Professional Engineers
Ontario

Volume 18, No. 1
January/February 1999

Gazette

THE DEPARTMENT OF THE REGISTRAR, PEO

Published by
the Association of
Professional Engineers
of Ontario

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Discipline Committee of the Association of Professional Engineers of Ontario

In the matter of a complaint regarding the conduct of a member of the Association of Professional Engineers of Ontario

Decisions and Reasons–Stipulated Order

The Complaints Committee, in accordance with section 24 of the Professional Engineers Act (Act), referred the above noted matter to be dealt with by way of a Stipulated Order. In accordance with the Stipulated Order process, Anthony Galati, P.Eng., a member of the Discipline Committee of the Association of Professional Engineers of Ontario (PEO) who was selected to represent the Discipline Committee, after reviewing the complaint and other related information, met on September 11, 1998 with the complainant, the independent structural engineer that PEO engaged on this matter and the member, at the offices of PEO, located at 25 Sheppard Avenue West, North York, Ontario, to consider allegations of professional misconduct in the above noted matter. The meeting with the member was to allow him an opportunity to offer an explanation and/or defence for his actions and conduct.

The complaint alleged that the Ministry of Transportation (MTO) awarded a contract for the construction of an underpass in Ontario. The contract specifications required that a professional engineer seal and sign a Certificate of Conformance stating that the reinforcing steel had been placed in conformance with the contract drawings. The member sealed and signed a Certificate of Conformance for pier columns. Subsequently, the MTO inspected the pier columns and found errors and/or deficiencies, including that: the reinforcing steel was not placed in accordance with the contract drawings, with clear spacing between the spirals ranging from 0 millimetres to 90 mm; the work was incomplete, and, because only one of the pier columns was formed at the time the certificate was issued, the concrete cover could not be checked for the other pier columns; reinforcing steel was embedded in the footing for these other pier columns, but these pier columns were not plumb as required by the contract drawings; and the certificate incorrectly referenced the footing drawing instead of the column drawing.

The complaint alleged that the member:

1. prepared and sealed a written certification for work, some of which was not completed, which he later acknowledged contained deviations from the contract drawings and contract specifications.

2. failed to make reasonable provision to ensure that the noted deviations in the work were corrected to comply with the contract drawings and contract specifications.

3. was careless in preparing and sealing a written certification for work, in that incorrect reference was made to the foundation and footing contract drawing instead of the contract drawing for the columns.

4. failed to demonstrate an understanding of his professional responsibilities and obligations as a professional engineer providing a sealed, signed and dated Certification of the Component form.

An independent structural engineer's review of the drawings and MTO's contract specifications and standards found that:

1. The wording "Prior to placing concrete for

each component" requires that each structural element must be reviewed prior to placing concrete.

2. The wording "This certificate shall state that the reinforcing steel has been placed in conformance..." does not state "general conformance" but "conformance." This does not allow tolerances outside of those included in the contract specifications.

3. The wording "bear the signature and seal of an engineer" has been requested by the MTO in order to be able to rely on the professional responsibilities that are a consequence of a professional engineer placing and signing his/her seal on any document.

4. MTO specifications included that: reinforcing steel bars shall be accurately placed in the positions shown in the contract and held in the correct location during the operation of placing and consolidating concrete; spacers for spirals shall be equally spaced around the spiral and shall be such that the specified pitch of the spiral is maintained; and reinforcement shall be placed in conformance with the tolerances given in Table 1.

5. Upon review of Table 1, the allowable tolerance for the placement of spiral reinforcement in cast-in-place concrete would result in allowable spacing of the spiral reinforcement from between 40 mm to 70 mm. Therefore, spacing of the spiral reinforcement outside of this range would be unacceptable.

6. The "general notes" on Drawing 1 specifically required a concrete "clear cover to reinforcing steel" of 70 ± 20 mm.

7. It is common in the industry that any written report will state that the work is in general conformance. This is due to the fact that, in most cases, reviews are periodic and form only a sample of the work done. Also, it is uncommon to observe work that is installed exactly as shown on the contract drawings, and this is acknowledged in the specified placing tolerances provided in most contract specifications. In this specific case, each structural component is to be certified for conformance, not general conformance. This requires a higher level of inspection (incidence and detail) than the standard periodic reviews noted in most agreements.

