

# Draft Evaluation Method on Engineering Capacity of Construction Contractors

## September 2016 Ministry of Construction

###### Preface

The Government of the Socialist of Viet Nam (hereinafter referred to as GOV) maintains sustainable economic growth and implements a large number of major infrastructure development projects.

One of important components to secure the enough quality in construction is the employment of capable contractors by means of objective and fair evaluation method; however, comprehensive evaluation method had not been implemented and incapable contractors have been allowed to participate in construction projects, resulting less quality and safety management in Viet Nam.

The GOV requested JICA to run a technical cooperation project and then the Project for Capacity Enhancement in Cost Estimation, Contract Management, Quality and Safety in Construction Investment Projects (hereinafter referred to as CCQSP) has been implemented since April 2015.

As for an output of the project activities of CCQSP, the draft guideline for Evaluation Method on Engineering Capacity of Construction Contractors (hereinafter referred to as GLEM) has been developed for reference of future development of evaluation system of contractors engineering capacity.

The objectives of draft GLEM are:

1. To help MOC experts to check the necessary items and contents when designing evaluation method of engineering capability of construction contractors in future.
2. To explain to the related sectors (PO, PMU, and Contractors) about the future vector of evaluation method of contractors engineering capacity and to obtain opinions and comments from related sectors to improve GLEM.
3. To induce construction contractor’s effort toward improvement of their engineering capacity by means of showing future evaluation visions.

The draft GLEM has been drawn up by experts of the Ministry of Construction (hereinafter referred to as MOC) and JICA experts together for the problems identified with the case study projects selected from the construction projects, by reviewing regulations, studying oversea practice and collecting comments from relevant stakeholders in Viet Nam.

The draft GLEM is still under development. For the purpose of further improvement, any comments and suggestions provided might be incorporated to the draft GLEM if deemed necessary.

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### Chapter 1 Introduction

#### Objective of Evaluation Method of Engineering Capacity of Contractor

Evaluation Method of Capacity of Contractor is a comprehensive system to evaluate contractor’s engineering capacity by means of Engineer’s qualification, Work performance evaluation, Registration system and Grading system. Purpose of Evaluation Method is not only to evaluate of contractor’s capacity accurately or to exclude disqualified contractors in tendering but also to encourage contractors to improve their capacity for the betterment of construction quality and safety.

#### Definition of terms for each components

#### Engineer Qualification System

Engineer qualification system is to evaluate engineer’s engineering skill for each category and type, and promote each engineer’s effort for further improvement.

#### Registration System

Registration system is to manage of contractor’s information so that PO/PMU identify capable contractors for each project.

Main functions of registration system are as follows.

-Classification of Contractors

-Collection of Contractor’s Information

-Publishing of Contractor’s Information

-Accumulation/Operation of Const. Contractor’s Information (Data system)

#### Grading System

Grading system is technique/mechanism to evaluate contractor’s engineering capacity so that contractors are classified into designed category and class, which is utilized for project owners to select contractors for each construction.

Main Items to be evaluated for grading of contractors and its purpose are as follows.

-Staff: Check human resource by qualification and experience

-Management: Evaluate the quality of management cycle

-Equipment: Evaluate mechanical resource to implement construction

-Experience: Evaluate contractor’s past performance regarding the number or amount of completed construction packages and quality (by work performance evaluation)

-Finance: Evaluate financial soundness and fund raising capacity to implement proper payroll

and to avoid bankrupt during project

#### Work Performance Evaluation System

Work performance evaluation system is to evaluate and to score each construction package at completion. Resulting scores can be used, in grading system and procurement, to evaluate capacity of contractors.

#### Outline Structure

To develop evaluation mechanism, outline structure to show basic mechanism is essential to have a common view and to lead prosperous discussions. One more important thing is that outline structure should reflect current Viet Nam practice so that improvements are easy to be incorporated.

Outline structure of evaluation mechanism in Viet Nam has been developed through discussion between CAMA of MOC and JICA Project Team as shown in Figure 1-1.

*Selection Method*

Public Announcement

*Engineering Capacity Evaluation*

Individual Qualification (Engineer’s Qualification)

Prequalification/ Short List

Entities Qualification（Registration System）

Publishing of Information (CAMA)

Grading System (CAMA or DOC)

Collection of Information (CAMA or DOC)

Submission of Proposal

Evaluation

Work-Performance Evaluation

Negotiation/ Contract

Construction Work

###### Figure 1-1 Outline Structure of Evaluation Method in Viet Nam

#### Related Regulation

(Current regulation)

* + Construction Law (No.50/2014/QH13)
  + Decree on Construction Management (No.59/2015/ND-CP)
  + Decree on Function, responsibilities, authorities and organization structure of MOC (No.62/2013/ND-CP)
  + Circular on Guiding on eligibilities of entities, individuals involving in construction activities (No.17/2016/TT-BXD)
  + Circular on regulations on classification of construction works and instructions on application to construction management (No.03/2016/TT-BXD)

(Old regulation)

* + Construction Law (No.16/2003/QH11)
  + Decree on Quality Management of Construction Works(No.209/2004/ND-CP)
  + Decree on Management of Investment Projects for construction of Works (No.16/2005/ND-CP)
  + Decree on Quality Management of Construction Works (No.15/2013/ND-CP)
  + Decree on Management of Investment Projects on the Construction Works (No.12/2009/ND-CP)
  + Circular on Guiding in Detail Some Articles on the Quality Management of Construction Works (No10/2013/TT-BXD)
  + Circular on some contents on decree No.12
  + Circular on publishing information on information on construction capability of entities engaged in construction (No.11/2014/TT-BXD)

### Chapter 2 Current situation

After promulgation of the first construction law in 2003, some regulations and methods regarding evaluation of engineering capacity of const.-contractors have been developed in Viet Nam as shown in Table 2-1. As of September in 2016, it is transition period regarding Construction Law from previous law system (No.16/2003/QH11) to new law system (No.50/2014/QH13). Although basic decrees and circulars which conform the new law system have been promulgated, it will take a certain time for the enforcement of new regulations because new system has many improvements such as newly established qualifications or revised registration method with newly developed data base.

The new law system (No.50/2014/QH13) is studied to analyze and identify problems of current situation, however, it is also important to study difference or improvement between previous law system and new law system for the purpose of understanding current situation and identifying problems, which are included in this chapter.

###### Table 2-1 Chronological Improvement in Evaluation of Const.-Contractor

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2003 Construction Law** | | | **2014 Construction Law** |
| **Engineer Qualification** | **2005 Decree16**  -3 Qualifications (by education, experience and training course) | **2009 Decree 12 & Circular 12,22, 25,05**  -4 Qualifications(1-2 class) and 6 job title | | **2015 Decree 59, 2016 Circular 17**  -3 class for 7 qualification and 2 job title  -Unified Exam  -ID of engineers |
| **Classification of Project** | **2004 Decree 209**  -Grade of Projects(Special, Grade 1-4)  -Defined by structural scale |  | **2013 Decree 15, 2013 Circular 10**  -revised | **2016 Circular3**  -Capacity and Importance incorporated. |
| **Collection and Publish of Contractors Information** |  | **2008 Decision 2**  -Database for contractor  & Consultant  -Registration is not mandatory | **2013 Decree 15, 2014 Circular 11**  -Mandatory for registration  -Published by MOC | **2015 Decree 59, 2016 Circular 17**   * Database established * ID of Contractors |
| **Classification of Contractors** | **2005 Decree 16**  - 1-2 Grade of entities Capacity judged at tender | **2009 Decree 12**  -Evaluation from 4 points(Engineer, Management, Equipment,  Pass-record) | **2013 Decree 15, 2014 Circular 11**  -3 class of Contractors  -Evaluation points from 4 points | **2015 Decree 59, 2016 Circular 17**  -3 class of Contractors  -Evaluation from 5 points (Engineer, Management, Equipment, Finance,  Pass-record) |

#### Engineer Qualification System

#### Current Engineering Qualification System

MOC had enforced 4 categories of engineer qualifications in the previous law system previous system (No.16/2003/QH11). However, to cope with rapid growth in planning, construction, supervision and maintenance technologies, MOC had tackled the enhancement of engineer qualifications. Thus, improvement of examination system, operation of training



courses, an introduction of continuous professional development system and introduction of grading of engineer qualifications for construction supervisor is proposed in the Quality TCP, which had been implemented with MOC and JICA. Qualification system is revised and regulated in Decree No.59/2015/ND-CP which was promulgated after the Quality TCP.

7 categories of engineer qualifications and 2 categories of job title are prescribed in the decree as shown in Table 2-2. Each category of engineer qualifications and job titles has 3 classes. Requirement for examination of qualification/job title for construction supervision, construction safety, construction site manager and project manager for each class are shown in Table 9-17.

###### Table 2-2 List of Qualification and Job Title on Decree No.59/2015/ND-CP

|  |  |  |
| --- | --- | --- |
| Qualification | | Job Title |
| Construction survey practice | Construction inspection practice | Construction site manager |
| Construction planning practice | Construction safety practice | Project Manager |
| Construction design practice | Construction valuation practice |  |
| Construction supervision practice |  |

Source: Decree No.59/2015/ND-CP

###### Table 2-3 Requirement for Qualifications and Job Title

|  |  |  |  |
| --- | --- | --- | --- |
| Qualification | Class I | Class II | Class III |
| General Requirement | * Bachelor’s degree with appropriate major in conformity with application for license * 7 years experiences in conformity with application for license | * Bachelor’s degree with appropriate major in conformity with the application for license * 5 years experiences in conformity with application for license | * Bachelor’s degree in conformity with the application for license * 3 years experiences in conformity with the application for license   or   * College degree or Junior college degree in conformity with the application for license * 5 years experiences in conformity with the application for license |
| Construction Supervision/ Construction Safety | * Experience of 1 Class I construction work that conform to his/her license   or   * Experience of 2 Class II construction works that conform to his/her license | * Experience of 1 Class II construction work that conform to his/her license   or   * Experience of 2 Class III construction works that conform to his/her license | * Experience of 1 Class III construction work that conform to his/her license   or   * Experience of 2 Class IV construction works that conform to his/her license |
| Construction Site  Manager | * Class I license for construction supervision   or   * Class II license for construction safety practice   and   * Experience of 1 Class I construction work that conform to his/her license   or   * Experience of 2 Class II | * Class II license for construction supervision   or   * Class II license for construction safety practice   and   * Experience of 1 Class II construction work that conform to his/her license   or   * Experience of 2 Class III | * Class III license for construction supervision   or   * Class III license for construction safety practice   and   * Experience of 1 Class III construction work that conform to his/her license   or   * Experience of 2 Class IV |

|  |  |  |  |
| --- | --- | --- | --- |
| Qualification | Class I | Class II | Class III |
|  | construction works that conform to his/her license | construction works that conform to his/her license | construction works that conform to his/her license |
| Project Manager | * Class I license for design practice   or   * Class I license for construction supervision practice   or   * Experience of project manager of 1 group-A project that conform to his/her license   or   * Experience of project manager of 2 group-B project that conform to his/her license   or   * Experience of Class I construction site manager | * Class II license for design practice   or   * Class II license for construction supervision practice   or   * Experience of project manager of 1 group-B project that conform to his/her license   or   * Experience of project manager of 2 group-C project that conform to his/her license   or   * Experience of Class II construction site manager | * Class III license for design practice   or   * Class III license for construction supervision practice   or   * Experience of project manager of 1 group-C project that conform to his/her license   or   * Experience of Class III construction site manager |

Source: Decree No.59/2015/ND-CP

Procedure for acquisition of qualifications is shown in Figure 2-1. Applicants submit application documents, and then take examination which is held by council of examination. If applicants pass the examination which includes professional and legal knowledge, they acquire the qualification. Class I qualification is issued by MOC and Class II and III qualifications are issued by DOC.

Submission of Application Application form (prescribed by MOC)

Copies of degrees or certificates (issued by lawful

organization)

A declaration of professional experience (with copies of contracts)







Examination (organized by council of examination)

* Professional knowledge
* Legal knowledge

Pass

Issuance of License

* Class I: Issued by MOC
* Class II and III: Issued by department of construction

###### Figure 2-1 Flow of Acquisition of Qualification

Details and operational matter about examination have been described in Circular No.172016/TT-BXD). The following contents are main changes to be applied in this new circular.

* Question database is under preparation and almost completed
* Each applicator will have ID, which will be used to recognize each qualification folder, belonged organization and assigned construction package timely. This is expected to prevent duplicated registration.
* Examination will be multiple choices and contents will be published in MOC’s website. Difficulty of examination content differ according to the grade.

#### Comparison of New and Previous System Regarding Engineer Qualification

Table 2-4 shows comparison of engineer qualification between previous system and new system. Main improvement is as the follows.

* 3-class system for each qualification is applied, while 1 or 2 class was used in previous system.
* In order to obtain qualification, examination is introduced in new system, while application and/or training course was required in previous system.
* Each qualification and job title is completely linked to the new registration and grading system.

###### Table 2-4 Comparison of Engineers Qualification

|  |  |  |
| --- | --- | --- |
|  | Previous System | New System |
| Regulation | Construction law (No.16/2003QH11), Decree  No.12/2009/ND-CP, Decree No.15  /2013/ND-CP | Construction Law (No.50/2014/QH13), Decree  No.59/2015/ND-CP, Circular No. 17/2016/TT-BXD |
| Responsible Organization | Organization (1)   * DOC | Organizations (2)   * MOC: Class 1 * DOC: Class 2 and Class 3 |
| Classification of Qualifications | Grade  Architect, Civil, Cost Estimator   * No grading Construction Supervisor * CS 1 (all project) * CS 2 (class IV project) Job Titles * Level 1 (all class of project) * Level 2 (only class II, III and IV project)   Type of Scope (4 qualifications and 6 job titles )  Qualification (4)   * Architect (A) * Engineer (E) * Cost estimator * Construction supervisor Job Title (6) * FS preparation leader (for E, A) * Project management leader * Chief surveyor (for E) * Chief designer (for E, A) * Design manager (for E, A) * Site manager | Class (3)   * Class 1 (all class of project) * Class 2 (class II, III and IV project) * Class 3 (class III and IV project)   Type of Scope (7 qualifications and 2 job titles)  Qualification (7)   * Construction survey practice * Construction planning practice (this scope does not have classification of field) * Construction design practice * Construction supervision practice * Construction inspection practice * Construction safety practice * Construction valuation practice Job Title (2) * Construction site manager * Project Manager |

|  |  |  |
| --- | --- | --- |
|  | Previous System | New System |
|  | Type of Field (5)   * Civil construction work * Industrial construction work * Technical infrastructure construction work * Transport construction work * Agriculture and rural development construction work | Type of Field (6)   * Civil construction work * Industrial construction work * Technical infrastructure construction work * Transport construction work * Agriculture and rural development construction work * Security and Defense |
| Procedure | Outline   * To get license for Cost Estimator and Construction Supervisor, taking a training and submission of application are requited. * To get license for Architect and Engineer, submission of application is required. Taking a training is not required. * Project Manager is not qualification, but taking a training is required to get certificate.   Training: (for Cost Estimator and Construction Supervision and Project Management leader only)   * Professional knowledge * Legal knowledge   Submission of application: (for 4 qualifications)   * Application form * Copies Certificate of completion of training * Declaration of professional experience   Issuance   * DOC (for qualifications) * PO (judge by documents in bidding proposals, project by project) | Outline   * All type of qualification apply same process, such as submission of application, taking an examination and issuance of license.   Examination   * Professional knowledge * Legal knowledge   Submission of application   * Application form * Copies of degrees or certificates * Declaration of professional experience   Issuance of License   * MOC (Class 1). * DOC (Class 2 and 3) |
| General  Requirement | For Construction Supervisor   * CS 1   Bachelor’s degree, 3 years or 5 projects experiences   * CS 2   Junior college degree, 3 years experiences For job titles   * Level 1   Bachelor’s degree with appropriate major and 7 year experience in conformity with application license   * Level 2   Bachelor’s degree with appropriate major and 5 year experience in conformity with application license | * Class 1   Bachelor’s degree with appropriate major and 7 year experience in conformity with application license   * Class 2   Bachelor’s degree with appropriate major and 5 year experience in conformity with application license   * Class 3   Bachelor’s degree with appropriate major and 3 year experience in conformity with application license or  College degree or junior college degree and 5 year experience in conformity with application license |
| Examination | NA (Short test was conducted in training) | Contents  Professional and Legal knowledge by multiple choice  Frequency  Depending on number of applicants in each region and province  Location  In each region and province |

|  |  |  |
| --- | --- | --- |
|  | Previous System | New System |
| Training (for Cost Estimator and Construction Supervision and Project Management leader only) | Period  2 ~ 3 weeks (136 hours)  Location  Training centers authorizes by MOC  Contents   * Legal and troubles * Construction supervision for social industrial sector * Construction supervision of transportation infrastructure * Construction supervision of irrigation and hydroelectric power generation * Short test (after the training) | NA |
| Renewal | Term of validity: 5 years | Term of validity: 5 years |

#### Collection Information

Construction contractors submit company’s information for grading and publishing information to Managing Authority (MOC the Department of Construction: DOC). Application information for grading and publishing of company’s information is prescribed in Decree59/2014/ND-CP and Circular No.17/2016/TT-BXD as shown in Table 2-5.

