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

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Pump system energy assessment

泵系统能耗评估

(English Translation)

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1 Scope

This standard specifies the requirements for the implementation of pump system energy consumption assessment (hereinafter referred to as "assessment") and the formation of result reports. The system here includes The whole process of energy input to complete work output from this energy.

The evaluation goal of pumping system energy consumption is to determine the current energy consumption of the existing system and find ways to improve the efficiency of the system. These requirements include.

- Organize and implement evaluation;
- Analyze and evaluate the data;
- Report and archive the evaluation results.

This standard applies to open and closed circuit pumps commonly used in industries, public institutions, commercial and municipal facilities that need to be evaluated.

This standard applies to the evaluation of electric drive pump systems that are dominant in most industrial facilities, but it also applies to other drive types such as steam. Turbines and engines, etc. But this standard.

- a) Does not specify how to design the pump system;
- b) It does not specify the qualifications and professional knowledge that the standard user should have (Appendix C only specifies the professional knowledge and expertise that the evaluator should have Experience and competency requirements);
- c) does not involve the training or qualification of personnel;
- d) Does not stipulate the implementation requirements of the recommendations made in the evaluation process, but stipulates the requirements for the preparation of an action plan;
- e) Does not specify the measurement and confirmation requirements for energy saving due to the implementation of the evaluation recommendations;
- f) Does not specify the measurement requirements in the evaluation process and the

calibration requirements of the measuring equipment used;

g) Does not specify the implementation cost estimate or financial analysis of the recommendations made in the evaluation process;

h) It does not specify the specific steps required for the safe operation of the equipment during the assessment process. Responsible for the facility during the data collection stage of the assessment process Normal operation personnel should ensure the safety of equipment operation;

i) No intellectual property rights, security, confidentiality and safety are involved.

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

ISO 17769-1 General terms, definitions, quantities, characters and units for liquid pumps and their devices. Part 1: Liquid pumps (Liquid pumps and installation-General terms, definitions, quantities, letters symbols and units-Part 1. Liquid pumps)

ISO 17769-2 General terms, definitions, quantities, characters and units for liquid pumps and their devices-Part 2: Pump system (Liquid pumps and installation-General terms, definitions, quantities, letters symbols and units-Part 2: Pump-ping system)

3 Terms and definitions

The following terms and definitions defined by ISO 17769-1 and ISO 17769-2 apply to this document.

The assessment agency should appoint the assessment team leader. In addition to the assessment agency, the assessment team leader can be a person from the facility or an external assessment team.

As an auditor. When the evaluation team is not large, the team leader can be a competent internal reviewer.

4.3 Facility support

The facility should understand and support the evaluation activities.

Within the scope of necessary assessment, the facility side shall allow its own personnel to participate in the assessment.

The evaluation team shall obtain the following written support from the facility management before implementing the evaluation.

--- Commit the necessary funds, personnel and other resources to support the evaluation activities;

---Commit to communicate with facility management personnel and inform the importance of evaluation.

4.4 Communication

The communication channels needed for the evaluation should be established.

The evaluation team should provide clear guidelines for communication among evaluation team members so that all necessary information and data can be exchanged in a timely manner.

This information and data should include management data, logistics information, and operation and maintenance data.

4.5 Access to and acquisition of facilities, personnel and information

The evaluation team should have access to.

---Assess the involved facility area and pump system;

---Facilities related personnel (engineering and technical personnel, operators, maintenance personnel, etc.), equipment suppliers, contractors and other personnel to collect Useful information for evaluation activities and data analysis, used to prepare reports;

---Other information resources, such as drawings, manuals, data sheets, maintenance records, test reports, historical cost information, computer monitoring and control Control data, electrical equipment panels and calibration records.

All these raw data, which are initially determined to be essential for the evaluation activities, should be passed through contact with experienced and knowledgeable personnel from the facility. Obtained after discussion.

4.6 Evaluation objectives, scope and boundaries

The overall objective and scope of the evaluation, including some of the facilities and system boundaries to be evaluated, should be discussed and reached by the evaluation team at the beginning stage Unanimous.

The assessment team should prepare a list of site-specific targets for each pump system, such as performance improvement targets.