshop, room)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**General information:**

1. System purpose\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Location of system equipment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. **Main technical characteristics of the system equipment:**

* + - 1. **Fan**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Data | Type | No. | Wheel diameter DMr., mm | Flow rate, m3/h | Total pressure, Pa | Sheavy diameter, mm | Rotation frequency, s-1 |
| According to the design |  |  |  |  |  |  |  |
| Actually |  |  |  |  |  |  |  |

Note - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - 1. **Electric motor**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Data | Type | Power, kW | Rotation frequency,s-1 | Sheave diameter, mm | Type of transmission |
| According to the design |  |  |  |  |  |
| Actual |  |  |  |  |  |

Note - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - 1. **Air heaters, air coolers, including area ones**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Data | Type or model | Quantity,pcs | Drawing | | The type and parameters of heat carrier | Testing\* of the heat exchangers at the operating pressure (completed, not completed) |
| heat carrier manifold | air locations |
| According to the design |  |  |  |  |  |  |
| Actual |  |  |  |  |  |  |

Note - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\* Performed by the assembly organisation with involvement of the customer (adjustment organisation).

* + - 1. **Dust and gas collector**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Data | Name of | No. | Quantity, pcs. | Air flow rate, m3/hour | % of leakage (knocking) | Resistance, Pa |
| According to the design |  |  |  |  |  |  |
| Actual |  |  |  |  |  |  |

Note - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - 1. **Air humidifier**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Data | Pump | | | | Electric motor | | | Characteristics of humidifier |
| type | water consumption, m3/h | pressure before the nozzles, kPa | rotation frequency, s-1 | type | power, kW | rotation frequency, s-1 |
| According to the design |  |  |  |  |  |  |  |  |
| Actual |  |  |  |  |  |  |  |  |

Note - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* + - 1. **Air consumption for the rooms (for the network)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of  measured cross-section | Name of rooms | Air flow rate, m3/hour | | Discrepancy, % of deviation from the indicators |
| actual | according to the design |
|  |  |  |  |  |
|  |  |  |  |  |

Ventilation (air conditioning) system diagram

**Note** Detected deviations from the design (working design) are specified and their concordance with the design contractor or elimination.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner (commissioning entity) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-25

**Form of Certificate for Hydrostatic or Manometric Pressure Leak Testing**

**CERTIFICATE No. \_\_\_\_\_\_\_\_\_\_\_**

**of Hydrostatic or Manometric Pressure Leak Testing**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of system and KKS code)

mounted in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of facility, building)

The city of \_\_\_\_\_\_\_ “\_\_\_” \_\_\_\_\_\_\_\_\_ 20\_\_

The Commission, comprising representatives of:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

assembly (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

has performed the inspection and installation quality check and drawn up the present act regarding the following:

1. Installation is made according to the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of design organisation and drawings No.)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. The testing is made by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(by hydrostatic or manometric method)

with pressure of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_MPa (\_\_\_\_\_\_\_\_\_\_\_\_\_ kg/cm2) during \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ min.

3. Pressure drop was \_\_\_\_\_\_\_\_\_\_ MPa (\_\_\_\_\_\_\_\_\_\_\_\_kg/cm2 ).

4. Signs of rupture or joint failure of heat generators and water heaters, drops in the welds, threaded joints, heating units, on the surface of pipes, valves as well as water leakage through the water fittings, flushing devices etc. are not detected (delete as applicable).

**COMMISSION DECISION:**

Installation is made in accordance with the design documentation, the applicable technical specifications, standards, codes of practice.

The system is considered to have passed the pressure test for water tightness.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-26

**Form of Act of testing of internal sewerage and drains systems**

**ACT No. \_\_\_\_\_\_\_\_\_\_\_**

**of testing of internal sewerage and drains systems**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(system name and KKS code)

mounted in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of facility, building)

The city of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ “\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_ 20

Commission comprising representatives of:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

has performed the inspection and quality check of installation carried out by erection department and drawn up the present act regarding the following:

1. Installation is made according to the DDD\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of design organisation and drawings No.)

2. Testing was performed by by water flowing through the simultaneous opening of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(number)

sanitary appliances connected to the inspected site within \_\_\_\_\_\_\_\_\_ minutes, or filling with water to a height of floors (delete as applicable)

3. During inspection in the course of testing no leaks through the pipeline walls and junction points were detected.

**Commission decision:**

The installation has been carried out in accordance with the design documentation, valid technical specifications, standards, codes of practice.

Installation is made in accordance with the design documentation, the applicable technical specifications, standards, codes of practice.

The system is considered to have passed the the water flow test.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-27

**Form of Certificate of Pressure Pipelines Strength and Tightness Preliminary Test**

**CERTIFICATE No. \_\_\_\_\_\_\_\_\_\_\_**

**of Pressure Pipelines Strength and Tightness Preliminary Test**

\_\_\_\_\_\_\_\_\_\_\_ “\_\_\_\_” \_\_\_\_\_\_\_\_ 20\_\_

Commission consisting of representatives of:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

have drawn up this certificate for pressure pipeline section strength and tightness hydraulic acceptance test\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the facility and station Nos on its boundaries, KKS code

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

length of the pipeline, diameter, material of pipes and butt joints)

The design internal pressure values of the tested pipeline specified in the detailed design documentation *Pd* = \_\_\_\_\_\_\_ MPa and test pressure *Pt* = \_\_\_\_\_\_\_\_\_ MPa,

Pressure measurement during testing was carried out with an industrial pressure gauge of the accuracy class with an upper measurement limit of \_\_\_\_\_\_\_ MPa.

The pressure gauge scale division value is \_\_\_\_\_\_\_ MPa.

The pressure gauge was located above the pipeline axis at Z = \_\_\_\_\_\_ m.

At the above values of the internal design and test pressures of the tested pipeline, the readings of the pressure gauge (manometer) *Pd.m* and *Pt.m* should be, respectively:

,.

The allowable flow rate of pumped water, determined per 1 km of the pipeline, is \_\_\_\_\_ l / min, or, in terms of the length of the tested pipeline, is \_\_\_\_\_ l / min.

**TESTING AND ITS RESULTS**

For a strength test, the pressure in the pipeline was increased to and maintained for \_\_\_\_ minutes, while it was not allowed to decrease by more than 1 MPa. After that, the pressure was reduced to the value of the internal design gauge pressure *Pd.m* = \_\_\_\_\_\_ MPa and the inspection of the pipeline units in the manholes (chambers) was carried out; no leaks or breaks were found and the pipeline was approved for further leak testing.

For the leak-tight test, the pressure in the pipeline was increased to the value of the leak-tight test pressure , the start time of the test and the initial water level in the measuring tank were registered .

Pipeline testing was performed in the following order:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(indicate the sequence of testing and

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

pressure drop monitoring; whether water was discharged from the pipeline

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

and other features of the test method)

During the pipeline leak-tight testing, the pressure therein according to the pressure gauge reading was reduced to \_\_\_\_\_ MPa, the test completion time and the final water level in the measuring tank were registered . The volume of water required to restore the pressure to the test one, determined by the water levels in the measuring tank, *Q* = \_\_\_\_ l.

The duration of the pipeline leak-tight test is . The flow rate value of the water pumped into the pipeline during the test is equal to, that is less than the allowable flow rate.

**DECISION OF THE COMMISSION**

The pipeline is recognized as having passed the acceptance test for strength and tightness.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-28

**Form of Report On Conduct Of Acceptance Hydraulic Test Of Pressure Pipeline For Strength And Air-Tightness**

**REPORT No. \_\_\_\_\_\_\_\_\_\_\_**

**on conduct of acceptance hydraulic test of pressure pipeline for strength and air-tightnesst**

\_\_\_\_\_\_\_\_\_\_\_ “\_\_\_\_” \_\_\_\_\_\_\_\_ 20\_\_

The Commission made up of representatives:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

has drawn up this Report on the conduct of acceptance hydraulic test for strength and air-tightness of the section of the pressure pipeline \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the facility and station Nos on its boundaries, KKS code

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

length of the pipeline, diameter, material of pipes and butt joints)

Specified in the working documentation the values of internal design pressure of the pipeline under test Pd = \_\_\_\_\_\_\_\_MPa (\_\_\_\_\_\_\_\_ kgf/cm2) and test pressure Pt = \_\_\_\_ MPa i kgf/cm2).