###### Table 2-5 Information for Application



|  |  |  |
| --- | --- | --- |
| No. | Information necessary and proof required | |
| 1 | Information of Entity(Name, Telephone, Address ) | Files of color photo of original business license or establishment decision |
| 2 | Field for applying qualification & grade |
| 3 | Major personnel | Files of color photo of degrees, certificates, qualifications and employment contract |
| 4 | Staffs, workers relevant to the field of qualification to be applied |
| 5 | Experiences related to qualification (Max 3 for each field) | Files of color photos of contract and minutes of final acceptance |
| 6 | Statement of work flow and Quality management system | Files of color Photo |
| 7 | Original statement of financial capacity in recent 3 years |
| 8 | List of equipment, machineries, software |

Source: Circular No.17/2016/TT-BXD

#### Grading System

Grading system is regulated in Decree No.59/2015/ND-CP which was promulgated after the Quality TCP.

Construction entities need to obtain the certificates of eligibility for construction activities. 9 types of certificates for construction activities are prescribed in the decree. List of certificates which are prescribed in the decree is shown in Table 2-6. All of the certificates has 3 classes of Class I, II and III, and certificate of Class I is issued by MOC and those of Class II and III are issued by DOC. Flow for issuance of the certificate is shown in Figure 2-2Source: Decree No.59/2015/ND-CP

Figure 2-2. The certificates of eligibility for construction activities of the construction entities are

valid for 5 years.

###### Table 2-6 List of Certificate for Construction Practice

|  |  |
| --- | --- |
| List of Certificate | |
| Construction Survey | Project Management Consultancy |
| Construction Planning Consultancy | Construction |
| Construction Design and Design Review | Construction Supervision |
| FS preparation and Assessment | Inspection |
|  | Construction Cost Management Consultancy |

Source: Decree No.59/2015/ND-CP

**Class I**

Application

MOC

Construction Entities

Certificate

**Class II and III**

Application

Department of Construction

Construction Entities

Certificate

Source: Decree No.59/2015/ND-CP

###### Figure 2-2 Flow to Issue the Certificate

Information which is submitted in collection information applied for grading. Requirements for certificate for construction contractors are shown in Table 2-7.

###### Table 2-7 Requirement for Execute Construction

|  |  |  |  |
| --- | --- | --- | --- |
| Class | Site manager | Professional Staff | Experience as Main Contractor |
| I | More than 3 qualified staffs of Class I | * More than 15 peoples in the quality   control system and occupational safety   * More than 30 technicians | More than 1 Class I or 2 Class II construction work |
| II | More than 2 qualified staffs of Class II | * More than 10 peoples in the quality control system and occupational safety * More than 20 technicians | More than 1 Class II or 2 Class III construction work |
| III | More than 1 qualified staffs of Class III | * More than 5 peoples in the quality control system and occupational safety * More than 5 technicians | N/A |

Source: Circular No.17/2016/TT-BXD

Grade of construction work is classified in 5 grades, such as Special, Grad I, Grad II, Grad III and Grade IV. Construction contractors who have Class I certificate, are able to participate all grade of bid for construction works that conform to their certificate. Construction contractors who have Class II or III certificate are able to participate bid for constructions work that conform to their certificate and less than same grade with their certificate class (Example: If a construction contractor has class III certificate, they are able to participate bid for construction work of grade III and IV). Extract of grade for construction work is shown in Table 2-8. Grade standard in Viet Nam is based on scale of structure while in other countries such as Japan and Singapore grade is

divided by construction package amount (bid size) at each type of works for which a contractor is able to apply.

###### Table 2-8 Extracts of Grade for Construction Work

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Types of Works** | | **Grade** | | | | |
| **Special** | **I** | **II** | **III** | **IV** |
| 1.1.2.1. General hospitals, local, central specialty hospitals (central hospitals not below class I) | Total number of beds/hospital | > 1,000 | 500 ÷  1,000 | 250 ÷  < 500 | < 250 |  |
| 1.3.1.1. Water plants, clean water treatment works  (including sludge treatment plants) | Total capacity (thousand m3/day and night) |  | ≥ 30 | 10 ÷ <  30 | < 10 |  |
| * + 1. Road bridges: according to criteria (a, b);     2. Railway bridges: according to criteria (b, c) *(Bridges with application of new construction technologies (main structure construction technologies applied in Vietnam for the first time) shall be increased one level after being classified according to this table.)* | d) Largest span (m) | > 150 | > 100  ÷ 150 | > 42 ÷  100 | > 25 ÷  42 | ≤ 25 |
| b) Height of bridge support columns (m) | > 50 | 30 ÷  50 | 15 ÷ <  30 | 6 ÷ <  15 | < 6 |
| d) Largest span (m) | > 100 | 50 ÷  100 | 25 ÷ <  50 | < 25 |  |

Source: Circular 3/2016/TT-BXD

MOC has been prepared a new circular (17/2016/TT-BXD) which conforms to Decree No.59/2015/ND-CP.

Table 2-9 shows comparison of grading system for entities between previous and new law system. Main points are follows:

* 3 grade system (Class 1 to Class 3) for every type of scope and field is applied in the new law system.
* In new system, evaluation is done by government (MOC or DOC) with a unified standard by using information accumulated in registration, while project owner had to judge the grade on each project in previous system.
* Scoring method have been employed and whether a contractor pass the requirement of intended class or not are judged by total score (>70 points).
* Evaluation of engineers are used with ID, which make it possible to exclude overlapped registration of engineers.
* Financial Evaluation item (deficit) have been firstly introduced.

###### Table 2-9 Comparison of Grading System for Entities between Previous and New Law System

|  |  |  |
| --- | --- | --- |
|  | Previous System | New System |
| Regulation | Construction law (No.16/2003QH11), Decree No.12/2009/ND-CP, | Construction Law (No.50/2014/QH13), Decree No.59/2015/ND-CP, Circular 17/2016/  TT-BXD |
| Responsible Organization | Certificate and license are not issued. Each PO set requirements on each project based on level of each project. POs have to judge the grade based on proposals/bids during tendering project by project. | * MOC: Class 1 * DOC: Class 2 and Class 3 |

|  |  |  |
| --- | --- | --- |
|  | Previous System | New System |
| Classification (Same as Table 2-10) | Grade (2)  Type of Scope (6)  Type of Field ( 5) | Grade (3)  Type of Scope (8)  Type of Field (6) |
| Procedure | * Submission of application * Issuance of License: | * Submission of application * Issuance of License |
| Evaluation Item | Staff   * Number of qualified engineers * Number of technical workers   Equipment   * Equipment for construction work   Quality management system  Pass records   * Number of completed projects of similar kind and grade | Staff   * Number of qualified engineers * Number of technical workers   Equipment   * Equipment for construction work   Quality management system  Finance(Deficit)  Pass records   * Number of completed projects of similar kind and grade |
| Renewal | It is not prescribed. | Term of validity: 5 years |

#### Publishing of Information

Registration system is to manage contractor’s information so that PO/PMU identify capable contractors for each project. Publishing of Information of construction contractor and consultant is prescribed in Decree59/2014/ND-CP and Circular No.17/2016/TT-BXD.

* Information regarding not only contractor but all entities and individual as well is dealt with a new data system. ID for entities and Individual are employed to identify each entities and individuals among enormous information.
* Publishing is the final step after grading. Authorities will automatically publish information after grading. Currently name of entities, their address and certificated class of each type of work category for registered construction contractors and consultants is placed on MOC’s website after promulgation of Circular No.11/2014/TT-BXD. Information of 4,188 of

registered construction contractor and consultant is placed on website of MOC as of 28th

September, 2016.

Based on Circular No.17/2016/TT-XD, content of publicity will be revised to names, address of head office; legal representatives; establishment decision; business license; charter capital; number of individuals capable for major job titles; quality management system; some typical completed and on-going projects, scale of projects, participation role, jobs, commendation; financial statements of recent 3 years; evaluation score for construction contractor.

#### Chronological Improvement in Registration System

Registration system is composed with collection information, grading and publishing of information in Viet Nam as shown in above. Overall chronological improvement regarding registration system in Viet Nam are as follows. Table 2-10 also shows the detailed comparison between new law system and previous system regarding company’s registration system.

* Even though 2-grade for a couple of entities qualification was applied in Decree 16/2005/ND-CP, each project owner judged the grade of contractor for each construction package at tender.
* Based on the Decision No. 02/2008/QD-BXD dated on February 20, 2008, the construction Activity Management Department (CAMD) of MOC started to have construction related company registration system. This system had two data base for contractors and consultant. However, this registration system was not compulsory for each company and information collected was limited since not all company applied this registration system.
* Based on Circular No11/2014/TT-BXD, registration of entities became obligation and MOC centralized registration process and started to publish company information in MOC website. Each project owner became able to find a company information such as grades and type of works it can involve in the web site.
* Based on the new construction law (No.50/2014/QH13) and Decree No.59/2015/ND-C, CAMA unified entities qualification and individual qualification systematically by using 3 grade system and also preparing E-government program, which is a unified database system to operate registration, grading of entities and engineer’s qualification.
* Since Circular No11/2014/TT-BXD do not match the registration item in latest decree No.59/2015/ND-CP, Circular No17/2016/TT-BXD was promulgated to conform to Decree No.59/2015/ND-CP, and registration system has been linked with grading system.

###### Table 2-10 Comparison of Registration System for Entities between Previous and New Law System

|  |  |  |
| --- | --- | --- |
|  | Previous System | New System |
| Regulation | * Circular No.11/2014/TT-BXD * Decree No.15 /2013/ND-CP | * Construction Law (No.50/2014/QH13) * Decree No.59/2015/ND-CP * Circular No.17/TT-BXD |
| Classification | Grade   * Level 1 (all class of project) * Level 2 (only class II, III and IV)   Grade for construction company was given in each biding by each PO  From 2014 (Circular 11), MOC shows grade for each construction company on their website  Type of Scope (8)   * Design review * Testing * Construction supervision * Quality inspection | Grade (3)   * Class 1 (all class of project) * Class 2 (Class II, III and IV project) * Class 3 (Class III and IV project)   Type of Scope (8)   * Construction survey * Construction planning consultancy (this scope does not have classification of field) * Construction design and design review |

|  |  |  |
| --- | --- | --- |
|  | Previous System | New System |
|  | * Survey, design, construction for works at special grade, grade I, II by state budget. * FS preparation * Project management * Planning design   Type of Field ( 5)   * Civil construction work * Industrial construction work * Technical infrastructure construction work * Transport construction work * Agriculture and rural development construction work   Project Owners are required to select contractors/consultants who are listed in MOC’s website to do above jobs. | * Project planning and assessment * Project management consultancy * Construction * Construction supervision and inspection * Construction cost management Consultancy   Type of Field (6)   * Civil construction work * Industrial construction work * Technical infrastructure construction work * Transport construction work * Agriculture and rural development construction work * Security and Defense |
| Responsible  Organization | * MOC: state own companies, semi-public organizations, * DOCs and MOC: private companies | * MOC: Class 1 * DOC: Class 2 and Class 3 |
| Procedure | * Submission of documents * Announcements | * Submission of documents * Announcements |
| Main Information for Registration | * Establishment decision * Certificate of enterprise registration * Carter capital * Number of employees having high-level of qualifications * Construction testing laboratory * List of the typical projects in which organization engaged over the last 3 years * The core construction fields of the organization * Award-wining constructions * Project in which the organization committed violations * Self-assessment of the organization’s capability and rating according to regulations and standards | * Name of representative person * Establishment decision, Business license * Charter capital * Number of persons eligible for key titles * Quality management system * Number of typical projects of each kinds (completed and ongoing) * Financial figures of recent 3 years * Scores of work performance evaluation (if any) |
| Renewal | Update: yearly or 10 days after changes, updates | Term of validity: annual update or 15 days after changes, updates |

### Chapter 3 Introduction of Oversea Practice

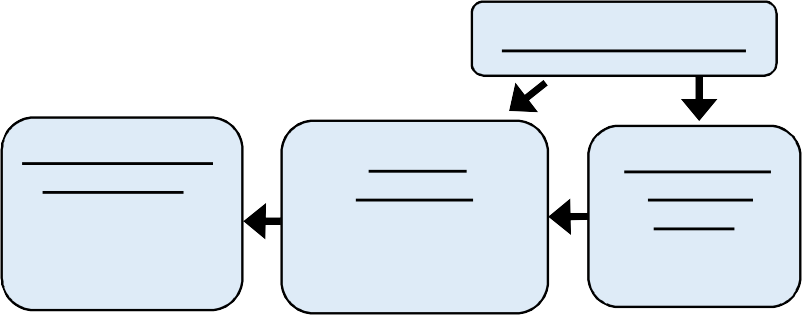
In this chapter, evaluation method of capacity of contractors in Japan and Singapore are described for the reference of practice of developed countries. There are various detailed setting for components of evaluation method for actual implementation. For the purpose that intended readers are able to understand the main concepts and obtain essential points of view regarding evaluation, necessary main points are described and some contents are consolidated. Therefore, it should be noted that there may be some parts which does not show the exact setting.

#### Practice in Japan

#### Outline Structure

In this section, Japanese evaluation system which consist of Construction Business license, Business Evaluation, and Bid Participation Qualification, is described.

*Engineering Capacity Evaluation Method*



**Engineer Qualification**

*Selection Method*

Public Announcement

**Bid Participation Qualification Grading & Publishing**

(by POs)

**Business Evaluation**

**Evaluation & Publishing** (by CIIC etc.)

**Construction Business License**

(by MLIT and Prefecture)

Prequalification/ Short List

Submission of Proposal

If participate in public construction

Evaluation

**Work Performance Evaluation**

(By POs)

Negotiation/Contract

Construction Work

###### Figure 3-1 Outline Structure of Evaluation Method in Japan

#### Construction Business License

In Japan, anyone who wishes to start and engage in construction business need to obtain this permission from MLIT or governor of prefecture where business is operated. Permission are given at each construction type. Main points of construction permit are as follows.

* 29 fields which are divided into the general and special field (shown as Table 3-2)

Permission are given at each construction field. There are mainly two category of the general field (General Civil and General Building) and the special field (other 27 fields). The general field is intended for contractors to implement a package of various construction fields. To the contrary, the special field is intended for a contractor to conduct one specific construction type.

* 2 Classification of Permit: for Main contractor and Subcontractor.
  + Ordinary Construction Permit ( for sub-contractor)
  + Special Construction Permit (for main-contractor)

Special construction permit allows subcontracting of more than 30 million yen

* Validity of Permit : 5 years
* Penalty of false registration:

False information leads to suspension of business in 30 to 45 days or disqualification for tender participation (if it is serious or repeated)

* 5 Requirements as shown in Table 3-1.

