

APEC Engineers Accreditation for Agricultural Engineers of Taiwan – A Country Report from Taiwan, ROC

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1. Introduction to Engineer Qualification System in Taiwan

Accreditation System: University/college graduates with or without BE or BS or above are allowed to attend the PE qualification examinations; and those qualified having had at least two-year relevant engineering experience may apply to competent authority for licenses for conducting PE business.

Numbers of Engineers Qualified for PEs and Number of PEs Licensed with Business Permits: 21,495 and 3,291, respectively. (As of July 31, 2004)

AEs in Classifications of PEs: No Agricultural Engineering PEs in Taiwan. Rendition of work related to AE (e.g., irrigation and drainage and appurtenant structures, reclamation of slope, riverine and tidal lands) has to be performed by the Hydraulic Engineering PEs.

2. Milestone

For the Nation's CTAEIC ---

2003/5/22: - Established CTAEIC (Chinese Taipei APEC Engineer Implementation Committee), acting as the national institution counterpart of APECC (APEC Engineer Coordination Committee).

2003/6/13: - Accepted by APECC as its Non-Voting Member in New Zealand.

2003/10/30: Held coordination meeting with attendance of concerned governmental agencies.

2003/11/5: Held meeting with PE Associations of Civil Structural and Geotechnical Engineering.

2003/11/25: Completed draft Assessment Statement and sent it to foreign experts for review and comments.

2003/12/2: Invited experts from Hong Kong, Japan, Korea and Malaysia to discuss the Assessment Statement.

2004: Continuing intensifying the contacts with other countries' MCs.

2005/3: - Establishing the national APEC Engineer Monitoring Committee (MC).

2005/6: - To become the member of APECC in APECC Meeting to be held in Hong Kong.

2005/7 & afterwards: - To operate CTAEIC.

200X ~ : - To implement Bilateral/Multilateral accreditation of APEC Engineer to respective countries' PEs. (*This practice remains to be realized between the economic entities of APEC members in accordance with MRA [Mutual Recognition Agreement], which is under negotiation among APECC members.*)

For the CSAE of Taiwan ---

2003 ~ 2005: - To appeal to the concerned competent authorities to list AE in the nation's PE categories.

2005 ~ 200X: - To assist the MoEd and relevant agencies in formulation and practice of the AE educational program to fulfil the requirements of WA and to have the AE degree accredited by ABET. For this undertaking, reference to the programs formulated respectively by and consultation with JABEE and ABEEK will be made.

2005 ~ 2006: - To assist MC/CTAEIC in formulation of criteria / procedure for accreditation of AE of Taiwan.

2002 ~ 200X: - Joining with Japan's and South Korea's AESs to work out concurred educational programs for the AE in paddy-farming countries for being presented to respective countries' educational accreditation agencies as part of the criteria for APEC Engineer accreditation. Further, the three societies will undertake harmonious approach/measures to appeal to the APECC, via respective nations' AEICs, to accept the AE category in the list of APEC Engineer.

3. Existing Categories of APEC Engineer and of Taiwan PEs

APECE: 15 nos., namely, Civil, Structural*, Environmental*, Geotechnical*, Mechanical*, Electrical*, Industrial*, Mining*, Chemical*, Information, Aerospace*, Building Services, Fire*, & Petroleum Engineering; and Bioengineering. (The engineers remarked with "*" are same with those of Taiwan engineers)*

Taiwan PE: 33 nos. (No PE of AE. And even for the same engineering field, the scopes of work between APECE's and Taiwan's are somewhat different. Besides, qualifications for PEs of Taiwan and for APEC Engineer are not all the same. So compromise between the two will have to be negotiated.)

4. Primitive Comparison of Engineers eligible for APEC Engineer and for Taiwan's PEs

- (1) *Engineering educational programs (EPs) and academic degrees (ADs) having been accredited: Although both of the EPs and ADs are similar, those of Taiwan's are yet to be approved by WA and accredited by ABET or the like, respectively.)*
- (2) *Having obtained individual PE licenses from respective economic entities: Yes.*
- (3) *Minimum years of engineering experience: APECE – 7 yrs; PE Taiwan – 2 years. APECE – Including at least 2 yrs responsible for significant engineering work; PE Taiwan – Nil.*
- (4) *Participating in continuing professional development: Same in principle.*
- (5) *Observing professional ethics and legally liable to professional responsibilities: Same*

5. Efforts Being Undertaken by MC/CTAEIA and CSAE Taiwan

Agenda II

- Taiwan's Institute of Civil & Hydraulic Engineering (CICHE) has been actively assisting the MC/CTAEIC in preparatory work, since mid-2003, for the APECE accreditation to Taiwan's civil and structural PEs as the first priority. The present and future schemes are as described in Sec. 2 above.
- Domestically, Taiwan's CSAE will in the beginning strive for having the AE given PE status; and meanwhile CSAE joining with CICHE will assist CTAEIC with realization of APECE accreditation in Taiwan.
- Or, alternatively, an easier approach is to allow PE of Hydraulic Engineering who has been given the accredited educational degree in AE, to be accredited APEC Engineer of AE in case revision of law would take a long time.
- Continuing working together with its Japanese and S. Korean counterparts in striving for APECE accreditation to the AEs of paddy farming countries in Asian monsoon regions.