

**THE GOVERNMENT**

-----

No.: 15/2013/ND-CP

**SOCIALIST REPUBLIC OF VIET NAM**

**Independence - Freedom – Happiness**

-----

*Hanoi, February 6, 2013*

## **DECREE**

### **ON QUALITY MANAGEMENT OF CONSTRUCTION WORKS**

*Pursuant to the Law on Government Organization dated December 25, 2001;*

*Pursuant to the Law on Construction dated November 26, 2003;*

*Pursuant to the Law on adjustment and amendment of some articles of Laws related to basic construction investment, dated June 19, 2009;*

*Pursuant to the Law on the Quality of Products and Goods, dated November 21, 2007;*

*At the proposal of the Minister of Construction;*

*The Government promulgates the Decree on quality management of construction works*

#### **Chapter 1.**

### **GENERAL PROVISIONS**

#### **Article 1. Scope of adjustment**

1. This Decree provides regulations on the quality management of construction works in survey, design, construction execution and acceptance of construction works; on safety management, handling of incidents during construction execution, exploitation and use of construction works; and on warranty of construction works.

2. In cases where an international treaty which the Socialist Republic of Vietnam is signatory or acceded to contains provisions that are different from those in this Decree, the provisions of such international treaty shall prevail.

#### **Article 2. Subjects of application**

1. This Decree shall apply to domestic and foreign investors and contractors, State authorities on construction and other organizations and individuals related to the quality management of construction works in the Vietnamese territory.

#### **Article 3. Interpretation of terms**

In this Decree, the following terms and phrases shall be construed as follows:

1. Technical specification is a set of technical requirements formulated based on the national technical codes and standards applied to works and will be used to guide and stipulate the materials, products, equipment used for works; construction execution, supervision and acceptance of construction works.

2. As-built drawing is a drawing of completed construction parts and works prepared on the basis of the approved construction design drawings with demonstration of actual dimension of the works.

3. Construction completion dossier is a set of documents related to investment and construction of works, including investment policy; construction investment projects or economic-technical report of works; construction survey report; construction design dossier; quality management dossier during the construction process; and other documents which are necessary to be kept after works are put to use.

4. Construction specialized testing is technical acts to determine one or more than one characteristics of construction materials, construction products, construction parts or construction works in accordance with certain procedures.

Construction specialized testings shall be conducted by accredited specialized laboratories, and include testings of soil engineering; water testings in construction; testings of construction materials, components, products; testings on structures of construction works and other testings.

5. Quality inspection of construction works is an activity conducted to check and determine the quality or the causes of faults of construction products, construction parts or construction works through testings together with visual inspection, calculation and evaluation by expertise on facility quality.

Quality inspection of construction works includes quality inspection of construction materials, construction products, construction components; quality inspection of construction works structures; quality inspection of construction works and other inspections.

6. State inspection of construction works quality is an activity conducted to inspect the quality of construction works by competent State authorities or at the request of these authorities.

#### **Article 4. General principles in the quality management of construction works**

1. Survey, design and construction of works must be conducted with the assurance of safety for works themselves and neighboring works; during the construction execution and observance of this Decree.

2. Construction works and items shall be accepted before being put to use only when they satisfy all requirements of design, national technical codes and standards applied to the works, technical specifications and other requests by Investors in accordance with requirements stipulated in the contract and relevant regulations.

3. Organizations and individuals involved in construction activities are required to have appropriate eligibilities, to have quality management system of their own, and take

responsibilities for the quality of construction jobs performed by themselves to Investors and before the law.

4. Investors take responsibilities for organizing the quality management in the implementation process of works construction investment projects in accordance with the stipulations prescribed in this Decree and in accordance with the characteristics, scale and investment source of works;

5. The investment decision makers take responsibilities for inspecting quality management of the construction works by investors and contractors in accordance with provisions of this Decree and relevant regulations.

6. State authorities on construction guide and inspect the quality management of organizations and individuals involved in the works construction; inspect and conduct state inspection of the quality of construction works; recommend the handling of and handle violations on the quality of construction works as prescribed by the law.

#### **Article 5. Application of national technical codes and standards in construction activities**

1. National technical codes are compulsorily applied in construction activities.

2. Standards are voluntarily applied in construction activities, except for those cited in technical codes or stipulated to be compulsorily applied in relevant legal documents.

3. Main standards applied to works must be considered and approved by the investment decision makers in a decision approving construction investment project or technical-economic report for construction. Main standards are changed only with the approval of the investment decision makers. Investors are entitled to make decision on the use or the change of other standards applied to works when necessary.

4. Application of technical standards must satisfy the requirements as follows:

a) Conformity with the requirements of national technical codes on construction and other relevant regulations;

b) Consistency and feasibility of the system of applied standards.

5. In case of application of foreign standards, a full version of standards together with applied parts of those standards translated into Vietnamese are required.

6. Application of technical solutions, new technologies and materials in construction activities must satisfy the requirements of technical codes and other relevant regulations.

#### **Article 6. Classification and grading of construction works**

1. Construction works are classified as follows:

a) Building works;

- b) Industrial works;
- c) Transportation works;
- d) Works for agriculture and rural development;
- e) Technical infrastructure works.

Detailed list of works in each type is attached as Appendix of this Decree.

2. The Ministry of Construction shall take the prime responsibility for and coordinate with Ministries managing specialized construction works as stipulated in Clause 2, Article 41 of this Decree in guiding the grading of construction works of all types as stipulated in Clause 1 of this Article for the quality management of construction works.

### **Article 7. Technical specifications**

1. Technical specifications serve as the basis for preparing bid invitation dossiers, carrying out the supervision, construction and acceptance of construction works. Investors organize for preparation and approval of Technical specifications in line with technical designs or other designs which are prepared after basic designs.

2. Technical specifications must conform with the national technical codes and standards which are approved in the construction investment projects and design requirements of construction works.

3. Preparation of technical specifications is compulsory for the works of special grade, grade I and grade II. For other works, technical specifications may be prepared particularly or stipulated in design statement (explanation on the design).

### **Article 8. Publicity of information on capabilities of organizations and individuals involved in construction activities**

1. Organizations and individuals provide State authorities on construction with information of their capabilities in construction field via mail or directly. And these State authorities will make provided information available on their websites.

2. Within 30 days since receipt of information on the capabilities provided by organizations and individuals, State authorities on construction take the responsibility for consideration and making decision to make this information available on their websites.

3. The information on the capabilities in construction field stipulated in Clause 1 of this Article serves as the basis for the selection of organizations who want to get involved in the following activities:

Verification of the works construction design;

Construction specialized testing;

Supervision of the construction works quality;

Inspection and State inspection of construction works quality;

e) Design, survey and construction of construction works of special grade, grade I and grade II which are funded with State Budget (for main contractors);

### **Article 9. Supervision by people on construction works quality**

1. Organizations and individuals, when detecting the acts of violations related to the provisions stipulated in this Decree, must promptly report them to Investors, People's Committees of Communes, Wards or Townships where construction works are situated or to State Authorities on construction.

