

DOCUMENTATION REQUIREMENTS

DETAILED DESIGN DOCUMENTATION

Construction industry:

Design documents include but are not limited to:

- preparation of the construction design within the scope that takes account of the specific nature of construction works, together with arrangements with Experts;
- obtaining all formal and legal decisions on behalf of ANWILS.A., together with arrangements, including but not limited to:
 - Decision on environmental conditions with the amendment of this decision under such circumstances;
 - Amendment to the Integrated Permit, enabling the construction, commissioning and operation of the hydrochloric acid synthesis unit;
 - Decision on the conditions for development and land use;
 - Construction permit;
 - Occupancy permit;
- preparation of documents on the ground base examination in the location of the installation (together with a geotechnical opinion) to the layer of load-bearing soil, but not less than 10 metres deep and assessment of environmental aggression of water and land;
- preparation of the detailed design, including for instance:
 - technical description of adopted design solutions;
 - static calculations;
 - projections, cross-sections for all structural elements resulting from adopted design solutions;
 - executive drawings of details (in the case of steel structures – workshop drawings of connections);
 - technology for the application of anticorrosion, chemical-resistant, fire-resistant, moisture-proof/water-resistant coatings, together with material data sheets;

NOTES:

- The aforementioned scope should be treated as the primary one. In the case of unfavourable conditions of direct setting of the installation, the Contractor is obliged to prepare an implementation design of reinforcement of the ground based on geological documents.
- Design documentation (construction and implementation designs) should be prepared on the basis of legal provisions, standards and regulations in force in Poland. Design solutions should include construction products allowed for trading and general use, ones with certificates, declarations of performance, hygienic attestations and technical approvals allowing their use in the construction industry. Such documentation must be prepared by a person who has Polish rights to make designs in the required field without limitations.

- The Contractor is obliged to familiarise itself with and apply the technical standards of ANWIL S.A. – technical conditions of performance and acceptance and guidelines on the protection devices of fire resistant structures of apparatus and pipelines;
- The Contractor is obliged to familiarise itself with the location and scope of the works to ensure that the task is completed in its entirety;
- Software, equipment and materials requisite for performance of the task is to be provided by the Contractor;
- The property right to the project documentation is transferred to ANWIL SA upon the mutual signing of the acceptance report for the works "without comments";

2. Electrical industry;

- Technical design – electric installations. Description
 - Power balance;
 - Power and control installation;
 - Installation of lighting and sockets;
 - a) basic lighting;
 - b) evacuation lighting;
 - c) installation of sockets
 - Grounding installation;
 - Protection against electric shock;
- Technical design – electric installations.
 - a) Calculations;
 - b) List of cables;
 - c) List of materials;
 - d) Schemes, drawings according to the list;

3. Control Systems Industry;

Implementation documentation includes but is not limited to:

- Instrument index;
- Tag list;
- Album of cables;
- Specifications of control and measurement instrumentation;
- wiring diagram of fastener boxes;
- circuit diagrams;
- Cable route diagrams,
- Update of the documentation of DCS system cabinets,
- Logic documentation, together with the description of steering algorithms and interlocks, design of new operator graphics.
- Assumptions of trend groups;

4. Mechanical industry;

As-built documentation should include but not be limited to:

- Overall drawings of all system apparatuses;
- Isometric drawings of pipelines;
- Basic summary drawings including:
 - design code;
 - working, designed and maximum allowed test pressure;
 - working, design temperature;
 - process factor;
 - volume;
 - weight (full, empty, operational);
 - list and descriptions of stubs;
 - maximum load torque of stubs;
 - tightening torques for flange and bolt connections;
 - extension and scope of non-destructive tests;
- Executive drawings of details;
- Quality control plan;
- Strength calculation, including minimum allowed wall thickness;
- Calculations of flange connections with torques for bolts;
- Overall drawings of pipeline routes;
- Pipeline isometrics including:
 - working, designed and test pressure;
 - working, design temperature;
 - baseline points for measuring pipe wall thickness in accordance – the number of measuring points to be agreed with the Inspection Department;
 - process factor;
 - minimum permissible thickness of pipes and fittings;
 - materials used;
 - maximum load torque of stubs;
 - flow directions;
 - tightening torques for flange and bolt connections;
 - list of instrumentation
 - the location of the factory plate;
- Technology of anti-corrosion, anti-moisture/anti-water devices with material sheets;
- List of provided devices and instrumentation together with their material, technical specification, OMM, etc.;

Notes:

1. The aforementioned scope should be treated as the primary one.
2. Within the scope required by law, the documentation must be agreed with the Office of Technical Inspection / Transport Technical Inspection / Plant Technical Inspection. Required number of copies of documentation – 4 sets in paper version approved at the Office of Technical Inspection / Transport Technical Inspection / Plant Technical Inspection +1 set in electronic version. Design, manufacture, materials, instructions, certification of compliance with EU regulations, technical norms and ANWIL S.A. standards. The conformity assessment of pressure equipment should comply with the Pressure Equipment Directive 2014/68/EU. The scope of works should include the registration of equipment subject to technical supervision of the Office of Technical Inspection / Transport Technical Inspection / Plant Technical Inspection;
3. In the design documents one should use symbols of pipelines, devices, fittings and control and measurement instruments, together with existing marks on technical diagrams of the Ordering Party.
4. Provide a list of pipelines in excel format according to the annexes (Annex 15.1 equipment; Annex 15.2 piping) to the ToR;
5. For pipelines subject to the supervision of the Office of Technical Inspection, baseline thickness measurements should be taken and attached to the SZEOR programme;
6. Documents attached to the design and as-built documentation, which are not original, should have the "certified as true copies" stamp affixed to them.

5. Control and instrumentation industry;

- technical description/assembly guidelines;
- P&ID diagram;
- Instrument index;
- album of cables;
- specifications of control and measurement instrumentation (data sheets, calculations for the selection of control valves, etc.);
- specification of assembly devices and materials;
- wiring diagram of fastener boxes;
- circuit diagrams;
- cabling route diagrams,
- device layout diagrams (hook up);
- air distribution diagrams;

6. Sanitary industry (optional);

7. Technological industry;

- a. Process description;
- b. Operating manual;
- c. Material and heat balances;
- d. Block Flow Diagram (BFD);

- e. Process Flow Diagrams;
- f. Material Selection Diagrams (MSD);
- g. Piping and Instruments Diagrams
- h. Process equipment list;
- i. Technical specification – process equipment data sheets;
- j. Emission list (gaseous, liquid, solid);
- k. Plot plant;
- l. Layout plant; m. HAZOP report; n. valve schedule;
- o. List of safety valves;
- p. Pipe class list and pipe support specification;
- q. Description of control systems – control logic, automation (process control narratives, functional logic diagrams);
- r. List of alarms and interlocks with their description;
- s. Analytical methods (analysis manual);
- t. Threshold value list;

8. Health and safety / fire protection / process safety industry;

- a. Classification documentation constituting an explosion hazard assessment (in accordance with the relevant IOR of ANWIL S.A.);
- b. Information on types and quantities of hazardous substances to determine the classification of a plant as an upper-tier plant for a major industrial accident ("Seveso substances") and, where the documentation of an upper-tier plant needs updating, the technical information to enable this to be done;

10. Formal and legal documents (containing for instance all applications and administrative and environmental decisions, Construction Design, etc.).

- a. Application for issuing a decision on environmental conditions;
- b. Decision on environmental conditions with the amendment of this decision under such circumstances;
- c. Application to amend the Integrated Permit;
- d. Amendment to the Integrated Permit, enabling the construction, commissioning and operation of the hydrochloric acid synthesis unit;

Copies of implementation documents – 1 paper copy +1 CD + ARCHEO.

AS-BUILT DOCUMENTATION

1. Construction industry – quality documentation and RED COPY documentation:

Quality documentation should contain but not be limited to:

- title page,
- table of contents,
- statement of the construction site/works manager,
- manager's construction rights,
- certificate on memberships in the Chamber,
- signed partial and final acceptance reports (including a list of defects),
- inspection and testing plans, respectively: inspection and measurement checklists, surveying reports, test reports, inspection reports,
- documents for embedded materials: approvals, certificates, declarations of performance, technical data sheets.

The RED COPY documentation is documentation forming the implementation project (the last review) with changes introduced during the performance of works, as marked in red). Each document in such documentation should have the "RED COPY" stamp affixed to it and the signature of the construction site manager or works manager. The manager's statement on introduced changes, together with a list of drawings with their changes marked, should be attached to the RED COPY documentation.

2. Electric industry;

RED COPY documentation with changes introduced during the performance of works, as marked in red. Each document in the documentation with the "RED COPY" stamp affixed to it and the construction site manager's or works manager's signature.

The manager's statement on introduced changes, together with a list of drawings with their changes marked, should be attached to the RED COPY documentation.

2.2. As-built documentation:

- Technical design – electric installations.