The pressure during the test was measured by technical pressure gauge, accuracy class with the upper limit of measurements kgf/cm2. The pressure gauge scale division value kgf/cm2.

The pressure gauge scale division value is \_\_\_\_\_\_\_ MPa.

The pressure gauge was located above the axis of the pipeline by Z = \_\_\_\_\_\_\_\_m.

With the above-mentioned values of the internal design and test pressure of the pipeline under test, the pressure gauge readings P d. Pr.g and P t. Pr.g must be, respectively:

,.

The admissible consumption of pumped-up water determined in Table 6 per 1 km of the pipeline equals to \_\_\_\_\_\_\_ liters/min or in conversion to the length of the pipeline under test, equals to \_\_\_\_\_ liters/min..

**CONDUCT OF TEST AND ITS RESULTS**

To test for strength, pressure in the pipeline was increased to P t. Pr.g = \_\_\_\_\_\_\_ kgf/cm2 and was maintained for \_\_\_\_\_\_ min.; in this case its reduction was not allowed by more than 1.0 kgf/cm2. After that the pressure was reduced down to the value of internal design gauge pressure P d.pr. g = \_\_\_\_\_\_\_ kgf/cm2 and the units of the pipeline in the wells (chambers) were examined; in this case, no leakage and breaks were detected and the pipeline was admitted for the conduct of further test for air-tightness.

For air-tightness test the pressure in the pipeline was increased to the value of the test pressure for air-tightness P a.t = P d. Pr.g + AP = \_\_\_\_\_\_\_\_kgf/cm2, the time of the start of the test T s = h min. and initial level of water in the measuring tank h =\_\_\_\_\_\_\_\_ mm were registered.

The pipeline test took place with the following procedure:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Following Data are to be Indicated: Sequence of Test Conduct and Observation of Pressure

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Drop; whether Water was Withdrawn from Pipeline

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

and other Features of Test Method)

During the pipeline test for air-tightness the pressure in it was reduced down to kgf/cm2 as read by the pressure gauge, the time of the end of the test T e = \_\_\_\_\_ h \_\_\_\_\_\_ min and the final level of water in the measuring tank ht = \_\_\_\_\_\_\_\_ mm were registered. The volume of water required to restore the pressure to the test value determined by water levels in the measuring tank, Q = \_\_\_\_\_\_\_\_\_\_ liters.

Duration of the pipeline test for air-tightness T = T e- T s= \_\_\_\_\_\_\_\_\_min. The value of consumption of the water pumped up into the pipeline equals to q p.u. = Q/T = \_\_\_\_\_, liters/min., which is less than the tolerable value of consumption.

**DECISION OF THE COMMISSION**

The pipeline is acknowledged as withstanding the acceptance test for strength and air-tightness.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-29

**Form of Report On Conduct Of Acceptance Hydraulic Test Of Pressure Pipeline For Strength And Air-Tightness**

**REPORT No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**on conduct of acceptance hydraulic test of pressure pipeline for strength and air-tightness**

\_\_\_\_\_\_\_\_\_\_\_ “\_\_\_\_” \_\_\_\_\_\_\_\_ 20\_\_

The Commission made up of representatives:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

has drawn up this Report on the conduct of acceptance hydraulic test for strength and air-tightness of the section of the pressure pipeline \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Name of Object and Nos. of Stations on its Boundaries and KKS code)

The pipeline length \_\_\_\_\_\_\_ m, pipe material \_\_\_\_\_\_\_\_\_\_, pipe diameter \_\_\_\_\_\_\_\_\_ mm, butt joint material \_\_\_\_\_\_\_\_\_\_\_\_\_.

The value of internal design pressure in pipeline Pd is equal to\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MPa (\_\_\_\_\_\_\_kgf/cm2).

The value of internal design pressure in pipeline Pd is equal to MPa (kgf/cm2).

In order to test for strength, pressure in the pipeline was increased to \_\_\_\_\_\_\_\_\_\_\_MPa (\_\_\_\_\_\_ kgf/cm2) and maintained for 30 min. No disturbance of pipeline continuity was found. After that the pipeline pressure was reduced down to 0.05 MPa (0.5 kgf/cm2) and the pipeline was held under this pressure for 24 h.

Upon completion of pipeline holding, initial test pressure P = 0.03 MPa (0.3 kgf/cm2) was established in it. The reading of connected liquid-filled column pressure gauge P= \_\_\_\_\_\_\_\_\_\_mm H2O (or in mm, kerosene column - when pressure gauge is filled with kerosene) corresponds to this pressure.

Test start time \_\_\_\_\_ h \_\_\_\_\_ min, initial atmospheric pressure Pbi mm= \_\_\_ mm h.g.  The pipeline was tested under this pressure for \_\_\_\_\_ h. Upon elapse of this the final test pressure in the pipeline was measured Pf= \_\_\_ mm H2O (\_\_\_\_\_\_mm, kerosene column). In this case, the final atmospheric pressure is Pbf= \_\_\_ mm H2O.

Actual value of pressure reduction in the pipeline P = γ (Pi – Pf) + 13.6(Pbi-Pbf) = \_\_\_ mm H2O, which is less than the tolerable value of pressure drop (y = 1 - for water, and у = 0.87 - for kerosene) indicated in Table 6 SNIP 3.05.04-85.

**DECISION OF THE COMMISSION**

The pipeline is acknowledged as withstanding the acceptance test for strength and air-tightness.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-30

**Form of Report On Conduct Of Acceptance Hydraulic Test Of Pressure-Free Pipeline For Strength And Air-Tighteness**

**REPORT No. \_\_\_\_\_\_\_\_\_\_\_**

**of on conduct of acceptance hydraulic test of pressure-free pipeline for strength and air-tighteness** \_\_\_\_\_\_\_\_\_\_\_ “\_\_\_\_” \_\_\_\_\_\_\_\_ 20\_\_

The Commission made up of representatives:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

has drawn up this Report on the conduct of acceptance hydraulic test for strength and air-tightness of the section of the pressure pipeline \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Name of Object and Nos. of Stations on its Boundaries and KKS code, Length of Pipeline, Diameter)

The level of ground waters in the place of arrangement of the upper well is at the distance of \_\_\_\_\_\_\_m from the top of the pipe at the depth of laying of pipes (up to the top) \_\_\_\_\_\_\_m.

he pipeline was tested using the method \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Indicate - Together or Separately from Wells and Chambers)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Indicate Method of Test - Adding Water into Pipeline or by Inflow of Ground Water into it)

Hydrostatic pressure with the value \_\_\_\_\_\_\_ m, H2O was built up by filling with water  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Indicate No. of Well or No. of Riser Installed in it)

In compliance with Table 8 SNIP 3.05.04-85, tolerable volume of water added into the pipeline, in

(delete as appropriate)

flow of ground water per 10 m of the pipeline length for the test time of 30 minutes is equal to \_\_\_\_\_ liters.

(delete as appropriate)

The actual volume of added water, the inflow of groundwater during the test time amounted to \_\_\_\_\_ liters,

(delete as appropriate)

or or in conversion to \_\_\_\_\_\_\_\_\_\_\_\_\_\_ per 10 m of the pipeline length (taking into account the tests together with the wells, chambers) and duration of the test for 30 min amounted to \_\_\_\_\_ liters, which is less than tolerable consumption value.

**DECISION OF THE COMMISSION**

The pipeline is acknowledged as withstanding the acceptance test for strength and air-tightness.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-31

**Form of Report On Conduct Of Washing And Disinfection Of Pipelines (Structures) Of Utility And Drinking Water Supply**

**REPORT No. \_\_\_\_\_\_\_\_\_\_\_\_\_**

**On conduct of washing and disinfection of pipelines (structures) of utility and drinking water supply** \_\_\_\_\_\_\_\_\_\_\_ “\_\_\_\_” \_\_\_\_\_\_\_\_ 20\_\_

Commission consisting of representatives of:

Sanitary and Epidemiological Service \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(City, District, Position, full name,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

construction and installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

have drawn up this has drawn up this Report certifying that the pipeline, structure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(unnecessary to be deleted)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has been subject to flushing and disinfection (Name of Object and KKS code, Length, Diameter, Volume)

with the concentration of active by chlorine \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and duration of contact of \_\_\_\_\_\_ hours.