2. Investors, recipients of the information reported by people shall take responsibilities for promptly consideration and handling of such information in accordance with the law on complaints and denunciations.

### **Article 10. National Acceptance Council (NAC) for construction works**

1. National Acceptance Council for construction works was established by the Prime Minister to support the Prime Minister in inspecting the works quality management, the quality, the acceptance of national importance works and in carrying out some other works when requested by the Prime Minister.

2. The Minister of Construction shall be the Chairman of the NAC.

### **Article 11. Awards on construction works quality**

Construction works are considered for the awards for construction works quality as follows:

1. National awards for the quality of construction works are regulated by the Prime Minister.

2. Other awards for the quality of construction works are regulated by the Ministry of Construction.

## **Chapter 2.**

### **QUALITY MANAGEMENT OF CONSTRUCTION SURVEY**

#### **Article 12. Sequence of implementation and quality management of construction survey**

1. To formulate and approve survey tasks.

2. To select construction survey contractors.

3. To prepare and approve construction survey technical plans.

4. To carry out construction survey.

5. To supervise construction survey.

6. To accept construction survey results.
7. To archive construction survey results.

### **Article 13. Investors' responsibilities**

1. To select eligible survey contractors in accordance with regulations.
2. To organize the preparation and approve construction survey tasks, construction survey technical plans and supplemental construction survey tasks (if any);
3. To inspect the contract observation of construction survey contractors during survey implementation.
4. To carry out or hire organizations, individuals whose expertises are suitable to the survey types in order to carry out supervision over the construction survey.
5. To accept construction survey result reports.

### **Article 14. Construction survey contractors' responsibilities**

1. To prepare construction survey tasks at the request of Investors; to prepare survey technical plans in accordance with the construction survey tasks and the applied standards on construction survey.
2. To arrange sufficient number of appropriate experienced and qualified staff to conduct surveys; to assign eligible persons in accordance with the provisions for chief surveyors; to organize self-supervision during survey process.
3. To conduct surveys in accordance with approved construction survey technical plans; to use conformable equipment and laboratories in accordance with regulations and conformity to surveys.
4. To ensure safety for people, equipment, technical infrastructure works and other construction works within the region and the site of survey;
5. To protect the environment and preserve landscape in survey area; to restore survey sites when survey is completed.
6. To prepare survey reports which satisfy requirements of survey tasks and contracts; to check and carry out surveys again or carry out supplemental surveys in case the survey reports are not appropriate to the natural conditions of construction places or do not satisfy the requirements of survey tasks.

### **Article 15. The designing contractors' responsibilities**

1. To prepare construction survey tasks in accordance with the requirements of each design step at the request of Investors.

2. To check the appropriateness of survey data with the requests of design steps; to participate in the acceptance of survey result reports at the request of Investors.
3. To recommend Investors to carry out supplemental surveys in case the survey results are found not to satisfy the requirements of design; or in case abnormal factors which may affect the designs are detected.

#### **Article 16. Responsibilities of organizations and individuals who carry out the supervision of construction surveys**

1. To assign persons whose expertise are suitable to the survey types to carry out the supervision of construction surveys in compliance with construction contract.
2. To recommend the supplemental survey tasks in case abnormal factors which directly affect the design solutions are detected during the process of survey supervision.
3. To assist Investors in accepting survey result reports.

### **Chapter 3.**

#### **QUALITY MANAGEMENT OF DESIGNS FOR CONSTRUCTION WORKS**

#### **Article 17. Sequence of implementation and quality management of designs for construction works**

1. To prepare design tasks for construction works.
2. To select design contractors.
3. To carry out designs.
4. Design appraisal by Investors, design verification by competent State authorities or by consultants (if any).
5. Design approval.
6. Acceptance over the design.

#### **Article 18. Investors' responsibilities**

1. To organize the preparation of design tasks for construction works based on the investment report on construction works (pre-feasibility study reports) or investment guidelines approved by the competent authorities.
2. To select eligible organizations and individuals in order to design and verify designs of construction works when necessary.
3. To inspect contract observation of design contractors, design verification contractors (if any) during contract implementation.

4. To inspect and submit basic design for the investment decision makers' appraisal and approval in accordance with the regulations for state budget usage works.
5. To organize the appraisal and approval of designs and cost estimates in accordance with the stipulations prescribed in Article 20 of this Decree and relevant regulations.
6. To organize the implementation of design change in accordance with the stipulations prescribed in Article 22 of this Decree.
7. To conduct acceptance over design dossiers.

#### **Article 19. Responsibilities of design contractors**

1. To assign sufficient number of suitable experienced and qualified persons for design jobs; to assign eligible persons in accordance with the provisions to be chief designers and designing managers.
2. To use survey results which satisfy requirements of design steps and conform with technical standards applied to the works.
3. To follow the national technical codes and standards applied to the works; to prepare design dossiers meeting the requirements of design tasks, of each design step's contents, of provisions of contracts, and of relevant regulations.
4. Adjustment of design is conducted as stipulated in Article 22 of this Decree.

#### **Article 20. Appraisal and approval of design steps succeeding upon basic design**

1. Investors organize the appraisal of technical design dossier in case of 3-step design, or detailed drawing design dossier in case of 2-step or 1-step design or other designs which are carried out after basic design with the following sequence:
  - a) To consider the suitability of components and specifications of design dossiers with provisions of construction contracts and regulations of the law, including: design explanation, drawings, survey documents, the works maintenance procedure and other documents as prescribed by relevant regulations;
  - b) To evaluate the suitability of design dossiers with design tasks, basic designs, conditions of construction contracts, and relevant regulations of the law;
  - c) To send design dossiers to competent authorities for verification as stipulated in Article 21 of this Decree and relevant regulations;
  - d) To request designers to explain, receive and adjust design dossiers on the basis of the above-mentioned results of verification, evaluation and consideration.
  - e) During the process of design appraisal, Investors are entitled to hire eligible organizations and individuals to conduct the design verification for them when necessary.



2. The investment decision makers approve construction drawings together with techno-economic report of the construction works in case of 1-step design; Investors approve technical design (in case of 3-step design) or construction drawing design (in case of 2-step design) or other design carried out following basic design. Contents of design approval are stipulated in Clause 3 of this Article.

Those who are responsible for approving designs must base on the appraisal results on fire prevention and fighting by competent authorities; on the design verification results by State authorities on construction as stipulated in this Decree and relevant regulations of the law to approve designs.

3. Contents of design approval:

a) General information on works: Name of the works, works item (clear statement on category and grade of works); investors, design constructors, location, land use;

b) Scale, technologies, technical parameter and main economy-technical indices of works;

c) Main National technical codes and standards to be applied;

d) Main design solutions for works items and the whole works;

e) Requirements that shall be completed, amendments to design dossier and other contents (if any).

4. Construction drawing designs must be certified by Investors or Investors' authorized representatives before being used for construction.

5. Regarding works of national secret, of urgent order and temporary works, design appraisal and approval are complied with provisions of law on the investment management of particular construction works.

6. Expenses for design verification by State authorities on construction and for hiring organizations and individuals to participate in design verification shall be included in the total investment and cost estimates of construction works.

