

Translated English of Chinese Standard: GB/T50430-2007

www.ChineseStandard.net

Sales@ChineseStandard.net

GB

NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

UDC

P

GB/T 50430-2007

**Code for quality management of
engineering construction enterprises**

工程建设施工企业质量管理规范

GB/T 50430-2007 How to BUY & immediately GET a full-copy of this standard?

1. www.ChineseStandard.net;
2. Search --> Add to Cart --> Checkout (3-steps);
3. No action is required - Full-copy of this standard will be automatically & immediately delivered to your EMAIL address in 0~25 minutes.
4. Support: Sales@ChineseStandard.net. Wayne, Sales manager

Issued on: October 23, 2007

Implemented on: March 01, 2008

Issued by: Ministry of Construction of the People's Republic of China;

**General Administration of Quality Supervision, Inspection
and Quarantine of the People's Republic of China;**

Foreword

This code is, in accordance with the requirements of the Ministry of Construction of PRC "Notice on printing and issuing of the establishment and revision plan of 2002 ~ 2003 annual engineering construction national standard (Building Standard [2003] Number 102), jointly compiled by the China Construction Industry Association.

In this code, it proposes the quality management requirements of the construction enterprise based on the principles of the current international quality management standard and combining with the domestic engineering construction industry characteristics, in order to promote the scientification, standardization and legalization of the quality management of the construction enterprises, thus reaching to the demands of economic globalization.

In the process of compilation, the compilation group has conducted extensive investigation and research on the current situation of quality management of engineering construction enterprises AND summed up the practical experience, which provided the basis for strengthening the quality management, improving the quality management statute AND improving the management level. This code is, based on extensive solicitation of opinions and after repeated discussions, amendments and improvements, finally reviewed and finalized.

The contents of this code is divided into 13 chapters, including generals, terms, quality management basic requirements, organization structure and responsibilities, human resources management, construction machinery management, bidding and contract management, building materials, structural parts and equipment management, subcontract management, engineering construction quality management, construction quality inspection and acceptance, quality management self-examination and assessment, quality information, and quality management improvement.

This specification is managed by the Ministry of Construction, AND the interpretation of the specific technical contents is responsible by the China Construction Industry Association. In the implementation process, each unit shall combine the engineering practices AND carefully summarize experiences; AND any opinions and suggestions on any modification or supplementations may be sent to the Editorial Office of the "Code for quality management of engineering construction enterprises" of China Construction Industry Association (Address: 7/F, Block A, Kowloon Business Center, No.48 South Street, Zhongguancun, Beijing, China; Postal Code: 100081), which will be referred to during modification.

Table of contents

1	General	10
2	Terms	10
3	Basic requirements for quality management	11
3.1	General provisions.....	11
3.2	Quality policy and quality objectives	11
3.3	Planning and establishment of quality management system	12
3.4	Implementation and improvement of quality management system.....	13
3.5	Document management	13
4	Organization and responsibilities.....	14
4.1	General provisions.....	14
4.2	Organization	14
4.3	Responsibilities and authorities	15
5	Human resource management	15
5.1	General provisions.....	15
5.2	Human resource allocation.....	16
5.3	Training.....	16
6	Construction machinery management.....	17
6.1	General requirements	17
6.2	Construction machinery allocation	17
6.3	Construction machinery use.....	18
7	Bidding and contract management.....	18
7.1	General provisions.....	18
7.2	Bidding and signing	18
7.3	Contract management.....	18
8	Building materials, structural parts and equipment management.....	19
8.1	General provisions.....	19
8.2	Procurement of building materials, construction parts and equipment.....	19
8.3	Acceptance of building materials, structural parts and equipment	20
8.4	On-site management of building materials, structural parts and equipment	20
8.5	Building materials, construction parts and equipment provided by the Employer ...	21
9	Subcontract management	21
9.1	General requirements	21
9.2	Subcontractor selection and subcontract.....	21

9.3 Control of subcontract project implementation process	22
10 Construction quality management of engineering project.....	23
10.1 General provisions	23
10.2 Planning	23
10.3 Construction design	24
10.4 Construction preparation	25
10.5 Quality control of construction process	25
10.6 Services	27
11 Inspection and acceptance of construction quality	27
11.1 General provisions.....	27
11.2 Construction quality inspection	28
11.3 Construction quality acceptance.....	28
11.4 Disposal of construction quality problems.....	28
11.5 Testing equipment management	29
12 Quality management self-examination and evaluation	30
12.1 General provisions	30
12.2 Supervision and evaluation of quality management actions.....	30
13 Quality information and quality management improvements	31
13.1 General provisions	31
13.2 Collection, transfer, analysis and utilization of quality information	32
13.3 Improvement and innovation of quality management	33
Instructions for this specification	34
Interpretation of Articles	35
1 General	38
2 [Blank].....	38
3 Basic requirements for quality management	38
3.1 General provisions.....	38
3.2 Quality policy and quality objectives	39
3.3 Planning and establishment of quality management system	40
3.4 Implementation and innovation of quality management system.....	41
3.5 Document management	42
4 Organization and responsibilities.....	42
4.1 General provisions.....	42
4.2 Organization	43

