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Qualification System for the Practice of Registered Consulting Engineers in China

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Since China's reform and opening-up in the 1980s, its knowledge and technology-based engineering consulting industry has been rapidly developing through the extensive application of scientific achievements and a vigorous construction activity. Presently, China has about 3,000 engineering consulting organizations, with over 300,000 professional consultants in practice. In light of the industry's rapid growth and with the establishment of market-based economy, engineering consulting teams must enhance the system of qualification, their professionalism and self-discipline. Within this context and the active promotion of China National Association of Engineering Consultants (CNAEC), the Chinese government has decided at the end of 2001 to establish the Qualification System for the Practice of Registered Consulting Engineers (hereinafter referred to as "the System") for the purpose of certifying the qualifications of practicing engineering consultants.

The objectives of establishing the System are :

- To set up a minimum threshold for critical positions, so as to ensure that only qualified and high-caliber professionals are admitted into practice to reduce social risks.
- To enhance the sense of professional liability and implement the individual-organization dual responsibility system, so as to ensure the project quality and increase investment efficiency.
- To motivate continual institutional education and urge the consultants to improve their knowledge, so as to improve their qualifications and keep up with industry innovation.
- To facilitate mutual recognition by and exchanges with international engineering consultants, so as to create the conditions for Chinese consulting engineers to be integrated into the international marketplace and its practices.

Generally, qualifications for the practice of registered consulting engineers will be certified through examination. However, senior experts who have long been engaged in the engineering consulting business may be exempted from the examination provided they meet certain strict conditions and procedures stipulated in the System. Their certification may be obtained through an appraisal process. Conditions for such appraisals include primarily: (1) the number of years of holding a senior title in an engineering consulting organization; (2) holding a degree or other similar academic

qualifications in engineering technology and/or construction economics; (3) years of experience in engineering consulting and relevant businesses; (4) achievements and awards obtained through the supervision and successful completion of projects . As of March, 2003, 3,943 professionals have been appraised and certified as registered consulting engineers through the collective assessment of expert groups.

Certification through appraisal will only be applied under certain restricted conditions. Other engineering consultants will have to pass the certification examination. The subjects for examination mainly include: specifications for engineering consulting business, relevant policies and regulations for construction, development planning, project management, as well as universal knowledge in project consulting methods and operating practices. CNAEC organizes panels of relevant experts to draw up the examination curriculum, compile textbooks, draft test papers, and submit them to relevant government departments for approval. Nationwide unified examinations are organized once a year. CNAEC organized the first examination Apr. 23-25, 2004, in which more than 63,800 engineers participated, and 14,538 received their certification.

Professionals who have obtained the certificates will still have to be registered before they practice as registered consulting engineers. The conditions required for registration include:

- Membership in an engineering consulting organization
- Abiding by the code of ethics
- Good health condition
- Good performance record
- Proper educational background and adequate working experience in the engineering consulting business

Registrations are valid for 3 years, after which a certificate for continued education ratified by the registration management authority must be obtained. If a consulting engineer changes his service organization or role, or if any conditions for registration are breached during the validity period of his registration, he is required to promptly amend the change in his registration and or cancel the registration as required.

After registration, a consulting engineer may practice in the following areas:

1. consulting on economic and social development programs and planning;
2. industrial development planning and policy;
3. construction economics;
4. Investment opportunity research;
5. Development of project proposal;
6. Development of project feasibility study report;
7. Project assessment;
8. Consulting on project financing, performance assessment, post-assessment and training consulting service;

9. Technical consulting on project tendering;
10. Other engineering consulting business.

Qualifications for engineering design and construction supervision are not included in the service scope as these activities are regulated separately by the Chinese government.

Registered consulting engineers are subject to regulation by the relevant government departments and the industry's self-regulators, and must undertake to comply with the corresponding responsibilities and obligations. While a registered consulting engineer is engaged in the engineering consulting business, he must accept unified assignment and commission by his service organization. He may chair committees in consulting for national investment projects or government approved projects, including business assigned by other project owners to his organization. He must take responsibility for the documents which are issued by committees he chairs , which are not subject to further modification. He must abide by the code of ethics. The service organization will bear liabilities for any losses resulting from project consulting quality, and will further hold the individual consultant responsible. If quality problems result in any serious consequences short of criminal liabilities, corresponding sanctions or penalties may be imposed on the responsible consultant. The performance of a registered consulting engineer will be recorded in his registration certificate.

The System stipulates that, within the 3-year validity period, the registered engineer must receive continued education of no less than 120 sessions of which 40 sessions are devoted to compulsory subjects and the rest are for selective subjects. Compulsory subjects generally cover macro and policy topics, and may be more universal or forward-looking in nature. CNAEC will organize experts to compile or recommend textbooks. Selective subjects focus on the improvement of personal knowledge and competencies, and textbooks for these subjects may be compiled or recommended by other professional or educational organizations. Continuing education may include:

1. participation in domestic and international engineering consulting training courses, seminars and forums;
2. Attendance in courses provided by the FTC Training Center, other universities and colleges;
3. Compilation of engineering consulting works and papers;
4. Subject research;
5. Research and revision of the reference examinations and education textbooks for national registered consulting engineers (investment), or participation in the design of test papers.

Compulsory subjects will be taught in formal training courses. Provided that registered consulting engineers fulfill requirements for the stipulated periods, they may decide upon the time, form and subjects for further education by themselves on

basis of their own working requirements and actual conditions. Organizations which are authorized to implement the training must be provided with the appropriate teaching resources, places and facilities. The trainees' attendance must be tracked and their training tested, so as to ensure teaching quality and training results.

The qualification system for the practice of registered engineers in China is still in an early phase and is subject to further evolution taking into account Chinese characteristics and its transitional nature. As time goes by and with the deepening of the reforms, the System will be improved steadily and will be eventually match international practice. We will make unrelenting efforts towards this objective.