###### Table 3-1 Requirement of Construction Permit in Japan

|  |  |
| --- | --- |
| **Item** | **Requirement** |
| 1. Management Representative | 1. 5 years of experience as a management representative for construction related company 2. 7 years of experience as a manager representative for not construction related company 3. 7 years of experience as an assistant manager representative for applied field of construction *(Either one of the above)* |
| 2. Full time Engineer at each representative office | **-For Ordinary Permit *(one of the following)***   1. Work experience of 5 years after high school or 3 years after university, related with construction 2. 10 years of work experience regarding intended construction field 3. Qualification holder regarding intended construction field   **-For Special Permit *(in addition to above requirement)***   1. 2 years of supervising experience for more than 45 million yen construction work 2. Qualification holder regarding intended construction field |
| 3. Financial Resource | **-For Ordinary Permit *(one of the following)***   1. Equity or Fund raise ability of 500,000 yen(1,000 million VND) 2. 5 years of company experience   **-For Special Permit *(all of below, in addition to above requirements)***   1. Deficit not exceed 20 % of the capital 2. Current ratio is more than 75 % 3. Capital Stock>20,000,000 yen and Owner’s Equity > 40,000,000 yen- |
| 4. Being faithful | Management representative and company must not against construction business law |
| 5. Disqualification | 1. Not bankrupt 2. At least 5 years after provoke of license 3. Not during suspension of license |

###### Table 3-2 Fields in Construction Permit

|  |  |
| --- | --- |
| **Category of Construction type** | **Type** |
| General work (2 ) | General civil, General Building |
| Specialty Work (27) | 1.Carpentry (wooden construction) , 2.Plastering, 3.Scaffolding, Earthwork and Concrete, 4.Masonry, 5.Roofing, 6.Electrical, 7.Plumbing, 8.Tile, Brick and Block, 9.Steel Structure, 10.Reinforcement Steel, 11.Pavement, 12.Dredging, 13.Sheet Metal, 14.Glazing, 15.Painting, 16.Waterproofing, 17.Interior Finishing, 18.Machine and Equipment Installation, 19.Thermal insulating work, 20.Telecommunication, 21.Landscaping and Gardening, 22.Well Drilling, 23.Fittings, 24.Water and Sewerage Facilities, 25.Fire Protection Facilities, 26.Sanitary Facilities,27.Dismantling |

#### Business Evaluation

The Business Evaluation is to evaluate business administration capability of contractors. This evaluation is based on Construction Business Law in Japan and is the unified evaluation system all over Japan. Therefore, the score in the business evaluation is widely used for POs to judge contractors capability. Especially, a contractor which would like to engage in a public construction work have to apply for this evaluation. The system of the business evaluation is designed by MLIT and actual implementation is operated by organizations which have permission from by MLIT. For a long time CIIC: Construction Industry Information Center, was the only one organization to implement this evaluation, however, other organizations have been allowed to be in charge of this evaluation system in recent years.

Evaluation is done by the 4 points of views such as business scale, business situation, technical capability and other item (Social Responsibility.etc) and is to be used for grading of contractors. Evaluation items and weight have been modified to follow governmental policy every year. Scores of total and each components are published in a website and every person is able to check the score of contractors.

Calculation method and main points of the evaluation system are described as follows.

Evaluation points = 0.25×X1 + 0.15×X2 + 0.20×Y + 0.25×Z + 0.15×W

Each index of X (X1,X2), Y,Z,and W are shown in Table 3-3.

* Points are given at each construction field (28 Fields) by Construction Permit.
* Contractors need to attach proof of document or letter of commitment
* Data used is current 2 (or 3) years average
* False information leads to suspension of business in 30 to 45 days or disqualification for tender participation ( if it is serious or repeated)
* It is said that average of each item: X1, X2, Y, Z and W is 700 points so that the weight

reflect the importance of items properly.

###### Table 3-3 Evaluation item for Business Evaluation in Japan

|  |  |  |  |
| --- | --- | --- | --- |
| Item | | Weight | Evaluation Item |
| Business scale | X  1 | 0.25 | (1)Amount of completed work  (at each construction type) |
| X  2 | 0.15 | 1. Amount of equity capital 2. Profit before interest payment, tax, and depreciation |
| Business Situation | Y | 0.2 | 1. Resistibility to Debt 2. Profitableness, efficiency 3. Financial soundness 4. Absolute capabilities |
| Technical Capabilities | Z | 0.15 | 1. Amount of completed main contract work (at each construction type) 2. Number of Engineer(over 6 month employed) (at each type of permitted business) |
| Other items (Social Responsibility) | W | 0.15 | 1. Social welfare 2. Years of Business 3. Contribution to disaster prevention (4)Compliance   (5)Finance Audit (6)Research cost (7)Equipment (8)ISO standard  (9)Employment of Young Engineers |

* Y value: Evaluation of Business Situation Evaluation of Business Situation: **Y**=167.3×A+583

A (Evaluation Points of Business Situation)

=-α1×Y1-α2×Y2+α3×Y3+α4×Y4+α5×Y5+α6×Y6+α7×Y7+α8×Y8+0.1906

(These calculations are for Y value to set an average of 700.)

###### Table 3-4 Detailed Setting for Business Situation in Business Evaluation

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Indicator | Evaluation Item / Equation | Rate of Contribution | Max | Min |
| Resistibility to Debt | Y1 : Net interest/expense  = Net interest expense/Sales Volume ratio | 29.9 | -0.3 | 5.1 |
| Y2 : Debt turn period  = (Current Debt + Fixed Liabilities) / (Sales Volume ÷12) | 11.4 | 0.9 | 18.0 |
| Profitability  & Efficiency | Y3 : Ratio of Total profit to total capital  = Total profit/ Total Capital | 21.4 | 63.6 | 6.5 |
| Y4 : Recurring profit margin  = Recurring profit / sales volume | 5.7 | 5.1 | -8.5 |
| For Financial Soundness | Y5 : Net worth to fixed assets ratio  = Net worth / Fixed Capital | 6.8 | 350.0 | -76.5 |
| Y6 : Capital to asset ratio  = Net worth / Total Capital | 14.6 | 68.6 | -68.5 |
| Absolute Capability | Y7 : Business cash flow  = Business cash flow/ 108 | 5.7 | 15.0 | -10.0 |
| Y8 : Earned surplus  = Earned Surplus | 4.4 | 100.0 | -3.0 |

Note: Max and Min are set to eliminate abnormal value, resulting excluding paper companies

#### Bid Participation Qualification

In Japan, grading system is implemented in the Bid Participation Qualification, which is designed and operated by public project owners. Every year contractors apply for some Bid

Participation Qualifications of POs in which contractors possibly will participate in tender.

POs check the application of Bid Participation Qualification with the proof of Construction Business Permit & Business Evaluation, process the data collected from each applicants, and announce scores, rankings, and grade in which each contractor is categorized. Ranking, score and grade are set at each construction type, which can be set by each POs.

In general, each POs follow the practice of MLIT when designing their bid participation qualification system even though there are some modifications by each POs. Therefore, as an introduction of Bid Participate Qualification, practie of MLIT is described in this section.

Score for each contractor at each construction type is the sum of objective points and subjective points as follows.

* Method to calculate score

Total Score = Objective Points + Subjective Points

-Objective Points is calculated by Business Evaluation Score

-Subjective Points is calculated by Technical Evaluation

-For the calculation of subjective points, the score of Work performance evaluation by each POs is used and calculated as follows.

Subjective points: X = ∑ (A× B×√ C×D)

A = Points from Work Performance Evaluation B = Points of Difficulty of each Construction

C = Contract amount (Final)

D = Recent Factor

(2: construction completed within 2 years ) (1: construction completed recent 2- 4 years)

* Construction Type and Grading Scheme

Construction type is set by each POs, therefore construction type is not as the same of construction field of construction permits.

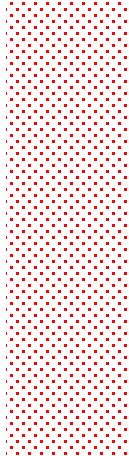
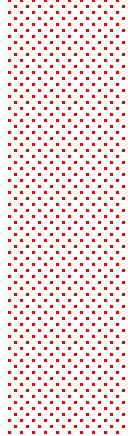
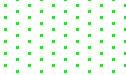
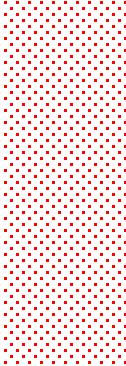
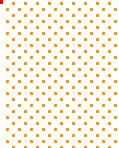
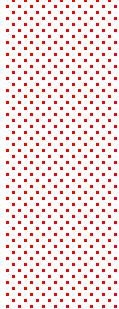
MLIT’s practice in grading and tender limit are shown in Figure 3-2. Construction type of 1,2,3,4,5,7,8 in Table 3-5 have plural grades (2 - 4). The other construction type have only one grade

###### Table 3-5 Example of Construction Type (MLIT)

|  |  |  |
| --- | --- | --- |
| 1 General civil work | 8 Heating, air-conditioning, and sanitary facilities work | 15 Grouting work |
| 2 Asphalt pavement work | 9 Cement and concrete work | 16 Piling work |
| 3 Steel bridge superstructure work | 10 Pre-stressed concrete work | 17 Well drilling work |
| 4 Landscape work | 11 Slope treatment work | 18 Prefabricated building work |
| 5 Architectural work | 12 Painting work | 19 Mechanical facilities work |
| 6 Wooden construction work | 13 Maintenance and repair work | 20 Telecommunication facilities work |

|  |  |  |
| --- | --- | --- |
| 7 Electrical facility work | 14 River dredging work | 21 Power reception and transformation facilities work |

* + - 1. **General civil,**
      2. **Asphalt**



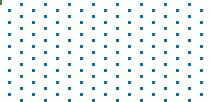
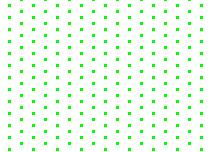
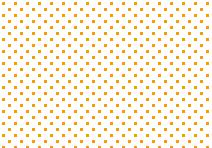
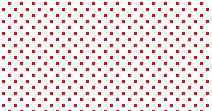
* + - 1. **Steel bridge**
         1. **Electrical facility**
         2. **Heating, air-conditioning, and sanitary facility**

**5. Architectural work**

**pavement**

**superstructure 4. Landscape**

**A**



720 million yen

**B**

300 million yen

**C**

60 million yen

**D**

**A**

120 million

yen

**B**

50 million

yen **C**

**A A**

25 mil.

**B** yen **B**

**A**

200 million

yen

**B**

50 million

yen

**C**

###### Figure 3-2 Grading and Tender Limit (MLIT)

#### Practice in Singapore

#### Outline Structure

*Selection Method*

*Engineering Capacity Evaluation Method*

If participate in public construction

Public Announcement

License By BCA

Grading By BCA

Registration By BCA

Prequalification/ Short List

Submission of Proposal

Const.-Contractor’s Productivity Indices

Evaluation

Work Performance Evaluation

Negotiation/Contract

Construction Work

###### Figure 3-3 Outline Structure of Evaluation Method in Singapore

#### License

Building License is managed by the Building and Construction Authority (BCA) which is an agency under the Ministry of National Development. All entities are required to apply a license to involve in construction work. The license have 2 class of GB 1 and GB 2 for

general contractors and 1 class for specialist contractors. The class is categorized based on financial condition of entities and experience and degree of persons in entities as shown in Table 3-6.

###### Table 3-6 Building License in Singapore

Class

Financial (Min paid-up capital)

S$300,000

Approved Person

Technical Controller

Course

Practical Experience

Course

Practical Experience

GB1

A Bachelor’s degree in any field

or

A diploma in a construction and related or

A course conducted by BCA

A diploma in a construction and related or

A course conducted by BCA

A diploma in a construction and related or

A course conducted by BCA

At least 3, 5 or

10 years practical experience

A Bachelor’s degree in construction

At least 5 years practical experience

GB2

$S25,000

At least 3 or 8 years practical experience

A Bachelor’s degree in construction

At least 5 years practical experience

SB

S$25,000

At least 3 or 8 years practical experience

A Bachelor’s degree in construction

At least 5 years practical experience

**Table 3-7 Classes of Builder’s License in Singapore**

|  |  |  |
| --- | --- | --- |
| **Classes of Builder’s Licenses** | **Description** | **Restriction to Contract** |
| GB1  (General Builder Class 1) | General building works excluding works that have been designated as specialist works to be carried out by Specialist Builder | No restriction |
| GB2  (General Builder Class 2) | Each of not more than  $S6 million |
| SB(PW)  Specialist Builder(Piling Work) | Piling works comprising installation and  testing of precast reinforced concrete or prestressed concrete piles, steel piles etc. | No restriction |
| SB(GS)  Specialist Builder(Ground support and Stabilisation Works) | Ground support and stabilisation |
| SB(SI)  Specialist Builder(Site Investigation Works) | Site investigation work comprising field investigations, exploratory drilling or boring, |
| SB(SS)  Specialist Builder(Structural Steel Works) | Structural steelwork comprising – (i)fabrication of structural elements; (ii)erection work like site cutting, site welding and site bolting; and (iii)installation of steel supports for underground building works. |
| SB(PC)  Specialist Builder(Precast Concrete Works) | Pre-cast concrete work comprising fabrication of precast structural elements. |
| SB(PT) | In-situ post-tensioning work comprising |

|  |  |  |
| --- | --- | --- |
| Specialist Builder(In-situ post tensioning works) | setting out of tendon profiles, laying of conduits, anchorages and bursting reinforcement, pulling or stressing of cables, pressure grouting of conduits. |  |

#### Contractor Registration System

Registration System is managed by the Building and Construction Authority (BCA). All entities to apply construction work for the public sector need to register to the registration system. Applicants get a grade based on registration information.

There are 7 major groups of registration heads and here are detailed classification by each construction field for each registration head

* Construction Workheads (CW) (2 titles: General Building, Civil)
* Construction Related Workheads (CR)

(18 titles: Minor Const., Demolition, Piling, etc.)

* Mechanical & Electrical Workheads (ME)

(15 titles: Air-conditioning, Communication & Security, etc.)

* Maintenance Workheads (MW)

(3 titles: Housekeeping and others, Landscaping, pest Control)

* Trade Workheads (TR)

(10 titles: Formwork, Steel Reinforcement, Concreting, Drywall Installation, Ceiling, etc.)

* Supply Workheads (SY)

(14 titles: Chemical, Electrical Equipment, Finishing & Building Product, etc.)

* Regulatory Workheads (RW) (2 titles: Window, Lift)

Applicants need to submit following information for registration

* Financial capability (valid audited accounts, paid-up capital, net worth, etc.)
* Track Records (valid projects with documentation proof, endorsed and assessed by clients)
* Relevant technical personnel (full-time employed, recognised professional, technical qualification, valid licenses, etc.)
* Management certifications (SAC Accredited ISO9000, ISO14000, OHSAS18000, etc.)

#### Grading

Grading is implemented in Contractor registration system. Requirements for Construction Workheads (CW) are shown in Table 3-8.

###### Table 3-8 Requirements for Construction Workheads (CW)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Grade** | **Financial\*1** | **Track Record\*2** | **Personal\*3** | **Management\*4** | **License** |
| A1 | $15.0 mil. | $150m of which  $75m PS,  $112.5m MC,  $37.5m SP | 24RP/P/T of which min 8RP, 1RP/P/T with SDCP/CCPP, Annual CET declaration | SO9001 ISO14000 OHSAS18000 GGBS | General Builder License- Class 1 |
| A2 | $6.5 mil. | $65m of which  $32.5m PS,  $48.75m MC,  $16.25m SP | 12RP/P/T of which  min 4RP, 1RP/P/T with SDCP/CCPP, Annual CET declaration |
| B1 | $3.0mil | $30m of which  $22.5m MC,  $7.5m SP | 6RP/P/T of which min 2RP, 1RP/P/T with SDCP/CCPP | ISO9001 ISO14000 OHSAS18000 GGBS(by 2016) |
| B2 | $1.0 mil | $10m of which  $7.5m MC,  $2.5m SP | 3RP/P/T of which  min 1RP, 1RP/P/T with ACCP |
| C1 | $0.3 mil | $3m | 1RP/P + 1T of which 1RP/P/T with BCCPE | SMC/OHSAS18 000 | General Builder License- Class 1  or 2 |
| C2 | $0.1 mil | $1m | 1RP/P or 2T of which 1RP/P/T with  BCCPE |
| C3 | $0.025mil | $0.1m | 1RP/P/T with BCCPE |  |

Note: \*1 Financial: Both minimum capital and minimum net worth

\*2 Track Record: Completed projects in the past three years for all cases

・PS: minimum projects executed in Singapore

・MC: minimum main contracts

・SP: minimum size single main contract or nominated sub-contract

\*3Personnel;

・RP: A degree in Architecture, Civil/Structural Engineering or equivalent

・P: A recognized degree in Architecture, Building, Civil/Structure or equivalent

・T: Technical qualification

・CET: Continuing Education & Training

・CCPP: Certificate Construction Productivity Professional

・SDCP: Specialist Diploma in Construction Productivity

・ACCP: Advanced Certificate of Construction Productivity

\*4 Management;

・GGBS: Green & Gracious Builders Scheme

・SMC: Safety Management Certificate

Tender limit are set at each work head as shown in Table 3-9.