7. Those who organize the appraisal, verification and approval of designs must bear all responsibilities for their results of design appraisal, verification and approval.

#### **Article 21. Design verification by State authorities on construction**

1. Regarding the following works, Investors shall send dossiers of designs preparing after basic designs with the contents as stipulated in Clause 5 of this Article to State authorities on construction for the verification:

a) Apartment buildings of grade III and above; individual houses of 7 stories and above;

b) Public works of grade III and above;

c) Industrial works: works of power grids, hydro-power plants, thermo-power plants, metallurgy factories, alumina production factories, cement factories of grade III and above; petrochemical refineries, gas processing plant, depots and pipelines of petrol, oil, liquefied gas; production factories and depots of dangerous chemicals; production factories and depots of industrial explosion materials of all grades;

d) Works for transportation: bridges, tunnels, and roads of grade III and above for works funded with State budget, and grade II and above for works funded with other capital sources; works of railways, urban railways, runways, seaport, piers, docks, ports for ships, and ropeways of all grades.

dd) Works for agriculture and rural development: reservoirs, dams, dykes, docks, canals, closed water pipes, pumping station and other irrigation works of all grades;

e) Technical infrastructure works: grade III and above for works funded with State budget, grade II and above for works funded with other capital sources; toxic solid waste processing works of all grades.

2. State authorities on construction verifying designs of works specified in Clause 1 of this Article are as follows:

a) Specialized agencies under the Ministry of Construction and Ministries managing specialized construction works as stipulated in Clause 2, Article 41 of this Decree shall verify designs of works under their management, including: works of construction investment projects for which Ministers managing specialized construction works are the investment decision makers; works of grade I, works of special grade and works of national importance assigned by the Prime Minister;

b) Departments of Construction and Departments managing specialized construction works shall verify designs of construction works in the area under their management, except for the works stipulated in Item a of this Clause;

c) The Ministry of National Defence, Ministry of Public security shall organize the design verification of works in defence and security sector;

d) In case the investment project includes various works with different categories and grades as in Clause 1 of this Article, the prime state authority is the responsible one that is in charge of the prime works of the investment project according to Point a and Point b of this Clause.

3. In case State authorities on construction as stipulated in Clause 2 of this Article are not eligible enough to verify designs, they are entitled to hire or assign eligible consulting organizations or individuals to verify designs.

State authorities on construction, organizations and individuals who conduct the design verification shall take the responsibility for their design verification results.

4. Contents of design verification by State authorities on construction:

Capacity of organizational consultants and individuals conducting surveys and designs compared to requirements stipulated in the contract and regulations of the law;

Conformity of designs with main technical codes and standards applied to the works;

Force-bearing safety of the works and other requirements on safety;

Regarding works with State budget only, in addition to abovementioned verification contents, State authorities on construction also conduct the verification of some other contents, including: the conformity of design dossiers with design tasks or basic designs; and the rationality of design dossiers to ensure the investment saving and investment effect.

5. Dossiers to be submitted to State authorities on construction for design verification are those related to contents of verification as stipulated in Clause 4 of this Article, including:

- a) Design's explanations, design drawings, related documents of construction surveys;
- b) Copies of the decision approving the construction investment projects (in case of 2-step design and 3-step design) and the decision approving the investment policy (in case of 1-step design);
- c) Capability records of survey and design contractors;
- d) Cost estimation, for those funded by state budget.

6. When the design verification is completed, the State authorities on construction must inform Investors of the verification results in writing.

Design verification time for State authorities on construction shall not exceed 40 working days for works of grade I and above, and 30 working days for other works counting from the receipt day of full and valid dossiers.

## **Article 22. Change of designs for construction works**

1. The approved designs for construction works may be changed only in cases as follows:

- a) Construction investment projects are adjusted, thus requiring changes of designs;
- b) Irrationalities are detected in the course of construction execution and if designs are not changed, the quality of works, construction progress, construction methods and investment efficiency of projects will be affected.

2. Regarding the projects funded by state budget, if changes in designs result in changes of construction locations, construction plannings, objectives, scales or exceeding the approved total investment for the works, Investors shall submit to Decision makers for re-appraisal and re-approval of adjusted contents. For other cases, Investors are entitled to make decisions on design changes. Contents of adjusted designs must be re-appraised, re-verified, and re-approved in accordance with the provisions stipulated in this Decree.

3. Design contractors shall be accountable for modifying, supplementing or changing unreasonable designs caused by their faults and be entitled to refuse unreasonable requests for adjustment of designs by Investors.

4. Investors are entitled to hire other designers to modify, supplement or change designs in cases the original designer does not perform this work. Designers who conduct modification and supplementation of designs must take accountability for their performance.

#### **Chapter 4.**

### **QUALITY MANAGEMENT OF CONSTRUCTION EXECUTION**

#### **Article 23. The sequence of implementation and quality management of construction execution**

1. To select construction contractors;
2. To prepare and approve construction methods;
3. To check the conditions for commencement of construction and report to competent State authorities before the commencement of construction in accordance with the regulations.
4. To organize the construction execution of works and supervision and acceptance during the process of construction execution.
5. To conduct quality inspection of construction works and construction items in cases as stipulated in this Decree.
6. To inspect the acceptance of completed construction items or works before they are put into use as stipulated in Clause 3, Article 32 of this Decree.
7. To accept completed construction items or works before they are put into use.
8. To prepare completion dossiers of construction works, to archive dossiers of works in accordance with the regulations.

#### **Article 24. Investors' responsibilities**

1. To select eligible organizations, individuals in accordance with the provisions in order to implement construction execution, construction supervision (if any), testing, quality inspection of construction works (if any) and other construction consultancy services.
2. To notify relevant contractors of duties and rights of individuals in the quality management system of Investors and construction supervision consultants for their coordination in implementation.
3. To check the conditions of construction commencement as stipulated in Article 72 of the Law on Construction;
4. To check the conformity of construction contractors' capacity to bidding dossiers and construction contracts, inclusive of manpower, construction equipments, construction specialized laboratories, quality management system of construction contractors.

5. To check the mobilization and arrangement of personnel by construction supervision consultants compared to conditions specified in the contracts;
6. To check and supervise during the process of construction, inclusive of:
  - a) To check construction materials, components, products and equipment to be used in facilities; to conduct testings to check the quality when necessary;
  - b) To check the construction methods in which measures to ensure safety for human, machineries, equipment and facilities are clearly specified of construction contractors;
  - c) To check, urge and supervise construction contractors and other consultants/contractors working at sites;
  - d) To request design contractors to modify designs when shortcomings and irrationalities are detected;
  - dd) To check documents for acceptance;
  - e) To check and certify as-built drawings;
7. To implement the regulations on environment protection for works according to regulations on environment protection.
8. To organize the quality inspection of construction parts, items and whole works in case of any doubt on the quality or in case of being requested by State authorities;
9. To organize the acceptance of construction works;
10. To organize the preparation of completion documents of works;
11. To halt or suspend construction of the contractor when the construction quality does not meet the technical requirements and construction methods are not safe.
12. To take the prime responsibility for and coordinate with relevant stakeholders in handling difficulties and arising problems during construction execution and to handle, to remedy the incidents as stipulated in this Decree;
13. To prepare reports on works completion for putting it into use or; to prepare irregular reports upon requests and send to State authorities on construction according to this Decree.
14. Investors can hire supervision consultants to conduct partly or all of tasks stated in Clause 3, Clause 4, Clause 6, Clause 9, Clause 10 and Clause 13 of this Article and some other tasks if necessary.