4.3 Responsibilities and authorities	43
5 Human resource management	43
5.1 General provisions.....	43
5.2 Human resource allocation.....	44
5.3 Training.....	44
6 Construction machinery management.....	45
6.1 General provisions.....	45
6.2 Construction machinery allocation	46
6.3 Construction machinery use.....	47
7 Bidding and contract management.....	47
7.1 General provisions.....	47
7.2 Bidding and contract signing	47
7.3 Contract management.....	48
8 Building materials, structural parts and equipment management.....	49
8.1 General provisions.....	49
8.2 Procurement of building materials, structural parts and equipment.....	49
8.3 Acceptance of building materials, structural parts and equipment.....	51
8.4 On-site management of building materials, structural parts and equipment	52
8.5 Building materials, structural parts and equipment provided by the Employer	52
9 Subcontract management	53
9.1 General provision.....	53
9.2 Subcontractor selection and subcontract.....	53
9.3 Control of subcontract project implementation process.....	54
10 Construction quality management of engineering project.....	55
10.1 General provisions	55
10.2 Planning	55
10.3 Construction design	57
10.4 Construction preparation	58
10.5 Quality control of construction process	59
10.6 Services	60
11 Inspection and acceptance of construction quality	61
11.1 General provisions.....	61
11.2 Construction quality inspection	61
11.3 Construction quality acceptance.....	61
11.4 Disposal of construction quality problems.....	62
11.5 Testing equipment management	63

12	Quality management self-examination and evaluation	63
12.1	General provisions	63
12.2	Supervision and evaluation of quality management actions.....	64
13	Quality information and quality management improvements	65
13.1	General provisions	65
13.2	Collection, transfer, analysis and utilization of quality information.....	66
13	Improvement and innovation of quality management	68

1 General

1.0.1 To strengthen the quality management of engineering construction enterprises (hereinafter referred to as “construction enterprises”), standardize the quality management action of construction enterprises, and promote the construction enterprises to improve the quality management level, this Code is established.

1.0.2 This Code applies to the quality management action of construction enterprises.

1.0.3 This Code is the standard of construction enterprise quality management, AND the basis for the quality management supervision, inspection and assessment of the construction enterprise.

1.0.4 The quality management actions of the construction enterprise shall, in addition to the implementation of this Code, follow the provisions of the relevant national standards.

2 Terms

2.0.1 Quality management action

It refers to the action as implemented to reach to the quality management requirements.

2.0.2 Quality management statute

It refers to the quality management action requirements which are established based on some quality management requirements AND applicable to a certain scope. The quality management statute shall specify the procedures, methods and obligations of the quality management actions. The quality management statute shall generally form documents. If necessary, the quality management statute may be supported by the more detailed document requirements.

2.0.3 Quality information

It refers to the records reflecting the construction quality and the quality action process.

2.0.4 Quality management innovation

It refers to, on the basis of the original quality management, the quality management statute, action and method innovations as implemented in order

3 Define and timely access to the laws, regulations, standards and codes as required by the quality management actions;

4 Timely access to the applicable version of the required documents;

5 The contents of the document are clear and specific;

6 Ensure that employees in each post are aware of the documents on which their actions are based;

7 Timely withdraw the canceled documents from the place of use OR otherwise identify them.

3.5.3 Construction enterprises shall establish and implement a record management system, clearly recording the management responsibilities AND specifying the record filling, identification, collection, custody, retrieval, retention period, disposal and other requirements. The management of archival records shall be in accordance with the relevant provisions of the file management.

4 Organization and responsibilities

4.1 General provisions

4.1.1 Construction enterprises shall define the organization of the quality management system, arrange corresponding quality management staff, specify the corresponding responsibilities and authority, AND form documentation.

4.2 Organization

4.2.1 Construction enterprises shall, based on the demands of quality management, define the management level AND set the corresponding departments and positions.

4.2.2 Construction enterprises shall define the organization coordination departments or posts at each management level, AND specify their responsibilities and authorities.

5.2 Human resource allocation

5.2.1 Construction enterprise shall determine the conditions of service in accordance with the quality management position in the form of a document, including:

- 1 Professional skills;
- 2 Training received and qualifications obtained;
- 3 Ability;
- 4 Work experience.

5.2.2 Construction enterprises shall allocate appropriate staff in accordance with the job conditions. Project managers, construction quality inspectors, special operations personnel, etc., shall work with certificates in accordance with the requirements of national laws and regulations.

5.2.3 Construction enterprises shall establish staff performance assessment system, specify the contents, standards, methods and frequency of assessment, AND use the assessment results as the basis of human resource management evaluation and improvement.

5.3 Training

5.3.1 Construction enterprises shall identify the training needs, develop the staff training plan in accordance with demands, AND arrange the training object, content, manner and time.

5.3.2 Training of employees in construction enterprises shall include:

- 1 Quality management policy, objectives, quality awareness;
- 2 Relevant laws, regulations and standards;
- 3 Construction enterprise quality management statute;
- 4 Professional skills and continuing education.

5.3.3 Construction enterprises shall evaluate the training effect AND keep the corresponding records. The evaluation results are used to improve the effectiveness of training.

6.3 Construction machinery use

6.3.1 Construction enterprise's use, technology and safety management, and repair and service of the construction machinery shall comply with the requirements of the relevant provisions.

7 Bidding and contract management

7.1 General provisions

7.1.1 Construction enterprises shall establish and implement the project bidding and project contract management system.

7.1.2 Construction enterprises shall conduct project bidding and contract signing activities in accordance with law, AND monitor the fulfillment of the contract.

7.2 Bidding and signing

7.2.1 Construction enterprises shall clarify the requirements of the project before bidding and contract signing, including:

- 1 Requirements as defined by the Employer;
- 2 Requirements not defined by the Employer BUT shall be satisfied;
- 3 Requirements for laws, regulations and standards related to project construction, acceptance and warranty;
- 4 Other requirements.

7.2.2 Construction enterprises shall, after confirming the ability to meet the requirements of the project through assessment, conduct the bidding and contract signing in accordance with law, AND keep the relevant records of the assessment, bidding and contract signing.