* Construction Workhead has 7 grades
* Construction Related Workheads (CR), Mechanical & Electrical Workheads (ME), Maintenance Workheads (MW) and Supply Workheads (SY) have 6 grades.
* Trade Heads (TR) and Regulatory Workheads (RW) have 1 grade.

###### Table 3-9 Tender Limit of each Work Head

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| CW | | CR,ME,MW,SY | | TR, RW | |
| Grade | Tender Limit | Grade | Tender Limit | Grade | Tender Limit |
| A1 | Unlimited | L6 | Unlimited | - | Unlimited |
| A2 | $90m | L5 | $14m |  |  |
| B1 | $42m | L4 | $7m |  |  |
| B2 | $14m | L3 | $4.2m |  |  |
| C1 | $4.2m | L2 | $1.4m |  |  |
| C2 | $1.4m | L1 | $0.7m |  |  |
| C3 | $0.7m | - | - |  |  |

#### Productivity Indices

BCA releases productivity indices of each entities for evaluation purposes. Productivity indices consist of the following three index. Score of each index are publish in web site of BCA and used in tendering.

* Constructability Score Index (CS)
* Technology Adoption (Construction) Index (TA(C))
* Workforce Development (Construction) Index (WD(C))

Contractor apply for each index of productivity indices with proof of documents and BCA check and announce the each score and ranking on website. Detail setting are as follows.

* Constructability Score Index (CS)

The CS Index of each contractor is derived based on their C-Scores (Constructability Scores) of the latest 5 completed projects in the last 3 years. A contractor with a high CS Index will mean that the contractor has performed well in terms of adopting labour-saving construction methods and technologies in their projects.

(I1 + I2 + ⋯ + IN)

CS Indes =

× 100

N

IX =

Contractor’s Constructability Score acℎiered in Project X Legislated Minimum CS Score in Project X

N = Number of grojects comgleted in tℎe last 3 year(cagged at 5 latest)

* Technology Adoption (Construction) Index (TA(C))

To gauge firms’pro-activeness in investment towards productivity improvement, the Technology Adoption (TA) Index was established to track the amount of Construction Productivity and Capability Fund (CPCF) that firms tapped on.

The TA(C) Index encompasses three CPCF schemes relevant for builders under technology adoption, namely the Building Information Modelling (BIM) Fund, the Mechanisation

Credit (MechC) scheme and the Productivity Improvement Projects (PIP) scheme. The TA(C) Index of a firm is computed based on the funding disbursed relative to the industry.

TA(C) Index = (

Amount of Mecℎ C Funding Disbursed to Firm Maximum Grant for Eacℎ Firm

× 30)

+(Percentile Score of PIP Funding Disbursed × 30)

+ (Percentile Score of BIM Funding Disbursed × 40)

* Workforce Development (Construction) Index (WD(C))

To gauge firms’ pro-activeness in investment towards productivity improvement, the Workforce Development (WD) Index was established to track the amount of Construction Productivity and Capability Fund (CPCF) that firms tapped on.

The WD(C) Index constitutes disbursement rates for workforce training and upgrading (WTU) scheme and manpower development programs (“7-ships”). An equal weightage is allocated to both programs, at 50% each. The WD(C) Index is computed based on the funding disbursed relative to the industry.

WD(C) Index = (Percentile Score of WTU Funding Disbursed × 50)

+(Percentile Score of 7 sℎigs Funding Committed × 50)

### Chapter 4 Establishment of Improvement Plan

In this Chapter, improvement plan and future direction is described. Study of practice in Viet Nam and other countries shows that current practice in Viet Nam is focused on setting minimum requirement to exclude disqualified contractors in tendering. The attention of this improvement plan is to realize comprehensive evaluation and to introduce a mechanism to encourage contractors for the improvement of their capacity and construction quality.

Considering the nature of this guideline, all considerable improvements are described to be an inclusive guideline and a good reference.

#### Policy for Establishment of Improvement Plan of Evaluation Method

Through comparison of evaluation method in Viet Nam, Singapore and Japan, differences are identified and utilized to establish improvements. Some improvements, which are described in this chapter can be incorporated in a short term, however, it is necessary to have prior announcement or detailed setting for some items. Therefore, each improvement are divided into either short or long term plan. In the end of this chapter, road map are prepared to provide future employment policy.

#### Comparison of Evaluation Method of Const.-Contractor in 3 Countries

#### Outline of Evaluation Method of Viet Nam, Singapore and Japan

Generally, evaluation method consists of four stages of license, registration, grading and selection as shown in Figure 4-1. Major differences are as follows.

* In Singapore and Japan, construction business license require every contractor including sub-contractors to pass minimum requirements for any construction work and required license is different between main-contractor and sub-contractor. On the other hand, there is no required license to do sub-contracting work in Viet Nam.
* Grading is applied only for public work in Singapore and Japan, however, grading in Viet Nam is applied for both of public and private work.
* In Singapore and Japan, a system to evaluate company from every necessary aspects are developed. There have been established two main items; work performance evaluation and mechanism to enforce government policy such as construction-Contractor’s Productivity indices in Singapore and Business Evaluation in Japan.

#### Viet Nam Singapore Japan

**Construction Practice Certificate**

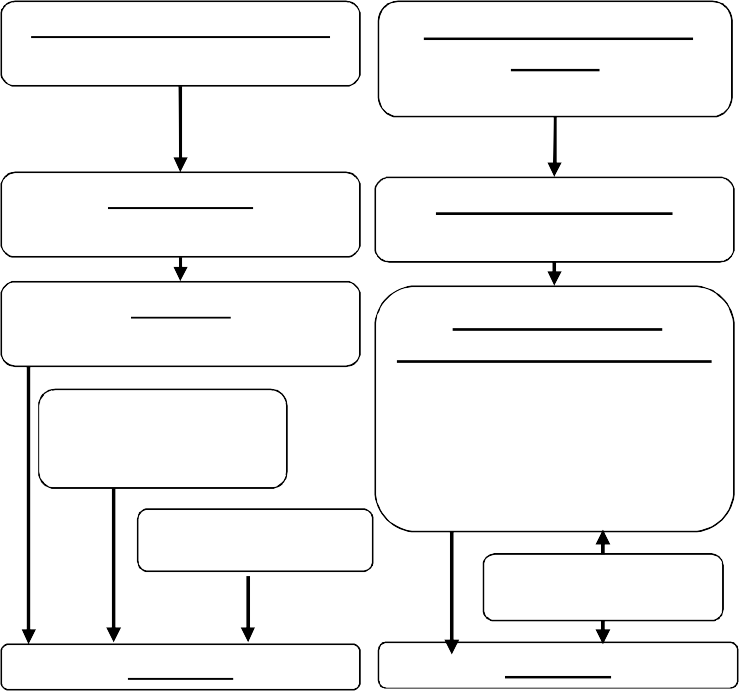
**Grading**

(3 Classes)

\* For both of public and private work

**Registration (=Publishing)**

**Selection**



**General Building License**

-2 General and special(6type)

If involving Public Work

**Construction Business License**

(2 kinds, 27 types)

If involving Public Work

**Business Evaluation**

(28 Types)

**Registration**

(7 work heads)

**Grading**

(7 Classes)

**Bid Participation Qualification (by each PO)**

・Grading

・1-4 classes if MLIT,21 types

・Judge by score of Business evaluation and Work performance evaluation

**Construction-Contr actor’s Productivity Indices**

**Work Performance Evaluation**

**Work Performance Evaluation**

**Selection**

**Selection**

###### Figure 4-1 Construction Contractor Evaluation Flow of Viet Nam, Singapore and Japan

#### Comparison of Registration System

Clear scheme for classification of contractors and construction projects is essential for evaluation method of construction contractor both to manage contractor’s information efficiently and to place necessary requirements for each contractors.

Table 4-1 show the comparison of scheme for classification.

* For basic scheme, there is one inclusive system to deal with contractor classification and its evaluation in Viet Nam. This system is not only for contractor but for every entities regarding construction. On the other hand, there are two steps in the case of Singapore and Japan where license is used for minimum requirement for all contractors and grading is used for evaluation of main-contractor engaging in public works in Singapore and Japan.
* For classification of contractor there are two points of view: main-contractor to sub-contractor and general contractor to specialty contractor in Singapore and Japan; however, these classifications are not well recognized in Viet Nam.
* For classification of construction project, both side have plural classes. The size of construction class is specified by tender limit in Singapore and Japan, however, this is specified by project scale in Viet Nam.



###### Table 4-1 Main Difference in Scheme for Classification

|  |  |  |
| --- | --- | --- |
|  | Viet Nam | Oversea (Singapore & Japan) |
| Basic Scheme | One of Entities Practice Certificate  Contractor for public and private project | License  Minimum requirement for Main&Sub Contractor  Grading  Evaluation of Capacity of Main-Contractor for Public Work |
| Classification | Contractors Classification Classes for 6 Construction types (Building, Industrial,  Transportation, Rural, City Infra.)  Each type includes several kinds, for example building works include housing, and public buildings in which public buildings include schools, hospitals, etc  Project Classification  Special and 1-4 classes is specified by Project Size(ex. span of bridge) | Contractors Classification ex. Singapore  GB(1 or 2) license for SB(6 types) license for General Contractor Specialty Contractor  7 Grades for 1 - 6 Grades for 6  Const.-workhead Workheads  Each workhead has many kinds of construction type.  Project Classification  1 -7 Classes is specified by construction amount (Tender limit) |
| Feature | Systematically designed  (3 class and construction type is linked with project size, entities grade, and qualification etc.) | Focus on actual industrial usage |

Table 4-2 shows comparison of detailed classification of contractors in 3 countries.

* + In Singapore and Japan, all contractor need to obtain at least one license before registration of their class in construction type and apply for registration of intended construction types with the license.
  + Construction type is divided into two type: General type and Specific construction type in Singapore and Japan, and basically there are two construction types for general contractors: Civil and Building. General contractors need to apply for at least one of these construction types in license and registration and other specialty construction types depending on intended fields.
  + Basically requirements such as engineers are individually registered to apply for a construction registration and registered engineers cannot be used in application for other construction types. Therefore contractors have to possess many special engineers when applying many fields of construction.
  + To the contrary, registration type in Viet Nam is classified only by 6 construction field. Some details are set in each construction type but those refers a kind of construction such as bridge, road, dam etc, and there are not classifications for components of structures

such as pavement or piles.

###### Table 4-2 Comparison of Classification for Contractors



|  |  |  |  |
| --- | --- | --- | --- |
|  | Viet Nam | Singapore | Japan |
| License (for main&sub contractor) |  | * 2 classes for general builder * **General Building 1 (GB1)** * **General Building 2 (GB2)** * 1 class for specialist builder(6 type) * Specialist Builder (Piling) * Specialist Builder (Ground support and stabilization) * Specialist Builder (Site investigation) * Specialist Builder (Structural steel) * Specialist Builder (Pre-cast concrete) * Specialist Builder (In-situ post-tensioning) | * 2 classes * **Special contractor(= main contractor)** * Ordinary contractor * 27 construction Field   **- General civil, Building,** Carpentry (wooden construction) , Plastering, Scaffolding, Earthwork and Concrete, Masonry, Roofing,  Electrical, Plumbing, Tile, Brick and Block, Steel Structure, Reinforcement Steel, Pavement, Dredging, Sheet Metal, Glazing, Painting, Waterproofing, Interior Finishing, Machine and Equipment Installation, Thermal insulating work, Telecommunication, Landscaping and Gardening, Well Drilling, Fittings, Water and Sewerage Facilities, Fire Protection Facilities, Sanitary Facilities, Dismantling |
| Class of contractor for publish | * 3 Classes for each construction type * Class I * Class II * Class III   6 types of construction work   * Building work * Industrial work * Transportation work * Rural work * City Infrastructure work * Defense, Security | * 7 classes for Construction work head   - **Construction workhead (2 titles: General Building, Civil)**   * 6 classes for 4 work head * Construction related (18 titles: Minor Const., Demolition, Piling, etc.) * Mechanical & electrical (15 titles: Air-conditioning, Communication & Security, etc.) * Maintenance (3 titles: Housekeeping and others, Landscaping, pest Control) * Trade (10 titles: Formwork, Steel Reinforcement,   Concreting, Drywall Installation, Ceiling, etc.)   * 1 classes for 2 work head * Supply (14 titles: Chemical, Electrical Equipment, Finishing   & Building Product, etc.)   * Regulatory (2 titles: Window, Lift) | Designed by each PO  (total 21 type, Case of MLIT)  4 classes   * **General civil** * **Architectural**   3 classes   * Asphalt pavement * Electrical facility * Heating, air-conditioning and Sanitary facilities * 2 classes * Steel bridge superstructure * Landscape * 1 classe for * Wooden construction * Cement and concrete * Pre-stressed concrete * Slope treatment * Painting work * Maintenance and repair * River dredging * Grouting * Piling * Well drilling * Prefabricated building * Mechanical facilities * Telecommunication facilities * Power reception and transformation |

Note: Bold items are classification for general contractor

#### Comparison of Grading System

One of the most important factors in evaluation method of capacity of const.-contractors is how to understand const.-contractors capacity and to compare the total capabilities of numerous numbers of contractors.

For this purpose there are mainly two points of views: which evaluation items are employed and how to weight the importance. In this section, evaluation items and the method to calculate the total capacity of const.-contractor in Viet Nam, Singapore and Japan are compared.

* Basically evaluation items consist of staff, finance, management, past experience and others (government policy etc.) as shown in Table 4-3.
* Evaluation scheme is deferent in each country; Scoring in Viet Nam, Minimum requirement in license and grading in Singapore, Minimum requirement in license and absolute score in grading in Japan as shown in Table 4-4.
* In Singapore and Japan, minimum requirement are set for all contractors in license, and grading is used to classify contactor’s total capacity. .
* In Viet Nam, project scale are specified by structural scale and can be satisfied by 3 packages and financial size such as owner’s equity are not evaluated.