The results of physico-chemical and bacteriological analyzes of water on \_\_\_\_\_ sheets are attached.

Representative of the Sanitary -Epidemiological

Service (SES) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature)

Representative of the Owner  
 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature)

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature)

Representative of the construction and installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature)

**SES conclusion:** The pipeline, the structure is considered to be disinfected washed and cleared. It putting

(Unnecessary to be Deleted)

into service is permitted.

Head Physician of Sanitary-Epidemiological Service::

"\_\_\_\_\_\_\_\_\_\_\_\_\_" \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(date) (full name) (signature)

Form M-32

**Form of Examination Certificate of Utility Networks Sections**

**Construction facility** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(unit, title, code)*

**The Owner** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The Contractor**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**The General Designer**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**Organisation that operates utility networks\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

*(name of organization*

**CERTIFICATE**

**of Utility Networks Sections Examination**

No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ 20\_\_\_\_

Representative of the Owner responsible for construction supervision

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the General Designer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

Representative of the organisation responsible for utility networks operation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position, full name, details of the executive document confirming authorities)*

as well as other representatives of the persons participating in inspection:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*(position with indication of name of organisation, full name, details of the executive document confirming authorities)*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| have drawn up this certificate on the following: | | | | | | | |
| 1. The following utility network sections have been presented for | | | | | | | |
| utility networks | | | |  | | | |
|  | | | |  | | | |
| *(list and brief description of utility network sections and KKS code)* | | | | | | | |
| 2*.* Utility network sections have been made according to the design | | | | | | | |
| documentation | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
|  | *(number, other details of drawing, name of detailed design* | | | | | | |
|  | | | | | | | |
| *documentation, information on persons providing preparation of the section of detailed design documentation)* | | | | | | | |
| 3. Technical specifications for connecting a construction facility to the networks | | | | | | | |
| are provided | | | | |  | | |
|  | | | | | *(number and date of technical specifications,* | | |
|  | | | | | | | |
| *issued by, the validity period of the technical specifications, other information)*   |  |  | | --- | --- | | 4. Concealed works affecting safety of utility network areas | | | have been examined |  | |  | | |  | | | *(concealed works, dates and numbers of certificates of examination thereof shall be specified)* | | | | | | | | | |
| 1. When performing utility network sections, the following were applied:   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(name of materials (products), details of certificates* | | | | | | | |
|  | | | | | | | |
|  | | | | | | | |
| *and/or other documents confirming their quality and safety)* | | | | | | | |
| 1. Documents were provided confirming the compliance of utility network sections with the requirements imposed therefor, including: | | | | | | | |
| a) as-built geodetic location sketches of | | | | | | | |
| utility networks | |  | | | | | |
| *(title of document, date, number, other details)* | | | | | | | |
| b) results of expert reviews, examinations, laboratory and other tests of completed works | | | | | | | |
| performed in the process of construction supervision | | | | | | |  |
|  | | | | | | | |
|  | | | | | | | |
| *(title of document, date, number, other details)* | | | | | | | |
| c)technical specifications | | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | |
| *(name of document, date, number, other details)* | | | | | | | |
| 7. Necessary tests and trial runs have been performed | | | | | |  | |
|  | | | | | | | |
|  | | | | | | | |
| *(name of tests, Nos. and dates of certificates)*  8. Dates: work commencement “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_ 20 .  work completion “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_ 20 .  9. The presented utility network sections have been made in accordance with the technical specifications for connection, technical regulations, other regulatory legal acts and design documentation  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
| *(titles and structural units of technical regulations,*  *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*  *other regulatory legal acts, sections of detailed design documentation)*  Additional information \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
| The Certificate has been made in \_\_\_\_\_\_\_\_ copies.  Appendices: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
| Representative of the Owner\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(full name, signature)*  Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(full name, signature)*  Representative of the Contractor responsible for construction supervision (specialist for construction arrangement) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(full name, signature)*  Representative of the General Designer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(full name, signature)*  Representative of the person responsible for utility network sections subject to examination \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(full name, signature)*  Representative of the organisation responsible for utility networks operation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(full name, signature)*  Representatives of other parties: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  *(full name, signature)* | | | | | | | |

Form M-33

**Form of Pipeline Flushing (Purging) Certificate**

**CERTIFICATE No. \_\_\_\_\_\_\_\_\_\_\_\_**

**of Pipeline Flushing (Purging)**

\_\_\_\_\_\_\_\_\_\_\_ “ \_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_

Commission consisting of:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

construction and installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

has inspected the works completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of construction and installation organisation)

and has drawn up this Certificate on the following:

1. Flushing (purging) of pipelines at the area from chamber (survey peg, shaft) No. \_\_\_\_\_\_\_\_\_\_ to chamber (survey peg, shaft) No. \_\_\_\_\_\_\_\_\_\_\_\_ was presented for examination and acceptance

for the pipeline route \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of pipeline and KKS code)

extending for \_\_\_\_\_\_\_m.

Flushing (purging) has been \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(medium, pressure, flow rate)

2. The works have been completed as per design and estimate documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the design organisation,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nos. of drawings and date of preparation)

**DECISION OF THE COMMISSION**

The works have been completed in accordance with design and estimate documentation, standards, construction regulations and rules and meet the requirements for acceptance thereof.

Based on the above, flushing (purging) of the pipelines listed in the Certificate is considered to be completed.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-34

**Form of Pipeline Strength and Tightness Test Certificate**

**CERTIFICATE No. \_\_\_\_\_\_\_\_\_\_\_**

**Pipeline Strength and Tightness Test**

\_\_\_\_\_\_\_\_\_\_\_ “ \_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_

Commission consisting of:

the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

construction and installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, position, full name)

has inspected the works completed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of construction and installation organisation)

and has drawn up this Certificate on the following:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have been presented for examination and acceptance

(hydraulic and pneumatic)

strength and tightness test of the pipelines listed in the table, at the area from the chamber (peg, shaft) No. \_\_\_\_\_\_\_\_\_\_ to the chamber (peg, shaft) No. \_\_\_\_\_\_\_\_\_\_\_\_ of the route \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with a length of \_\_\_\_\_\_ m.

(name of pipeline and KKS code)

|  |  |  |  |
| --- | --- | --- | --- |
| Pipe (KKS code) | Test pressure, MPa (kgf/cm2) | Duration, min | External inspection under pressure, Mpa (kgf/cm2) |
|  |  |  |  |

2. The works have been completed as per design and estimate documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the general designer,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Nos. of drawings and date of preparation)

**DECISION OF THE COMMISSION**

The works have been completed in accordance with design and estimate documentation, standards, construction regulations and rules and meet the requirements for acceptance thereof.

Based on the above, strength and tightness tests of the pipelines listed in the Certificate are considered to be completed.

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the adjustment organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form M-35

**Form of Acceptance Certificate of Support and Suspension System**

**Certificate No. \_\_\_\_\_\_\_\_\_\_\_\_\_**

**of Support and Suspension System Acceptance**

\_\_\_\_\_\_\_\_\_\_\_ “ \_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_

This Certificate certifies that support-and-suspension system \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of pipeline, equipment and KKS code)

has been installed in accordance with the project \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(design name)

Developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of general designer)

and is in good repair.

Special comments \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Based on the inspection and tests carried out, the support-and-suspension system \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of equipment, pipeline and KKS code)

shall be considered accepted from the installation organisation.

