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CONSULTING ENGINEERING ETHICS

IS it ethical for consulting engineers to quote less than 5% (of the cost of the work) for plans, specifications and supervision of erection of buildings, bridges, power plants or any other engineering undertakings? and what, if anything, should be supplied for that amount, other than the plans, specifications and personal supervision?

These questions are being actively debated among the consulting engineers of Toronto, due to recent keen competition for appointment in connection with an important bridge. One firm offered to do the work for 4%; all the other engineers asked 5%, but after their letters had been read in council meeting, and it was published that an offer of 4% had been received, one of the engineers who had bid 5%, reduced his figure to 4%, and subsequently one other 4% offer was received from a firm that had not previously tendered its services in formal manner. The work was awarded to the engineer who cut his price from 5% to 4% after he saw that another engineer had bid 4%.

Which of these two engineers, if either of them, was guilty of unethical conduct?

The man whose original bid was 4% states that 4% is his regular fee for certain classes of work, and that no engineer should have altered his price after it had been tendered. He says that he considered his services on such work worth 4%; and that if another engineer considered his own services worth 5%, he should not have entered into a price-cutting competition, but should have allowed the owners of the proposed bridge to determine whether the one man's services would be worth more than the other's services.

This man, therefore, thinks that the "cutting" from 5% to 4% was unethical, but that he was fully justified in

quoting 4%. On the other hand, the engineer who "cut" is of the opinion that he was justified in so doing in order to meet unethical competition; in other words, that it was not ethical for any engineer or engineering firm to quote less than 5% at any time for plans, specifications and supervision.

Webster defines ethics, as applied to professions, as follows: "Any body of principles or rules concerning moral obligation, whether true or false, that is intended to regulate practise in any particular sphere of activity."

Are there any "principles or rules" that were violated by either of these engineers? The code of ethics of the Engineering Institute of Canada contains no reference to fees or price-cutting. The code of ethics of the American Society of Civil Engineers says: "It shall be considered unprofessional and inconsistent with honorable and dignified bearing for any member . . . to compete with another engineer for employment on the basis of professional charges, by reducing his usual charges and in this manner attempting to underbid after being informed of the charges named by another." The code of ethics of the American Institute of Consulting Engineers contains a clause almost identical to that in the A.S.C.E. code.

Obviously, however, there was no intention of *underbidding* on the part of the engineer who cut his price, but merely of *meeting* the other man's lower bid. The clause quoted above does not seem to prohibit such a reduction. It would, however, prohibit a bid of 4% if a firm's regular fee were 5% and if the reduction were made knowing that another engineer had quoted 5%. In this case, the engineer whose original bid was 4% states that 4% is his regular price on work of that amount and character. Moreover, his bid was the first one received by the owners and antedated all others by at least four days.

The only civil or consulting engineering society that has adopted a schedule of fees is the American Institute of Consulting Engineers, which stipulates 5% or more for preliminary examinations, surveys, plans and specifications, final working drawings, and consultation and general advice during construction. This is much less than the two Canadian engineers above referred to, offered to do for the same or smaller percentage. The firm that originally bid 4% offered "to place a resident engineer experienced in concrete bridge work on the job and do all necessary testing of materials entering into the construction of the bridge. In addition to the above, this fee would include the regular supervision of the work by members of this firm and preparation of monthly estimates, etc."

The engineer who reduced his bid from 5% to 4%, and who was appointed, agreed to "supervise, either by himself or by skillful, qualified persons that he may substitute, the erection and construction of the said bridge by the contractors and all work that may be incidental and necessary to properly carry out the work required for the completion, construction and erection of the said bridge . . . and that he will make proper and sufficient plans, specifications and estimates and inspections."

Toronto consulting engineers are therefore debating the advisability of adoption, by the Engineering Institute of Canada, of a schedule of minimum fees, but the majority are opposed to such action until after the American Society of Civil Engineers has adopted a similar schedule, fearing that American engineers may quote lower rates and take much work away from the Canadian engineers. Should the Engineering Institute be successful obtaining legislation closing the profession in Canada, the Canadian engineers could successfully establish a schedule regardless of what American engineers might charge; because then, in order to do work in Canada, the American engineers would have to belong to the Engineering Institute and consequently would be amenable to its regulations regarding fees in Canada.

There are times when an engineer might desire for personal reasons to become associated with some big job almost regardless of remuneration. To be forced to charge as much as men who were not actuated by the same motives, but who were bidding on the work as a purely commercial proposition, might then seem to him to be a hardship and a violation of his personal liberty. But we have all learned during the past few years that one's purely personal rights