###### Table 4-3 Overall Comparison of Evaluation Items



**Viet Nam**

**Singapore**

Staff (number/years) Finance (Paid up Capital)

**Japan** Staff (number/year) Finance (Net worth) Track record

**License (for**

**Sub-Contractor & Main-contractor)**

-

-

-

-

-

Additional Requirements for main contractor

-

Supervising experience for full-time engineer Finance(Deficit/Current Ratio, higher amount of net worth

Staff (Full time) Finance(8 indicators)

-

**Grading and Other Mechanism**

* Staff
* Finance(Deficit)

-

-

Staff

Finance(Net worth

-

-

/Capital)

- ISO(9001,14,001),OSHAS

- Track record (Completed Amount of project)

* ISO(9001) or another
* Track record (Complete Number of package at grade)
* Equipment

-

-

ISO(9001,14,001)

Track record (Completed Amount of project)

- Governmental Policy (3 Productivity indices:

Contructivity//Technology Adoption/Workforth development)

(Used in Bidding) (*Work Performance*

*Evaluation used in Bidding)*

-

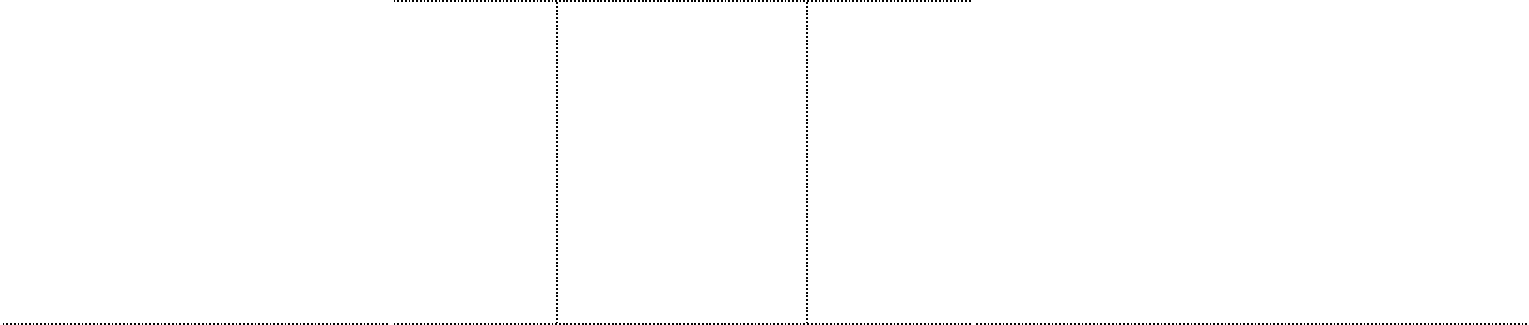
Governmental Policy (9 index: Equipment/Research/Social welfare/Financial Audit/ Compliance/ Contribution to Disaster)

Work Performance Evaluation

(Used in Grading and Bidding )

-

**Table 4-4 Comparison of Requirements of for Evaluation Item**



**Viet Nam**

**Singapore**

* 2 classes for general builder
* **General Building 1 (GB1)**
* **General Building 2 (GB2)**
* 1 class for specialist builder(6 type)

**Japan**

* 2 classes

Classification in License

-

**Special contractor(= main contractor)**

Ordinary contractor

-

* 28 construction Field

**- General civil, Building,** and 26 others

**Minimum requirement for each ite**m

Evaluation method in License

**Minimum requirement for each item**

-

-

-

Approved person Technical Controller Finance (Paid up Capital)

-

-

-

Staff (number/year) Finance (Net worth) Track record

Additional Requirements for **Special contractor(= main contractor)**

* Supervising experience for full-time engineer
* Finance(Deficit/Current Ratio, higher amount of net worth
* Depending on POs

(1-4 grade at each construction type under MLIT project)

Registration type for publishing

* 3 classes for 6 types of construction work
* 7 grades for Construction Workhead
* 6 grades for Construction related Workhead and 3 others

-

-

-

-

-

-

-

-

Class I Class II Class III

Building work Industrial work Transportation work Rural work

City Infrastructure work

Defense, Security

Const.- work head (2 titles: **General Building & Civil Engineering**)

Const.- related workhead

(18titles)

4 classes

* **General civil**
* **Architectural**

1-3 classes

For other special types(21type)

-

-

-

-

-

-

-

A1 A2 B1 B2 C1 C2 C3

-L6

-L5

-L4

-L3

-L2

-L1

SB

license required in some tiles

GB 1

required

-

GB2

required

Classes specified by Project Scale

(Ex. Span for bridge)

**Scoring**

**(>70 in total 100points)**

Classes specified by Tender limit

Classes specified by Tender limit

Evaluation Method to classify contractors

for publishing

**Minimum requirement for each item**

**Absolute score (1+2)**

1. Objective point, calculated by business evaluation score

-

Relevant technical personnel (full-time employed, recognised professional, technical qualification, valid licenses, etc.) Management certificate(ISO9001,14001, OSHAS18001)

Track record(Completed amount as main-contractor and subcontractor)

Finance(Capital and Net worth)

-

Number of site manager, professional Management (ISO 9001 or another) Track record (Number of project completed as main contractor and subcontractor)

Able to mobilize major machine

-

-

-

-

Business Scale Business Situation Technical Capabilities Others(Social responsibilities)

-

-

-

2. Subjective point

- Work Performance Evaluation

-

-

-

Source: Project team



###### Table 4-5 Comparison of Requirement for Evaluation Item

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Viet Nam** | **Singapore** | **Japan** |
| **Finance** | Deficits | **License**  Paid up Capital)  • GB1: S$300,000 (4.7Bl VND)  • GB2: S$25,000 (0.4Bil VND)   * Specific builder: S$25,000 (0.4Bil VND) | **License**  Owner’s Equity   * Specific: 40M JPY (8.0Bil VND) * Ordinary: 5M JPY (1.0Bil VND)   Additional requirement for main contractor:  -Deficit not exceed 20% of the capital  -Current ratio in more than 75%  -Capital stock>20M JPY |
| **Registration**  Minimum capital and Net worth  • A1: S$15M  • A2: S$6.5M  • B1:S$3M  • B2: S$1M  • C1: S$0.3M  • C2:S$0.1M  • C3:S$0.03M | **Business evaluation**  -Total score from the following   * Net interest/expense ratio * Debt turn period * Ratio of total profit to capital * Recurring profit margin * Net worth to fixed assets ratio * Capital to asset ratio * Business cash flow * Earned surplus |
| **Staffs** | Number of site manager, professional  Class I: 3, 45  Class II: 2, 30  Class III: 1, 10 | **License**  -Approved Person  -Technical Controller (Education, qualification,  and practical experience) | **License**  -Management Representative  -Full time engineer at each office (Education, qualification, and practical experience)  -Supervising experience for specific license |
| **Registration**  Number of engineering staff  • A1: 24 | **Business evaluation** Number of engineers (by construction type) |
| • A2: 12 |
| • B1: 6 |
| • B2: 3 |
| • C1: 2 |
| • C2: 1 |
| • C3: 1 |
| **Organization’s Experience** | Number of project as main contractor | **Registration**  Amount of completed | **Objective point(Business Evaluation) in Grading by PO** |
|  | * Class I: 1 class I or 2 class II projects * Class II: 1 class II or 2 class III projects * Class III: NA | project in past 3 years  • A1: S$150M  • A2: S$65M  • B1:S$30M  • B2: S$10M  • C1: S$3M  • C2:S$1M  • C3:S$0.1M | * Value of completed construction * Value of directly completed constructions by construction type   **Subjective points in Grading by POs**   * Points of Work Performance Evaluation calculated by Contract amount, Difficulty,Recent factor |
| **Management** | - ISO(9001) or another | - ISO(9001,14,001),OSHAS | - ISO(9001,14,001) |
| **Others** | - Equipment | - Governmental Policy  (3 Productivity indices: Contructivity//Technolog y Adoption/Workforth development) | - Governmental Policy (9 index:Equipment/Research/Soc ial welfare/Financial Audit/ Compliance/ Contribution to Disaster) |



(Used in Bidding)

*Work Performance Evaluation( used in Bidding)*

- Work Performance Evaluation (Used in Grading and Bidding )

#### Improvement of Evaluation Method of Engineering Capacity of Contractors

Through study of evaluation method of engineering capacity of contractors in Viet Nam, Singapore, and Japan, some differences between Viet Nam and global practice have been identified. In this section, all candidates of improvements and some tentative settings are described.

The summary of improvement when designing evaluation of engineering capacity of contractor are shown in Table 4-6. All improvements are classified into each evaluation components: engineer qualification, registration, and grading. Improvements in grading are divided into two category: to realize comprehensive evaluation and to introduce a mechanism to encourage contractors for the improvement of their capacity and construction quality.

###### Table 4-6 Improvement of Evaluation Method of Engineering Capacity of Contractors

|  |  |
| --- | --- |
| Item | Details |
| 1.Engineer Qualification | 1-1. Introduction of Advanced Exam Method  1-2. Continuous Professional Development (CPD) System 1-3. Private Qualification  1-4. Mutual Recognition between International Practice |
| 2.Registration | 2-1. Classification of Contractor & Project  -Subcontractor’s Qualification  -Classification for Specialty Contractor  -Definition of Tender limit |
| 3.Grading | 3.1. Comprehensive Evaluation  -Evaluation of Finance of Contractor  -Evaluation of Work Performance Evaluation  3-2. Mechanism to encourage contractor for Better Construction  -Evaluation of Minimum requirement and Absolute value  -Improvement of Individual Evaluation Items  (Equipment, Management System, Experience of Contractor)  -Governmental Policy |

#### Engineers Qualification

Engineer qualification system is an important component in evaluation of engineering capacity of const.-contractors because it is to judge the human resource which is fundamental capability in construction contractors.

The current change in engineer’s qualification system in Decree No.59/2015/TT-BXD is expected to bring an improvement in Viet Nam contraction industry. 3-rank qualification

system is expected to encourage each individual to study continuously and exam database will be helpful to provide equal level of examination contents all over Viet Nam. In addition, engineer ID system will help to prevent duplicated registration toward better construction.

However, detailed settings such as test method, difficulty, and pass rate are also important as well as overall system. It will be also necessary to check if the current change will be implemented without problems and show expected benefits.

In addition, there still observed some difference as shown below if comparing with the oversea practice.

###### Introduction of Advanced Exam Method:

Multiple quiz method has benefit for evaluating big number of engineers at the same time; however, it is not enough to evaluate engineer skill of advanced level engineer. The more suitable test method to examine the capacity of high class engineer such as interview and writing test should be incorporated into the highest qualification. Also, it is recommended to consider limiting pass rate for the most advanced qualification in each field for the purpose of encourage engineers study.

###### Continuous Professional Development (CPD) System:

CPD system is recommended to encourage engineers to update the latest knowledge. For an example of activity in CPD, registered engineers is recommended to prepare yearly report regarding their professional activities as well as completion of annual continuous training to state authorities.

###### Private Qualification:

In developed countries, private qualification are widely established and used to the proof to show some specified engineer skills. Private qualification have benefits such as adaptability to new technology, incentive to secure the quality for specific engineering and so on. Some reliable qualifications can be used at tender of public projects if approved by government.

###### Mutual recognition between International Standard (APEC Engineer) :

There are two benefits considerable. One is to help Viet Nam engineer to have initiative role in oversea projects. The other is that exam method, level and overall system will be improved in order to meet requirements of international practice. APEC Engineer, which is a mutual qualification recognition system among 14 economies such as the U.S., Japan, Korea, Australia, Hong Kong, Singapore, Thailand, Russia etc. is recommended for this topic.

These points are implemented in developed countries and recommended to incorporate in the engineer qualification system in Viet Nam in future.

#### Classification of Contractor & Project

It is preferable that classification of contractors is well compatible with real industry organization. There are mainly two points of view to identify the type of contractors: ‘General contractor and specialty contractor’ and ‘main-contractor and sub-contractor’, and these viewpoints are used when classify contractors in countries in Singapore and Japan as shown in Table 4-2.

###### Subcontractor’s qualification

In Viet Nam system of registration of contractors and its classification and grade have been being developed through revises of regulations; however, main contractor and sub-contractor are not clearly demarcated. For the purpose of registration system, such as excluding bad contractors or paper companies, it is recommended that every contractor including subcontractors is registered and required to pass minimum requirement.

As studied in chapter 3, construction license in Japan and Singapore, contractors, regardless of main-contractor or sub-contractor, have to possess a construction license to engage in construction, and in the case of Japan stricter requirements are set for main-contractors.

Requirement for staff and finance are defined for sub-contractors requirement in Singapore and Japan.

###### Table 4-7 Evaluation Items in License for contractor in 3 countries

|  |  |  |
| --- | --- | --- |
|  | Main-contractor | Sub-contractor |
| Viet Nam | Capability license  (Track record, Engineer, Equipment, Management,Finance) |  |
| Singapore | The same requirement (in Licensing of Builders, BCA) (Finance, Approved person, Technical Controller) | |
| Japan | Special construction Permit (Finance, Representative, Full time Engineer)  Ex.)  -Financial requirement  Net worth of 20 million yen  -Supervising experience for full time engineer | Ordinary construction Permit (Finance, Representative, Full time Engineer)  Ex.)  -Financial requirement  Net worth of 5 million yen |

* **Classification for Specialty Contractor**

There are some special construction techniques which can be used for every kind of construction field such as pilling work, or pavement work, and consequently there are contractors which has special techniques and engage in every construction fields such as building, bridge and dam.

Therefore establishment of category of general contractor and specialty contractor is recommended. Main benefit of this change is to eliminate a considerable risk that a contractor which has completed a part of components can be eligible for entire

construction in current evaluation method. One more important thing is to identify which category a contractor possess engineering skill in. In Japan, a general contractor obtain some specialty categories as well as general civil and/or architectural.

About category, there are 2 types: Civil and Building in Japan and Singapore, and totally there are 64 titles in Singapore and 21 types in Japan.

Category of general and specialty construction for Viet Nam should be set in compatible of real industrial organization, and a survey or public hearings would be necessary to set up categories. Tentative setting for Viet Nam is shown in Table 4-9.

###### Table 4-8 Detailed Classification of Contractors in Grading

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | General Category | | Specialty Category | |
| Singapore | General Work head 2titles:  -General Building  -Civil Engineering | 7 class | Construction Related Workheads (CR) Mechanical & Electrical Workheads (ME) Maintenance Workheads (MW)  Trade Workheads (TR) Total 46 titles | 6 class |
| Supply Workheads (SY) Regulatory Workheads (RW) Total 16 titles | 1 class |
| Japan (case of MLIT) | 2types:  -General civil  -Architectural | 4 class | 3 types  -Asphalt pavement  -Electrical facility  -Heating, air-conditioning and Sanitary facilities | 3 class |
| 2 Types   * Steel bridge superstructure * Landscape | 2 class |
| 14 Types   * Wooden construction * Cement and concrete * Pre-stressed concrete * Slope treatment * Painting work * Maintenance and repair * River dredging * Grouting * Piling * Well drilling * Prefabricated building * Mechanical facilities * Telecommunication facilities * Power reception and transformation | 1 class |

###### Table 4-9 Tentative Setting for Construction Category for Viet Nam

|  |  |  |
| --- | --- | --- |
| Category | Construction Field | No. of Class |
| General work  (2 fields) | Civil Engineering, Building | 3 |

|  |  |  |
| --- | --- | --- |
| Specialty Work  (27 fields) | Carpentry, Scaffold/ construction/ concrete work, Stone work, Roof work, Electrical work, Piping work, Tile/brick/block work, Steel construction work, Steel reinforcement work, Paving work, Dredging work, Sheet metal work, Glass work, Coating work, Waterproofing work, Interior finishing, Machinery installation, Thermal insulation work, Telecommunications work, Landscape gardening, Well drilling work, Fittings work, Water facilities work, Waste facilities work,  Dismantling work, Prestressed Concrete work | 1 |

* **Definition of Tender Limit**

Currently, classification of project scale is defined by specified scale of structure such as length of bridge or number of stories in building in Viet Nam and used also as tender limit. For tender limit, construction amount instead of structural size is recommended because of the following 2 reasons. One is that small/big amount of packages can be classified for higher/lower class project respectively. The other is that there may be difficult to have a legitimate basis to show the difficulty of construction size in some construction field.

This item is also connected with the indicator to show the experience of contractors for evaluation of contractors in grading, and both items should be modified if this is adopted.

#### Comprehensive Evaluation

Comprehensive evaluation means evaluate contractors from every necessary aspects. Even though one item: deficit for finance evaluation has been added in the new evaluation system: however, it is not enough to realize the comprehensive evaluation and the following two items are recommended.

###### Evaluation of Financial of Contractor

Even though deficit is newly introduced for an evaluation of finance of contractor in Circular No.17/2016/TT-BXD, further improvement of evaluation of financial of contractors is recommended. There are mainly two objectives for introduction of financial requirement.

One is to exclude dishonest contractors or paper companies, which award a package at a low rate at tender or contract a part of construction from main contractor, but can easily go bankrupt in case the construction work is not profitable or beyond their capacity. Neglect of paper companies possibly result in unacceptable quality of constructions.

The other is to check if contractor’s fund raising capacity to implement proper payroll and contractor’s financial soundness to avoid bankrupt during project. Proper payroll is connected

with construction quality because proper payroll is essential for subcontractors and each workers to focus on their assigned jobs.

For these reasons above, evaluation of financial aspect of companies is recommended to be incorporated in the evaluation method.

###### Table 4-10 Tentative Setting of Financial Requirement

|  |  |
| --- | --- |
| **Purpose** | **Item** |
| Excluding paper company | **-For all contractor *( one of the below)***   * Owner’s equity or Fund raise ability of 5 % of Intended Amount of Construction Package * 5years of company experience (For alternative requirement) |
| Payroll and soundness  of finance | **-For main contractors requirement *(all of below, in addition of above)***   * Current ratio is more than 75 % * Deficit not exceed 20 % of the capital |

For a minimum requirement of financial evaluation, paid up capital used in Singapore or equity or fund raising ability in Japan is recommended. For a tentative setting, 5 % of the intended construction size is a reference value to the minimum requirement. (Appendix 1). However, a consideration is recommended to introduce an exemption for this requirement to avoid excluding current capable contractors. It is recommended to set an alternative indicator other than minimum requirement of financial indicators. In the construction license system in Japan, contractor can use 5 year experience for an exemption of equity value: minimum requirement of financial proof. This alternative setting is not the financial requirement but have the same function to exclude paper companies.