7.3 Contract management

7.3.1 The construction enterprise shall make the relevant departments and personnel grasp the requirements of the contract and KEEP the relevant records.

3 Supply capacity;

4 Price of building materials, construction parts and equipment;

5 After-sales service.

8.2.3 The construction enterprise shall re-evaluate the supplier when necessary.

8.2.4 Evaluation of the supplier, the criteria of re-evaluation and selection, and the methods and responsibilities shall comply with the requirements of the management system, AND the corresponding records shall be kept.

8.2.5 The construction enterprise shall enter into a procurement contract in accordance with the procurement plan.

8.3 Acceptance of building materials, structural parts and equipment

8.3.1 Construction enterprises shall conduct inspection and acceptance of building materials, structural parts and equipment. If necessary, it shall conduct verification at the site of the supplier. The acceptance process, records and identification shall comply with the relevant provisions. Unaccepted building materials, structural parts and equipment shall not be used for construction.

8.3.2 Construction enterprises shall dispose the disqualified building materials, structural parts and equipment after acceptance in accordance with the duties, authorities and methods as specified, AND record the disposal results.

8.3.3 Construction enterprises shall ensure that the purchased building materials, structural parts and equipment comply with the requirements for occupational health, safety and environmental protection

8.4 On-site management of building materials, structural parts and equipment

8.4.1 Construction enterprises shall specify the on-site management requirements for building materials, structural parts and equipment in the management system.

8.4.2 Construction enterprises shall conduct storage, custody and identification of building materials, structural parts and equipment, AND inspect them in

- 1 Business license and qualification certificate;
- 2 Professional competence;
- 3 Staff structure and quality;
- 4 Machinery and equipment;
- 5 Guarantee ability of technology, quality, safety, and construction management;
- 6 Project performance and reputation.

9.2.2 Construction enterprises shall, in accordance with the stipulations of the general contract, conclude subcontracts in accordance with law.

9.3 Control of subcontract project implementation process

9.3.1 The construction enterprise shall, prior to the implementation of the subcontracting project, make the construction and service requirements disclosure of the subcontracting project against the relevant staff related to subcontracting, review and approve the construction or service plan as compiled by the subcontractor, AND confirm and verify the construction and service conditions of the subcontractor based on this, including:

- 1 To confirm the subcontractor practitioner's qualifications and ability;
- 2 To verify the main materials, equipment and facilities of the subcontractor.

9.3.2 The supervision and guidance of the construction enterprise on the project subcontract management shall comply with the stipulations of the subcontract management system and the stipulations of the subcontract. The construction enterprise shall control the construction and service process of the subcontractor, including:

- 1 Conduct supervision and inspection of the construction and service actions of the subcontractor, AND if finding problems, timely make correction requirements and conduct tracking and re-inspection;
- 2 Conduct acceptance of the subcontracting projects in accordance with prescribed procedures and standards.

9.3.3 The construction enterprise shall evaluate the contract fulfillment performance of the subcontractor AND keep the record as the basis for subcontractor re-evaluation and selection AND the subcontract management improvement.

- 9 Emergency measures for emergencies;
- 10 Report and disposal of irregularities;
- 11 Information to be collected and their transfer requirements;
- 12 Communication with the project construction parties;
- 13 Construction management shall form records;
- 14 Quality management and technical measures;
- 15 Other requirements of construction enterprise quality management.

10.2.4 Construction enterprises shall document the results of the project quality management planning AND approve them before implementation. The results of the planning shall be approved by the Employer or the supervisor as specified.

10.2.5 Construction enterprises shall, based on the construction requirements, conduct dynamic management of the results of the engineering project quality management planning, timely adjust the relevant documents, AND supervise the implementation.

10.3 Construction design

10.3.1 Construction enterprises shall, during the construction design, define the responsibilities, plan and implement the construction design management. Construction enterprises shall control the construction design actions as entrusted by them.

10.3.2 The construction enterprise shall determine the assessment, verification and confirmation activities required for the construction design, AND clarify its procedures and requirements.

Construction enterprises shall clarify the basis for construction design, AND review its content. Design results shall form the necessary documents, which can only be used after approval.

10.3.3 The construction enterprise shall clarify the design changes and their approval methods and requirements, specify the required assessment, verification and confirmation procedures, review the possible impact of the change on the construction quality, AND keep the relevant records.

8 To take semi-finished products and finished product protection measures AND to supervise the implementation;

9 To monitor the unstable and insufficient construction process and emergencies;

10 To monitor the construction process of the subcontractor.

10.5.2 Construction enterprises shall, as necessary, confirm the construction process in advance, including:

1 To review the technical standards and technical documents, AND to assess the qualifications of the operator;

2 To recognize the construction machinery;

3 To conduct confirmation again regularly OR when the staff, materials, process parameters, or equipment changes.

10.5.3 Construction enterprises shall identify the construction process and progress, AND the construction process shall be traceable.

10.5.4 Construction enterprises shall maintain communication with the parties involved in the construction of the project, AND manage the relevant information in accordance with the specified duties and methods.

10.5.5 Construction enterprises shall establish quality management records during construction. Construction records shall comply with the relevant requirements. The quality management records during construction shall include:

1 Construction log and special construction record;

2 Disclosure records;

3 Post training records and job qualification certificate;

4 Management records of construction machinery and inspection, measurement and test equipment;

5 Relevant records on drawing receiving & distribution and design changes;

6 Supervision & inspection and rectification, review records;

7 Quality management related documents;

11.2 Construction quality inspection

11.2.1 Construction enterprises shall plan the construction quality inspection, including the basis, contents, personnel, timing, methods and records of quality inspection. The results of the planning shall be implemented after approval.

