

ICS 27.140
CCS P 59

DL

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

DL/T 2021-2019

**Guide for equipment manufacturing supervision of pumped
storage units**

抽水蓄能机组设备监造导则 清晰版

(English Translation)

Issued on: June 4, 2019

Implemented on: October 1, 2019

Issued by: National Energy Administration

Table of Contents

Foreword	
1 Scope	
2 Normative references	
3 Terms and definitions	
4 General regulations	
5 Responsibilities of related parties in manufacturing supervision	
6 Work Process and Method of Manufacturing Supervision	
7 Requirements for manufacturing supervision	
8 Manufacturing supervision documents	
Appendix A (informative appendix) Pumped storage unit equipment manufacturing quality witness project	

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009 "Guidelines for Standardization Work Part 1: Standard Structure and Compilation".

Please note that certain contents of this standard may involve patents. The issuing organization of this standard does not bear the responsibility for identifying these patents.

This standard was proposed and managed by the China Electricity Council.

The main drafting organizations of this standard. State Grid Xinyuan Holdings Co., Ltd., China Southern Power Grid Peak and Frequency Modulation Power Generation Co., Ltd., State Grid Xinyuan Construction Limited company.

Participated in the drafting of this standard. State Grid Xinyuan Holdings Co., Ltd. Technology Center.

1 Scope

This standard specifies the manufacturing supervision content, manufacturing process and work requirements of the pumped storage unit equipment during the manufacturing process.

This standard is applicable to the third-party supervision and manufacture of pumps, turbines, generator motors, main inlet and outlet valves and other equipment of pumped storage units.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this standard.

For undated reference documents, the latest version (including all amendments) is applicable to this standard.

GB/T 19001 Quality Management System Requirements GB/T 26429 Equipment Engineering Supervision Code

3 Terms and definitions

The following terms and definitions apply to this standard.

Manufacturing supervision the manufacturing supervision unit is entrusted by the manufacturing supervision client, and in accordance with the equipment supply contract, in accordance with relevant laws, regulations, and standards, implement the equipment manufacturing process Implement supervision.

Supervision client the user or the legal agent acting as the buyer of the equipment supply contract on behalf of the user, and Party A who signs the manufacturing supervision service contract.

Supervision entity

Party B who has the status of a corporate legal person, has relevant equipment supervision performance, and has signed a supervision service contract.

General supervision engineer A manufacturing supervision engineer appointed by the manufacturing supervision unit to fully perform the manufacturing supervision service contract on behalf of the manufacturing supervision unit and preside over the work of the project supervision agency.

Supervision engineer Under the leadership of the chief manufacturing engineer, responsible for the implementation of a certain profession or aspect of supervision work, a profession with the qualification to sign the corresponding supervision documents personnel.

File witness record point (R point) the manufacturing supervision engineer reviews documents, records, reports and other materials related to equipment manufacturing.

Witness point (W point) Manufacturing supervision engineers supervise and inspect certain processes, procedures, nodes or results in the equipment manufacturing process on site.

Hold point (H point) the manufacturing supervision engineer and (or) the manufacturing supervision client participate in the important process nodes, manufacturing process, and

key inspection tests in the equipment manufacturing process on site Inspection and approval of inspection or non-repeatable inspection test.

4 General rules

4.1

Manufacturing supervision work shall cover equipment production, in-plant assembly, inspection, testing, packaging, inspection before shipment, and manufacturing defects after the equipment arrives on site Supervise the quality and progress of the process of returning to the factory, witness the compliance of the equipment manufacturing process with the contract, and urge the manufacturing unit to eliminate the equipment manufacturing defects Eliminate in the manufacturing plant.

4.2

Equipment manufacturing supervision should adopt the mode of in-plant manufacturing supervision. For individual equipment and subcontracted components, roving inspections can be carried out with the consent of the manufacturing supervision client Manufacturing supervision mode.

4.3

The manufacturing supervision unit and the manufacturing unit should not have direct affiliation or other interests.

4.4

The manufacturing supervision personnel shall abide by the relevant confidentiality regulations of the manufacturing supervision client and the manufacturing unit during the manufacturing supervision process.

4.5 Requirements for manufacturing supervisors

4.5.1

The chief manufacturing engineer shall be a registered equipment supervision engineer and have more than 10 years of relevant professional work experience.

4.5.2

The supervision engineer shall have more than 5 years of relevant professional work experience.

4.5.3

Refer to GB/T 26429 for the corresponding qualification requirements of other supervision personnel.

5.1 Responsibilities of the manufacturing supervision client

5.1.1

The manufacturing supervision client shall select a manufacturing supervision unit with corresponding scale, ability and performance to implement the supervision work.

5.1.2

Provide equipment supply contract documents, design documents, meeting minutes and other relevant materials to the manufacturing supervision unit.

5.1.3

Respond promptly to the liaison letter issued by the manufacturing unit and the manufacturing supervision unit, such as the witness notice and the quality problem handling opinion.

5.1.4

Timely notify the manufacturing supervision unit to participate in the design liaison meeting.

5.1.5

Participate in the inspection and witness of equipment manufacturing quality according to the equipment manufacturing progress.

5.1.6

Supervise and inspect the production supervision work of the manufacturing supervision unit.

5.2 Responsibilities of the manufacturing supervision unit

5.2.1

Take responsibility for the manufacturing quality of the manufacturing supervision equipment.

5.2.2

Participate in the design liaison meeting, equipment technical presentation and equipment quality analysis meeting as required by the manufacturing supervision client, organize or participate in equipment manufacturing Quality witness and factory acceptance of equipment.

5.2.3

Review the contents of the equipment supply contract and related materials provided by the manufacturing supervision client, and check whether it is compatible with the current national or industry regulations and regulations.

Contents that do not conform to the chapters and standards shall be submitted to the