For checking, current ratio and deficit in the license system in Japan is recommended to be introduced because those two are simple and basic indicator to show the soundness of financial situation all over the world. Current ratio (current asset divided by current liability) show if company afford to pay current liability. Deficit is the most fundamental figure to show the financial soundness.

The standard value such as 20% for the capital or 75% for current ratio is a minimum value for ordinal company to pass. In future these value can be modified based on statistics to adapt to Viet Nam practice.

###### Work performance evaluation

Work performance evaluation system is to evaluate and to score each construction package at completion. As shown in Table 4-11, work performance evaluation is to measure the quality of completed package and one of essential items. Work performance evaluation is commonly conducted in developed country and resulting scores are used, in grading system and procurement, to evaluate capacity of contractors.

This evaluation is essential to achieve comprehensive evaluation. Basic mechanism and evaluation method developed in the Quality TCP are summarized and explained in another

document: Implementation manual of Work Performance Evaluation in CCQSP Project.

###### Table 4-11 Items to be Evaluated regarding Construction Contractor

|  |  |  |
| --- | --- | --- |
| Evaluation Item | | Evaluation Scheme |
| Ability | Finance | Incorporated in Evaluation Method |
| Skill of Staff | Engineers Qualification system |
| Management System | Incorporated in Evaluation Method |
| Equipment | Incorporated in Evaluation Method |
| Performance | Quantity of Completed Package at Grade | Incorporated in Evaluation Method |
| Quality of Completed Package | **WPE (Not incorporated in EM)** |

#### Mechanism to Encourage Contractor for Better Construction

One of the main objective in evaluation method of capacity of const.-contractor is to grow Viet Nam contractors toward international standard. Evaluation method of capacity of contractor can be utilized for better construction as well as excluding poor contractors and the following items are recommended to achieve this objective.

###### Evaluation by Minimum requirement and Absolute value

There are mainly 2 kinds of evaluation method; minimum requirement for each items and one absolute value evaluation for all items.

The former is to evaluate minimum capacity for each items and suitable to check if a contractor possess the minimum capacity to implement a intended package. Therefore, minimum requirement evaluation is used in construction license in Singapore and Japan.

On the other side, main purpose of evaluation using absolute value is not only for comprehensive evaluation but for encourage of contractors effort for better construction because one absolute value evaluation make it possible to include any evaluation items such as governmental policy. Thus, this evaluation is adopted in grading of contractors in Japan. Important point is that both evaluation is necessary to achieve objective. It seems that evaluation method of scoring in Viet Nam has been changed from the minimum requirement to absolute value evaluation. It is not necessary to set up two system; however, both aspect should be incorporated for the evaluation method in Viet Nam.

: To check if a contractor possess a minimum capacity to implement package

License (for every contractor)

Minimum requirement for all contractor

for public construction

Grading (for main contractor)

Evaluation of total capacity of main contractor by means of absolute value evaluation and grading of each contractors for desinged class

: To encourage further effort as well as evaluating contractors total capacity

###### Figure 4-2 Necessity for Minimum requirement and Absolute Value Evaluation

* **Improvement of individual evaluation items**

The following items have been incorporated in the current evaluation method in Viet Nam, and there are some recommendations in each items.

###### - Equipment

Equipment of contractor have been evaluated to check if a contractor have construction ability from previous evaluation. This item is considered to be useful even for excluding paper companies.

However it is not any detailed description available in regulations at this time since necessary equipment are different from each construction type and it is difficult to set proper requirements for each construction type. In addition, there is also a fact that const.

- contractor can rent equipment leased by leasing company and keeping too old equipment can be a prevention of new technology adoption.

As shown in Table 4-12 equipment is judged for different purpose such as new technology adoption or proof of regional disaster prevention in developed countries.

If a different mechanism is established in finance to exclude paper companies, this evaluation item can be unnecessary and is recommended to be used for an item to encourage contractor as the same way in developed countries.

###### Table 4-12 Purpose and Application of Equipment Judgement

|  |  |  |
| --- | --- | --- |
| Country | Purpose and Application | Standard |
| Viet Nam | Proof of Construction Ability | Detailed explanation not available |
| Singapore | -Adopting labour-saving construction methods and more efficient technologies in Constructability Score Index (CS) | -A system to subsidy company to purchase equipment that can save man power or increase productivity  -Score are calculated by the subsidy amount |
| Japan | -Contribution for regional | Max 15 vehicles: Bulldozer, |

|  |  |  |
| --- | --- | --- |
|  | disaster prevention  -One of items in business evaluation | Tractor shovel or Shovel system excavator as one of items in the Business Evaluation |

- **Management System**

ISO (the International Organization for Standard) is a federation of national standards bodies from some 130 countries. The group's mission is to develop industrial standards that facilitate international trade. Currently in Viet Nam, ISO 9000 have been employed for one of the evaluation item of contractors and also an exemption set as ‘another’ because there are not enough entities who owns ISO 9000 standard. There are other standards: ISO 14000 and OHSAS 18000 which will improve contractor’s capacity toward the world standard in the point of environmental points and occupational safety respectively. OSHAS 18000 is expected to be replaced as ISO 45,000 in 2017.

For the improvement of construction quality and safety, evaluation method should be utilized to encourage contractors to obtain these advanced management system. Official information regarding ISO is obtained in the website: [http://www.iso.org/iso/home.html.](http://www.iso.org/iso/home.html)

###### Table 4-13 Recommended Management System

|  |  |
| --- | --- |
| Item | Name |
| ISO9001 | Quality Management System |
| ISO14001 | Environmental Management |
| OHSAS18001 | Occupational Health and Safety Management System |

* **Experience of Contractor**

Currently number of packages is counted for the evaluation of past record of contractors; however, there is a risk that a partial package of big project can be counted as one past record for the class I project. Therefore, amount of construction package should be used as more reasonable method to evaluate experience. Also experience as main contractor or sub-contractor should be not be treated equally.

###### Governmental Policy

Evaluation method of capacity of contractor can be utilized to encourage contractors to follow government policy and to promote their social responsibility. Therefore in developed countries, some unique evaluation items have been incorporated in the evaluation method.

For example, productivity indices are employed in Singapore where construction labor population is problem, and employment of young engineer or environmental practice, and investment in development of technology, etc. have incorporated and some incentive points are given when evaluating of contractors in Japan.

Those items are not required in construction execution, however, there are many benefits for entire construction industry.

Any item can be incorporated if some point system or absolute evaluation is employed. Since there have been safety problems recognized in Viet Nam, records of number of construction accidents can be a candidate.

###### Table 4-14 Candidate for Evaluation of Government Policy and Social Responsibility

|  |  |
| --- | --- |
| Problem/ | Candidate for Evaluation |
| Occupational Safety | -Number of accidents / Project (as a reduction points)  -OSHAS 180000 |
| Shortage of Labor | -Adoption of latest software  -Adoption of efficient equipment |
| Accounting/Fraud/Compliance | -Audit by third party Finance Audit  -Term of Business Suspension |
| Poor Working Condition | -Social welfare |
| Environmental Issue | -ISO 14000 |
| Renovation | -Research Cost  -Subsidy for Research Sector/ Scholarship |

#### Tentative Setting of Evaluation Chart of Contractors

So far many improvement ideas and tentative setting is explained in this guideline. As a vision of future evaluation, tentative setting of evaluation method of contractors is shown in. The following consideration have been in done to draft this chart.

* Basically follow the current scheme of evaluation: Appendix 14 of the circular No.17/2016/TT-BXD for the purpose of easer incorporation in future by avoiding dramatically change.(100 points in total)
* Include both minimum requirements and comprehensive evaluation in one evaluation chart.
* No consideration of current contractor capacity as a future vision.
* Financial or amount of track record is set from some categories in the grading system of Singapore for a reference value. Further consideration with the data of Vietnam Contractor’s information is necessary to obtain appropriate setting.

###### Table 4-15 Tentative Setting of Evaluation Chart of Construction Contractor

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **NO.** | **Criteria** | **Construction entities** | | | |
|  |  | **Main Contractor** | | **Sub** | **Max** |
| **Class I – Class III** | **Specialty** | **contractor** |
| 1 | Number of Site managers | -05 score/person (Max 15) | The same as on the left | The same as on the left | 50 |
| Number of managers for each type of works | -02 score/person (Max 10) | The same as on the left | The same as on the left |
| Number of persons | -01 score/person(Max 10) | The same as on |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | with suitable expertise |  | the left |  |  |
| Number of safety officers | -01 score/person(Max 05) | The same as on the left |  |
| Workers with skill certificates | ≥ 30persons :10 points  ≥ 15persons :05 points | The same as on the left |  |
| 2 | Management system | -ISO 9001 : 5 points  -ISO14001&OSHAS18001: 5 points | The same as on the left |  | 10 |
| 3 | Entities Experience | -Performed amount of XX VND in 3 years  ≥ 500 Billion VND :15 points  ≥ 160 Billion VND :10 points  ≥ 016 Billion VND :05 points Note: Amount of main contract, reduced at half in case of subcontracting | -Performed Number of Package for Applied types  5 points/ Package(Counte d if related construction type) |  | 20 |
| -Work Performance Evaluation  3 packages(Score more than 50) : 5 Points |  |  |
| 4 | Entity’s finance capability | -Owner’s equity  (one of the followings)  ≥ 200 Million VND( or 5 years business experience) : 5 points  ≥ 2,400 Million VND: 10 points | The same as on the left | The same as on the left | 20 |
| -Current ratio(≥ 75 %) : 5 points  -Deficit ( < 20% of Capital) : 5 points | The same as on  the left |  |
| 5 | Govenmental Policy | -Number of fatal accidents / Project  ≥ 1 : -5 points |  |  | 0 |
|  | Comprehensive Evaluation | Total score of all items  Class I ≥ 75, Class II ≥ 60, Class III&Specialty ≥ 50 | |  |  |
| Minimum requirement | Class I: Item2≥ 10, Item3≥15, Item4≥15  ClassII: Item2≥ 05, Item3≥10,Item4≥10 ClassIII: Item3≥05,Item4≥5  Specialty: Item3≥15,Item4≥5 | | Item1≥ 10  Item4≥ 05 |  |

**Table 4-16 Tender Limit for Each Class**

|  |  |  |  |
| --- | --- | --- | --- |
| General Work | | Specialty Work | |
| Grade | Tender Limit | Grade | Tender Limit |
| Class I | Unlimited | - | Unlimited |
| Class II | 220 Billion VND |  |  |
| Class III | 16 Billion VND |  |  |

**Contractor side**: Obtain required certifications

General Contractor

Obtain one of 3 General Certification and some special category certification for the field

Specialty Contractor

Some specialty category licenses for the specialized type

**PO side**: Set size of construction package and required license for a construction package for tender

For a big comprehensive package

Apply

Apply

-Set package size (Class I to III) and construction category (29 categories)

For a specialty package

Set construction category from specialty work (27 categories)

Ex. Certification

Ex.) General: Class I (Civil), Class II (Building), Special: Mansory, Earthwork and Concrete, Steel

Structure, Scaffolding, Pavement,

(Shown in Table 4-9)

###### Figure 4-3 Operation Image of New Construction Category

#### Future Plan

As a conclusion of this guideline, future plan is shown in this section. Main viewpoints to design future plan are as follows

* There are 2 steps prepared: mid-term plan and long-term plan
* Objective of mid-term plan is to complete comprehensive evaluation
* Long-term of long-term plan is to commence mechanism to encourage contractor for better construction

Also, there is one thing to be noted. Since some items are not implemented in construction practice of Viet Nam at this time, commencement of new items in a short term possibly have risks to exclude capable contractors. For this reason, it is recommended that MOC show a prospective evaluation system in future so that every contractor ensure the term to prepare and adapt the coming new evaluation system.

#### Midterm plan and Long-term Plan

Middle term plan and long-term plan was summarized in Table 4-17.

Since first adoption of construction law in 2003, there observed big change have been done about every 5 years. Thus, midterm plan is planned to commence in 2019, and long-tem is planned to commence in 2024.

###### Mid-term plan for comprehensive evaluation

* Qualification (Advanced Examination, Private qualification)
* Introduction of new construction category
* Finance evaluation of 3 indicator (Networth, Current ratio, and Deficit)
* Classification of Construction package (Structural size to Contract Amount)
* Commence of Work performance evaluation in National Budget Class I project)

###### Long-term of long-term plan to encourage contractor for better construction

* Qualification (Mutual recognition of professional qualification: APEC Engineer)
* Governmental policy(Item to be selected)
* Work performance evaluation (National Budget all class, Evaluation score incorporated in tender)

#### Road Map

Prepared road map is shown in Figure 4-4.

*Evaluation Method on Engineering Capacity of Construction Contractor*

###### Table 4-17 Future Plan for Evaluation Method of Engineering Capacity of Contractors



**Item**

**Plan**

**Current Mechanism**

**Middle Term Plan 3-5 years**

**Long Term Plan 10 years**

**& each Definition Engineer’s Qualification**

-3 class / Unified Exam

-Advance Exam Method

Writing, Interview for highest Qualification

-Private Qualification

-Mutual recognition of professional qualification (APEC Engineer)

-CPD

**Registration System**

1. Classification of contractor

-3 grade, 8 type of scope, 6 type of field

-Staff

-ISO 9,001 or another

-Track Record(Number of package)

-Finance

-Equipment

Grade(1- 3) for each Construction type

-The same as on the left, modified if needed

-Main/Sub & General/Speciality

-Staff

-ISO 9,001, 14,001, OSHA18001

-Track Record(Complete Amount)

-Finance

-Equipment

-Grade(1- 3) for each Construction type

-Work Performance Evaluation

The same as on the left, modified if needed

2. Collection of Information

-The same as on the left

& Item to be added

3. Publishing of Information

-Grade(1- 3) for each Construction type incorporating of Work Performance Evaluation

The same as on the left

-Modification to new evaluation items

-3 Grade of each classification for main contractor-

**Minimum Requirement and Absolute Score Evaluation**

4. Accumulation/Operation of Contractors Information

**Grading System (Entities Qualification)**

E-Government

-ID for individual and entities

3 Grade of each classification for main contractors

**Scoring ( >75 or 70 in total 100 points)**

The same as on the left

-Modification to new evaluation items 3 Grade of each classification for main contractors

**Scoring (Minimum Requirement &**

**Comprehensive Evaluation )**







Staff Equipment Management

(ISO 9,001 or another) Track Record(Number of package) Finance(Deficits)



Staff(full-time engineers counted)





Staff(full time engineers counted)

Management

(ISO 9,000 & 14,000s, OSHA18001)

Track Record(Contract Amount) Finance(Net Worth & Debt/Deficit)



Management

(ISO 9,001 & 14,001, OSHA18001)

Track Record(Contract Amount) Finance(Deficits , Current ratio and Net Worth)











-

Analyze of Contractors Financial Situation and Create Index





Work Performance Evaluation

-

Integrated in Grading



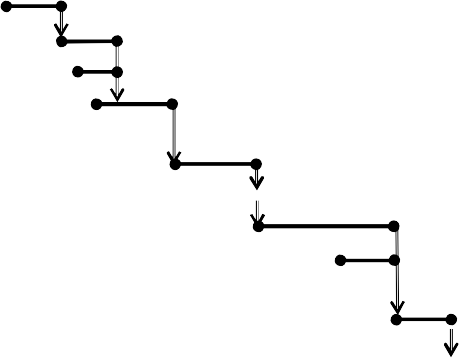
Governmental Policy

-

Item to be selected

46

###### Figure 4-4 Road Map of Evaluation Method of Engineering Capacity of Contractors



Road Map (Fiscal Year)

**2014 2015 2016 2017 2018 2019 2020**

★

Item

**2021**

**2022**

**2023**

**2024**

◆Revision of Construction Law

◆Revision of Related Decree and Circular

◆Engineers Qualification System

-Current Engineers Qualification System（3 Class, Unified Examination, EXAM Database, ID）-

1. Basic Study（Quality TCP & MOC）
2. Revice of Regulation（Decree59＆Circular17） 3.Public hearing、Dissemination
3. Commencement of New Qualification System
4. Follow-up of New Qualification System

★

-Further Improvement（Test Method、Private Qualification、Unification of International Qualification)-