The independent structural engineer concluded that:

1. The photographs taken clearly indicated that: the steel reinforcement for two of the pier columns was not plumb as required by the contract drawing, and should not have been certified by the member; the steel reinforcement for these two pier columns was not placed with the specified spacing, nor support (the spacing was reported to range from 0 mm to 90 mm and is therefore outside the specified range of 40 mm to 70 mm), and should not have been certified by the member; and only one of the pier columns was formed and apparently ready for concrete placement. The forms were not in place for the other pier columns, and, therefore, the requirements for concrete cover for the reinforcing steel could not have been confirmed at the time of the certification. These columns should not have been confirmed by the member. As a consequence, the protection of the reinforcing could have been compromised.

2. The spacing and support of the spiral reinforcement for the north columns, as reported by the MTO, did not meet the specifications (the spacing was reported to range from 0 mm to over 90 mm and is therefore outside the specified range of 40 mm to 70 mm), and should not have been certified by the member.

3. The member should not have sealed, signed and issued a statement that: "The reinforcing steel has been placed in accordance with the contract drawings...,"professional statement.

In the meeting with the Discipline Committee member, the complainant noted that:

1. Beginning in 1996, as part of the government privatization initiative, the MTO required that a contractor submit to the MTO contract administrator a Certificate of Conformance (certificate) sealed and signed by a professional engineer, stating that certain structural components were in conformance with contract drawings and specifications.

2. MTO places a high priority on the achievement of the specified concrete cover, as this has a dominant effect on the service life of concrete components in the highway environment. Although technicians/technologists could conduct the inspection, MTO required that a professional engineer assume responsibility and be accountable by sealing and signing the component certification.

3. There have been a number of violations of this MTO requirement. This specific violation was brought to PEO because related documents were readily available, and was not personally against the member. MTO believed that this "test case" using PEO's complaints and discipline process to address such matters would assist MTO in determining how to handle future similar matters.

4. The subcontractor had engaged the member's firm to provide the reinforcing steel certification.

5. The member subsequently sealed, signed and dated a certificate for pier columns. MTO's quality assurance officer (concrete) inspected the pier columns and found significant deviations from the MTO contract drawings and specifications.

6. These deviations related to the spiral pitch of the reinforcing steel being outside of specified tolerances, the reinforcing steel for two of the pier columns not being plumbed, and these pier columns not being formed at that time, and, as such, the concrete cover of the reinforcing steel for these columns could not be checked. MTO refused to accept this certificate.

7. A certificate sealed and signed by another professional engineer from the firm was submitted to MTO and not accepted, as there were still some areas of noncompliance with the reinforcing steel. Subsequently, a second certificate, sealed and signed by this professional engineer, was submitted to and accepted by MTO. Although justifiable, MTO decided not to bring the matter regarding this professional engineer to PEO's attention.

8. The MTO contract specifications state "conformance," not "general conformance." If the nonconformance included only one instance, MTO would likely not be concerned. However, there were numerous nonconformance instances that were too far outside of tolerances to be acceptable.

9. MTO believed that the subcontractor had all of the MTO contract documents. If the member did not have these documents, it was his responsibility to access them from the subcontractor, to ensure he was fully informed of MTO specification requirements.

10. It was "poor judgment" for the member to expect that the reinforcing steel contractor's foreman would "correct" the pier columns that were out of plumb.

11. MTO contract specifications could be clearer in specifying 100 per cent conformance with MTO requirements. However, what was observed did not even meet the requirements for "general conformance."

12. He was not aware of the contractual details between the member's firm and the subcontractor related to inspection and certification for this project. There may have been an assumption on the part of the engineering firm that "general conformance" was what MTO required. As a senior engineer with the engineering firm, the member may have participated in the contract negotiations, and, if so, ought to have been aware of MTO specification requirements.

In the meeting with the Discipline Committee member, the independent structural engineer noted that:

1. He had no information regarding the contract between the engineering firm and the subcontractor for the inspection and certification for the project.

2. Usually, inspection and certification are on a random sampling basis, and are reported along the lines of "in general conformance with." The MTO specifications for this project required certifying that the reinforcing steel has been placed in conformance, not general conformance. This meant that variances in the placement would be allowed, provided these did not exceed the allowed tolerances contained in the contract specifications.