Attachment:

1. As-built diagram

Representative of the installation (construction) organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Position Last name Signature Date

Form E-1

**Form of List of Technical Documentation Submitted during Acceptance of Electrical Work**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | | **LIST**  **of Technical Documentation Submitted during Acceptance of**  **Electrical Works** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. |  | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sections | Scope of documentation | Document No. | Number of sheets | Note |
| I | Set of detailed drawings of the electrical part - as-built documentation |  |  |  |
| II | Set of factory documentation (data sheets for electrical equipment, factory test protocols, installation, adjustment and operation manuals, etc.), certificates for equipment and materials with a mandatory note of the incoming inspection passed |  |  |  |
| 2.1 |  |  |  |  |
| 2.2 |  |  |  |  |
| 2.3 |  |  |  |  |
| III | Certificates, protocols, statements, logs for electrical and construction works related to the installation of electrical devices |  |  |  |
| 3.1 |  |  |  |  |
| 3.2 |  |  |  |  |

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-2

**Form of Certificate of Technical Readiness of Electrical Work**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | | **CERTIFICATE**  **of technical readiness of electrical**  **work** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the subdivision of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected the installed equipment.

1 The electrical installation organisation has performed the following works \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of works)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(list and basic technical parameters, KKS code, physical volumes)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2 Electrical installation works have been performed according to the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

(design No.)

developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(general designer)

3 Deviations from the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(no deviations, listed in Form E-3)

4. The commission has inspected the technical documentation (Form E-1) submitted in the scope of requirements of EIC and SNiP 3.05.06-85.

5. Individual tests for electrical equipment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(conducted, not provided)

6. Remaining imperfections that do not prevent integrated trial runs, and deadlines of their elimination \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(no deficiencies, listed in Form E-4)

7. List of the installed electrical equipment is given in (Form E-5).

8. **Conclusion.**

8.1. Electrical installation works have been performed according to the requirements of SNiP 3.05.06-85 and EIC.

8.2. This Certificate is a basis for <underline as appropriate>:

a) organisation of the provisional commission's work on the equipment acceptance after the individual tests;

b) immediate handover of the electrical installation to the Owner (Contractor) for operation.

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Taken-over by\*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Accepted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature) (signature)

L.S. L.S.

\*- when filling in i. 8.2 b of this Certificate

Form E-3

**Form of List of Design Changes and Deviations**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **LIST**  **of Design Changes and Deviations** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) | |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Item No. | Scope of changes  and deviations | Change reason | Agreed by whom and when, number of document |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Work performer

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-4

**Form of List of Electrical Installation Imperfections That Do Not Prevent Comprehensive Testing**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **LIST**  **of Electrical Installation Imperfections That Do Not Prevent Comprehensive Testing** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Item No. | Imperfections | Elimination date | Eliminated by |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Form E-5

**Form of List of Electrical Equipment Installed**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **LIST**  **of Electrical Equipment Installed** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) | |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Item No. | Equipment name and KKS code | Type, brand | Factory No., RTM | Quantity | No. and date of data sheet, certificate | Note |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Form E-6

**Form of Acceptance Certificate of Trenches, Tunnels, Channels and Blocks for Cable Mounting**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **ACCEPTANCE CERTIFICATE**  **of Trenches, Tunnels, Channels, Cable Leathers, Cable Traces, Blocks for Cable Mounting** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected and checked the completed cabling structures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation)

1. The following facilities have been submitted to acceptance:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(trenches, tunnels, channels and blocks for cable mounting, KKS codes)

2. The structures have been completed according to the design developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, numbers of detailed design documentation drawings)

3. Design deviations **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(to be listed)

Have been agreed by **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(name of design organisation)

4. Arrangement of the trench (channel, tunnel) line has been **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(performed, not performed)

according to the design.

5. The width and depth of the trench complies with the design and EIC requirements, the bedding is made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with a layer thickness of \_\_\_\_\_\_\_\_\_\_\_\_ mm, the road crossing is made in pipes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ at a depth of \_\_\_\_\_\_ mm, the connection and coloring of pipes is made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The trench is ready for cable laying.

6. The diameter of the blocks holes and the correct joining of the blocks have been checked, covers have been installed on the hatches of the wells.

7. Framing and closure of cable channels have been made **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

8. The drainage has been made according to the design.

9 Special comments \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion.** Facilities listed in i. 1 hereof shall be deemed as accepted for cable mounting.

Attachment:

Layout of binding of external cable routes in the area, indicating the horizontal and vertical marks of the routes.

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-7

**Form of Protocol of Inspection and Testing of Insulation Resistance of Cables on the Drum before Laying**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **of Inspection and Testing of Insulation Resistance of Cables on the Drum before Laying** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. of drum KKS code (if applicable | Brand of cable, cross-section area, mm2, voltage, kV | Length of cable, m | No. of factory test protocol | Manufacturer | Date of production | State | | | Insulation resistance, Megaohm | Conclusion |
| Drum and sheath | Outer coils | Sealing off |
|  |  |  |  |  |  |  |  |  |  |  |

Insulation resistance is measured with a megohmmeter for a voltage of 2500 V of type \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Factory No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion:** Cable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(suitable/not suitable)

Inspection and measurements have been performed by\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-8

**Form of Cable Laying Logbook**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **LOGBOOK**  **of Cable Laying** | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Persons responsible for inspecting and keeping the logbook

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Started on “\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_20\_\_\_

Finished on “\_\_\_”\_\_\_\_\_\_\_\_\_\_\_\_20\_\_\_

Retention period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. | Date of laying; | Name and number of cable in the cable log or the as-built diagram and KKS code  (if applicable) | Routing | Brand of cable, voltage, kV, cross-section area, mm2 | Total cable line length, m | Number of drum and cable length at each drum, m | Number of connecting couplings at the line | Air temperature at laying, 0C | Heating method | Duration of laying, hours | Full name and signature of person responsible for laying |
|  |  |  |  |  |  |  |  |  |  |  |  |
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Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Form E-9

**Form of Logbook of Cable Boxes, Joints and Cable Terminations**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **LOGBOOK**  **of Cable Boxes, Joints and Cable Terminations** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

| Date of installation | Name and number of cable box (cable termination) according to the cable logbook KKS code  (if applicable) | Brand of cable in the cable log (as-built diagram) | Voltage, kV, cross-section area, mm2 | Number of cable box (cable termination) | Type brand of cable box | Type of protective casing | Brand of cable mass | Name and signature of performer (number of certificate) | Name and signature of person responsible for operating  inspection (supervisor, foreman), number of certificate |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Form E-10

**Form of Protocol of Post-Installation Insulation Resistance Measurement (Recommended)**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **of Post-Installation Insulation Resistance Measurement** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Place of laying \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Insulation resistance has been measured: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of device, type)

Factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, voltage \_\_\_\_\_\_\_\_\_\_ V.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name of line and its parameter and KKS code | Insulation resistance, Megaohm | | | | | | | | | | | Conclusion | |
| A-В | В-C | C-A | A-N | B-N | C-N | A-PE | B-PE | C-PE | N-PE |  | |
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Measurement has been conducted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-10a

**Form of Test Protocol of Power Cables of Voltage Above 1000 V (Measurement of Isolation Resistance and Rectified Current Overvoltage Test)**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **of Test of Power Cables of Voltage Above 1000 V (Measurement of Isolation Resistance and Rectified Current Overvoltage Test)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Electrical laboratory: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (name of laboratory, registration information) | | |

**Environmental conditions during testing:** air temperature: \_\_\_°C, humidity: \_\_\_%, atmospheric pressure: \_\_\_\_\_\_ mmHg.

**Test subject:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Test justification:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Testing performed with equipment:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Factory No.:\_\_\_\_\_\_\_\_\_

(name of equipment),

**Isolation resistance was measured by** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of equipment)

Voltage: \_\_\_\_\_V, Factory No.: \_\_\_\_\_, valid until: \_\_\_\_\_\_\_\_\_\_

**Codes and Standards:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the document)

Cable core intergrity was inspected, cable phasing was performed.