1. Advancd Test Method and Private Qualification
2. International Standard (APEC Engineer)

◆Registration of Contractors 1.Basic Study（Quality TCP & MOC）

2.Circular 11(Obligation of Registration、Publicing）

-Current Registration System(3 Grade, New Classification)- 3.System Design（Classfication and Operation）

4.Establishment of Database（E-government） 5.Circular 17(Public Hearing、Dissemination) 6.Commencement

7.Follow-up of Current Registration System

-Further Improvement （Adaption of next Grading System）- 8.Revise of Regulation

9.Change of Collecting Items（WPE） 10.Revise of Regulation, Database

11.Change of Collecting Items（Various Items）

◆Grading of Contractors

-Current Grading System(3 Grade, )- 1.Basic Study（Quality TCP & MOC）

2.Revise of Regulation（Decree59＆Circular17） 3.Commencement of New Grading

★

★

★

★

★

★

★

-Mid Term Improvement(Min. Requirement Evaluation, Incorporate of Finance, etc.）-

4.Establishment of Mid-term Improvement Plan 5.Public Hearing（Training & Seminar)

6.Revise of Regulation 7.Commencement

-Long Term Improvement(Absolute Score Evaluation by Various Aspects) 8.Establishement of Plan with Collected Items

9.Revise Regulation 10.Commencement of Long Term Plan

◆Work Performance Evaluation

-Development of Evaluation Mechanism and Dissemination for Implementation- 1.Establish of Mechanism（QualityTCR with 4 Trials）

2.Identify Problems / Hearing 3.Implementation Manual

4.Dialog with Construction Sector 5.Trials on Sample Projects

-Initial Introduction （State funded Class I Projects, Score used as reference ）-

6. Revision of regulation, Mofication of DATA System 7.Commencement

1. Public Hearing (Check if transparency and operation )
2. Modifications to Evaluation Mechanism

★

★

★

-Full Introduction（State funded All Project, Score integrated into Contractor's Grading）-

10.Revise of Regulation 11.Commencement

★

### Appendix1 Relationship between Capital and Track record of Contractor

1. Financial Evaluation Standard in Singapore

- Construction Workheads

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Class | Capital or Net Worth  (S$) | Tendering Limit  (S$) | Track Record in last 3 years  (S$) | Ratio | |
| (a) | (b) | （c） | (b/a) | (c/a) |
| A1 | 15,000,000 | NA | 150,000,000 | - | 10 |
| A2 | 6,500,000 | 90,000,000 | 65,000,000 | 13.8 | 10 |
| B1 | 3,000,000 | 42,000,000 | 30,000,000 | 14.0 | 10 |
| B2 | 1,000,000 | 14,000,000 | 10,000,000 | 14.0 | 10 |
| C1 | 300,000 | 4,200,000 | 3,000,000 | 14.0 | 10 |
| C2 | 100,000 | 1,400,000 | 1,000,000 | 14.0 | 10 |
| C3 | 250,000 | 700,000 | 100,000 | 2.8 | 0.4 |

- Special Workheads

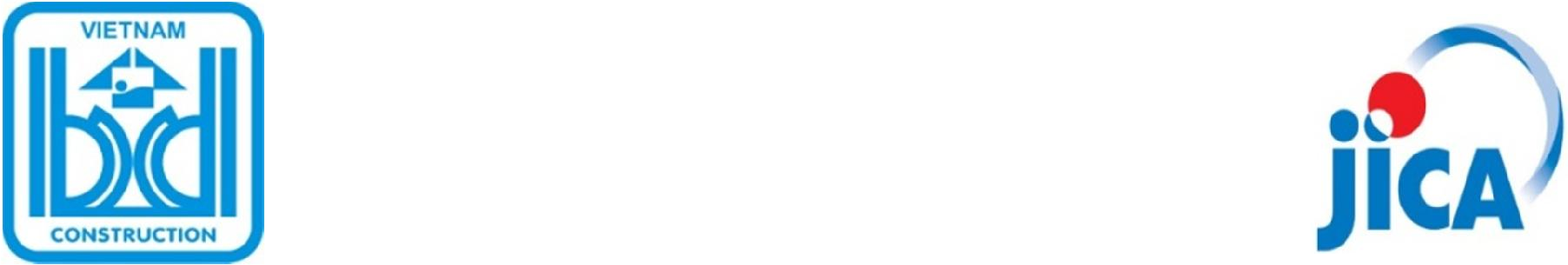
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Class | Capital or Net Worth  (S$) | Tendering Limit  (S$) | Track Record in last 3 years  (S$) | Ratio | |
| (a) | (b) | （c） | (b/a) | (c/a) |
| L6 | 1,500,000 | NA | 30,000,000 | - | 20 |
| L5 | 500,000 | 14,000,000 | 10,000,000 | 28.0 | 20 |
| L4 | 250,000 | 7,000,000 | 5,000,000 | 28.0 | 20 |
| L3 | 150,000 | 4,200,000 | 3,000,000 | 28.0 | 20 |
| L2 | 50,000 | 1,400,000 | 1,000,000 | 28.0 | 20 |
| L1 | 10,000 | 700,000 | 100,000 | 70.0 | 10 |

Source: Building and Construction Authority, Singapore

1. Result in Japan

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Classification by Capital Amount  (million JPY) | Estimated Average Capital Amount  (million JPY) | Number of Company  (number) | Annual Total Amount of Completed Project  (million JPY) | Estimated Amount of  Completed Project per Company  (million JPY) | Ratio between  Annual Completed Project Amount and Estimated Capital |
| - | (a) | (b) | （c） | (c/b) | (c/(a\*b)) |
| Less than 2 | - | 2,914 | 213,855 | 73 | - |
| More than 2 | 3.5 | 45,683 | 3,859,694 | 84 | 24 |
| More than 5 | 7.5 | 29,284 | 2,856,878 | 98 | 13 |
| More than 10 | 20 | 66,764 | 16,443,984 | 246 | 12 |
| More than 30 | 40 | 11,271 | 7,397,640 | 656 | 16 |
| More than 50 | 75 | 3,949 | 6,672,641 | 1,690 | 23 |
| More than 100 | 550 | 812 | 6,636,586 | 8,173 | 15 |
| More than 1,000 | 3,000 | 102 | 4,425,747 | 43,390 | 14 |
| More than 5,000 | 10,000 | 76 | 14,738,332 | 193,925 | 19 |

Source: Ministry of Land, Infrastructure, Transport and Tourism, Japan



# Draft Circular

**for the Evaluation Method on Engineering Capacity of Construction Contractor**

## October 2016 Ministry of Construction

#### Outline

**Preparation of Draft Circular**

The scope of evaluation method is to evaluate contractor’s engineering capacity by comprehensive evaluation system which includes Engineer’s qualification, Work performance evaluation, Registration system and Grading system. Purpose of Evaluation Method is not only to evaluate contractor’s capacity accuracy or to exclude disqualified contractors in tendering but also to encourage contractor to improve their capacity for betterment of construction quality and safety. MOC is recommended to prepare and maintain a direction towards this comprehensive evaluation system. At the same time, plan of regulation revision that step-by-step facilitates the direction also should be prepared incorporating improvement items.

Draft circular on evaluation method on engineering capacity of construction contractor have been prepared to help MOC expert to make new regulations to improve construction contractor evaluation method. This paper is prepared to indicate necessary improvement on current regulations to operate the draft circular.

Before drafting detailed circular, higher regulations level shall be revised incorporating improvement items. Major items shall be included in Law and decrees are as follows:

* Classification of contractors
* Grade of construction works
* Work performance evaluation

#### Revision of Law

Relevant stipulations about contractor’s engineering capability is Article 157.

|  |  |  |
| --- | --- | --- |
| Regulation | Current | Revision |
| Construction Low | **Article 157. Eligibilities of entities carrying out the construction**   1. Be capable for the construction activities relevant to categories and grades of construction works; 2. Site managers shall have suitable practicing capability in construction and practicing certificates; 3. To have construction equipment meeting the requirements on construction safety and quality. | **Article 157. Eligibilities of entities carrying out the construction**   1. Be capable for the construction activities relevant to categories and amount of construction package; 2. Construction contractors are classified into main contractors/subcontractors and general contractors/specialty contractors. 3. Site managers shall have suitable practicing capability in construction and practicing certificates; 4. To have construction equipment meeting the requirements on construction safety and quality. |

#### Revision of Decree

* + 1. **Work Performance Evaluation**

Work Performance Evaluation shall be conducted at the completion of one package and with the participation of Project Owner, Supervision Consultant and State Authorities.

MOC is recommended to incorporate Work Performance Evaluation in a suitable decree and another circular detailing Work Performance Evaluation shall be prepared base on the Project’s Implementation Manuals of Work Performance Evaluation including Evaluation Sheet.

|  |  |  |
| --- | --- | --- |
| Regulation | Current | Revision |
| Decree XX | N/A | **Article XX. Work Performance Evaluation**  1. The work performance evaluation shall be implemented after completion (before issuance of certificate of acceptance) of the construction work in Special class and Class I of national budged project.  The Ministry of Construction is to provide guidance contractor’s work performance evaluation. |

#### Classification of contractors

Relevant stipulations about classification of contractors are Article 58 and Article 65 in Decree 59.

|  |  |  |
| --- | --- | --- |
| Regulation | Current | Revision |
| Decree 59 | **Article 58. Certificate of eligibility for construction activities** |  |
| 1. The application for the certificate of eligibility for construction activities includes:   1. An application form for certificate of eligibility for construction activities using form as prescribed by the Ministry of Construction; 2. A copy of the business registration certificate or the establishment decision; 3. A declaration of list and professional experience enclosed with practice licenses and labor contracts of key individuals using the forms as prescribed; 4. A declaration of professional experience of the organization that includes at least 3 (three) typical latest tasks equivalent to each field used for registration;   dd) A declaration of finance capacity; machinery, equipment or computer software as required;   1. A task management process; and a quality management system equivalent to each registered field.   2. The power to issue certificates of eligibility for construction activities:  a) Construction authorities affiliated to the Ministry of Construction shall issue Class I certificates of eligibility for | 1. The application for the certificate of eligibility for construction activities includes:   1. An application form for certificate of eligibility for construction activities using form as prescribed by the Ministry of Construction; 2. A copy of the business registration certificate or the establishment decision; 3. A declaration of list and professional experience enclosed with practice licenses and labor contracts of key individuals using the forms as prescribed; 4. A declaration of professional experience of the organization that includes at least 3 (three) typical latest tasks equivalent to each field used for registration;   dd) A declaration of finance capacity; machinery, equipment or computer software as required;   1. A task management process; and a quality management system equivalent to each registered field.   1-2. The application for the certificate of eligibility for execute construction |

|  |  |  |
| --- | --- | --- |
|  | construction activities ;  b) Services of Construction shall issue Class II and Class III certificate of eligibility for construction activities to organizations whose head offices are located in administrative divisions under management of the Service of Construction.  3. The Ministry of Construction shall provide guidance on application; forms of practice licenses; methods and process for issuance and reissuance of certificate of eligibility for construction activities. | include not only information in section 1 in this Article but also followings:   1. Performed amount in latest 3 years in each construction field. 2. Result of work performance evaluation in latest 3 years.   2. The power to issue certificates of eligibility for construction activities:   1. Construction authorities affiliated to the Ministry of Construction shall issue Class I certificates of eligibility for construction activities ; 2. Services of Construction shall issue Class II and Class III certificate of eligibility for construction activities to organizations whose head offices are located in administrative divisions under management of the Service of Construction.   3. The Ministry of Construction shall provide guidance on application; forms of practice licenses; methods and process  for issuance and reissuance of certificate of eligibility for construction activities. |
| **Article 65. Certificate of eligibility to execute construction** |  |
| An organization shall be issued a certificate of eligibility to execute construction if it meets requirements below:  1. Class I:   1. There are at least 3 (three) people qualified to hold the positions of class I construction site commanders as mentioned in their certificate; 2. The persons in charge of various aspects of the project must obtain bachelor’s degrees or vocational college degrees that match their fields and tasks and at least 3 (three) years’ experience regarding bachelor’s degrees or at least 5 (five) years regarding vocational college degrees; 3. There are at least 15 (fifteen) people in the quality control system and occupational safety management who have professional competence appropriate to the construction work types; 4. There are at least 30 (thirty) technical workers having certificates appropriate to their certificate;   dd) It is capable of mobilizing sufficient machinery and equipment meeting construction execution requirements that match their fields and tasks;   1. It acted as general contractor for at least 1 (one) Class I construction work or 2 (two) Class II construction works that conform to their certificate.   2. Class II: | An organization shall be issued a certificate of eligibility to execute construction if it meets requirements below:  1. General Contractor Class I:   1. There are at least 3 (three) people qualified to hold the positions of class I construction site commanders as mentioned in their certificate; 2. The persons in charge of various aspects of the project must obtain bachelor’s degrees or vocational college degrees that match their fields and tasks and at least 3 (three) years’ experience regarding bachelor’s degrees or at least 5 (five) years regarding vocational college degrees; 3. There are at least 15 (fifteen) people in the quality control system and occupational safety management who have professional competence appropriate to the construction work types; 4. There are at least 30 (thirty) technical workers having certificates appropriate to their certificate;   dd) It is capable of mobilizing sufficient machinery and equipment meeting construction execution requirements that match their fields and tasks;   1. It acted as general contractor for at least 1 (one) Class I construction work or 2 (two) Class II construction works that conform to their certificate. |

|  |  |  |
| --- | --- | --- |
|  | 1. There are at least 2 (three) people qualified to hold the positions of Class II construction site commanders that conform to their certificate; 2. The persons in charge of various aspects of the project must obtain college, vocational college or trade school degrees that match their fields and tasks and at least 3 (three) years’ experience; 3. There are at least 10 (ten) people in the quality control system and occupational safety management who have professional competence appropriate to the construction work type; 4. There are at least 20 (twenty) technical workers having certificates of professional training appropriate to their certificate;   dd) It acted as general contractor for at least 1 (one) Class II construction work or 2 (two) Class III construction works as that conform to their certificate.  3. Class III:   1. There is at least 1 (one) person qualified to hold the position of Class III construction site commander that conform to their certificate; 2. The persons in charge of various aspects of the project must have professional competence that matches their fields and tasks; 3. There are at least 5 (five) people in the quality control system and occupational safety management who have professional competence appropriate to the construction work type; 4. There are at least 5 (five) technical workers having certificates of professional training appropriate to their certificate.   4. Operation scope:   1. Class I: The organization is entitled to execute all construction works classifications that conform to their certificate; 2. Class II: The organization is entitled to execute class II construction works classifications or lower that conform to their certificate;   b) Class III: The organization is entitled to execute class III construction works classifications or lower that conform to their certificate. | 2. General Contractor Class II:   1. There are at least 2 (three) people qualified to hold the positions of Class II construction site commanders that conform to their certificate; 2. The persons in charge of various aspects of the project must obtain college, vocational college or trade school degrees that match their fields and tasks and at least 3 (three) years’ experience; 3. There are at least 10 (ten) people in the quality control system and occupational safety management who have professional competence appropriate to the construction work type; 4. There are at least 20 (twenty) technical workers having certificates of professional training appropriate to their certificate;   dd) It acted as general contractor for at least 1 (one) Class II construction work or 2 (two) Class III construction works as that conform to their certificate.  3. General Contractor Class III:   1. There is at least 1 (one) person qualified to hold the position of Class III construction site commander that conform to their certificate; 2. The persons in charge of various aspects of the project must have professional competence that matches their fields and tasks; 3. There are at least 5 (five) people in the quality control system and occupational safety management who have professional competence appropriate to the construction work type; 4. There are at least 5 (five) technical workers having certificates of professional training appropriate to their certificate.   4. Specialty Contractor   1. There is at least 1 (one) person qualified to hold the position of Class III construction site commander that conform to their certificate; 2. The persons in charge of various aspects of the project must have professional competence that matches their fields and tasks; 3. There are at least 5 (five) people in the quality control system and occupational safet y management who have professional competence appropriate to the construction work type; 4. There are at least 5 (five) technical workers having certificates of professional training appropriate to their certificate. |

|  |  |  |
| --- | --- | --- |
|  |  | 5. Minimum Requirement for Entities of Execute Construction   1. There is at least 1 (one) person qualified to hold the position of Class III construction site commander that conform to their certificate; 2. The persons in charge of various aspects of the project must have professional competence that matches their fields and tasks;   6. Operation scope:   1. General Contractor Class I: The organization is entitled to execute all construction works that conform to their certificate; 2. General Contract or Class II: The organization is entitled to execute construction works which conform to their certificate and 220 Billion VND or lower tender limit; 3. General Contractor Class III: The organization is entitled to execute construction works which conform to their certificate and 16 Billion VND or lower tender limit. 4. Specialt y Contractor: The organization is entitled to execute construction works that conform to their certificate; 5. Minimum Requirement: The organization is entitled to execute construction works as subcontractor. |

#### New Circular

Basing on current practice and recommendations on improvement, a draft Circular is prepared as shown in Annex 1. This draft Circular incorporates all improvements but will not change drastically the implementation practices. This draft Circular provides the method to evaluate construction contracts utilizing absolute scoring method as well as minimum requirements. MOC is recommended to revise detailed requirements timely to fit with actually construction industry time to time.

