

# MORALITY IN ENGINEERING

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Dr. Dr Muhammad Fuad bin Abdullah Ph.D. in his feature article in the February 2004 issue of Bulletin Bulanan IJM presented a commendable discourse on professionalism ala Islam, which will cause many to reflect on the philosophy of practice by engineers. The approach will attain not only a high standard of practice but more importantly an implementation of innate motivation for the fulfillment of excellence of service to society at large. The commitment by engineers to professionalism cannot be gainsaid.

Society at large has the need for engineers not only to provide excellent designs but to monitor the execution of his designs by downstream contractors. It cannot be readily understood why Employers and society at large do not seem to possess the faith that contractors can be expected to perform properly with due adherence to specification requirements. They may even be thought not sufficiently dedicated to produce the quality of job with minimum defects that is desired. Why are contractors generally, if unsupervised, not on the same wavelength to accept the clear recommendations advised by Dr Muhammad Fuad bin Abdullah concomitant with commendable compliance with the teachings of religion. Contractors of Islamic faith would well-know the application of religious tenets to their work in order to receive the full satisfaction such adherence will bring.

Atheists and those of shallow religious faith would not be motivated nor

be bound to make religious teachings to be one with work performance. This frame of mind has gone on for centuries and has also become adopted by some in the business community at large, so that even expectations, much less demands for the builders to accept full responsibility without need of supervision is little fulfilled and certainly not a norm. Instead they tend to relegate themselves to a class which cannot readily construct on their own but must continue to be supervised. There continues to be a cat and mouse situation that often ends up although untenable is not abandoned, because Employers being concerned about getting fair value have created and maintained the current system, in which the Engineer is their watchdog. Tenets of religion enter not at all. Engineers are even embroiled because of their watchdog status to face at high cost damages for failures that may result from non-performance by the builders. The seeming lack of confidence in the dispersing with supervision to rely on the capability of the builder can be interpreted as an undesired denigration of their integrity, as there are many very reliable builders with outstanding records. Another incompatibility is that the remuneration for the builder can range from 5 to 15% while that for Engineers has dropped to even 0.7% of the value of the construction. This is an absurd situation but the sad reality today. Is the poor situation caused by a lack of the practice of religious tenets?

What can be the remedy? Several come to mind. The first is to spread the religious tenets for universal acceptance by man as vice regent, so that engineers, contractors and others

that engage in engineering will fully understand the basic purpose of man's existence. This will take much time and can meet resistance from the non-religious. A second approach is to make mandatory that only properly and duly qualified persons who have followed a course of study in building construction and possess ten years' experience in a position of responsibility for the construction of sizeable projects may be granted a licence to do construction. There will be a hue and cry at this strict requirement but it will remove a basic defect in the current system, to bring forth a high standard for the industry, like that found in Sweden. Additionally the contractor could also undertake studies of religion or morality to equip him with an understanding of the purpose of man's existence and regency.

Thirdly the contractor shall solely be responsible for his acts notwithstanding general supervision by the design and supervising engineer. Is this measure overly harsh? Not so, as the financial returns can be substantial and gloriously satisfactory. A look at the financial opulence of successful contractors will settle this doubt. A program to acquaint Employers that they can have full faith in the well qualified contractor rather than rely on a cat and mouse game, that seriously departs from the tenets presented by Dr Muhammad Fuad bin Abdullah.

A correction of the current unsatisfactory regime of low remuneration for the engineers in private practice, other than those who undertake government projects through an investigation by the Authority will help to eradicate the widespread habit of offering engineers less than the scale fees that was promulgated to be mandatory by the Board of Engineers. Should potential employers consider that the scale of fees need adjustment, they could through the Employers Federation hold a dialogue with Engineers to arrive at a suitable scale of remuneration.

The system of tendering that has been in vogue for fifty years and more, where the bidders must put up their best competitive offers has a sound and reasoned basis for application. However it does not preclude purposefully low tenders nor erroneously low tenders, which if accepted, will end up with costly litigation to settle disputes under the contracts. There should be a Schedule of Fair prices similar to those used for annually placed works by Jabatan Kerja Raya. A fair estimate can be made for a project to be used as a benchmark with which tenders received may be compared so that unreasonable tenders say 8% lower than estimate can be excluded from acceptance. Much time and money will be saved for all concerned. If an

overly low bidder were to argue that he can perform, then it is best for him to put up a bank guarantee, payable on demand, for the cost of the project. This guarantee can be exercised on the contractor's failure to perform. This method will save the bacon of contractors who make erroneous bids or absurd bids as well as the time, efforts and costs for Employers and Engineers. One can view the absurd bids to be outside the bounds of the application of religious practice, which are intended to reduce and hopefully to eliminate unjust, unrightful and spurious actions that mar the image of man as regent of life. Therefore much greater emphasis must be paid to the excellence presented by Dr Muhammad Fuad to inculcate religious understanding and accep-

tance by all who are involved in the great field of engineering to bring to it the strict morality, the lack of which caused innumerable disputes, bad work, cheating, even corruption over the many years. As all religions teach man to be good the comments in the article are as applicable and practical for other beliefs.

Perhaps more engineers would take up this matter to express their views as to how the teachings of good by religion can positively help build better professionalism in a morally honest society that will benefit for Employers, Engineers and Contractors. ■