Investors are responsible for examination of implementation of supervision consultants as requirements in construction contracts and relevant regulations of law.

## **Article 25. Construction contractors' responsibilities**

1. To establish quality management system this must conform to the scale of works and also stipulate the responsibilities of each individual and division in the quality management of works.
2. To demarcate the responsibilities in the quality management of construction works among stakeholders in cases of construction general contractor contracts; designing and construction general contractor contracts; designing-procurement-construction general contractor contracts; project making-designing-procurement-construction general contractor contracts and other kinds of combined contracts (if any).
3. To arrange personnel; to provide materials and construction equipment in accordance with the contract requirements and relevant regulations;
4. To receive and manage construction site (plan); to preserve location points and bench marks of construction works;
5. To prepare and approve construction methods in which measures to ensure safety for human, machineries, equipment and facilities are clearly specified and construction schedule, excepting there are other regulations in the contract;
6. To conduct inspection and testing for materials, components, construction equipment, technological equipment in accordance with the technical standards, requirements of designs and contracts before they are used for construction and installed in construction works;
7. To conduct construction execution in accordance with the contracts, construction permits and designs; to ensure the quality of construction works and safety during construction;
8. To timely inform Investors when detecting any difference between design, contract dossiers and field conditions;
9. To correct errors and defects in quality for the jobs they perform; to take the prime responsibility for and coordinate with Investors in organizing the remedy of failures during construction; to prepare reports on incidents and coordinate with stakeholders in the state inspection of incident causes;
10. To prepare and record in construction diaries in accordance with the regulations;
11. To prepare as-built drawings in accordance with the regulations;
12. To report to Investors the schedule, quality, volume and labour safety and environment sanitation as requested by Investors;
13. To return the site and move materials, machineries, equipment and other assets out of the site after the works are accepted and handed over unless the contract has different agreements.

**Article 26. Responsibilities of manufacturers and suppliers of materials, products, equipment and components used in construction works**

1. To ensure the quality of construction materials, products, equipment and components in accordance with the applied standards and national technical codes in correspondence and the requirements of design;
2. To provide the contractual party with sufficient information and documents related to products and goods as stipulated by the regulations on the quality of products and goods and other relevant regulations; follow the regulations on labels of products and goods.
3. To carry out the certification of conformity with the standards and regulations as stipulated in the law and other testing to inspect the quality as stipulated in the contract.
4. To fulfil the agreements with the contractual party on the procedure and method to inspect the quality of construction materials, products, equipment and components before and during the production process as well as during the process of supplying, using and installing into the works.

#### **Article 27. Responsibilities of construction supervision consultants**

1. To assign eligible persons as chief supervisors and other positions of supervision in accordance with regulations.
2. To prepare the organizational structure and supervision workplan including the responsibilities, powers, tasks for all positions of supervision, the quality control plan and procedure, the inspection and acceptance procedure, the management of related documents and materials during the process of construction supervision.
3. To perform construction supervision in accordance with the provisions stipulated in the contracts and the workplans approved by Investors and regulations on construction quality management.
4. To accept works performed by contractors as according to the construction contracts.

#### **Article 28. Author supervision responsibilities of design contractors**

1. Design contractors who prepare technical designs in case of three-step designs and who prepare construction drawing designs in case of one-step or two-step designs must assign qualified staffs to conduct author supervision irregularly during construction execution or regularly in case of particular agreement with Investors in the contracts.
2. To explain about and to clarify design documents at the request of Investors, construction contractors and supervision consultants.
3. To coordinate with Investors if requested to handle problems and arising matters related to designs during construction execution; to modify the design to make it appropriate to the actual situation of construction execution; to handle irrationalities of the designs at the request of Investors.
4. To promptly inform Investors and recommend countermeasures when construction contractor's execution is detected to be different from approved designs.

5. To participate in the acceptance of construction works at the request of Investors. If detecting that construction items or construction works are not eligible for acceptance, they must promptly inform Investors in writing.

#### **Article 29. Safety management during construction execution**

1. Before the commencement of construction, construction method must be prepared and approved by construction contractor pursuant to the regulation. The construction method must explain the measures to ensure safety for laborers, construction equipment, major works, temporary works, auxiliary works, neighboring works, explosion and fire prevention and fighting, and environmental protection.

2. Construction methods must be regularly reviewed and adjusted to make them appropriate to the actual situations of sites by construction contractors.

3. Solutions for safety assurance as well as the regulations on labor safety must be made public at sites for people to know and follow; places of danger at sites must be warned to avoid accidents.

4. Operators of construction machineries and equipments and those engaging in jobs with strict requirements on labor safety as prescribed by law on labour safety must be trained on labor safety and must hold labor safety certificates in accordance with regulation;

5. Construction machineries and equipment with strict requirements on labor safety must be inspected and registered to competent State agencies in accordance with the regulations before their operation at sites. During the operation of construction machineries and equipment, the labor safety assurance procedures and methods must be followed.

6. Investors are responsible for conducting the inspection and urging contractors, consultants to follow approved construction methods and solutions for safety.

7. Laborers involved in construction execution at sites must be eligible healthy, trained on safety and allocated adequate safety equipment as stipulated by regulations on labor safety.

8. Competent authorities shall guide and inspect the safety assurance during the construction execution in accordance with the regulations.

9. In case of unsafe incidents during construction execution, the handling must follow the stipulations in Chapter VI of this Decree.

#### **Article 30. Preparation and archives of completion dossiers of completed items, construction works**

1. Completion dossiers of completed items and works must be fully prepared by Investors before construction items or construction works are put into use.

2. Completion dossiers can be prepared one time for the whole project if all the works (or items) of the project are put into use at the same time. In case of various timing of putting into use, the completion dossiers can be prepared separately for each works (item).



3. Number of copy of completion dossiers shall be decided by Investors based on the agreement with contractors and stakeholders.

4. Archiving of completion dossiers of works shall follow the regulations on archives.

### **Article 31. Acceptance of construction works**

1. Investors shall take responsibility for organizing the acceptance of construction works, including acceptance of construction jobs during construction execution; acceptance of completed construction items and works before putting into use.

In case of necessity, Investors shall stipulate the acceptance of important construction shifting stages of works.

2. The contents which need to be accepted and handed over must be clearly stipulated in construction contracts: Basis, conditions, sequence, timing, documents, formats, minutes and participants for the acceptance and handover of completed facility items, works. Acceptance and handover results must be made in record.

3. Completed construction parts, items and works are put into use only after accepted by Investors as prescribed by the law.