11.2.2 The management of the quality inspection records of the construction enterprises shall be in accordance with the relevant regulations.

11.2.3 The project manager department shall conduct inspection in accordance with the arrangement of planning and the acceptance criteria of construction quality.

11.2.4 Construction enterprises shall monitor the quality inspection actions of the project manager department.

11.3 Construction quality acceptance

11.3.1 Construction enterprises shall plan and implement the construction quality acceptance in accordance with regulations. Construction enterprises shall establish the test and detection management system.

11.3.2 Construction enterprises shall, before the completion acceptance, conduct internal acceptance, AND take part in the project completion acceptance as specified.

11.3.3 Construction enterprises shall plan the management of engineering materials AND implement them in accordance with regulations. The formation of engineering data shall be synchronized with the progress of the project. The construction enterprise shall, in accordance with the provisions, timely transfer the corresponding information to the relevant party. The engineering information archived shall be in accordance with the provisions of the file management.

11.4 Disposal of construction quality problems

11.4.1 Construction enterprises shall establish and implement a quality management statute, which stipulates the duties, rights and action flow of the effective control of the quality problems.

12.2.3 Construction enterprises shall implement the annual audit and evaluation of the quality management system. Construction enterprises shall respond to the problems and the causes found in the audit for the written correction requirements, AND track the correction results. Qualification of quality management auditors shall comply with the corresponding requirements.

12.2.4 Construction enterprises shall plan the implementation of supervision & inspection and audit of quality management actions. The basis of the plan includes:

- 1 Duties of various departments and positions;
- 2 Weak links in quality management;
- 3 Related comments and suggestions;
- 4 Results of the past inspections.

12.2.5 Construction enterprises shall establish and maintain the records of supervision & inspection and audit, AND use the findings and correction results as important information for quality management improvement.

12.2.6 Construction enterprise shall collect the information of the satisfaction of the construction party concerned AND clarify the duties, channels, and methods of such information collection as well as the methods of using such information.

13 Quality information and quality management improvements

13.1 General provisions

13.1.1 Construction enterprises shall adopt information management technology to improve the quality management level through the development and utilization of quality information resources.

13.1.2 Construction enterprises shall establish and implement the quality information management and quality management improvement system, through the collection and analysis of quality information, determine the improvement objectives AND develop and implement the quality improvement measures.

13.1.3 Construction enterprises shall clarify the quality information management and quality management improvement duties at all levels and all positions.

13.1.4 Quality management improvement actions of construction enterprises shall include: quality policy and objective management, information analysis, supervision and inspection, quality management system evaluation, and corrective and preventive measures, etc.

13.2 Collection, transfer, analysis and utilization of quality information

13.2.1 The construction enterprise shall specify the information and its sources, channels, methods and responsibilities for the correct assessment of the quality management level. The information collected shall include:

- 1 Laws, regulations, standards and rules and provisions;
- 2 The assessment of the project construction parties on the project quality and quality management level of the construction enterprises;
- 3 The project quality management conditions of each management level AND the project quality inspection results;
- 4 The quality management supervision & inspection results of the construction enterprise;
- 5 Experience from construction enterprises in the same industry;
- 6 Market demand;
- 7 Quality return visit and service information.

13.2.2 Construction enterprises shall summarize the implementation of project quality management planning results AND preserve and use them as quality analysis and improvement information.

13.2.3 The management level of the construction enterprise shall analyze the quality information in accordance with the regulations, judge the quality management status and the realization of the quality objective, identify the areas and opportunities that need improvement, AND take the improvement measures. In the analysis process, the construction enterprise shall use the effective analysis method. The results of the analysis shall include:

13.3.3 Construction enterprises shall keep records of quality management improvement and innovation as required.

Instructions for this specification

1 For the sake of differentiation in the implementation of the provisions of this Code, the terms with different requirement strictness are described as follows:

1) That is very strict AND it must be such:

Positive words: “must”;

Negative words: “prohibited”.

2) That is strict and it shall be done like this under normal circumstances:

Positive words: “shall”;

Negative words: “shall not”.

3) That a slight choice is allowed AND it shall be done like this when conditions permit:

Positive words: “preferable”;

Negative words: “not preferable”.

There is a choice AND it can be done like this when conditions permit: “may”.

2 The words used to indicate that it shall follow the other relevant standards are “It shall comply with the provisions (requirements) of” OR “It shall follow the”.

NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

**Code for quality management of
engineering construction enterprises**

GB/T 50430-2007

Interpretation of Articles

Table of contents

1	General	38
3	Basic requirements for quality management	38
3.1	General provisions.....	38
3.2	Quality policy and quality objectives	39
3.3	Planning and establishment of quality management system	40
3.4	Implementation and innovation of quality management system.....	41
3.5	Document management	42
4	Organization and responsibilities.....	42
4.1	General provisions.....	42
4.2	Organization	43
4.3	Responsibilities and authorities	43
5	Human resource management	43
5.1	General provisions.....	43
5.2	Human resource allocation.....	44
5.3	Training.....	44
6	Construction machinery management.....	45
6.1	General provisions.....	45
6.2	Construction machinery allocation	46
6.3	Construction machinery use.....	47
7	Bidding and contract management.....	47
7.1	General provisions.....	47
7.2	Bidding and contract signing	47
7.3	Contract management.....	48
8	Building materials, structural parts and equipment management	49
8.1	General provisions.....	49
8.2	Procurement of building materials, structural parts and equipment.....	49
8.3	Acceptance of building materials, structural parts and equipment	51
8.4	On-site management of building materials, structural parts and equipment	52
8.5	Building materials, structural parts and equipment provided by the Employer	52
9	Subcontract management	53
9.1	General provision.....	53
9.2	Subcontractor selection and subcontract	53
9.3	Control of subcontract project implementation process	54

