

REGULATIONS OF ENVIRONMENTAL MANAGEMENT OF THE CONSTRUCTION PROJECTS

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List of abbreviations

QH: National Assembly

ND-CP: Decree – Government

BXD: Ministry of Construction

TCVN: Vietnamese Standards

TCXDVN: Vietnamese Construction Standards

1. Introduction

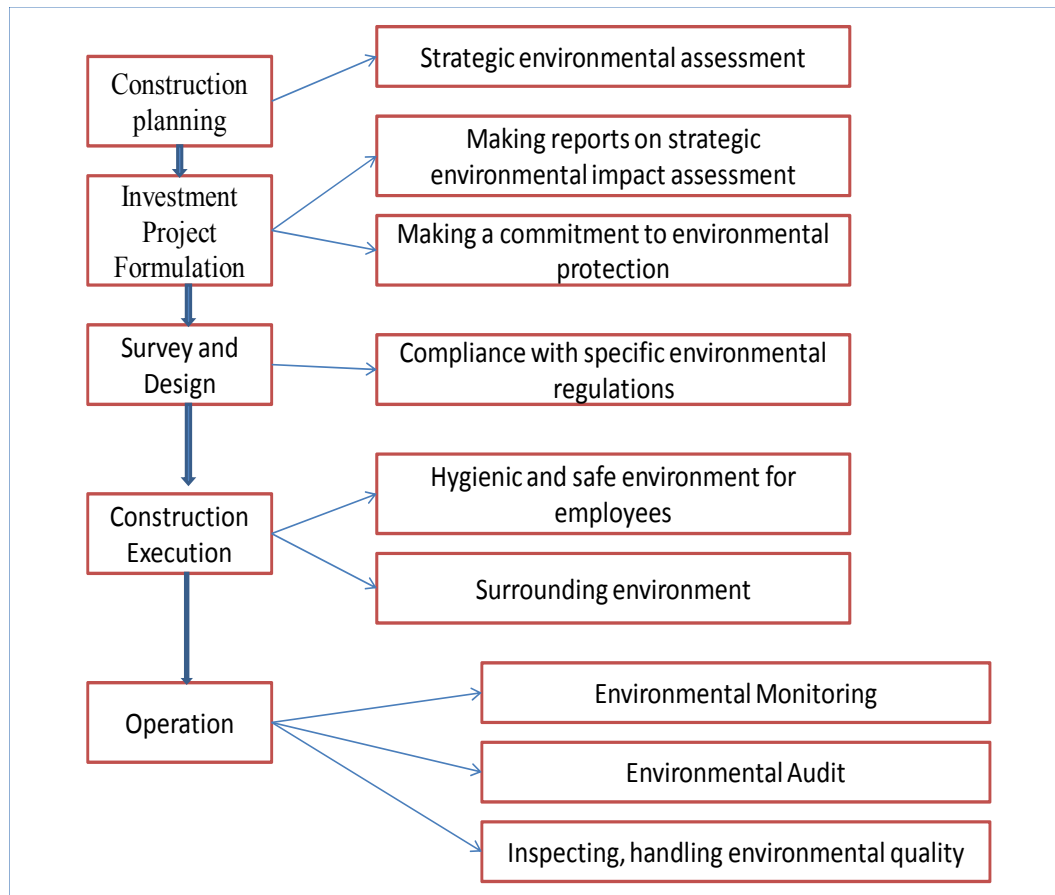
Vietnam is processing industrialization and urbanization. Construction industry is one of the key economic sectors, have a particularly important role for the socio-economic development, especially in the period of industrialization and modernization of the country. Construction projects have been implementing over country. Currently there are 267 Industrial Park, with an area of 72,000 ha; the Prime Minister has decided to set up 558 industrial parks in 2020, with an area of 200 thousand hectares, an increase 128 thousand hectare compared to 2010 (including 95 industrial zones located in 20 coastal economic zones and 30 border-gate economic zones) – (According to the Report of the Government 2011). Urbanization rate is about 31%, the country has 755 cities, including two especial cities: Hanoi and Ho Chi Minh City, more than 10 grade -1 and the rest are urban types 2,3,4,5. On the whole country there are over 2500 housing projects, new urban areas and other real estate projects, with an area of over 104,000 hectares of land have been developed on. Hanoi has 800 projects, Ho Chi Minh City has 1400 projects and Haiphong has 260 projects, in which there are about 300 low-income housing projects. The country has 90 cement manufacturing companies, with 60 blast furnace cement plants and 60 rotary kiln cement plants. The cement plants bring serious pollution in particular, blast furnace cement plant.

Construction is one of the economic sector which exploit and use a lot of natural resources, including non-renewable resources such as: land, minerals, sand, stone and gravel; renewable resources such as: plants

(logging of forests), water resources, enormous consumption of power and energy. According to the law of conservation of matter and conservation of energy, the industry that uses multiple materials, energy consumption, and discharge lots of wastes that pollute the environment and thus the responsibility of this industry plays greater role in national environmental protection.