**Test Results**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cable characteristics | | | | | Cable isolation resistance, MOm | | | High voltage test results | | | | Assessment | |
| Line name (designation on the scheme), cell number KKS code  (if applicable) | Grade | Uop, kV | Core section, mm2 | Length, m | before use | phase | after use | Uinp | Time, min | Ileak, uA | Assymetry ratio | For Ileak | For asymmetry ratio |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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Conclusion: Measurement and testing results comply with the requirements of: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of Codes and Standards)

Testing was performed by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Head of the electrical laboratory:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Test date: \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_

Form E-11

**Form of Pressure Test Protocol for Local and Diaphragm Seals or Steel Pipes for Wiring in Explosion-Hazard Areas of B-I and B-Ia Classes**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **of Pressure Test for Local and Diaphragm Seals or Steel Pipes for Wiring in Explosion-Hazard Areas of B-I and B-Ia Classes** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has performed pressure tests for compactness of diaphragm seals or pipeline sections. The testing results are summed up in the table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Place of installation or area | Class of explosion-hazardous area | Actual pressure  kPa | Pressure drop in tests,  kPa | Duration of test, min | Note |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

The test pressure has been measured with a manometer, Factory No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, accuracy class \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(not more than the fourth one)

**Conclusion**

Compactness of the diaphragm seals meets the norms \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_class.

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-12

**Form of Inspection Certificate of Conduit Pipes before Closing**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **INSPECTION CERTIFICATE**  **of Conduit Pipes before Closing** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of the pipes laid in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(material) (place of laying)

During the inspection, the following has been stated:

1. The pipes have been laid as per drawings No. \_\_\_\_\_\_\_\_\_\_\_\_ developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of general designer)

2. Deviations from the design documentation have (not) been committed during the performance of work \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(in case of any deviations, the person who approved them, Nos. of drawings and approval dates shall be specified)

3. Pipe connections are made of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, electrical contact at the joints of metal pipes is guaranteed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(how)

4. The pipes have normal bending radii and do not have dents or damage that prevent the wires and cables from being pulled through.

**Conclusion.**

The work has been performed in accordance with the design documentation, construction codes and regulations.

The pipes may be filled with concrete, plastered, filled with soil.

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-13

**Form of Inspection Certificate of Cable-Conduit System in Trenches and Channels before Closing**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **INSPECTION CERTIFICATE**  **of Cable-Conduit System in Trenches and Channels before Closing** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected the cable conduit system in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ before closing.

(trench, channel, KKS code (if applicable))

The inspection has determined that:

1. The cable has been laid under the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of general designer, Nos. of drawings and cable logs)

2. The deviations from the design have been agreed and introduced in drawings No. \_\_\_\_\_\_\_\_\_\_\_\_\_ and the binding layout.

3. The mounted cables do not have external damage; cable bend radii comply with the requirements of GOST 24334; the depth of the cables and the horizontal distance (clear distance) between the cables complies with the EIC requirements.

4. \_\_\_\_\_\_\_\_\_ couplings are mounted on the cables, the reference of couplings

(quantity)

(for the cables in the trench) is made on the cabling layout.

5. The cable lines have been bedded with a layer of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the cables are protected (bedding material)

against mechanical damage according to the design, as well as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(additional cable protection points shall be specified, if any)

The cables are protected at intersections with other utilities and structures\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(protection shall be specified)

6. The connecting couplings and cable have been marked.

7. Other specific features mentioned by the commission \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion.**

The trenches (channel) with the mounted cable lines have been accepted for closure.

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-14

**Form of Data Sheet of Lightning and Grounding Devices**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **DATA SHEET**  **of Lightning and Grounding Devices** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected the completed works for installation of the grounding device.

The inspection has established that:

1. The grounding device has been performed according to the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

(name)

developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as per the drawings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(general designer) (number)

2. Deviations from the design \_\_\_\_\_\_\_\_\_\_\_\_ have been agreed with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(organisation, position, full name, date)

and entered into the drawings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(number)

3. Characteristics of the grounding device

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Item No. | Element of grounding devices and KKS code (if applicable) | Parameters of elements of grounding devices | | | | | Note |
| material | profile | dimension, mm | quantity, pcs. | laying depth, m |
|  |  |  |  |  |  |  |  |

4. The nature of the grounding device elements connections between each other and their connection to natural grounding devices \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Defects have been revealed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. **Conclusion.** The grounding device can be covered with soil.

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-15

**Form of Phasing Protocol**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **of Phasing** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Type  of busbar, brand of cable and KKS code  (if applicable) | Designation of busbar, number of cable line  under the design | Phase A  In conformity | Phase B  In conformity | Phase C  In conformity | Name and signature of person responsible for  phasing |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

The phasing has been conducted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-16

**Form of Inspection Certificate of Network for Starting and Lighting of Lamps**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **INSPECTION CERTIFICATE**  **of Network for Starting and Lighting of Lamps** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected the installed lighting network.

The inspection has established that lighting is available.

|  |  |  |
| --- | --- | --- |
| Number of lighting panel,  KKS code (if applicable) | Number of lamps in group | Result |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

1 Disconnection of group panels by phase is performed in the MDB and current collectors in premises, in group panels as per the design performed by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2 Switches are located in phase conductors

3 Connection of lighting fixtures and other stationary current collectors with metal cases is performed as per \_\_\_\_\_\_\_\_\_\_\_\_ wire circuit taking into account the requirements of the EIC, chapters 1.7 and 7.1.

All lighting fixtures and stationary current collectors operate normally.

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-17

**Form of Protocol of Inspection and Testing of Installed Electrical Equipment of Switchgears with Voltage up to 750 kV inclusive**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **of Inspection and Testing of Installed Electrical Equipment of Switchgears with Voltage up to 750 kV inclusive** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

At the mounted electric plant equipment \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name and KKS code)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ specified in the List (Form 5), the following works have been performed according to the requirements of SNiP 3.05.06-85, EIC and manufacturer’s documentation:

1. Adjustment of the mechanical part of switching devices, their terminal pairs, drives and interlocks \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(result)

1. Inspection of switching devices, their drives and interlocks for the repeated switching on and off \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(result)

1. Phasing of primary switching circuits \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(result)

1. Checking the free movement and reliable fixing of the pull-out (retractable) elements of the switchgear elements in the operating and control position, operation of the bars and mechanical interlocks \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(result)

1. Lubrication of friction parts and contacts of switching devices \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(result)

1. Checking the level of insulating oil in electrical hardware and refilling if necessary \_\_\_\_\_\_\_\_\_\_\_\_\_\_

(result)

1. Inspection and verification of contact connections for compliance with the requirements of regulatory and technical documentation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(result)

1. Checking the opening of chamber doors, cells, cabinets, operation of mechanical locks \_\_\_\_\_\_\_\_\_

(result)

1. Checking the presence and correctness of the inscriptions and dispatcher names, the presence of one-line diagrams of loads connections \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(result)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature)

Form E-18

**Form of Certificate of Inspection and Testing of Busbar Contact Connections**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **CERTIFICATE**  **of Inspection and Testing of Busbar Contact Connections** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected and checked randomly the pressed and welded busbar contact connections \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of assembly unit and KKS code (if applicable)

The inspection and check have established that:

1. For flat demountable contact connections, the tightness of the contact surfaces adjacency complies (does not comply) with the GOST 17441-84 requirements.

2. In pressed contact connections:

a) the length and diameter of the pressed part complies (does not comply) with the requirements of the installation manual for this type of connecting clamps;

b) connectors and clamps surfaces have (do not have) cracks, significant corrosion or mechanical damage;

c) the curvature of the pressed connectors exceeds (does not exceed) 3% of their length;

d) steel cores are (not) symmetrical.

3. In the welded contact connections:

a) there are (there are no) burns of the outer layer of wires;

b) the depth of shrinkage cavities exceeds (does not exceed) 1/3 of the wire diameter.

The welding connections have been performed by welder \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(full name)

Certificate No. \_\_\_\_\_\_\_\_\_\_\_\_\_, issued by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(person who issued) (date)

**Conclusion:** The contact connections meet (do not meet) GOST 10434-82 requirements

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-19

**Form of Certificate of Cast-In-Place Concrete Foundation Readiness for Overhead Transmission Line (OHTL) Support**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **CERTIFICATE**  **of Cast-In-Place Concrete Foundation Readiness for Overhead Transmission Line (OHTL) Support** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Support No. \_\_\_\_\_\_\_\_\_, name of support \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Commission consisting of:

Representative of the construction organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

has reviewed the technical documentation for the foundation, inspected the performed works and drawn up a certificate on the following:

1. The foundation is performed according to the design as per the drawings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ meeting the requirements of WEP and the relevant section of SP 76.13330.

2. According to the presented protocols, the concrete grade is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_kg/cm2.