3. The term "conformance" meant 100 per cent conformance within the specification requirements, not general conformance. The specifications could have been worded as "strict conformance," which would have been clearer. Also, it would leave no doubt as to MTO's requirements for certification. The 100 per cent conformance required a higher level of engineering service and would impact on the cost of providing such engineering service.

4. The certification required in the MTO specifications may not have been clearly known by the member. There may be differences between MTO "standards" and private sector "standards." The certificate sealed and signed by the member was for something that was not true.

5. The consequences that could have resulted because of the non-compliance of the spiral reinforcing steel included honeycombing and a lack of proper concrete bonding, which are serviceability issues.

6. It was improper to certify coverage for two of the pier columns when they were not formed at the time of the certification, as the coverage could not be certified.

7. The reference to the incorrect drawing could happen in any circumstance and was not a concern.

8. He would expect that four or five spacers would be required for this size of pier columns. The use of three is insufficient.

9. This matter may have been blown out of proportion in that a simple reprimand to the member's firm to provide better engineering service may have been appropriate, instead of using this as a "test case" for PEO's complaints and discipline process.

10. This matter ought to have been avoided as the member was a senior engineer with the engineering firm, with over 20 years of experience. The member clearly acknowledged an error in judgment and regretted doing so.

The Discipline Committee member, in the meeting with the member, reminded him that this was his opportunity to offer an explanation and/or defence for his actions and conduct, and, that if he disagreed and did not accept the Stipulated Order, the matter would proceed to a full Discipline Hearing before a discipline panel of the Discipline Committee. In providing an explanation, the member stated that:

1. He was substituting for another professional engineer, who normally inspected and provided the certification, and who was on sick leave.

2. He climbed to the top of the formed pier column, inspected the inplace reinforcing steel and, based on what was observed, believed that the concrete cover requirements would be met. He did not climb down into the reinforcing steel cage.

3. Regarding the two pier columns that were not formed, after discussing the matter with the reinforcing steel contractor, he believed that the contractor understood what work was required before pouring the concrete. Based on this, he believed that the work would be carried out properly and issued the certificate.

4. He understood that concrete had been ordered for the formed pier column, but advised that he did not feel pressured to issue the certificate.

5. He believed that the construction was to be in general conformance, not 100 per cent conformance. He did not believe that the structural integrity of the pier columns was compromised.

6. He noted the reversed spirals at the top of the pier columns, but believed that they would be in the cap of the columns. He also observed that three spacers were being used, and believed that more than three were required.

7. He was not aware as to whether the other professional engineer, who normally inspected and provided the certification, had inspected the footings of the two pier columns that were not plumbed.

8. He recognized his error in judgment and the less than diligent manner in his handling of this matter.

9. He acknowledged that he had access to all project drawings, shop drawings and specifications.

10. He did not participate in the negotiation of the contract between his firm and the subcontractor. If he had, he would have been aware of the MTO requirement for "conformance" and would have discussed the requirement for this degree of conformance with MTO.

11. He did not have any problems in his dealings with the MTO quality assurance officer (concrete).

12. He is now aware of the MTO requirement for 100 per cent conformance and will not issue any certificate unless he has personally inspected the work that is being certified.

The Discipline Committee member considered the available information and the explanations of all parties, and found the following information to be significant:

1. The member admitted that he had made an error in judgment, appeared to be remorseful and was very concerned that this matter resulted in a complaint against him.

2. The MTO requirement for 100 per cent conformance may not be widely known to all engineers providing inspection and certification services to the MTO, as the usual certification is for general conformance. In this regard, it may have been clearer to the member had the MTO specifications stated "strict conformance."

3. The member has advised that he is now aware of the MTO requirement for 100 per cent conformance and will not issue any certificate unless he has personally inspected the work.

4. The reinforcing steel deviations noted in the two unformed pier columns were corrected, and a certificate for

these two pier columns was accepted by the MTO.

5. The MTO acknowledged that this matter was a "test case" of PEO's complaints and discipline process, and was not directed at the member personally.

Based upon the foregoing, the parties have agreed that there was a basis for concluding that there were breaches of professional misconduct, and have agreed in the Stipulated Order to the following:

That the member is guilty of professional misconduct, in that he breached sections of Ontario Regulation 941, specifically:

◆ **Section 72 (2)(a): Negligence, in that the member acted in a manner and made omissions in the carrying out of work that constituted a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances.**

The member failed to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances.