10	Construction quality management of engineering project.....	55
10.1	General provisions	55
10.2	Planning	55
10.3	Construction design	57
10.4	Construction preparation	58
10.5	Quality control of construction process	59
10.6	Services	60
11	Inspection and acceptance of construction quality	61
11.1	General provisions.....	61
11.2	Construction quality inspection	61
11.3	Construction quality acceptance.....	61
11.4	Disposal of construction quality problems.....	62
11.5	Testing equipment management	63
12	Quality management self-examination and evaluation	63
12.1	General provisions	63
12.2	Supervision and evaluation of quality management actions.....	64
13	Quality information and quality management improvements	65
13.1	General provisions	65
13.2	Collection, transfer, analysis and utilization of quality information.....	66
13	Improvement and innovation of quality management	68

1 General

1.0.1 This Code determines the contents and requirements of each quality management action of the construction enterprise, which is the code of conduct for the quality management of the construction enterprise AND the basic factors to ensure that the construction and service comply with the requirements of laws and regulations. This Code determines the generals of the quality management of the construction enterprises. The section 3 of Chapter 10 has no restriction on the construction enterprises without construction design.

This Code, under the conditions of proposing the quality management basic requirements, encourages the construction enterprise to implement the quality management innovation.

1.0.2 This Code is applicable to the construction enterprises of different industries engaging into project contracting actions, including the general contracting enterprise and the trade contacting enterprises.

1.0.3 The construction enterprise may, when implementing the quality management, be based on this Code to add other requirements as necessary. The supervision & inspection and dynamic management of the quality management of the construction enterprise may be conducted in accordance with this Code.

2 [Blank]

3 Basic requirements for quality management

3.1 General provisions

3.1.1 Each requirement of the quality management is realized through the quality management system. The quality management system is a group of co-related and inter-acted factors guiding and controlling the organization and establishment of quality policy and quality objective from the quality aspect AND realizing such objectives.

The construction enterprises shall improve the original quality management system in accordance with the requirements of this Code.

3.2.2 The review and revision of the quality policy is an important means of improving the quality management of construction enterprises. Construction enterprises shall, based on changes in internal and external conditions, maintain the suitability of the quality policy.

3.2.3 The establishment of quality objectives shall be the direction of the construction enterprises and their employees to establish the quality actions. Quality objectives shall be coordinated with other management objectives. Quality objectives can be determined in the form of long-term objectives, milestones, annual objectives, etc., all of which shall be coordinated and aligned.

Quality objectives shall be measurable. Construction enterprises shall, through appropriate ways, identify the connotation of each indicator in the quality objectives.

3.2.4 The management level of construction enterprises shall supervise and inspect the quality objective breakdown and implementation in accordance with the requirements of the quality management statute, AND examine its realization. The quality objective examination results shall be used as a part for the basis for quality management improvement.

3.3 Planning and establishment of quality management system

3.3.1 Quality management system planning shall target at the effective implementation of quality policy and achievement of quality objectives, in order to make the establishment of the quality management system comply with the needs of quality management.

Quality management system planning may take the following methods:

- 1 To develop relevant systems to determine criteria and methods for quality management actions;
- 2 To develop plans, methods or measures for quality management actions.

Construction enterprises shall, when planning the quality management system, analyze the original quality management foundation, AND adjust, supplement and improve the quality management requirements based on this Code.

The top management may also entrust others in the management level to be responsible for the establishment, implementation and improvement of the quality management system, AND to define their responsibilities and rights in an appropriate manner.

quality policy and quality objectives achieved through the completion of the actions of the quality management system.

3.5 Document management

3.5.1 The scope of document management shall include laws, regulations, standards, norms, contracts, management systems, supporting documentation, and other forms of work basis related to quality management actions.

3.5.2 Construction enterprises shall stipulate the approval duties of all kinds of documents. It shall issue documents based on the determined scope, ensuring that all the positions may obtain the necessary documents. When the document is amended, it shall promptly notify the original document holder.

3.5.3 Records are special forms of documents that can appear in multiple media formats. It shall determine the range and category of record management. The documents that record various types of quality management actions as formed in daily quality actions belong to records.

The formation of records shall be carried out in parallel with quality action. It shall, in the management system, specify the duties and authorities of each level, department and position on the record management, define the records to be formed by the quality actions of each position and their contents, forms, timing, and transfer methods, AND the formation and transfer of the records shall be used as one of the duties of each position.

Records shall be identified in the appropriate manner, be easy to find and retrieve, AND may be achieved in the form of a catalog.

Records shall be clearly documented and stored in the appropriate environmental conditions.

It shall, based on the needs of the project construction and the characteristics of the construction enterprises, set up the archives management department and file management personnel, AND establish the archives management rules and regulations.

4 Organization and responsibilities

4.1 General provisions

4.1.1 The top management shall determine the organizational form suitable for the construction enterprise's own characteristics AND rationally divide the

5.1.2 The top management of construction enterprises shall put forward the development plan of human resources in accordance with the needs of enterprise development.

5.2 Human resource allocation

5.2.1 It may use the job descriptions or post instructions, etc., to clarify the job requirements.

5.2.2 Construction enterprises may allocate the human resources through recruitment, transfer, training and other measures, AND the results must make human resources to meet the quality management requirements. Construction enterprises shall clarify the responsibilities and authorities on recruitment and employment, AND determine the employment criteria and assessment methods.

When the quality policy or quality objectives are revised, the demand for human resources shall also be adjusted accordingly.

The allocation of the project manager and quality inspection, technical, metering and testing management staff of the construction enterprise must reach to the requirements of the relevant regulations; AND those must work with registration if specified.