4. Regarding construction works and items as stipulated in Clause 1, Article 21 of this Decree only, the inspection by State authorities on construction over the acceptance of investor is required before they are put into use.

### **Article 32. Inspection over the acceptance before putting works into use**

1. State authorities on construction, which shall conduct the inspection over acceptance of Investors in cases of construction works and construction items as stipulated in Clause 1, Article 21 of this Decree, are:

a) Specialized agencies under the Ministry of Construction, Ministries managing specialized construction works shall inspect the works specified in point a, clause 2, Article 21 of this Decree;

b) Departments of construction, Departments managing specialized construction works shall conduct the inspection over works specified in point b, Clause 2, Article 21 of this Decree;

c) The Ministry of National Defence, Ministry of Public Security organize the inspection over works of defence, security sector.

2. 10 working days (for works of grade II, III and IV) or 20 working days (for works of special grade and grade I) before the date that Investors expect to organize the acceptance to put construction works or construction items into use, Investors must send to competent State authorities as stipulated in Clause 1 of this Article the completion reports of construction items or works which are prepared together with the list of completion dossiers of construction items and works.

3. Competent State authorities as stipulated in clause 1 of this Article shall take responsibilities as follows:

a) To inspect completed construction items and works, the compliance with the regulations on the quality management of construction works when receiving reports from Investors; to inspect the acceptance of important construction shifting stages when necessary;

b) To request Investors and stakeholders to explain about and overcome shortcomings (if any);

c) To request Investors and stakeholders to conduct quality inspection of construction parts, items or works when necessary;

d) To have written conclusion on the inspection contents within 15 working days (for works of grade III and grade IV) and 30 working days (for facilities of special grade, grade I, and grade II) since receiving dossiers as stipulated in Clause 2 of this Article.

When the abovementioned time limit is over without any acceptance inspection results from the authorized state agencies as stipulated in clause 1 of this Article, Investors are entitled to organize acceptance in order to put works into use. The above mentioned authorized state agencies shall take responsibility for not providing their inspection results.

### **Article 33. Handling of disputes over the quality of construction works**

When there is different opinions about the quality of the product, construction parts and works among subjects, the sequence of handling is as follows:

1. Stakeholders are responsible to hold negotiation for solutions.

2. If no agreement can be reached, stakeholders can request for instruction to state authorities on construction.

3. The disputes may be solved through courts in accordance with the provisions of contracts and the regulations.

## **Chapter 5.**

### **WARRANTY OF CONSTRUCTION WORKS**

#### **Article 34. Warranty of construction works**

1. Construction contractors and equipment suppliers are responsible for carrying out warranty for construction works and equipment. The warranty duration will be counted from the date that Investors sign the acceptance minutes to put construction works and items into use or based on the conditions specified in the construction contracts and/or equipment supplying contracts but also follows the following provisions:

a) Not less than 24 months for works of special grade and grade I;

b) Not less than 12 months for works of other grades;

c) The warranty duration for houses follows the regulations on houses.

2. During the warranty period, construction contractors and equipment suppliers must perform the warranty after receiving a notification from Investors. If construction contractors and equipment suppliers fail to provide the warranty, Investors are entitled to use the warranty money to hire other organizations and individuals for repairing.

3. Investors must reach agreement in the contract with contractors involved in works construction about power and responsibility of involved parties for the warranty of construction works; the amount of warranty money; storage, use and refund of warranty money in accordance with the regulations on contracts in construction activities.

### **Article 35. Responsibilities of involved parties for the warranty of construction works**

1. Investors, owners or works managers shall bear the responsibilities as follows:

a) To operate, maintenance the construction works in accordance with construction operation and maintenance procedures;

b) To check, detect failures of facilities and request construction contractors, equipment suppliers to repair and replace;

c) To supervise and accept the remedy and repair by construction contractors and equipment suppliers;

d) To certify the completion of warranty for construction works by construction contractors and equipment suppliers;

2. Construction contractors and equipment suppliers shall bear the responsibilities as follows:

a) To organize the remedy of failures immediately after receiving the requests of Investors, owners or works managers and bear all the costs thereof;

b) To refuse to provide warranty in cases failures are not due to their faults or due to force majeure.

3. Construction survey contractors, construction design contractors, construction contractors, equipment suppliers and other relevant contractor/consultants shall take responsibilities for the quality the construction works' parts they perform even when the warranty duration expired.

## **Chapter 6.**

### **INCIDENTS DURING THE PROCESS OF CONSTRUCTION EXECUTION AND USE OF CONSTRUCTION WORKS**

**Article 36. Classification and grading of incidents during the process of construction execution and use of construction works**

1. Incidents during construction and operation, use of construction works (hereinafter referred to as incidents) are as follows: works incidents (incidents for prime works; incidents for auxiliary works, temporary works; incidents for neighbouring works); incidents causing the loss of safety for labours and construction equipment, incidents of fire and explosion during the process of construction execution and use of construction works.

2. Based on the damage to human and property, incidents are graded into 4 levels, including: particularly serious level, level I, level II and level III.

### **Article 37. Reports of incidents**

1. Immediately after incidents' occurrence, Investors must briefly report to communal level People's Committees and Investors' senior agencies by the quickest way. Communal level People's Committees, immediately after receiving the information, must report the incidents to District and Provincial People's Committees.

2. Within 24 hours after the incidents occurred, Investors prepare and submit reports on incidents in writing to District-level and Provincial People's Committees where facilities' incidents occurred. For all types of incidents, if there is damage to human, Investors must also report to the Ministry of Construction and other competent State authorities as stipulated in the relevant regulations.

3. After the receipt of reports in writing or of information about the incidents, Provincial People's Committees are responsible for sending the reports on incidents to the Ministry of Construction and Ministries managing specialized construction works in cases of incidents of particularly serious level, level I and other incidents causing the loss of human. The Ministry of Construction takes responsibility for reporting to the Prime Minister incidents of particularly serious level and other incidents when requested by the Prime Minister.

4. State authorities on construction of all levels are entitled to request Investors and relevant parties to provide information on incidents.

### **Article 38. Handling of incidents**

1. When incidents occur, Investors and construction contractors shall take responsibilities for promptly taking measures to look for, rescue and ensure safety of people and property; limit and prevent dangers that may continue; protect incident scenes and making reports as stipulated in Article 37 of this Decree.

People's Committees of all levels shall direct and support involved parties in organizing rescue, protecting incident scenes and carrying out other necessary jobs during the process of handling incidents.

2. The dismantling and clearance of incident scenes must be conducted with the agreement of competent agencies under regulation and must satisfy the following requirements:

a) According to plans ensuring the safety for people, property, and neighboring works;

b) Involved parties must take photos, shoot films, collect evidences and take notes of incident scenes in service of the State inspection of incident causes and preparation of incident dossiers before dismantling and clearing incident scenes.

3. Causes of incidents must be accurately identified and thoroughly remedied so that the quality of construction works can be assured in accordance with the design's requirements. After remedies, opinions from competent state agencies shall be got in prior to continuing construction or to putting the works into use.