The coated reinforced concrete is waterproofed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on the foundation

(material of coating, number of layers)

3. Anchor bolts (embedded parts) are installed according to drawings No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, horizontal deviations between the axes of anchor bolts, the difference between their upper marks checked by templates, do not exceed the allowable ones as per the drawings and SP 76.13330.

4. The foundation is backfilled and banked up.

5. Deviations from the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(content of deviations)

have been agreed with the Owner represented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

and the design organisation represented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

The agreed deviations from the design are included into as-built drawings No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Conclusion:** The foundation is ready for installation of OHTL supports

Appendix Technical Documentation for foundations:

As-built drawings for the foundation, concrete test protocol, certificates for metal products.

Representative of the construction organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-20

**Form of Certificate of Prefabricated Reinforced Concrete Foundations Readiness for Mounting of OHTL supports**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **CERTIFICATE**  **of Prefabricated Reinforced Concrete Foundations Readiness for Mounting of Overhead Transmission Line (OHTL) supports** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

Commission consisting of:

Representative of the construction organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

has reviewed the technical documentation for the prefabricated reinforced OHTL foundation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, inspected the performed works and drawn up a certificate on the following:

1. Presented for the installation of OHTL supports, completed by the arrangement of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ prefabricated reinforced concrete foundations.

(number)

Of these, the following foundations are intended for supports: intermediate \_\_\_\_\_\_\_, anchor \_\_\_\_\_\_\_, angular \_\_\_\_\_\_\_, other \_\_\_\_\_\_\_ foundations. (number) (number)

(number) (number)

1. The below foundations are performed in accordance with the design by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of general desinger)

as per drawings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name and No. of drawing)

meeting the requirements of Regulatory Technical Documentation, PPM, SP 76.13330.2016.

3. The deviation of horizontal dimensions between the foundations axes and the difference between their upper elevations checked by templates do not exceed those allowed by the drawings.

4. Deviations from the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(content of deviations)

have been agreed with the Owner represented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

and the design organisation represented by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name)

5. Prefabricated reinforced concrete foundations for supports Nos. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are not accepted by the commission due to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(reason shall be specified)

and are eliminated from the list of this Certificate.

The deadline for reworking (improvement) of the rejected foundations and their re-presentation is

“\_\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_20\_\_\_.

6. List of reinforced concrete foundations allowed for installation of supports

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. of support | Name and type of support | Foundation type | Manufacturer of prefabricated reinforced concrete, certificate, grade | No. of foundation drawing | Waterproofing, material | Date of foundation arrangement | Installation of support is allowed, signature of work performer | Note |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

1. **Conclusion:**

The prefabricated reinforced concrete foundations according to the list, i. 6, are suitable for installation of OHTL supports.

Attachment: As-built drawings for the foundation, certificates for concrete and metal products.

Representative of the construction organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-21

**Form of Certificate of Overhead Transmission Line**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **CERTIFICATE**  **of Overhead Transmission Line (OHTL)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

1. Installation of supports of the overhead transmission line

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name of support | Installed at the OHTL, pieces | Type of support (number of drawing for non-standard ones) | Material of support | Protective coating in addition to factory one (painting, sanitizer),  number of supports |
| Interim  Anchor  Angular  Other  Total: |  |  |  |  |

The deviation of the installed supports’ upper part from the vertical axis, the turn and inclination of the traverses do not exceed the limits allowed by SP 76.13330.2016 requirements.

2. Installation of wires and cables.

On the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ kV OHTL, wires of \_\_\_\_\_\_\_\_\_\_\_\_\_ brand, with a cross section of \_\_\_\_\_\_\_ sq. mm, in total \_\_\_\_ m, lightning protection cable of \_\_\_\_\_\_\_\_\_ brand, length \_\_\_\_ m, have been installed.

The wires and cables have been installed in accordance with the OHTL design. Deflections of wires and cables correspond to assembly curves (tables) of the design.

The OHTL intersection with other networks and engineering structures is performed according to the design and legalized by individual reports enclosed herewith.

3. Connection of wires and cables

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Number of supports and spans on which connections are mounted | Type of connecting tension clamp | Connection mounting method | Performer | |
| Full name | Signature |
|  |  |  |  |  |

The connections of wires and cables are installed as per the design meeting the requirements of SP 76.13330.2016 and EIC-7.

Before installation on the OHTL, the installation organisation has inspected and rejected the insulators in accordance with the requirements of EIC-7 and SP 76.13330.2016.

4. Installation of arresters and circuit breakers

The following has been installed at the OHTL\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:

a) tube-type arresters \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

on supports No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(numbers of supports shall be listed)

The arresters have been mounted and their external spark gaps have been adjusted in accordance with the detailed design drawings and the requirements of SP 76.13330.2016 and EIC-7.

b) circuit breakers, type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

on supports No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(numbers of supports shall be listed)

The circuit breakers have been installed in accordance with the manufacturers’ design and documentation.

The mechanical part of the circuit breakers, their terminal pairs, circuit breaker drives have been adjusted and tested in accordance with SP 76.13330.2016 and tested before installation on the supports in accordance with EIC-7.

5. Installation of grounding devices

The grounding devices for OHTL supports \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are performed in accordance with the design and the requirements of EIC-85 “Surge protection, grounding” section.

The resistance of the supports grounding devices complies with the EIC-7 requirements.

The protocols on and measurements of the resistance of the grounding devices presented to the commission are kept by the Owner (in the commissioning organisation).

**Conclusion:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Representative of the electrical installation organisation\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-22

**Form of Certificate of Measurements on Site of Dimensions from OHTL Wire to Crossed Facility**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **CERTIFICATE**  **of Measurements on Site of Dimensions from Overhead Transmission Line (OHTL) Wire to Crossed Facility** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected and measured the intersections of OHTL \_\_\_\_\_\_ kV, name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, with the facility \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and stated that:

(name of facility)

1. The intersection is performed as per the drawing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

2. On the crossing, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ wires of the brand \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have been mounted.

(number)

3. The OHTL supports No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ limiting the crossed facility have been installed on the survey stations.

4. The horizontal distance from the axis of the crossed facility to the axes of the OHTL transitional supports is \_\_\_\_\_\_\_\_ m.

5. Distance from the nearest OHTL wire \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_ m.

(up to crossed facility, wire, railhead, etc.)

6. The measurements have been carried out at an ambient temperature of \_\_\_\_\_\_\_\_\_ °C.

The representative of the crossed facility \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(organisation, position, full name, signature, date)

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-23

**Form of Acceptance and Installation Certificate of Power Transformer**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **CERTIFICATE**  **of Acceptance and Installation of Power Transformer** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

Power \_\_\_\_\_\_\_\_\_\_\_\_\_ kVA, HV\_\_\_\_\_\_\_\_\_\_\_\_ kV, MV \_\_\_\_\_\_\_\_\_\_ kV, LV \_\_\_\_\_\_\_\_\_\_ kV.

Manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, date of production \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

KKS code\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, date of arrival at the site \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected the state of the transformer and the conditions necessary for its acceptance for installation and stated that:

1. Complete set:

a) set of the manufacturer’s technical documentation (factory organisation) for the transformer as per the list of GOST 11677-85 [(cl. 5.1.5)](consultantplus://offline/ref=7ED16F3CD0ACE6E655F4829C6D98C8D104F1DBCCF74CF78DA81CCE7EBD95A4B1E8E176D2F103Z4l0I) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(available, not available)

The documents \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are not available.