5.2.3 The basis for employee performance assessment may include the following:

- 1 Quality management statute;
- 2 Job standards for each post;
- 3 Job objectives of each post.

It is preferable for the construction enterprise to determine the time, frequency, method and criteria for the performance assessment, AND conduct assessment in accordance with the requirements of the regulations. The criteria for performance assessment shall be coordinated with the relevant requirements of the quality management objectives.

5.3 Training

5.3.1 Training programs for construction enterprises shall clarify the training scope, training level, training methods, training content, time schedule and teachers and teaching materials.

level and the project manager department in the construction machinery management.

6.2 Construction machinery allocation

6.2.1 Construction machinery allocation plan may also be specially developed based on the needs of the construction enterprise development OR otherwise determined in the project management planning based on the needs of engineering project.

The approval authority for the construction machinery allocation plan shall comply with the provisions of the management system.

Construction machinery can be equipped through procurement or leasing.

6.2.2 Construction enterprises may, based on the construction machinery category AND the effect degree onto the construction quality, respectively determine the assessment and selection criteria for the suppliers of different construction machinery.

Supply capacity generally include: production capacity, transport capacity, storage capacity, delivery period accuracy and so on.

6.2.3 Construction machinery procurement or leasing contract shall be in accordance with the approved allocation plan.

6.2.4 Construction enterprises shall, based on construction machinery allocation plans, procurement or lease contracts, and construction schedule, conduct inspection and acceptance of the construction machinery.

Construction enterprises shall define the duties of the staff participating in the acceptance and the acceptance methods. As for the purchased construction machinery, the acceptance staff shall check and count it based on the contract and the packing list or equipment accessory list, including equipment, spare parts, tools, instruction manuals, certificates and other documents; AND the large construction machinery accompanied documents shall be archived and managed as the construction machinery file in accordance with the provisions of relevant systems.

As for the leased equipment, it shall follow the contract provisions to verify the construction machinery model and the accompanied operator's qualification certificate.

The relevant records of the bidding and the contract signing shall provide necessary traceability and basis proving that the construction and service quality of the project comply with requirements. The records needed to be kept generally include: the analysis records of the bidding documents and the construction contract, the bidding documents and the contract and their review and approval records, the project contract account, the contract change, AND the relevant meeting minutes and letters in the construction process, etc.

7.3 Contract management

7.3.1 The contract requirements may be transferred through multiple methods including contract text distribution, meeting, written disclosure, etc., as required.

7.3.2 Changes arising from the construction process include changes from the design unit or the Employer AND the changes proposed by the construction enterprise and approved.

In the course of contract fulfillment, the construction enterprise shall collect information on the required changes related to the project at any time, including: changes as required by the laws and regulations, construction contract and the enterprise, which shall be transferred within the specified scope. If necessary, it shall modify the corresponding project quality management documents.

7.3.3 The transfer of contract fulfillment information shall ensure that the management department can grasp the fulfillment of the contract AND take appropriate measures in a timely manner.

7.3.4 The analysis of the fulfillment of the contract by the construction enterprise may be conducted during or after the fulfillment of the contract. It is preferable for the construction enterprises to specify the timing of analysis in accordance with the importance of the project, the length of the project period, and the management requirements, etc.

capacity includes storage and transport capacity, the accuracy of delivery period, and so on.

Depending on the degree of importance of the products provided, the supplier's evaluation shall generally collect evidence of traceability in the following areas:

- 1 Qualification certificate, product production license certificate;
- 2 Product identification certificate;
- 3 Product quality certificate;
- 4 Quality management system;
- 5 Proof of product production capacity;
- 6 Proof of cooperation with the manufacturer.

When evaluating a distributor, it is generally necessary to collect evidence of traceability in the following areas:

- 1 Business license certificate;
- 2 Product quality certificate;
- 3 Proof of cooperation with the distributor.

The supplier designated by the Employer shall also be evaluated. When purchasing from a supplier designated by the Employer, the requirements of the Employer in the construction contract AND the records of designating suppliers directly or indirectly at any places in any methods shall form the basis to choose suppliers.

8.2.3 The construction enterprise shall clearly specify the re-evaluation of the supplier.

8.2.4 The corresponding records of evaluation, selection and re-evaluation may include: the various forms of survey, evaluation and selection records against the supplier, the corresponding supporting information, the list of qualified suppliers, and the list, etc.; if selecting the supplier through bidding, it shall keep all the records in the bidding process.

8.2.5 The contents of the procurement contract shall include the name, variety, specification model, quantity, unit of measurement, clear technical quality indicators, packaging and so on.

- 2 Direct use after making it qualified through processing;
- 3 Use with changed application as agreed by the Employer and design party;
- 4 Degraded use;
- 5 Use with limited scope;
- 6 Scrapping.

8.4 On-site management of building materials, structural parts and equipment

8.4.2 The custody of construction materials, structural parts and equipment shall be in such a way that the quantity, quality, stacking space and warehouse must comply with the corresponding storage requirements.

8.4.3 Construction enterprises shall define the handling requirements for the flammable, explosive, fragile, ultra long, ultra high, overweight construction materials, structural parts and equipment AND take protective measures to ensure that they are protected against damage, deterioration and deformation. When it is needed to prepare the handling program, it shall be approved and disclosed to the handling personnel before organizing the implementation.

8.4.4 Traceability of building materials, structural parts and equipment may be achieved through continuous recording, AND it shall ensure the continuity of the mobilization acceptance records, inspection and test records, custody records, and use and issuing records.

8.5 Building materials, structural parts and equipment provided by the Employer

8.5.1 The building materials, structural parts and equipment provided by the Employer are the building materials, structural parts and equipment provided by the Employer as determined in the contract with the Employer.