4. Organizations and individuals causing incidents shall compensate for damage and expenses for the remedy of incidents based on the nature, level and sphere of influence of incidents.

### **Article 39. State inspection of incident causes**

1. The authority to organize the State inspection of incident causes is stipulated as follows:

a) The Ministry of Construction shall take the prime responsibility and coordinate with Ministries managing specialized construction works and provincial People's Committees in organizing the State inspection of causes for incidents of particularly serious level and level I.

When necessary, the Prime Minister shall decide to establish Incident Investigation Committee to conduct the State inspection of incident causes and deal with related issues in cases of particularly serious incidents.

b) Provincial People's Committees shall organize the State inspection of causes for incidents of level II and level III in the area. Provincial People's Committees are entitled to propose ministries managing specialized facilities for cooperation or conducting inspection of incident cause when necessary.

c) The Ministry of National Defence, Ministry of Public Security are to organize state inspection of incident causes for works of defence, security sector managed by them. The Ministry of National Defence, Ministry of Public Security are entitled to propose cooperation from Ministry of Construction and ministries managing specialized facilities for inspecting incident causes.

2. Contents of carrying out State inspection of incident causes:

a) To collect related dossiers, documents, and technical data, and carry out professional activities to identify incident causes;

b) To assess the safety of works after the incident;

c) To demarcate the responsibilities among involved organizations and individuals;

d) To propose measures to prevent similar incidents;

e) To prepare dossiers on State inspection of incident causes, inclusive of: Reports of State inspection of incidents causes and relevant documents during the process of State inspection of incident causes.

3. Competent State agencies organizing the State inspection of incident causes can self-carry out the State inspection or appoint eligible inspection organizations to carry out the State inspection of incidents.

4. Investors, survey contractors, design contractors, and construction contractors are responsible for following competent State authorities' requests during the State inspection process of incident causes.

5. Organizations and individuals are prohibited from any act to prevent and interfere with the State inspection process of incidents causes by competent State authorities.

#### **Article 40. Dossiers of incidents**

Investors, owners or use managers of works shall take responsibilities for compiling dossiers of incidents with contents as follows:

1. A report on the inspection of incident scene with information on: name of works and items with the incidents; location of construction works and timing of the incidents, preliminary description and occurrence of the incidents; the status of works when the incident occurred; preliminary information on the damage to people and property; preliminary evaluation on incident causes.

2. Documents on the design and construction execution of works which are related to the incidents.

3. Dossiers on State inspection of incident causes.

4. Relevant documents during the handling of incidents.

#### **Chapter 7.**

### **STATE MANAGEMENT ON THE QUALITY OF CONSTRUCTION WORKS**

#### **Article 41. State management responsibilities on the quality of construction works**

1. Ministry of Construction shall unify the state management on the quality of construction works on a national scale and to manage the quality of specialized construction works, including building works, industrial works for construction materials, and technical infrastructure works.

2. Ministries managing specialized construction works:

a) Ministry of Transport manages the quality of transport works;

b) Ministry of Agriculture and Rural Development manages the quality of irrigation works;

c) Ministry of Industry & Trade manages the quality of works of mine, oil & gas, power plants, power transmission lines, transformer stations and specialized industrial works.

3. Ministry of National Defence, Ministry of Public Security shall manage construction works quality of facilities in defence and security sectors.

4. Provincial People's Committees shall conduct state management on construction works quality in their territory. Departments of Construction and Departments managing specialized construction works are to assist Provincial People's Committees in managing construction quality of works as follows:

a) Departments of Construction shall conduct quality management for building works, industrial works (of construction material manufacturing only) and technical infrastructure works;

b) Departments of Transport shall conduct quality management for transportation works;

c) Departments of Agriculture and Rural Development shall conduct quality management for works of agriculture and rural development;

d) Departments of Industry and Trade shall conduct quality management for works of mines, petroleum, power plants, electricity transmission cable, transformer station and specialized industrial works.

#### **Article 42. Contents of the State management on the quality of construction works of the Ministry of Construction**

1. To issue and guide implementation of the legal documents on the quality management of construction works.

2. To conduct periodical inspection and extraordinary inspection over the quality management of ministries, sectors, localities and subjects getting involved in the facility construction and over the quality of construction works when necessary.

3. To request and push ministries managing specialized construction works, Provincial People's Committees to regularly inspect the quality management and the quality of construction works under their management.

4. To announce on Ministry of Construction's website the information of the capacity of organizations and individuals involved in construction activities nationwide as stipulated in clause 1, Article 8 of this Decree;

5. To verify designs of works as stipulated in point a, Clause 2, Article 21 of this Decree;

6. To conduct inspection over the acceptance procedures before putting facilities in to operation for those works under management of Ministry of Construction and to cooperate with specialized ministries on construction to conduct inspection specialized works as stipulated in Article 32 of this Decree.

7. To organize the State inspection of the quality of construction works when requested or when detecting the works with quality not assuring as designs' requirements and with the risk of force-bearing safety loss; to organize the State inspection of incident causes as stipulated in Article 39 of this Decree.

8. To take the prime responsibility for organizing the award for the quality of construction works as stipulated in Article 11 of this Decree.

9. To annually and extraordinarily (at the request) summarise and report to the Prime Minister the situation of the quality and the quality management of construction works nationwide.

10. To deal with violations on the quality management of construction works as stipulated in this Decree.

11. To perform other management contents in accordance with the regulations related to the quality management of construction works.

**Article 43. Contents of the state management on construction quality by other Ministries, sectors**

1. Responsibilities of Ministries managing specialized construction works in the quality management of construction works are as follows:

a) To guide implementation of the legal documents on the quality management of construction works applied to specialized facilities;

b) To conduct periodical inspection and extraordinary inspection over the quality management of subjects getting involved in the facility construction and over the quality of specialized construction works under the management when necessary or when requested by Ministry of Construction;

c) To report to the Ministry of Construction the plan and the result of inspection of the quality management and the quality of construction works under the management;

d) To verify the design for works construction as stipulated in point a, Clause 2, Article 21 of this Decree;

dd) To take the prime responsibility for and coordinate with Ministry of Construction in inspecting the acceptance and hand-over for putting works into use as stipulated in Article 32 of this Decree;

e) To coordinate with competent authorities in organizing the State inspection of incident causes for specialized construction works;

g) To coordinate with the Ministry of Construction in organizing the award for the quality of construction works as stipulated in Article 11 of this Decree.

2. Ministry of National Defence, Ministry of Public Security take responsibility of managing construction works quality as follows:

a) To guide on implementing legal documents on construction works quality in defence, security sectors;



b) To conduct regular scheduled inspection, unscheduled inspection over quality management of subjects involving in construction, and over the quality of works of defence, security sectors under management of the Ministries;

c) To conduct design verification of works of defence, security sectors under management of the Ministries;

d) To conduct the inspection over acceptance procedures before putting into operation as stipulated in point c, Clause 1, Article 32 of this Decree.

e) To conduct state inspection of incident causes for works of defence, security sectors under management of the Ministries.