(name of document)

b) transformer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(completed, not completed with assemblies,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

tools and parts in full scope, according to the requirements of technical documentation -

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

manufacturer’s dismantling sheet)

The transformer has not been provided with: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. The state of the transformer and its assemblies:

a) results of external examination of the transformer and its components (the absence of dents and other damage on the transformer tank, bushings, expander, radiators, cooling system equipment, etc.) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) results of the transformer tightness test during the external inspection:

preservation of seals on all oil taps and sealed plugs \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(no oil leakage from the transformer tank and oil-filled units)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

presence of excess gas pressure (for transformers supplied from the factory without oil) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Providing conditions for the installation of the transformer:

a) the civil part (foundation for the transformer, installation site, access roads, etc.) has been performed according to design No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(accepted, not accepted)

by the installation organisation according to certificate No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ dated \_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_\_

Construction not completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(outstanding works shall be listed)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b) supply of the transformer with oil:

according to the passport, the transformer uses oil\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of standard, specifications, breakdown voltage)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

total oil required (taking into account the consumption for process needs) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ t;

available in the transformer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ t;

missing amount of oil \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ t;

will be supplied by the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(date)

c) the Owner has met the requirements of GOST 11677-85 and confirmed the possibility of transformer installation without inspecting its active part and without drying;

d) according to SP 76.13330.2016, this Certificate is enclosed with:

a certificate of inspection of the transformer and dismantled units after it has been transported from the manufacturer, a certificate of transporting the transformer to the place of installation, a certificate of unloading the transformer.

The listed documents are issued by the Owner.

4. Conclusion on installation availability \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Handed over by

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Accepted by

Representative of the installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

The transformer has been accepted for storage by

Materially liable person \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-24

**Form of Protocol of Installation of Power Transformer with Voltage of 110-750 kV**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **of Installation of Power Transformer with Voltage of 110-750 kV** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

Transformer \_\_\_\_ phase Type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Voltage \_\_\_\_\_\_\_\_\_\_\_\_\_\_ kV

Manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ KKS code \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Power \_\_\_\_\_\_\_\_\_ mVA Factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date of manufacture: \_\_\_\_\_\_\_\_\_

Installation started on \_\_\_\_\_\_\_\_\_\_\_\_\_\_ finished on \_\_\_\_\_\_\_\_\_\_\_\_\_

(date) (date)

Weather \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(temperature, 0C, humidity, %)

The transformer has been installed according to the factory manual \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

process chart, installation drawings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Codes and Standards.

1 The safety of the transformer and component parts received for installation (see Certificate No. \_\_\_\_\_\_)

|  |  |
| --- | --- |
| Equipment | State |
| Transformer  High voltage oil-filled bushings  Coolers  Current transformers, equipment, cabinets, electric pumps, motors, etc. |  |

2 Equipment used during installation

|  |  |  |
| --- | --- | --- |
| Name | Type | Factory number |
| Equipment for degassing, drying, cleaning and filling the transformer oil  Equipment for protecting transformer insulation from moisture during depressurization  Vacuum equipment |  |  |

3 Tests and measurements during the transformer installation

3.1 Analysis of transformer oil

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Oil sampling date | Temperature, deg. C | Installation stage, oil sampling point | Breakdown voltage, kV | Moisture content | Gas content | Dielectric loss difference | Protocol number |
|  |  | Sample of fresh oil prepared for filling-in |  |  |  |  |  |
|  |  | At the bottom of the transformer tank after \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hours of sedimentation after filling-in |  |  |  |  |  |
|  |  | When warming up the transformer after \_\_\_\_\_\_\_\_ hours of exposure. |  |  |  |  |  |
|  |  | At the bottom of the transformer tank after \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hours of the cooling system operation |  |  |  |  |  |
|  |  | Transformer oil sample from the fully assembled, tested and ready for switch-on transformer before commissioning |  |  |  |  |  |

3.2 Inspection and testing of current transformers

|  |  |
| --- | --- |
| Program | Result |
| Insulation test (see protocol No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_)  Transformation coefficient (see protocol No.\_\_\_\_\_\_\_\_\_)  Transformer polarity (see protocol No. \_\_\_\_\_\_\_\_\_\_\_\_\_)  Absence of inter-winding faults | Completed  Reviewed  Checked |

3.3 Testing of high voltage bushings

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date of testing | Bushing | | | Testing results | | | | | | |
| Type | Factory number | Phase | supply | | | | oil | | |
| Temperature, deg. C | Test voltage, kV | Dielectric loss difference, % | Capacitance, µF | Breakdown voltage, kV | Dielectric loss difference, % | Overpressure, MPa |
|  |  |  |  |  |  |  |  |  |  |  |

3.4 Moisture assessment of the transformer insulation

|  |  |
| --- | --- |
| Name of inspections and tests | Result |
| Tests of bottom oil sample (see protocol No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)  Transformers leak-tightness test  State of indicator silica gel  Ratio of increase in capacity to capacity ^ C / C, % |  |

3.5 Testing of the windings insulation

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Measurement date | Stage of testing according to installation process | Temperature, deg. C | | Insulation resistance, Megaohm | | | | Dielectric loss difference, % | | |
| Ambient air | Windings | Measurable value | HV-case | MV-case | LV-case | HW | MV | LV |
|  | Data of test protocol with the manufacturer |  |  | R 60  R 15 |  |  |  |  |  |  |
|  | After inspection and oil filling |  |  | R 60  R 15  K  R 60 |  |  |  |  |  |  |
|  | After test drying |  |  | R 60  R 15  K  R 60 |  |  |  |  |  |  |
|  | Completely assembled transformer |  |  | R 60  R 15  K  R 60 |  |  |  |  |  |  |
|  | Before energizing the transformer |  |  | R 60  R 15  K  R 60 |  |  |  |  |  |  |

4 Inspection of the active part of the transformer and component parts

|  |  |
| --- | --- |
| Name of inspections, works, measurements | Result |
| Substantiation of the inspection, method, conditions of performance  Duration of the inspection  Ambient temperature, deg. C  Relative humidity of the ambient air, %  Temperature of the active part of the transformer at the beginning of the inspection, deg. C  Temperature of the active part of the transformer at the end of the inspection, deg. C  Status of the active part  Filling of the transformer’s active part with oil under vacuum \_\_\_\_\_ MPa, oil temperature\_\_\_\_\_ deg. C, filling time \_\_\_\_\_\_\_ hours  Cooler inspection  Inspection of the cooling system pipes  Checking and testing of the gas relay  Checking and testing of the oil level switch  Checking and testing of the temperature alarm  Inspection of electric motors and pumps  Inspection of the expander and exhaust pipe  Inspection of the switching device |  |

In accordance with the current instructions for assessing the moisture content in the transformer insulation before commissioning and switching conditions, transformer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(can, cannot)

be switched on without drying (see drying protocol No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Notes:

1 Section 3 is filled in using the laboratory test data.

2 When filling in the “Result” column of paragraphs 8-16, section 4, it is recommended to write “Completed”.

Installed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Works performer\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

5 Inspection of oil-filled bushings of power transformers

Rated voltage \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kV, rated current \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A, Manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

Factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, year of manufacture \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Feeder inputs \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Inspection of the bushings has been carried out in accordance with the factory instructions \_\_\_\_\_\_\_\_\_\_\_.

|  |  |  |  |
| --- | --- | --- | --- |
| Name of inspections and works | Result by phase | | |
| A | В | C |
| Condition of porcelain coatings, screens, expanders, oil indicators, dryers, breathing plugs, contact clamps  Availability and serviceability of measuring devices (for BPD)  Oil level at a temperature of \_\_\_\_\_\_, deg. C in % of the length of the oil indicator  according to factory instructions  actual  Oil pressure gauge, MPa:  according to factory instructions  actual  Oil samples taking, laboratory test results:  bushings (see protocol No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_)  oil from bushings (see protocol No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)  fresh oil (see protocol No.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)  The oil in bushings No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ has been topped up and replaced after vacuum treatment of the bushings within \_\_\_\_\_\_\_\_\_\_\_\_ hours. |  |  |  |

Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Inspection conducted by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

6 Inspection and installation of the removable transformer cooling system

Transformer \_\_\_\_\_\_\_\_\_\_\_ phase, type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

Manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

power \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_mVA, factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The cooling system has been inspected and installed according to the factory manual