Description

- Power balance
- Power and control installation
- Installation of lighting and sockets;
 - a) basic lighting
 - b) evacuation lighting
 - c) installation of sockets
- Grounding installation
- Protection against electric shock;
- Technical design – electric installations. Calculations
- Technical design – electric installations. List of cables
- Technical design – electric installations. List of materials

- Technical design – electric installations. Schemes, drawings according to the list

Note: the technical as-built design is provided in electronic source and PDF format.

- Reports on measurement of efficiency of anti-electric shock protection
- Reports on measurements of the resistance of insulation and grounding installation
- Reports on the inspection of various current devices
- Reports on the inspection of settings of devices protecting against overloading
- Operating and maintenance manual (OMM) for apparatuses and electric devices used, approvals, certificates, declarations of performance, technical sheets

3. Industry: control systems;

Preparation of the as-built documentation that should include but not be limited to:

- title page,
- table of contents,
- Instrument index,
- Supplemented tag list,
- Album of cables,
- Wiring diagrams of fastener boxes,
- circuit diagrams,
- Update of the documentation of DCS system cabinets,
- Logic documentation, together with descriptions of control algorithms and interlocks, operator graphics

4. Mechanical industry;

As-built documentation should include but not be limited to:

a) Implementation and overall drawings of all apparatuses

b) Isometric drawings of pipelines;

c) Concession documentation: 3 paper copies + 1 electronic copy.

d) Basic implementation drawings of components of apparatuses:

- design code
- working, designed and maximum allowed test pressures,
- working, designed temperatures
- process factor,
- volume,
- weight (full, empty, operational)
- list and descriptions of stubs
- extension and scope of non-destructive tests

e) Executive drawings of details

f) Quality control plan

g) Strength calculations including the minimum allowable wall thickness Baseline measurements of the wall thickness of pipelines subject to the supervision of the Office of Technical Inspection h) Overview drawings of the routing of pipelines

i) Pipeline isometrics including:

- working, designed and test pressures
- working, designed temperatures
- process factor
- minimum allowed thickness of pipes, elbows
- materials used
- list of instrumentation

j) OMMs, operation and maintenance manuals, etc.

k) Certification of hydrostatic leak test or other pressure tests. l) Material approvals pursuant to EN 10204 3.1

5. Control and instrumentation industry;

5.1. RED COPY documentation with changes introduced during the performance of works, as marked in red. Each document in the documentation with the "RED COPY" stamp affixed to it and the construction site manager's or works manager's signature.

The manager 's statement on introduced changes, together with a list of drawings with their changes marked, should be attached to the RED COPY documentation.

5.2. As-built final documentation:

- Technical design – electric installations. Description
- technical description/assembly guidelines,
- P&ID diagram,
- instrument index,
- album of cables,
- specifications of control and measurement instrumentation (data sheets, calculations for the selection of control valves, etc.);
- specification of assembly devices and materials,
- wiring diagram of fastener boxes,
- circuit diagrams,
- cable route diagrams,
- device layout diagram (hook up),
- air distribution diagrams.
- Material approvals pursuant to EN 10204 3.1
- Reports on measurement of efficiency of anti-electric shock protection
- Reports on measurements of resistance of cable insulation
- Reports on RLC measurements

- Reports on the inspection of AKP during operation
- Reports on functional tests at the facility.
- Quality documentation, including:
 - Operation and maintenance manual (OMM) for electrical apparatuses and devices used
 - approvals,
 - certificates,
 - declarations of performance,
 - technical sheets,
 - operating manuals,
 - catalogues of spare parts.

Sanitary industry (optional);

Technological industry;

1. Process description
2. Operating manual
3. Material and heat balances
4. Block Flow Diagram
5. Process Flow Diagrams
6. Material Selection Diagrams
7. Piping and Instruments Diagrams
8. Process equipment list
9. Technical specification – process equipment data sheets
10. Emission list (gaseous, liquid, solid)
11. Plot plant
12. Layout plant
13. Valve schedule
14. List of safety valves
15. Pipe class list and pipe support specification
16. Description of control systems – Process control narratives, functional logic control logic, automation
17. List of alarms and interlocks with their description
18. Analytical methods (analysis manual)
19. Threshold value list

8. Health and safety / fire protection / process safety industry;

- a. An Explosion Prevention Document, which constitutes an assessment of explosion risks (pursuant to the relevant IOR of ANWIL S.A.),

9. Environmental protection industry;

- a. Environmental protection manual (in accordance with the relevant IOR of ANWIL S.A.);

10. Copies of as-built documentation to be delivered to ANWIL S.A.:

- 5 paper copies;
- 5 copies of licence documents;
- 1 copy on CD/DVD with source files in editable version e.g. *.dwg, *.dxf, *.xlsx, *.prt *.doc;
- in the ARCHEO system.