<資 料>

The Status of Engineering Consultants and Consultancy Risk in Korea

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The Status of Engineering Consultants and Consultancy Risk in Korea Dr. Ginn Huh, President of Sam Jung Engineering Co., and Vice President of the Korean Professional Engineers Association.

The typical policy measure of the Government of Korea for the promotion of engineering service industry was the enactment of Engineering Services Promotion Law and the Presidential Decree there of on September 7, 1973. The Engineering Services Promotion Law was revised twice, first in 1976 and second in 1981. The major contents of the promotion law are (1) engineering servicc firms should register with the Ministry of Science and Technology with the stipulated conditions satisfied, and (2) in principle, domestic engineering service works should be carried out by the local firms with exceptions for the projects that the local engineering service firms are unable to provide the required services.

As of Dec. 1986 there are 305 engineering firms registered with the Ministry of Science and Technology employing a total of 10,657 engineers, including 64 FIDIC member firms far cry from the 1965 figures of 23 firms with 503 engineers. Meanwhile their gross sales for 1985 marked almost $400 million compared to the annual average of $44 million for the mid'70s and $5 million for the mid'60s.

National Technical Qualification Law is to be mentioned as the second policy measure taken by the Government for the promotion of engineering consulting capability which was promulgated December 31, 1973 and as revised December 31, 1982. To meet the national demand for the expertise of good quality, qualified engineers must be produced and properly treated. The

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Firms and Number of Employee (Dec. '86)

Firms Classification	Number of Engineers			
	No of Firms	Engineers	Technicians	Other
Plant Eng.	15	4,413	2,438	1,846
Associated Civil Eng.	7	1,393	539	603
Specialized Eng.	214	4,766	4,423	1,248
Individual Eng.	69	85	54	63
Total	305	10,657	7,454	5,760

Turnover by yearly average

Unit US$ Million

Year	Domestic	Overseas
1963~1968 (Yearly Average)	5	—
1973~1978 (Yearly Average)	32	12
1985	293	99

law was enacted for this purpose and stipulates system to assess and test qualifications of various categories of engineers and technicians and to give incentives for the licenced engineers. According to the law, engineers are classified into three categories and technicians into five. A professional engineer is the highest grade and defined as a man of professional knowledge in the respective engineering field with seven years or more experience after being qualified as the first class engineer. The first class engineer is a graduate of a four year engineering college and who passed the qualification test.

As the Government is the largest client of the engineering consulting service business its way of selecting Consulting firms and payment for the services affect greatly the consulting industry. In many government agencies it is common that the selection of engineering consultants are made on the sealed tender based and the lowest bidder selected. The Ministry of Construction (MCC), one of the biggesst user of consulting services enacted a ministrial decree in 1979 which stipulates criteria for selection of consultants in the bases of evaluation of the technical proposals called for and submitted by the consultants. In many cases, however, the Ministry itself, does not apply the criteria but select the consultants on price competition basis.

As the economy grows, pay scale of private enterprises become higher and higher compared with the governments, and attracts official engineers, planners, economists, etc. On the other hand, college graduates also tend to prefer the private firms for the same reason. Thus, governments inevitably reduce in-house engineering works and let engineering projects done by contracts.

Presidential Decree providing regulations for construction supervision was enacted by MCC on February 29, 1984. The decree stipulates that all civil works which need construction supervision shall be carried out by consulting engineers specialized in the relevant fields employed by contracts. Enforcement of this decree certainly the relevant fields employed by contracts. Enforcement of this decree certainly the relevant fields employed by contracts. Enforcement of this decree certainly would give remarkable demand in the consulting industry, considering the

fact that, until recently, almost all the construction supervisions have been done by the government officials except the projects financed by IBRD or ADB.

The overseas construction industry which was thriving in 1970s is rapidly diminishing with the recession of Middle East oil economy in 1980s. In order to diversify its overseas market, the Korean government has been directing its efforts to export engineering/consulting services to overseas by means of injecting High-Tech expertise to the construction industries. The Government also been urging consulting and engineering firms to expand their operations to the overseas. In accordance with such government policy the Korea Consultants Internation (KCI) has been established. It is a consortium of eleven independent engineering consulting compaines. The Korean Government, although its scale and amount may be small, has arranged Technical Assistance Funds and is conducting a training program for the engineers from the developing contries and is also providing assistance for project preparation in those countries, with the aim of extending technical cooperation to the neighboring developing countries using the expertise and and experience gained during the course of industrializing this nation.

The amount of Technical Assistance Funds for the year 1984 was approximately US $ 3,300,000 and an amount US $ 3,900,000 is being programmed for the year 1985. I would like to pointed out the following the risk of Korean engineering consultants works. I hope that the future of Engineering Consultants works in Korea are soluble ones. and I think that with effort through all the parties, we will conquer the problems. I would like to see Korean consultants firms concentrate their efforts on improving the construction management. Management becomes more increasingly part of construction industry to improve the quality of work and cost-cut-down on the project during the construction.

1. According to the Engineering Service Promotion Act, supervisor has no opportunity to amend the project that has once approved, unless the government allow to change. In practice, the budget is so limited that the once approved project should be carried out in accordance with drawing. This kind of practice gives hardly engineers to improve the quality of project once started. Also, there is very hard to adjust the project Cost.
2. Under the engineering consultants contract (design) with the government, engineers may not be compensated their additional work even though the work is out of the contract but the work relates the project.
3. I think the practice of competitive bidding for consultants should be stopped, because our perdium per man shift (US $ 74.40) tends to down our price.

   So the two-envelope system will ensure the optimum charge of professional engineer and also develop a sound engineering practice.

   After all, the good quality work stands its own merit. The customer/client will be appreciate more.

   Commercialization of special knowledge will degrade only the quality of professional engineers consultants.
4. According to the construction work Act, there is no any arbitration article. Disputes are usually handled by the Commerical Arbitration Law, therefore, we have to follow the rules of commercial Arbitration Committee.

   The rules that they have set up have a ladder of a representation of professional engineer.

5. The consultants works must be inspected by central design Judge Committee. During this period, the government does not compensate and design changes or any time delay.

   Therefore, the consultants engineers carry the financial burden.

6. Value Engineering System is almost not applicable practice in Korea. Because construction projects are mostly sub-contraction works. So VE System is not uniquely applicable to the similar construction work even though there is some examples of success, The reason of not practicing VE system is a lack of understanding either client government and contractor.

7. It is very difficult to reinstate as a Professional Engineer once they find that engineer in fault. At least. At least Professional Engineers Liceuse or certificate should be reinstated depending on the findings.

   Also no-fault insurance for consultants P.E virtually does not exist in Korea. If the Law sue came, they are financially in a difficult position to defend, the situation. For this reason, no-fault insurance should be established for consultants of praciticing engineers.

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國 內 産 業 視 察

本會에서는 每年 實施하는 國內産業視察을 今年度는 오는 6月 3日과 4日에 "古里原子力發電所"(경남 양산군 소재), 浦項製鐵 또는 現代自動車를 見學할 예정입니다.

參加를 希望하시는 會員께서는 本會의 通知文이 發送되는 대로 本會 事務局으로 申請 있으시기 바랍니다.

人員制限關係로 선착순으로 接受하오니 착오 없으시기 바랍니다.

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