3. Not later than December 15 of each year, Ministries managing specialized facilities, Ministry of National Defense, Ministry of Public Security and other Ministries, Sectors shall summarize and report to the Ministry of Construction the situation of the quality and quality management of construction works managed by Ministries and Ministerial-level Agencies.

#### **Article 44. Responsibilities of State management on the quality management of construction works by Provincial People's Committees**

1. To assign and delegate the responsibilities of State management on the quality management of construction works to Departments managing specialized construction works, District level People's Committees;

2. To guide the implementation of the legal documents on the quality management of construction works in their areas;

3. To inspect the compliance with the provisions of this Decree by organizations and individuals involved in construction activities in their areas.

4. To organize the State inspection of incident causes as stipulated in Article 39 of this Decree.

5. To cooperate with Ministry of Construction to organize the Awards on construction works quality as stipulated in Article 11 of this Decree.

6. To summarize and report to the Ministry of Construction the situation of the quality and the quality management of construction work in their areas no later than December 15 of each year and extraordinarily report when requested.

#### **Article 45. Responsibilities of specialized agencies assisting Provincial People's Committee in performing the state management on the quality of construction works**

1. Departments of Construction are the focal points assisting Provincial People's Committees in unifying the State management on the quality of construction works in the area with responsibilities as follows:

- a) To submit documents guiding the implementation of the legal documents on the quality management of construction works in the area to Provincial People's Committees' Chairpersons for promulgation;
- b) To guide district level People's Committees, organizations and individuals involved in construction activities in implementing the legal documents on the quality management of construction works;
- c) To conduct annual and extraordinary inspection over the quality management of agencies, organizations and individuals involved in construction works and the quality of construction works in the area;
- d) To coordinate with Departments managing specialized construction works in conducting the inspection over the compliance with regulations on the quality management of specialized construction works;
- dd) To verify the design for specialized construction works managed by them as stipulated in point b, clause 2, Article 21 of this Decree;
- e) To post the information on capability of organizations and individuals getting involved in construction activities in the area available on Departments' websites as stipulated in Clause 1, Article 8 of this Decree.
- g) To assist Provincial People's Committees to conduct State inspection of works quality as required and incident causes as stipulated in Article 39 of this Decree; to monitor, summarize and report to Provincial People's Committees the situation of incidents in the area;
- h) To inspect the acceptance and hand-over for putting works into use as stipulated in Article 32 of this Decree for those specialized works under management of the Departments;
- i) To annually and extraordinarily report to provincial People's Committees the compliance with regulations on the quality management of construction works and the status of construction works quality in the area;
- k) To assist Provincial People's Committees in annually and extraordinarily summarizing and reporting the Ministry of Construction the situation of the quality of construction works in the area; to report on the list of contractors/consultants who violated regulations on the quality management of construction works when getting involved in construction activities in the area.

2. Departments managing specialized construction works shall take responsibilities as:

- a) To take the prime responsibility for and coordinate with Departments of Construction in regularly and extraordinarily inspecting the quality management by organizations and individuals involved in the construction of specialized facilities and the quality of specialized construction works in the area;
- b) To assist Provincial People's Committees in appraising the design for specialized construction works as stipulated in point b, Clause 2, Article 21 of this Decree;

c) To take prime responsibility and cooperate with Departments of Construction in inspecting the acceptance and hand-over for putting works into use as stipulated in Article 32 of this Decree in cases of specialized facilities;

d) To coordinate with Departments of Construction in organizing the State inspection of the quality of specialized construction works when requested and organizing the State inspection of incident causes for specialized construction works; to annually and extraordinarily summarize and report to Provincial People's Committees and Departments of Construction the situation of the quality of specialized facilities in the area.

### 3. Responsibilities of district level People's Committees:

a) To guide communal level People's Committees, organizations and individuals engaged in construction activities in implementing the legal documents on the quality management of construction works;

b) To conduct annual and extraordinary inspection over the compliance with the regulations on the quality management of construction works for which district level People's Committees are decision makers and grant construction permits in the area;

c) To coordinate with Departments of Construction, Departments managing specialized construction works in conducting the inspection over construction works in the area when requested;

d) To make reports on incidents and handle incidents as stipulated in Article 37 and Article 38 of this Decree;

e) To annually and extraordinarily report to provincial People's Committees and Departments of Construction the compliance with the regulations on the quality management of construction works and the status of construction works quality in the area;

### **Article 46. Handling of violations on the quality management of construction works**

1. When detecting acts of violations of this Decree's provisions by the inspection of State authorities on construction or by reflect of organizations and individuals, State authorities on construction must timely request relevant organizations and individuals to remedy, and also propose the handling in accordance with the law on administrative sanctions in construction activities.

For organizations and individuals with acts of violations, in addition to the repair at the request of State authorities on construction and being subject to sanctions as stipulated by the law, their names and violations are also announced on the websites of State authorities on construction.

2. When the works is detected to have uninsured quality with the risk of collapse or to have unsafe construction method, State authorities on construction are entitled to temporarily stop the construction and then allow the construction to be continued only when Investors and contractors make good their shortcomings and assure the safety.

### **Chapter 8.**

## **IMPLEMENTATION PROVISIONS**

### **Article 47. Effect**

1. This Decree takes effect on April 15th 2013, and replaces the Government's Decree No. 209/2004/ND-CP dated December 16, 2004 on the quality management of construction works, Decree No. 49/2008/ND-CP dated April 18, 2008 amending and supplementing some articles of Decree No. 209/2004/ND-CP dated December 16, 2004 on the quality management of construction works and replaces Clause 4 of Article 13, Article 18 and Article 30 of Government's Decree No.12/2009/ND-CP dated February 12, 2009 on the management of construction investment projects. Previous regulations issued by the Government, ministries, ministerial-level agencies or localities which are contrary to this Decree are all annulled.

2. Provisions on utilizing information of capability of organizations, individuals for contractor selection in construction activities as stipulated in Clause 3, Article 8 of this Decree takes effect on September 1st 2013.

3. For those works in which certification on structure safety eligibility and certification on works quality conformity have been performed according to the Government's Decree No. 209/2004/ND-CP dated December 16, 2004 on the quality management of construction works and Decree No. 49/2008/ND-CP dated April 18, 2008 amending and supplementing some articles of Decree No. 209/2004/ND-CP before this Decree takes effect, these works shall be continued performance until completion.

### **Article 48. Organization of implementation**

1. Ministers, heads of ministerial-level agencies, heads of government-attached agencies, chairpersons of People's Committees of provinces and centrally-managed cities, heads of political organizations, socio-political organizations and socio-politico-professional organizations, and concerned organizations and individuals shall implement this Decree.

2. Ministry of Construction shall guide contents of: registration and announcement of information on eligibilities of organizations, individuals involved in construction activities; design verification by state authorities; organization and operation of construction supervision consultants; specific stipulations on other contents on the quality management of construction works and levels of works incident as stipulated in this Decree;

3. Ministry of Finance is to take prime responsibility and to coordinate with the Ministry of Construction in guiding the fees of design verification by State authorities on construction.