Along with industrialization, urbanization, combined with the above-

2. Regulations of environment management in each implementation of the construction process



STEP 1: PLANNING – STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT

- In urban planning law: No 30/2009/QH12 dated 17 June 2009 – Item 6: Strategic environmental impact assessment “Predict changes in the environment during implementation of the project according to the approved urban planning. Set out the overall solution to prevent, mitigate and overcome influence and make planning of environmental supervision.”
- Law on Environmental Protection: 52/2005/QH11 November 29, 2005 in **Chapter III**: Strategic environmental assessment, environmental impact assessment and environmental protection commitment
- Decree 08/2005/ND-CP dated 24/01/2005 on construction planning. Regulations on environmental impact assessment in each type of construction planning.

- Decision 03/2008/BXD March 31, 2008: promulgate content regulations expressed drawings, notes for tasks and construction projects
Content regulations of diagram of strategic environmental impact assessment

STEP 2: SETTING UP PROJECT - ENVIRONMENTAL IMPACT ASSESSMENT; COMMITMENT TO ENVIRONMENTAL PROTECTION

- In the step 2, we can apply Law on Environmental Protection in Chapter III - Section 2: Environmental Impact Assessment and Section 3 of Chapter III -: Commitment to environmental protection
- Some specific *regulations of the solid waste management* are stipulated in Vietnamese standards and Vietnamese construction standards, decree of government, circulars of Ministry of Construction as below given:
 - + TCVN 6706-2000: Hazardous waste and hazardous waste classification.
 - + TCVN 6696-2000: burial landfill of solid waste sanitary. General requirements for environmental protection.
 - + 261-2001 TCXDVN: Solid Waste Landfill. Design standards.
 - + 320-2004 TCXDVN: Hazardous Waste Landfill. Design standards.
- Decree No. 59/2007/ND-CP dated 9/4/2007 of the Government on management of solid waste.
- Circular No 13/2007/TT-BXD 31/12/2007 by the Ministry of Construction guiding a some of articles of Decree some 59/2007/ND-CP dated 9/4/2007 of the Government on management of quality solid waste.

- In reference to *toxic level of enterprises and warehouses*, it is prescribed TCVN 4449-1987: Classification of factories, warehouses by toxic level and sanitary isolation distance.

- ***Regulations on water quality:***
 - + Decision No 09/2005/QĐ-BYT 11 January 3, 2005 of the Minister of Health regulations on focused water supply quality for the life of the urban and rural population.
 - + Decision No. 1329/2002/BYT/QĐ dated 18/4/2002 of the Ministry of Health - regulations on drinking water quality to allow drinking directly.

- ***Waste water quality regulations:***

- + Live life wastewater being discharged into coastal waters to comply with TCVN 5943-1995.
- + Live life wastewater - pollution limits to allow complied with TCVN 6772-2000.
- + Live life wastewater being discharged into the water irrigation subjected to TCVN 6773-2000.
- + Live life wastewater being discharged into fresh water to protect aquatic life in accordance with TCVN: 6774-2000
- + Wastewater treatment plant wastewater concentration TCVN 7222-2002.
- + Live life wastewater being discharged into surface waters complied with TCVN 5942-1995.
- + TCVN 7382-2004: Water quality. Hospital wastewater. Emissions standards.
- + TCVN 5945-2005 "Industrial wastewater. Emissions standards"

- ***Air quality regulations:***

- + Air quality around the discharge point: TCVN 5937-2005.
- + The maximum allowable concentration of toxic substances in the air around the discharge point: TCVN 5938-2005.
- + TCVN 5939-2005: Air quality - Standard of industrial emissions for dust and inorganic substances.
- + TCVN 5940-2005: Air Quality. Industrial emission standards for organic substances.
- + TCVN 6560-1999: Emissions of medical solid waste incinerator.

- ***Regulations on the maximum noise permission:***

- + TCVN 5949-1998: maximum noise level allowed in residential areas.
- + TCVN 5948-1995: maximum noise level of road transport.
- + TCVN 6436-1998: maximum noise level of road transport when stopping.
- + TCVN 5948-1999: maximum noise level of road vehicles emitted when accelerating.
- + TCVN 6962-2001: Maximum shock and vibration allows the

construction activity and industrial production for residential and public environments.

STEP 3: SURVEY - DESIGN

- Construction Law: No.16/2003/QH11

Article 51. The rights and obligations of construction survey contractors in which section 2.d stipulated: Environmental Protection in the survey area;

Article 53. Content of design and construction in which section 8 stipulated: Solution of environmental protection and environmental impact assessment in accordance with environmental laws.

STEP 4: CONSTRUCTION EXECUTION

- We must follow Construction Law in construction execution

+ **Article 72.** Conditions to start the construction works in which Section 6 provided: There are measures to ensure safety and environmental hygiene during the construction process.