8.5.2 If finding problems in the verification of the building materials, structural parts and equipment as provided by the Employer, it shall communicate with the Employer in a timely manner, meanwhile take such measures as identification and isolation, etc., deal with it based on the negotiation results with the Employer, AND make records.

5 Records in the bidding process.

9.2.2 When the construction enterprise signs subcontract with the subcontractors, it shall be based on the general contract of the project. Subcontract shall:

- 1 Comply with laws and regulations;
- 2 Comply with the provisions of the construction project general contract or professional construction contract;
- 3 Clarify the scope of construction or services, the rights and obligations of both parties, and the quality responsibilities and liability for breach of contract;
- 4 Clarify the technological standards and quality standards for subcontracting works or services;
- 5 Clarify the signoff and approval requirements for the subcontractor's construction or service plan, process, procedure, and equipment;
- 6 Clarify the qualification requirements for the subcontractor's practitioners.

The non-standard text contract entered into with the subcontractor shall include at least: the requirements for the subcontracted content, time, quality, safety and civilized construction, the settlement method and the payment method, the services that must be provided after handover, and the handling of the default.

9.3 Control of subcontract project implementation process

9.3.1 Verification of subcontractors shall take place prior to commencement of construction or service.

9.3.2 The control requirements of the construction enterprises for the subcontractor are an important part of project management planning.

At the completion of the subcontracting project, the construction enterprise shall conduct inspection and acceptance in accordance with the specified quality standard. Before passing the acceptance, it shall not accept the subcontracting project.

9.3.3 The evaluation of the subcontractor's performance by the construction enterprise may be conducted during or after the subcontract construction and

10.2.2 Construction enterprises shall specify the design documents reception, review and drawing joint review, design closure procedure, and methods. The personnel concerned shall grasp the engineering characteristics, design intent, and the relevant engineering technology and quality requirements, AND may propose design modifications and optimization opinions. The reception and review results of such design documents as the construction drawings shall be recorded. The design closure and drawing joint review meeting minutes shall be jointly signed off by all participating parties.

10.2.3 Project quality management planning content is the specific application of each requirement of the construction enterprise quality management in the engineering project. The documents formed in the planning are the documents thoroughly arranging the project construction quality management AND the basis to guide the construction. Construction enterprises shall clearly specify contents of the document compilation and related responsibilities and authorities. Before the compilation, the relevant personnel shall fully understand the requirements of project quality management.

Construction enterprises shall, in the construction process, determine the key process AND clarify the quality control points and control measures. Factors that affect the quality of construction include construction quality related personnel, construction machinery, building materials, structural parts and equipment, construction methods and environmental factors.

Construction enterprises shall, in the construction process planning, determine the construction process having great impact onto the construction quality AND the construction process for which the quality is hard or not economically to be verified.

The following impact factors shall be listed as the quality control points of the process:

- 1 The key quality characteristics, critical areas or significant impact factors that have important impact on construction quality;
- 2 The key quality characteristics and areas having strict process requirements AND great impact onto the actions of the next procedure;
- 3 The quality and performance of material having serious impact on the quality of the project;
- 4 Technical intermittent time affecting the quality of the next procedure;
- 5 Some technical parameters closely related to the construction quality;
- 6 The areas prone to quality defects;

In accordance with the professional characteristics and the scale and complexity of the project undertaken, the construction design actions and their management of the construction enterprise may be appropriate increased or decreased or merged.

10.4 Construction preparation

10.4.1 Construction enterprises shall select the supplier and subcontractor AND organize the mobilization of the materials, structural parts, equipment and subcontractor personnel in accordance with the requirements of Chapter 8 and 9 of this Code.

10.4.2 The items to be applied for inspection in the construction preparation stage include: the result of project quality management planning, project quality management organization, management personnel and key process personnel and special operations personnel, measurement results, mobilized materials and equipment, and subcontractor, etc. The items to be applied for inspection and the responsibilities shall be defined AND comply with the inspection application requirements.

The construction enterprise shall cooperate with the subcontractor or the supervising party to confirm the commencement conditions to be available, AND the engineering project shall obtain the permit from the competent department. The contents of the commencement conditions and the commencement application procedures shall comply with the relevant national and local provisions.

10.4.3 The disclosure includes technical disclosure and the disclosure of other relevant requirements. The construction enterprise shall, prior to construction, ensure that the disclosed personnel understand the construction details and relevant requirements of this position through disclosure.

The disclosure may be conducted in levels and stages. The level, stage and form of disclosure shall be determined in accordance with the project scale, construction complexity and difficulty, and the construction personnel quality. Prior to the construction of the unit work, divisional work, item work, and inspection batch, it shall conduct technical disclosure.

The disclosure may be in the form of oral, written and training, etc., as needed.

The basis for the disclosure shall include: project quality management planning results, special construction programs, construction drawings, construction technology and quality standards, etc.

10.5.3 Construction enterprises may indicate the construction procedure stage or the inspection and acceptance conditions by means of the work orders, construction logs, construction records, concealed work records, and various inspection test records, etc., ensuring the realization of the construction procedure in accordance with the planned sequence.

10.5.4 The manner in which the information is communicated, received and processed shall be determined in accordance with the provisions AND combining with project scale, characteristics and professional categories.

10.5.5 Construction log shall include: weather conditions, construction content, construction area, the materials used, construction team, sampling and inspection and test, quality acceptance, quality problems and disposal, and so on.

Records shall be filled in a timely manner, complete, and accurate; the writing shall be clear AND the content shall be true; AND it shall be cataloged and kept in accordance with the provisions. The recorded contents and the recorders shall be traceable.