◆ **Section 72(2)(d): Failure to make reasonable provision for complying with applicable statutes, regulations, standards, codes, by-laws and rules in connection with the work being undertaken by or under the responsibility of the practitioner.**

The member sealed and signed a Certificate of Conformance certifying conformance with the MTO standards and specifications, when there were errors and deficiencies in the work.

◆ **Section 72(2)(j): Conduct or an act relevant to the practice of professional engineering that, having regard to all the circumstances, would reasonably be regarded by the engineering profession as disgraceful, dishonourable or unprofessional.**

The member's actions and conduct were deemed to be unprofessional, but not disgraceful nor dishonourable.

The following Order has been offered by the Discipline Committee member and has been agreed to by the parties:

1. That the member be admonished.

2. That the Decision and Reasons–Stipulated Order be published in the official journal of the association, without reference to the name of the member or the specific MTO project.

3. That there be no fine or costs imposed.

4. That there be no further action taken related to this matter.

After the Order was read by the Discipline Committee member and agreed to by the member, the Discipline Committee member administered the admonishment to the member.
Dated this 8th day of October 1998
Anthony Galati, P.Eng.

(Discipline Committee member)

Council approves designation of Consulting Engineers

At the 381st meeting of Council held November 26-27, 1998, the following members were designated or redesignated consulting engineers pursuant to Ontario Regulation 941 of the Professional Engineers Act. Also listed are firms to which Council has granted permission to use the title "Consulting Engineers."

Designation of a consulting engineer is for a period of five years; at the end of that time, the member must be redesignated for a further five-year period in order to maintain his or her designation. Anyone wishing further information on the consulting engineers program may contact James Lamont, Department of Professional Affairs, at (416) 224-1100 or (800) 339-3716.

Newly designated Consulting Engineers

C. Marc Bailey, P.Eng.
Bailey Engineering Inc.
Holland Landing, ON

James Edward Bennett, P.Eng.
Rochon Engineering Inc.
Concord, ON

Stephen Richard Hall, P.Eng.
Thomas A. Fekete Limited
Willowdale, ON

Valerie Ann Knowles, P.Eng.
IBI Group
Toronto, ON

Andrew H. Lawton, P.Eng.
R.J. McKee Engineering Ltd.
Ottawa, ON

Cal F. Oswin, P.Eng.
Ellis, Pastore & Oswin Consultants Inc.
Sault Ste Marie, ON

James Richardson Persaud, P.Eng.
Cheng Persaud & Associates Ltd.
Scarborough, ON

Armin J. Von Eppinghoven, P.Eng.
Rybka Smith and Ginsler Ltd.
North York, ON

Redesignated Consulting Engineers

Shaheen Aziz Ahmad, P.Eng.
Edward Adam Bogdanowicz, P.Eng.
Cyril J. Demeyere, P.Eng.
Wallace George Eley, P.Eng.
Paul T.P. Flood, P.Eng.
Robert Halsall, P.Eng.
Victor Joseph Hebert, P.Eng.
Kiat Hsin Hsu, P.Eng.
Manohar Khemani, P.Eng.
Victor W. Littlejohn, P.Eng.
William Grant Matthews, P.Eng.
Robert James McKee, P.Eng.
Paul C. Murray, P.Eng.
Jan Marian Nitsch, P.Eng.
Kenneth R. Peaker, P.Eng.
John-David D. Phyper, P.Eng.
Robert Brian Pula, P.Eng.
George Peter Rossos, P.Eng.
Richard Thomas Sabourin, P.Eng.
Rosario Sacco, P.Eng.
Zaven Sarkissian, P.Eng.
Michael Joseph Soligo, P.Eng.
Andrew J. Truax, P.Eng.
Ronald Weir, P.Eng.
Michel Weiss, P.Eng.
August Spencer Wilkins, P.Eng.

Consultants granted permission to use the title "Consulting Engineers" or an approved variation

Cochrane PBK Engineering Ltd.
Toronto, ON

Ellis, Pastore & Oswin Consultants Inc.
Sault Ste Marie, ON

E.Z. Nejat & Associates Inc.
Richmond Hill, ON

Prolink Consulting Engineers Inc.
Oakville, ON

ICM Engineering Ltd.
Pickering, ON

Canadian Geovision Limited
Willowdale, ON