

# Cross-National Practice for Consultants

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## 1. INTRODUCTION

With the globalization of the world economy, practice of engineering consultants crossing national boundaries become more and more often and popular. This is particularly true for engineering consultants from developed countries to expand their practices into less developed or more so under-developed countries. Many of these cross-country practices were, in the past, in the form of aids or loans. Due to the uniqueness of geotechnical engineering, comparing with other disciplines of engineering, cross-national practice of geotechnical consultants has its own problems. This paper attempts to discuss briefly some of the key issues related to this subject.

## 2. SOME KEY ISSUES

### 2.1 Needs for Cooperation and/or Collaboration

Due to the non-homogeneity nature of soil and rock, practice of geotechnical engineering has to rely greatly on innovative ideas and understanding of soil behavior under different conditions. A geotechnical engineer is just like a medical doctor. The latter treats human being whilst the former deals with "earth". There are no two human beings who are exactly alike. Similarly, there is no two pieces of land (or earth) which have the exactly same characteristics. Experience in theory and practice is essential for any successful geotechnical engineer as for a good medical doctor. Introduction of experiences cross-national boundaries is thus undisputably desirable.

### 2.2 Effects of WTO

A major part of the world economies has signed or entered the World Trade Organization (WTO). This is globalization of world economy. Consulting engineering practice is one of the service sector under the free trade category. In view of the extensive infrastructure developments forthcoming in the less developed and under-developed countries, pressures for allowing cross-national practices of consulting engineers are exerted by the developed countries.

### 2.3 Origin of Funding

Many of the large infrastructure development projects as well as other developments in the less developed nations are being funded by either international funding agencies, such as the World Bank and Asian Development Bank, or aid agencies of developed countries such as the USAID, JICA, CIDA etc. Depending upon the source of fund, many of these funding has

the stipulation that consultants from certain countries must be engaged.

## 3. DIFFICULTIES FOR CROSS-NATIONAL PRACTICE

There are many difficulties for successful cross-national practice for engineering consultants, particularly for geotechnical engineers. The following lists some of the major problems.

- (1) Rigid/fixe ideas.
- (2) Lack of appreciation of local experience, culture and background.
- (3) Lack of understanding of local codes of practice, laws and regulations.
- (4) Inappropriate application of design parameters, empirical relations, or models of analysis.
- (5) Inconsistent or unclear agreements and contracts.
- (6) Poor dispute resolution mechanisms.
- (7) Poor communications between foreigners and locals.
- (8) Negative attitude towards locals.
- (9) Low budget, poor payment terms.
- (10) Incompatible fee structure.
- (11) Language barrier.
- (12) Failure to understand risks.
- (13) Unqualified personnels.

## 4. REGISTRATION REQUIREMENTS FOR PRACTICE

Most of the Asian Countries have formal registration requirement for civil engineers to practice as Professional Engineers. At the present, separate registration for geotechnical engineers, either as a subcategory of civil engineering or as an independent branch of engineering, is not done except in a few countries. However, with many geotechnical disasters occurred in recent years, more and more countries or economies are putting emphasis on the importance of geotechnical practice as a special discipline. Mutual recognition of Professional registration thus becomes an important issue for cross-national practice or globalization under the WTO.

In the world arena, there are several groups or organizations who are making efforts relating to mutual recognition of Professional Engineers' registration and cross-national practice. Among them, two are of particular interests to engineers in the Asian region, i.e. the EMF and the APEC Engineer.

### 4.1 Engineers Mobility Forum

The Engineers Mobility Forum (EMF) was formed in October 1997 by the members of the Washington Accord. According to the Draft Constitution:

- (1) The members of EMF aim to facilitate international mobility by experienced professional engineers by establishing a framework for their recognition based on confidence in the integrity of national assessment systems, secured through continuing mutual inspection and evaluation of those systems.
- (2) The members of the EMF as the representatives of the relevant engineering organizations in their respective countries or territories will establish a decentralized International Register of Professional Engineers which will provide a readily accessible framework for recognition by the responsible bodies of the substantial equivalent in the competence of experienced professional engineers from the participating economies.

