

ICS 35.240
CCS L 70

DL

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

DL/T 2015-2019

**Specification for measurement of power informatization
software engineering**

电力信息化软件工程度量规范

(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 Abbreviations	
5 Principles and content of cost measurement	
5.1 Basic principles	
5.2 Cost measurement	
5.3 Improvement of benchmark data	
6 Cost composition	
7 Feasibility study fee measurement	
7.1 Principles of Measurement	
7.2 Measurement formula	
7.3 Parameter value	
8 Preliminary design cost measurement	
8.1 Measurement principles	
8.2 Measurement formula	
8.3 Parameter value	
9 Development cost measurement	
9.1 Measurement steps	
9.2 Scale measurement	
9.3 Workload measurement	
9.4 Duration measurement	
9.5 Cost measurement	
10 Third-party testing fee measurement	
10.1 The content of the third-party test fee	
10.2 Functional and non-functional testing fees	
10.3 Security test fee	
11 Implementation fee measurement	
11.1 Proportional conversion based on development costs	
11.2 WBS decomposition method	
12 Supervision fee measurement	

12.1 Principles of Measurement

12.2 Measurement formula

12.3 Parameter value

13 Project management fee measurement

13.1 Principles of Measurement

13.2 Measurement formula

13.3 Parameter value

Appendix A (informative appendix) Third-party test content

Foreword

In order to standardize the measurement principles and content, cost composition and cost measurement methods of various parts of power information software engineering, standardize information software Cost management in the process of project construction provides a more scientific basis for the investment of power information software engineering, and rationally determines the engineering Price, improve investment efficiency, formulate this standard.

This standard was proposed and interpreted by the Standardization Center of the China Electricity Council.

This standard is under the jurisdiction of the Power Industry Information Standardization Technical Committee (DL/T C27).

Drafting organizations of this standard. China Electric Power Research Institute Co., Ltd., China Electricity Council, Guangdong Power Grid Co., Ltd.

Company, State Power Investment Group Co., Ltd., China Power Construction Co., Ltd., Guodian Nanjing Automation Co., Ltd., State Grid Hebei Electric Power Co., Ltd., State Grid Hubei Electric Power Co., Ltd., State Grid Inner Mongolia Eastern Electric Power Co., Ltd., State Grid Gansu Electric Power Company Co., Ltd., State Grid Xinjiang Electric Power Co., Ltd.

1 Basic principles

In the process of cost measurement, the following principles should be followed.

Make full use of benchmark data, adopt equation method, analogy method or analogy method to measure workload and cost;

In cost measurement, an appropriate estimation method should be selected according to the characteristics of the project and the level of detail required;

The measurement result of workload and cost is a fixed value, but the amount within plus or minus 5% of the measured fixed value is within the allowable range;

Perform cross-validation during the cost measurement process. If the estimation results of different methods produce large differences, the expert review method can be used to determine to estimate the results, a simpler weighted average method can also be used.

2 Cost measurement

According to the engineering feasibility study report and other materials, the feasibility study, preliminary design, development, and third-party the costs of testing, implementation, supervision, and project management are measured to provide support for the budget stage; in addition, according to the actual development of the project in addition, the actual value of the cost of informatization software engineering is measured and analyzed to provide a basis for the improvement of benchmark data.

3 Perfect benchmark data

The improvement of benchmark data refers to the improvement of productivity and labor costs corresponding to related activities of information software engineering according to the actual development of the project.

Rate etc. The improvement of benchmark data can be divided into three stages. data collection, data establishment/maintenance, and data release.

a) In the data collection stage, the cost measurement central management department is organized, and the cost measurement execution department will collect data based on actual project development.

Collect information on the number of personnel, construction period, cost and other information actually invested by the construction unit in the specific construction process;

Note: The cost measurement central management department and the cost measurement execution department should be set according to the organization of the engineering unit.

b) In the data establishment/maintenance stage, the cost measurement executive department organizes and analyzes the collected information, and refers to the industry average level to establish Establish benchmark data; compare it with the measured value according to the actual development of the project, and revise the benchmark data with reference to changes in the industry According to data, and submit the latest benchmark data to the centralized management department for review;

Note: The industry average level and industry data involved in this standard are all derived from the SSM-BK issued by the Software Cost Branch of China Software Industry Association.

c) In the data release stage, the centralized management department releases the latest

benchmark data to the entire industry.

Cost structure

The construction of electric power information software engineering in this standard includes the feasibility study and preliminary Design, development, third-party testing, implementation, supervision, project management and other processes. The cost of informatization software engineering should be based on the actual construction of the project the process is calculated, see equation (1). Table 1 briefly describes the various parts of the cost structure.

Development cost measurement

1 Measurement steps

Figure 1 shows the steps of power information software engineering development cost measurement, including scale measurement, workload measurement, construction period measurement and cost

This metric.

Figure 1 Measurement steps of power information software engineering development fee

2 Scale measurement

The scale measurement should follow the following principles.

- a) Before scale measurement, the system boundary should be clarified according to the scope of the project. For needs that have not yet been determined, the degree should be determined before the scale measurement Quantity principle
- b) The estimator should estimate the software scale based on the determined system boundary and demand description;
- c) The method used for scale measurement should be based on the project characteristics and estimation requirements, and the five recommended rules of SJ/T 11463-2013 should be selected.

One of the standard function point analysis methods of modulus, including COSMIC-FFP method, IFPUG method, MkII method, NESMA Method and FiSMA method;

- d) When estimating the size, the degree of possible demand changes should be considered, and the results of the size estimation should be appropriately adjusted;
- e) For software research and development projects that are based on non-functional requirements, or contain a large number of complex algorithms, or are based on creativity, scale when estimating, you can refer to the first five methods to estimate the functional size, and refer to the SNAP method to estimate the non-functional size; also it is not necessary to estimate the size of the software, refer to the methods described in this standard (such