Quality management related documents include external quality management related documents.

10.6 Services

10.6.2 Construction enterprise's warranty activities shall be based on the relevant laws and regulations, the warranty letter and related standards, AND in line with relevant regulations. Other services stipulated in the contract refer to the cooperation service or training of the in the test run of the project OR in the operation of the project.

10.6.3 The quality of service shall be controlled, checked and accepted in accordance with the relevant requirements of this Chapter and Chapter 11 of this Code.

10.6.4 Construction enterprises shall collect the relevant information, including: the project quality problems found in the use process AND the user's satisfaction degree and suggestions on the project quality and warranty service quality.

submit the completion acceptance report to the supervisory party in accordance with the provisions on the completion acceptance registration system. If necessary, the engineering project construction quality management department of the construction enterprise shall conduct thorough construction quality inspection against the completed project in accordance with the provisions.

11.3.3 The planning of engineering data management includes the data content, form and the responsibilities and methods of collection, sorting and transfer. Engineering data includes:

- 1 The completion data as transferred to the Employer;
- 2 The completion technical data as delivered to the construction enterprise's file management department for archiving;
- 3 The records as specified by the management system of the enterprise.

When the data is handover, the handover information shall be confirmed AND the handover records shall be kept.

11.4 Disposal of construction quality problems

11.4.1 The quality problem refers to the noncompliance of the construction quality to the specified requirements, including quality accidents.

11.4.2 Construction enterprises may classify the quality problems for management AND specify the corresponding responsibilities and authorities. The classification principles may include: the disposal difficulties, the impact of quality problems onto the next procedure, the impact of disposal onto work period or cost, and the impact of disposal onto the project safety or use performance, etc.

The quality problems to be reported in categories and levels include all kinds of construction quality problems found in the project construction, inspection, acceptance, and use process.

11.4.3 The compromise and reception of the construction quality which fails to comply with the specified requirements BUT reaches to the use requirements shall not impact the engineering structure safety and use function.

The disposal of the quality problems occurred after project handover shall comply with the requirements of this project.

management statute AND whether it can achieve the quality objective. The basis for the implementation of supervision and inspection includes:

- 1 Relevant laws, regulations and standards;
- 2 Construction enterprise's quality management statute and supporting documents;
- 3 Project contract;
- 4 Project quality management planning documents.

Construction enterprises shall define such requirements as the supervision and inspection procedures, organization management, recording, and the disposal of the problems found in the quality management statute.

12.2 Supervision and evaluation of quality management actions

12.2.1 When the construction enterprise determines the supervision and inspection methods against each management level, it shall use the identifiable quality management action compliance and effectiveness as the principles, through such methods as reporting, summarization, statement, review, inspection of the quality action records, and survey of the opinions of the Employer and the user.

12.2.2 The supervision and inspection of the construction enterprises against the project manager department may be conducted combining with the enterprise's inspection of the construction and service quality, in order to correctly and thoroughly evaluate the quality management level of the project manager department.

12.2.3 Annual audit may be carried out intensively OR otherwise in stages in accordance with the planning results based on the belonging institute, department, and the project department distribution.

The annual audit shall cover the quality management system and follow the process below:

- 1 To develop audit plans AND to determine the audit staff;
- 2 To issue a plan to the area under review AND to adjust the time accordingly in accordance with its organization of work;

authorities of the department and position of different levels of the construction enterprise on the quality information management.

13.1.2 Construction enterprises shall make continuous improvement as the content of daily management actions.

The improvement of quality management of construction enterprises shall target at project quality and quality management actions, AND aim at improving the efficiency and effectiveness of quality management actions.

Top management shall create a continuous improvement environment AND managers at all levels shall guide and participate in quality improvement actions to determine the quality improvement objectives.

13.1.4 Corrective action is the measure taken to eliminate the cause of the found nonconformance or other undesirable situation.

Precautionary measures are measures taken to eliminate the causes of potential nonconformance or other potential undesirable conditions.

Construction enterprises shall, based on the results of information analysis, determine the improvement contents and orientation, including:

- 1 Analysis of the various problems and their impacts in project quality and quality management actions;
- 2 Analysis of the degree of satisfaction of the Employer and the society;
- 3 Comparison with other construction enterprises;
- 4 Analysis of achievement of quality objectives.

13.2 Collection, transfer, analysis and utilization of quality information

13.2.1 Quality information management system may form an independent document OR form document combining the corresponding management process.

The quality information management system shall make all the quality management departments and posts clear of the information collection and the transfer direction. When it is needed to transfer the information after processing it, it shall also clearly specify the disposal requirements.

Quality information is from:

This is an excerpt of the PDF (Some pages are marked off intentionally)

Full-copy PDF can be purchased from 1 of 2 websites:

1. <https://www.ChineseStandard.us>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Select your country (currency), for example: USA (USD); Germany (Euro).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Tax invoice can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with download links).

2. <https://www.ChineseStandard.net>

- SEARCH the standard ID, such as GB 4943.1-2022.
- Add to cart. Only accept USD (other currencies - <https://www.ChineseStandard.us>).
- Full-copy of PDF (text-editable, true-PDF) can be downloaded in 9 seconds.
- Receiving emails in 9 seconds (with PDFs attached, invoice and download links).

Translated by: Field Test Asia Pte. Ltd. (Incorporated & taxed in Singapore. Tax ID: 201302277C)

About Us (Goodwill, Policies, Fair Trading...): <https://www.chinesestandard.net/AboutUs.aspx>

Contact: Wayne Zheng, Sales@ChineseStandard.net

Linkin: <https://www.linkedin.com/in/waynezhengwenrui/>

----- The End -----