+ **Article 75.** The rights and obligations of construction investors: Investors have the right to stop construction work and require adjustment of contractor's violated consequence to regulations on construction quality, safety and environmental hygiene; The investor is obliged: Testing the environmental safety and hygiene measures in construction works.

+ **Article 76.** The rights and obligations of the construction contractor Contractor is obliged to: construction according to the design, construction standards, assurance of quality, safety, progress and sanitation.

+ **Article 79.** Environmental hygiene in the construction works During construction works, construction works contractor shall:

1. Measures to ensure environmental hygiene in the construction process including environmental air, water, solid waste, noise and other requirements on environmental sanitation;
2. Compensation for damages caused by the breach of sanitation caused by them in the course of construction and transportation of construction materials;
3. Comply with other provisions of the law on environmental protection.

Besides, we must follow Law on Environmental Protection: 52/2005/QH11 November 29, 2005 in construction execution.

Article 40. Environmental protection in construction activities

1. Construction planning must comply with environmental protection standards and requirements.
2. Construction of works must satisfy the following environmental protection requirements:
 - a/ For works built in residential areas, measures must be taken to ensure that no dust is dispersed and noise, vibration and light will not exceed allowable limits;
 - b/ Construction materials must be transported by means which meet technical specifications, causing no leakage, spillage and environmental pollution;
 - c/ Waste water, solid wastes and other kinds of wastes must be collected and treated up to environmental standards.
3. People's Committees at all levels and public order management units may apply measures to handle owners of works and means of transport that violate environmental protection regulations.

STEP 5: OPERATION

After the acceptance and put into operational use, the finishing project must be performed environmental monitoring, environmental auditing, inspected, handled environmental quality. To perform this task that reviews the project in accordance with the commitment in the first proposal and approval, and also to detect whether there is a change about the environment after the project which is completed and operated. In addition to the competent authorities of the host state in commune (environmental resource cadre), to the district level (environmental resource division), provincial level (Department of Natural Resources and Environment), Government (Ministry of natural resources and environment) is responsible for the inspection and detection, besides the participation of communities, mass communication participate inspection and detection of environment. Professional bodies such as monitoring, auditing, inspection have to test environment to give the exact figures of impacts on the environment.

We can consult as follows

- Law on Environmental Protection: 52/2005/QH11 November 29, 2005
- Decree 80/2006/ND-CP Guide implementation of the Law on Environment.

- Decree 21/2008/ND-CP Guide to modify some of the ND80
- Decree 117/2009/ND-CP provisions on sanctioning of administrative violations in the field of environmental protection.

3. Some actions of environmental management of the construction sector

3.1 Environmental management for the production of building materials and components

Many facts have demonstrated emissions of handmade brick, vertical brick kilns, hop-man type damage to crops and the health of surrounding communities. **Therefore** the Ministry of Construction has a policy and plan to remove the manual brick kilns, as well as old-style vertical kiln in 2012.

To overcome the severe environmental pollution of blast furnace cement plants, the Ministry of Construction put forward policy immediately that the vertical kiln must be renovated, improved production technology, increased investment in environmental pollution treatment to overcome the serious pollution now and plan to 2020 the entire blast furnace cement plant will cease operations and move production of cement rotary kiln technology with greater capacity. This is a very right policy that should be resolutely implemented radically. In addition, it should be stressed that the building materials industry is one of the major sectors caused the degradation and destruction of natural landscapes.

3.2 Management of environmental protection for the design of urban and rural planning, economic planning zones and industrial parks

Planning of urban construction has to meet the target for social and economic development, the requirements of environmental protection to ensure sustainable development, especially in the planning system of urban infrastructure: water supply systems, collection systems, and wastewater and solid waste treatment; urban transport system; funeral houses and urban graveyards and urban green system.

To use environmental ecological approach, integration of environmental issues into the process of urban construction planning, strategic environmental assessment (SEA) for urban planning, consultation of community involved in the planning process ...

3.3 Proper consideration of environmental impacts and the application of solutions to protect the environment, save efficient energy use in construction

Investment to build any construction (civil engineering, public works, public service or manufacturing process) are emerging negative impacts on the environment. In the design phase, the designer must consider the full factors that impact negatively on the environment and the application of effective measures to reduce environmental pollution, in specially, waste water, solid waste, air pollution and noise. In today's climate change conditions, the risk of scarcity and depletion of freshwater resources are more and more serious, thus need to adopt measures to reuse waste, use water circulation and utilize rainwater in construction is significant.

To execute four green building criteria these are: (1) saving, rational use of energy, (2) Save and reuse of building materials, (3) Save and re-use of water resources, (4) Conservation of ecology and soil environment.

3.4 To promote the implementation of the solution of urban solid, industrial waste management

Under the provisions of the Environmental Protection Law and other legal documents under the law, the Ministry of Construction is assigned in charge of the management of municipal solid industrial and rural waste.

To build plants of the handling of hazardous industrial waste with proper technique such as Nam Son – Hanoi, Song Cong – Thai Nguyen, Phu Ly – Hanam...

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