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, installation drawings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

| Name of inspections and works | Result |
| --- | --- |
| I Inspection of oil pumps (\_\_\_\_\_\_\_\_\_\_\_\_\_\_ set),  Type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,  factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_, head \_\_\_\_\_\_\_\_\_\_\_ m, capacity  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  Electric motors:  type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_, voltage \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ V, power \_\_\_\_\_\_kW, rotation rate \_\_\_\_\_\_rpm  II Inspection of water pumps  Type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,  factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_, head \_\_\_\_\_\_\_\_\_\_\_ m, capacity  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  Electric motors:  type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_, voltage \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ V, power \_\_\_\_\_\_kW, rotation rate \_\_\_\_\_\_rpm  III Inspection of the remaining equipment  1 Mesh oil filter \_\_\_\_\_\_\_ pcs.  2 Gate valves \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pcs.  3 Air cooler \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pcs.  4 Absorption filter \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pcs.  5 Differential manometer - flowmeter \_\_\_\_\_\_\_\_\_\_ pcs.  6 Check valve \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pcs.  7 Oil pipelines  IV Cooling system assembly  1 Condition of oil coolers  2 Assembly on gaskets \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the cooling system  (type of gaskets)  3 Leak test of the oil system completely assembled, but not connected to the transformer, with transformer oil having electrical strength of \_\_\_\_\_\_\_\_\_ kV at a temperature of \_\_\_\_\_\_\_ deg. C at pressure of \_\_\_\_\_\_\_ MPa during \_\_\_\_\_\_\_\_\_ min  4 Leak test of the water system with pressure of \_\_\_\_\_\_\_ MPa during \_\_\_\_\_\_\_\_\_ min  5 Duration of oil flushing of the cooling system \_\_\_\_\_\_\_\_\_ hours  6 Characteristics of transformer oil (data sheet No. \_\_\_\_\_\_) used for flushing:  breakdown voltage \_\_\_\_\_\_\_\_\_\_ kV  temperature \_\_\_\_\_\_\_\_\_\_\_\_\_ deg. C  7 Connecting an oil-flushed oil-cooling system filled with transformer oil to the transformer and topping up the oil system through the transformer expander | Performed  Performed  Performed  Performed  Performed  Performed  Performed  Completed  Completed  Completed |

Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Inspected and installed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

7 Inspection and installation of the suspended (removable) cooling system heaters

Transformer \_\_\_\_\_\_\_\_\_\_\_ phase, type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

power \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mVA, voltage \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kV,

manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The cooling system has been inspected and installed according to the factory manual \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Cooling system with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(individual, centralized blowing)

Heaters \_\_\_\_\_\_\_\_\_\_ pcs., fans \_\_\_\_\_\_\_\_\_ pcs. (by \_\_\_\_\_\_\_ pieces per heater).

The heaters have been washed with dry transformer oil, with oil pressurized at a temperature of

\_\_\_\_\_\_\_\_\_ deg. with pressure of \_\_\_\_\_\_\_\_\_\_ MPa and installed on the transformer.

Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Inspected and installed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-25

**Form of Protocol on Inspection and Installation of Communication Condenser with Voltage of 110-750 kV**

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **on Inspection and Installation of Communication Condenser with Voltage of 110-750 kV** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

Rated voltage \_\_\_\_\_\_\_\_\_\_\_\_ kV, rated capacity \_\_\_\_\_\_\_\_\_\_\_\_\_\_ μF, KKS code \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, factory number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ name of RP \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, cell number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The condenser has been inspected and installed according to the factory manual \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_, process chart, installation drawings \_\_\_\_\_\_\_\_\_\_\_\_, SP, EIC.

|  |  |
| --- | --- |
| Name of inspections and works | Result |
| Condition of porcelain covers, stands  Verticality of the condenser installation  Insulation resistance, Megaohm  Grounding of the communication condenser | Achieved  Completed |

Inspected and installed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-26

**Form of Acceptance Certificate of Racks for Mounting Batteries**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **ACCEPTANCE CERTIFICATE**  **of Racks for Mounting Batteries** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) | |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Commission consisting of:

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, date)

has inspected and checked the completed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation)

racks for mounting of batteries.

1 The following racks have been presented for acceptance \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2 Racks have been completed according to the design developed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of organisation, numbers of detailed design documentation drawings)

3 Deviations from the design **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(to be listed)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

have been agreed by **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

(name of general designer)

4 Special comments \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Conclusion.** The racks listed in i. 1 hereof shall be deemed accepted for mounting of batteries.

Representative of the electrical installation organisation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Contractor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Representative of the Owner \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature, full name)

Form E-27

**Form of Protocol of Inspection and Test of Technical Readiness of Electrical Work on Storage Battery**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **PROTOCOL**  **of Inspection and Test of Technical Readiness of Electrical Work on Storage Battery** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) | |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

1. Storage battery \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(type of battery and KKS code (if applicable))

capacity \_\_\_\_\_\_\_\_\_\_\_\_\_\_ A/hour, voltage \_\_\_\_\_\_\_\_\_\_\_\_V, number of elements\_\_\_\_\_\_\_\_\_\_\_\_ pieces,

has been installed in accordance with the design \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of design organisation, numbers of the main sets of detailed design drawings)

2. The storage battery capacity measured at tests (at control discharge) meets the data sheets.

Resistance of the battery insulations meets the EIC requirements.

The results of the analysis of the quality and density of the electrolyte are positive, the analysis protocols are enclosed herewith.

The list of measurements during the control discharge of the storage battery is enclosed herewith.

**CONCLUSION**

Installation and molding of the battery have been carried out according to the design documentation, in accordance with the EIC requirements, SP 76.13330.2016 and the manufacturer’s documentation.

Inspected and tested by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-28

**Form of Record of Measurements during Controlled Discharge of Storage Battery**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **RECORD**  **of Measurements during Controlled Discharge of Storage Battery** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) | |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Storage battery \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, capacity \_\_\_\_\_\_\_\_\_\_\_ A/hour, voltage \_\_\_\_\_\_\_\_\_\_\_\_\_V, number of elements \_\_\_\_\_\_\_\_\_\_\_ pieces.

(type of battery and KKS code (if apllicable))

Resistance of storage batteries insulation measured as per EIC procedure, i. 1.8.38-1, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_kOhm.

Indoor temperature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0C, electrolyte temperature \_\_\_\_\_\_\_\_\_\_0C.

Measurement table

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. of element | Voltage, V  Charged  Discharged | Density, g/cm3  Charged  Discharged | No. of  element | Voltage, V  Charged  Discharged | Density g/cm3  Charged  Discharged | No. of  element | Voltage, V | Density, g/cm3 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|  |  |  |  |  |  |  |  |  |

The discharge has been carried out by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hour-duration current

The battery capacity (by discharge) is \_\_\_\_\_\_\_\_\_\_ A/hour, quantity of lagging elements is \_\_\_\_\_\_\_\_ pcs,

numbers of lagging elements \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Measured by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-29

**Form of Data Sheet of Regeneration Section of Optical Cable**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **DATA SHEET**  **of Regeneration Section of Optical Cable** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (date) | |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Project name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

Regeneration section and KKS code (if apllicable): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

Measuring instrument: type \_\_\_\_\_\_\_\_\_\_\_\_, No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_, year of manufacture \_\_\_\_\_\_\_\_\_\_\_,

No. of verification certificate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, date of verification \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

No. of calibration certificate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, date of calibration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

Set-up data: wave length \_\_\_\_\_\_\_\_ nm,

pulse duration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pcs;

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| OF number | Radiation power, unit of power | | | | Calculation result Attenuation, dB | Measurement date |
| A-B direction | | B-A direction | |
| P output | P input | P output | P input |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

Measurements have been performed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Form E-30

**Form of Data Sheet of Mounted Optical Cable Coupling**

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (installation organisation, division)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (area) | **DATA SHEET**  **of Mounted Optical Cable Coupling** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (City/Town)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (Owner)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (facility)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (date) | |
| No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | |

Project name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Coupling No. and KKS code (if apllicable): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

Optical communication line: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Regeneration section: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Grade of optical cable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Installation performed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Data about repair \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Measuring instrument: type \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, No. \_\_\_\_\_\_\_\_\_\_\_, year of manufacture \_\_\_\_\_\_\_\_\_\_\_,

No. of verification certificate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, date of verification \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

No. of calibration certificate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, date of calibration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_;

Set-up data: wave length \_\_\_\_\_\_\_\_ nm,

pulse duration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pcs;

|  |  |  |  |
| --- | --- | --- | --- |
| OF number | Measurement direction, attenuation, dB/km | | Note |
| A-B | B-A |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Measurements have been performed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)

Work performer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(position, full name, signature, date)