4. Ministry of National Defence, Ministry of Public Security are to take prime responsibility and to coordinate with Ministry of Construction to stipulate the list of works of defence and security sector;

5. When documents guiding the grading of construction works haven't been issued, current regulations are allowed to be applied until the new regulation is issued./.

**ON BEHALF OF THE  
GOVERNMENT  
PRIME MINISTER**

**Nguyen Tan Dung**

**APPENDIX**

**CLASSIFICATION ON CONSTRUCTION WORKS**

*(Attached with the Government's Decree No. 15/2013/ND-CP dated February 06, 2013)*

**I. BUILDING WORKS**

1. Dwelling house

a) Apartment building

b) Separate dwelling houses

2. Works for public

a) Construction works for education: Nurseries, kindergartens, schools of all levels, universities, colleges, intermediate vocational schools, job-training schools, technical workers' schools, professional schools and schools for all kinds.

b) Construction works for health: Polyclinic, Specialized clinic hospital at central and local levels, regional polyclinic, specialized clinic hospital, medical station, maternity hospital, house for the infirm, house for orthopedics, nursing house for old people, disease prevention and other health facilities.

c) Construction works for sport: Stadium, gymnasium and other works for sport

d) Construction works for culture: Conference center, theatre, recreation center, club, cinema, circus; Museum, Library, exhibition hall, and other buildings; Vestige works, works for belief; Amusement and entertainment facilities; Rope-ways; Outdoor statues;

dd) Works for commerce and service: shopping centre, supermarket, market, shop, restaurant, cafeteria and other works for commerce and service.

e) Works for information, communication: Radio and Television broadcasting tower; Communication signal cables; Building for communication (post office, building with communication equipment); Lighthouses; and system of notice and sign for assurance of seaway and waterway transportation.

- g) Terminal: airport, harbour, railway station, bus station,
- h) Multi-function building, hotel, dormitory, guest house, hostel
- i) State administrative agencies' office: working houses of National Assembly, The Government, President, Offices of Ministries, Sectors, and People's Committee of all levels.
- k) Offices for non-business units, enterprises, political-social organization and other organization not in point i.

## **II. INDUSTRIAL WORKS**

1. Works for construction materials manufacturing: Cement plant; Tile factory (Ceramic, Granite, terracotta brick); Factory for baked clay brick, roof-tile; Factory for sanitary faience; Factory for glass; Factory for concrete mixtures and concrete components; Construction material mines.

2. Works for coal-mining and ore-mining: Underground coal mines; Surface coal mines; Construction for coal-sorting, washing and selecting; Underground ore-mines; Surface ore-mines; Factory for ore-selecting and ore-enriching; Natural bauxite mining; Aluminium processing plant.

3. Works for Petroleum industry: Marine exploration and exploitation derricks; Petrochemical refineries; Gas processing plant; Petrol and kerosene depots; Liquefied gas depots; Gas and petrol pipelines.

4. Works for heavy industries: Non-ferrous metallurgical plant; Ferrous metallurgical plant steel laminating plant; Mechanical plants for dynamic machines, machine tools of all types; Plants for industrial equipment and complete equipment; Automobiles assembly plants; Motorcycles manufacturing and assembly plants.

5. Works for energy: Thermal-electric power plant; Hydraulic-electric plant; Atomic power plant; Power grids and transformer stations.

6. Works for Chemical, petrochemical industry:

a) Works for Fertilizers and Pesticide production: Factories for Urea, DAP, MPA, SA, NPK compound; Factories for Phosphat fertilizer of all kinds (superphosphate, fused phosphate); Factories for NPK mixtures, fertilizer; chemical products for plant protection;

b) Works for Rubber manufacturing: Factories for tube and tire for automobiles, tractors, motorbikes and bicycles; Factories for belt conveyor; Factories for technical rubber;

c) Factories for detergent (washing cream, washing powder, shampoo, detergent, soap ...); cosmetics; pharmaceutical chemistry, medicine;

d) Works for Electrochemical products, paint, chemical mining materials: Factories for battery; Factories for accumulator; Factories for paints of all kinds, alkyd materials, acrylic; Factories for chemical mining materials (Apatite ore sifting);

e) Works for Petrochemical products and other chemicals: Factories for Petrochemical products (PP, PE, PVC, PS, PET, SV, fibre, DOP, Polystyren, LAB, synthetic rubber); Factories for industrial gas; Fatories for soldering stick, bead, steel fibre; Factories for chemicals, explosive materials.

7. Works for light industries:

a) Food: Dairy factories; Factories for bakery and instant noodles; Freezing stores; Factories for edible oil, flavourings; Factories for alcohol, beer, beverage; Factories for husking rice; other factories for agriculture products;

b) The others: Textile mills; Printing, dyeing factories; Garment factories; Leather-tanning and leather products factories; Factories for plastic products; Factories for porcelain ware and glassware; Pulp and paper mills; Factories for electronics product assembly (TV set, computers and equivalent products), electro-refrigeration (air conditioners, refrigerators and equivalent products); Factories for information and accessories, spare parts and electronic assemblies (electronic circuits or ICs and equivalent products); Tobacco factories.

8. Works for Aquatic product and canned food processing industry

a) Aquatic product processing factories

b) Canned food factories

### **III. URBAN INFRASTRUCTURE WORKS**

1. Water supply: Water extraction structure, unpurified water pumping station, water treatment plant, water pumping station; Fresh water tank; Water supply line; Water tower; Press increasing tower.

2. Drainage: Rain sewer, sewage pipe, main sewer; Detention reservoir; Rainwater pumping station; Sewage pumping station, sewage treatment plant; Construction for mud treatment.

3. Waste treatment

a) Municipal solid waste: Waste dumping ground; Plant for waste incineration, treatment and processing

b) Toxic solid waste

4. Other works

a) Public lighting

b) Parks.

c) Urban cemetery.

d) Garage for automobiles and motorcycles (Underground garage and Ground garage);

e) Technical tunnel (Tunnel for electric-cables, communication cables, water pipes).

#### **IV. TRANSPORT WORKS**

1. Road: Highway of all kinds; Roads in rural areas; Road in urban areas;

2 Railway: High-speed railway; subways; elevated railway; regular National Railway; Specialized Railway and local railway.

3. Bridge: Highway bridge, railway bridge, flyovers of all kinds.

4. Tunnel: Tunnel for cars, railway and pedestrians

5. Waterway works: Seaport piers, docks; Ports for ships and ship-building and –repairing plants; Ship locks; river navigation (on river, canals, continental shelf)

6. Airport

#### **V. WORKS FOR AGRICULTURE AND RURAL DEVELOPMENT**

1. Irrigation works:

a) Reservoir;

b) Dams (Soil dam, soil-stone dam, concrete dam);

c) Dyke, embankment, retaining wall: (river, sea) main dyke; girdle shaped dike; cofferdam;

d) Spillway flood relief works, sewer to take water, sewer to discharge water, canal, closed pipe for irrigation, hydraulic tunnel, pump station and other irrigation works;

e) Irrigation system; works for fresh water supply for living and production activities.

2. Works for forestry, salt production, fisheries, livestock./.