**Annex 1 Draft Circular**

**DRAFT CIRCULAR**

EVALUATION METHOD ON ENGINEERING CAPACITY OF CONSTRUCTION CONTRACTOR

*Pursuant to the Law on Construction dated June 18, 2014;*

*Pursuant to the Government’s Decree No. … on Project Management*

**Article 1. Scope and regulated entities**

1. Scope

This Circular specifies evaluation system on engineering capacity of construction contractor. The scope of evaluation system includes Engineer’s qualification, Work performance evaluation, Registration system and grading system.

1. Regulated entities

This Circular applies to entities participate in construction works in the territory of Viet Nam.

**Article 2. Classification of Contractors**

1. Entities which participate in construction work is divided into main contractor and subcontractor.
   1. Main contractor perform construction work based on the direct contract with project owner or PMU.
   2. Subcontractor perform construction work base on the contract with main contractor.

**Article 3. Construction Category and Field**

1. Construction work is divided into 2 categories of the general work and the specialty work.
   1. The general work is intended for contractors to implement a package of various construction fields.
   2. The specialty work is intended for contractors to conduct one specific construction type.
2. The general work is divided into 2 fields and the specialty work is divided into 27 fields as shown in Appendix 1.
3. Entities which has minimum required evaluation point of the general work or the specialty work in grading, they are able to participate in construction work as main contractor in each construction project which correspond with the qualified field and class.
4. Entities which perform a package of construction work based on comprehensive planning shall obtain every required fields in the specialty work as well as either one category of the general work.

**Article 4. Registration**

1. Construction entities shall submit following items to registration system of Qualification Issuing Authority.
   1. Files of color photos of original business license or establishment decision; statement of work flow; quality management system of the field being applied for capability qualifications.
   2. Files of color photos of original List of major personnel, staffs, workers (if any) and statement of pass records, together with degrees, certificates, qualifications and employment contract of major personnel, workers (if any) relevant to the capability qualification being applied; contracts and Minutes of final acceptance of completed works.
   3. Files of color photos of original Statement of finance capacity in recent 3 years, certificates of equipment, machineries, software relevant to the capability qualification being applied.
   4. Performed amount of construction work in each construction category and filed in latest 3 years.
2. Within 15 days since there are changes in application information which is mentioned in Clause 1 in this Article, entities shall provide updated information in writing together with scanned files or other format of relevant documents to agencies that had published previous information for revision.
3. Entities are able to register not only one construction category but also any construction categories and fields which correspond with their ability.

**Article 5. Grading**

1. Grade of entities for the general work (General civil, General building) is classified into 3 classes of Class I, II and III.
2. Grade of entities for the specialty work (27 fields) is classified into 1 class.
3. Grade of entities for subcontractors is classified into 1 class in each field (27 fields).
4. Capability Qualification Council shall evaluate capabilities in construction activities of entities by scoring method as in Appendix 2 of this Circular for issuing qualifications.
   1. Entities which participate in construction work as main contractor shall have minimum required evaluation point in grading for each construction filed (29 field) correspond with participating construction field and class.
   2. Entities which participate in construction work shall have minimum required evaluation point in grading for subcontractor.

**Article 6. Procedure in issuance of capability qualification**

1. Applicants send 1 set of application dossiers (as regulated in Article 4 of this Circular) through post or directly to the Capability qualification issuing agencies.
2. Within 10 days since receiving applications, Capability qualification issuing agencies shall check the sufficiency and validity of the applications. In case of insufficiency or invalidity, they agency informs to the applicant one time for supplementation or

re-checking (if necessary).

1. Evaluation and issuing qualifications:
   1. Capability Qualification Issuing Council shall evaluate capabilities in construction activities of entities as stipulated in Article 5 of this Circular and submit to Capability qualification issuing agency for decision.

Time limit for evaluation, issuance is not more than 30 days for Class I qualification; 30 days for Class II, Class III qualifications since the date of receiving valid applications.

* 1. Within 3 days since the date of deciding to issue capability qualifications, the Agencies shall send request for Code of qualification to MOC. Within 5 days since receiving the request, MOC shall issue code of qualification, and at same time, shall integrate information into MOC’s website for the purpose of management and searching of capability qualifications and publishing information according to Article 8 of this Circular.

**Article 7. Evaluation issuance of capability qualification**

1. Capability Qualification Council shall evaluated capabilities in construction activities of entities by scoring method as shown in Appendix 2 of this Circular for issuing qualifications. Entities who got the Award for high quality projects or high quality construction packages of the field being applied are granted 05 point in maximum, but total scores will not exceed 100 point.
2. Capability qualification issuing agencies decide to issue qualification after receiving the evaluation results from the Council.

**Article 8. Publicity of capability information**

1. Within 7 working days since the practicing qualifications, capability qualifications are issued, Issuing Agencies shall publish capability information of individuals, entities into their website.
2. Contents of capability information to be published: names, address of head office; legal representatives; establishment decision; business license; charter capital; number of individuals capable for major job titles; quality management system; some typical completed and on-going projects, scale of projects, participation role, jobs, commendation; financial statements of recent 3 years; evaluation score for construction contractors (if any).

**Article 9. Tendering Limit**

1. Tendering limit for entities for each grading class is shown in Appendix 3.
2. If the entity participating in more than 2 construction packages for construction of a facility/project, the total contract amount of all package for the facility/project is applied as contract amount of the entity.

**Article 10. State management on contractor’s capability information**

1. MOC implements consistent state management on capabilities on construction activities as follows:
   1. To make instructions, inspection, work performance evaluation and to handle violations relevant to implementation of this Circular nationwide.
   2. To issue model of Operation Regulation of Capability Qualification Council;
   3. To issue codes of capability qualifications in construction activities nationwide;
   4. To manage the publishing of capability information nationwide;
   5. To assign specialized agencies under MOC to implement stipulations in this Circular.
2. CAMA (MOC) shall incorporate information of fatal accidents in each construction project to registration system
3. Project owners and PMUs shall submit information of fatal accidents in each construction project to registration system of CAMA.

**Article 11. Effect**

1. This Circular takes effect from…..
2. Since the effective date of this Circular, following circulars: 17 (or some article in Circular 17 related to Construction Contractors) shall become invalid.
3. Ministries, ministerial-level agencies, governmental agencies, People’s committees of central-affiliated provinces, cities, organizations and individuals engaging in construction activities and other relevant organizations and individuals shall be responsible for executing this Circular./..

**Appendix 1. Construction Category**

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| --- | --- | --- |
| **Category** | **Content** | **Examples** |
| 1. General Work | | |
| a) General civil | Construction of public works based on general planning, instruction, and control (incl. repair, improvement, or demolition work) | -A package of construction work for tunnel, bridge, dam, port and others |
| b) General building | Construction of buildings based on general planning, instruction, and control (incl. repair, improvement, or demolition work) | -A package of construction work for building, factory, plant facility and others. |
| 2. Specialty Work | | |
| c) Carpentry | Construction of works by processing or applying wooden materials or application of wooden structures to work | Carpentry, mold work, and finish carpentry |
| d) Plasterwork | Applying, spraying, or affixing  plaster, mortar, stucco, cement, fibers, etc. to work | Plasterwork, mortar work, concrete  waterproofing, spray work, grinding work, and washing out |
| e) Scaffold/ construction/ concrete work | a) Assembly of scaffolding, transport and placement of heavy objects, such as mechanical apparatuses and construction materials, assembly of steel frames, and demolition | Scaffold work; salvage work; pulling work; construction of footings and other auxiliary structures; transport and placement (lifting) of heavy objects; assembly of steel frames; mounting of concrete blocks; and disassembly/demolition work |
| b) Driving in or pulling out piles  and in-place-casting of piles | Pile work, pile driving, pile pulling, and  in-place-casting |
| c) Excavation, piling up, or compression of earth or sand | Earth work, excavation, root-cutting, blasting operations, and embankment work |
| d) Construction work using concrete | Concrete work, concrete driving work and concrete compression work |
| e) Other basic or preliminary work | Landslide prevention, foundation improvement, boring grout, earth retaining, temporary coffering, spraying, highway section, riprap, external construction, and chipping work |
| f) Stone work | Processing of stone materials (including quasi-stones such as concrete block and imitation stone) and production of stone works using masonry or by attaching stone to work | Stone masonry or pitching and concrete block masonry or pitching |
| g) Roof work | Roof-cladding with tiles, slate, or metal sheet | Roof-cladding work |
| h) Electrical work | Installation of power generation, transformer, power distribution, and interior electrical facilities | Power generation facilities, electrical wiring, lead-in line, transformer facilities, interior electrical facilities (including electrical facilities for emergency use), illumination facilities, railway line, traffic light facilities, and neon lamp facilities work |
| i) Piping work | Work for installation of coolers,  air conditioners, water supplies, hygiene facilities, and facilities for transport of water, oil, gas, and steam using metal pipes | Cooling and heating facilities,  freezer/refrigerator facilities, water/hot water supply facilities, kitchen facilities, hygiene facilities, water purification facilities, water toilet facilities, gas pipe, duct, and pipe rehabilitation work |
| j) Tile/brick/block | Constructions with bricks or | Concrete block masonry (pitching), brick |

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| work | concrete blocks or work to apply or attach bricks, concrete blocks, or tiles to structures | masonry (pitching), tile pitching, furnace building, and asbestos plate laying |
| k) Steel construction work | Processing steel forms or sheets  or assembly of derived items from them | Work related to steel structures, bridges, steel towers, petrol or gas reservoirs, outside advertisements, and gate facilities for locks and watergates |
| l) Steel reinforcement work | Processing, connecting, and assembly of steel bars and other steel materials | Steel reinforcement processing and assembly and gas pressure welding |
| m) Paving work | Paving streets and other flat surfaces with asphalt, concrete, sand, gravel, or rubble | Asphalt, concrete, and block paving and road construction |
| n) Dredging work | Dredging the bottoms of rivers and bays | Dredging work |
| o) Sheet metal work | Attaching metal sheet to structures or attaching metal sheet fixtures to structures | Sheet metal processing and attachment and sheet metal work related to building construction |
| p) Glass work | Installation of glass in structures | Glass processing and installation work |
| q) Coating work | Spraying, coating, or attaching  coating materials to structures | Coating, spraying, lining, textile upholstering  and finishing, steel structures painting, and pavement marking |
| r) Waterproofing work | Waterproofing with asphalt, mortar, or sealing materials | Asphalt waterproofing, mortar waterproofing, sealing work, paint membrane waterproofing, sheet waterproofing, and injection waterproofing |
| s) Interior finishing | Interior finishing using wood, plaster board, sound absorbing board, wallpaper, tatami mat, vinyl floor tiles, carpeting, or sliding doors | Interior work, ceiling finishing work, wallpapering, interior room finishing work, floor finishing work, furniture work, and soundproofing |
| t) Machinery installation | Building of structures through assembly of machinery or attaching machinery to structures | Plant installation, transport machinery setup, internal combustion power plant installation, separating machinery setup, water collecting machinery setup, storage and drainage machinery setup, temporary dam setup, children's play facilities installation, stage set setup, silo installation, and automobile parking facilities work |
| u) Thermal  insulation work | Thermally insulating structures or  their facilities | Cooling and heating installation, freezing and  refrigeration work, thermally insulating motive power facilities the facilities of fuel or chemical industries |
| v) Telecommunicati ons work | Installation of wired telecommunication facilities, wireless telecommunication facilities, broadcasting machinery facilities, or data communication facilities | Telecommunication line facilities work, broadcasting machinery facilities work, antenna facilities work, data communication facilities work, information control facilities work, and work on facilities for the prevention of TV wave disturbances |
| w) Landscape  gardening | Land forming, tree planting, and  construction of gardens, parks, and green areas by placement landscape stones | Planting trees and plants, soil-cover work, site  preparation work, park facilities work, work related to public places, park road work, waterscape work, and planting of vegetation on rooftops |
| x) Well drilling work | Hole and well drilling using well drilling machinery and subsequent water pumping facilities work | Well drilling, observation well work, injection well work, hot spa drilling work, well construction work, hole drilling work, petrol drilling work, natural gas drilling work, and water pumping facilities work |

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| y) Fittings work | Attachment of wooden or metal fittings to structures | Work related to attachment of metal fittings, sashes, metal curtain walls, shutters, automatic doors and wooden fittings |
| z) Water facilities work | Construction of facilities for water intake, water purification, or water distribution for public water supplies or factories or installation of public sewage or basin sewage handling facilities | Work related to water-intake facilities, water purification facilities, water distribution facilities, and sewage handling |
| aa) Waste facilities work | Installation of human waste management or garbage management facilities | Garbage management facilities and human waste management facilities work |
| bb) Dismantling work | Dismantling of constructed facilities | Dismantling of wooden structures, concrete structures, steel structures and prestressed concrete structures |
| cc) Prestressed Concrete work | Construction work using prestressed concrete | Work related to prestressed concrete structures, bridges, pier, breakwater, , immersed tunnel, shelter, water reservoirs and buildings |

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| **NO.** | **Criteria** | **Construction entities** | | | |
|  |  | **Main Contractor** | | **Sub contractor** | **Max** |
| **General Class I – Class III** | **Specialty** |
| 1 | Number of Site managers | -05 score/person (Max 15) | The same as on the left | The same as on the left | 50 |
| Number of managers for each type of works | -02 score/person (Max 10) | The same as on the left | The same as on the left |
| Number of persons with suitable expertise | -01 score/person(Max 10) | The same as on the left |  |
| Number of safety officers | -01 score/person(Max 05) | The same as on the left |  |
| Workers with skill certificates | ≥ 30persons :10 points  ≥ 15persons :05 points | The same as on the left |  |
| 2 | Management system | -ISO 9001 : 5 points  -ISO14001&OSHAS18001: 5 points | The same as on the left |  | 10 |
| 3 | Entities Experience | -Performed amount of XX VND in 3  years  ≥ 500 Billion VND :15 points  ≥ 160 Billion VND :10 points  ≥ 016 Billion VND :05 points Note: Amount of main contract, reduced at half in case of subcontracting | -Performed  Number of Package for Applied field  5 points/ Package(Counted if related construction field) |  | 20 |
| -Work Performance Evaluation  3 packages(Score more than 50) : 5 Points |  |  |
| 4 | Entity’s finance capability | -Owner’s equity  (one of the followings)  ≥ 200 Million VND( or 5 years business experience) : 5 points  ≥ 2,400 Million VND: 10 points | The same as on the left | The same as on the left | 20 |
| -Current ratio(≥ 75 %) : 5 points  -Deficit ( < 20% of Capital) : 5 points | The same as on the left |  |
| 5 | Govenmental Policy | -Number of fatal accidents / Project  ≥ 1 : -5 points |  |  | 0 |
|  | Comprehensive Evaluation | Total score of all items  Class I ≥ 75, Class II ≥ 60, Class III&Specialty ≥ 50 | |  |  |
| Minimum requirement | Class I: Item2 ≥ 10, Item 3 ≥ 15, Item4 ≥ 15  ClassII: Item2 ≥ 05, Item 3 ≥ 10, Item4 ≥ 10  ClassIII: Item 3 ≥ 05, Item4 ≥ 05  Specialty: Item 3 ≥ 15, Item4 ≥ 05 | | Item1≥ 10  Item4≥ 05 |  |

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| **General Work** | | **Specialty Work** | |
| **Grade** | **Tender Limit** | **Grade** | **Tender Limit** |
| Class I | Unlimited | - | Unlimited |
| Class II | 220 Billion VND |  |  |
| Class III | 16 Billion VND |  |  |