From the above, it is clear that in order to become a member of the EMF, and to establish an International Register of Professional Engineers for cross-national practice, there are many obstacles which must be overcome including assessment and recognition of engineering education, assessment and issuance of professional practice license, etc. Due to the vast differences in the education system, and laws/regulations relating to the practice of professional engineers in the world economies, the setting up of a proper and fair evaluation system for new members is of paramount importance.

There are two categories of members in the EMF. Full Members are organizations responsible for registers of professionally qualified engineers who have been assessed as eligible for independent practice within their own economy, and whose qualifications are based on academic achievement substantially equivalent to that of a graduate holding an engineering degree accredited by an organization holding membership of the Washington Accord, and who have been granted interim or full authorization to maintain a section of the International Register. Provisional Members are organizations with or in the course of developing registers of professionally qualified engineers in their own economies who intend to apply to be Full Members of the EMF.

At the present, there are 11 Full Members including Australia, Canada, Ireland, New Zealand, UK, USA, Japan, Korea, Hong Kong, South Africa and Malaysia. Five economies were admitted as Provisional Members at the Third EMF Meeting held in New Zealand on 15 June 2003. They are Philippines, Indonesia, Thailand, Bangladesh, and India.

#### 4.2 APEC Engineer

An APEC Engineer is assessed in his/her own jurisdiction as a professional engineer eligible for independent practice, who has gained a minimum of seven years experience since graduation, and has spent at least two years in responsible charge of significant engineering work. An APEC Engineer has also maintained their continuing professional development at a satisfactory level.

Register of APEC Engineer is maintained by the APEC Engineer Coordinating Committee. It was initiated at the APEC (Asia Pacific Economic Cooperation) leaders' meeting in 1995 at Osaka, Japan for the purpose of meeting the need of facilitating the mobility of qualified persons among the member economies. In each member economy, the development and maintenance of the APEC Engineer Register are the responsibility of the APEC Engineer Monitoring Committee in that economy. This Committee shall be an independent authorized body and will be able to certify the qualifications and

experience of individual professional engineers directly or by reference to other competent bodies.

According to the APEC Engineer Manual on the Identification of Substantial Equivalence dated May 2002, each practitioner included in the APEC Engineer Register may be identified with one or more recognized engineering disciplines. The list of approved disciplines are civil, structural, environmental, geotechnical, mechanical, electrical, industrial, mining, chemical, information and bioengineering.

Among the 18 member economies of APEC, ten signatories have formed APEC Engineer Monitoring Committee and are voting members of the Coordinating Committee. These are Australia, New Zealand, USA, Canada, Hong Kong, Japan, Korea, Malaysia, Philippines, and Indonesia. Thailand was admitted as a voting member at the 4<sup>th</sup> Coordinating Committee Meeting held in New Zealand in June 2003. In addition, Chinese Taipei, Singapore and Russia are non-voting members.

In order to implement mutual recognition and cross-national practice of APEC Engineers, bi-lateral or multilateral agreements have to be signed by the member economies. This process is under discussion and will take sometime to be realized.

#### 5. CONCLUDING REMARKS

Before the realization and implementation of the APEC Engineer on a regional basis and the International Engineer (under EMF) on a global basis, cross-national practice of consulting engineers will probably be best achieved by forming joint ventures or in association with local consultants.

For consulting engineers, particularly geotechnical engineers, who wish to extend their practices cross-national boundaries, it is important that they are prepared to:

- (1) Understand local culture.
- (2) Understand local background including poor practice.
- (3) Adopt a positive attitude.
- (4) Understand local laws and regulations.

Communication, Coordination and Cooperation are the three "C" for any successful cross-national practice.