

<b>IN THE MATTER OF</b>	The Rules of the Institution of Professional Engineers New Zealand (Inc) (IPENZ)
<b>AND</b>	The IPENZ Disciplinary Regulations
<b>IN THE MATTER OF</b>	An inquiry by the Institution of Professional Engineers New Zealand on its own motion
<b>AGAINST</b>	Mr Anthony Major MIPENZ

## DECISION OF DISCIPLINARY COMMITTEE

### 1. INTRODUCTION

- 1.1 On 9 July 2012, IPENZ received a letter from Mike Stannard FIPENZ, Chief Engineer at the Department of Building and Housing (now the Building and Housing Group of the Ministry of Business, Innovation and Employment – MBIE) which referred to two reports relating to the investigation into the collapse of the Southland Stadium (the Stadium).
- 1.2 Construction of the Stadium in Tay Street, Invercargill commenced in 1999 and was completed in 2000. The building provided a 9,108m<sup>2</sup> indoor sports facility for the Southland region and featured clear spans over two large inter-linked spaces comprising the Community Courts area and the event courts area.
- 1.3 During the construction of the stadium excessive deflections or sagging was observed in the roof trusses that had been erected over the Community Courts area. Modifications had to be made at a late stage of construction to address these problems.
- 1.4 On 18 September 2010, following a snow storm, the roof structures over the main area of the stadium collapsed. Fortunately there was no injury caused to occupants as there was only one person in the stadium at the time and that person was not in the area affected.
- 1.5 The authors, Smith and Hyland, of the report for MBIE (Stadium Southland Roof Collapse Report, Structure) dated 11 May 2012 state that the roof collapsed “*due to a combination of factors that included the heavy snowfall, construction defects, design detailing issues and problems with remedial works undertaken during construction*”.
- 1.6 Mr Stannard explained that whilst MBIE’S investigation focussed on the technical reasons for the collapse of the stadium, the Department noted a number of issues relating to the design and construction processes. He went on to suggest that IPENZ should initiate an investigation into the conduct of any of its members involved in the design and construction of the Southland Stadium project.
- 1.7 On 9 August 2012, Charles Willmot, Manager Investigations and Discipline, reported to the Chief Executive Dr Andrew Cleland to advise that a Producer

Statement (Design) and Producer Statement (Construction) were issued for the Southland Stadium by Mr Anthony Major MIPENZ. Additionally, he advised that Mr Maurice Harris MIPENZ was involved in providing assistance and peer review for the remedial works.

- 1.8 Dr Cleland replied the same day advising, "*the information [Mr Willmot] supplied suggests that the design by Mr Major, the post construction producer statement by Mr Major and the remedial work design review by Mr Harris are important aspects that warrant an investigation into these Members. This note is notice that under delegated authority from the governing Board to me I wish to initiate an enquiry into the behaviour of those two Members of IPENZ in which their behaviour is judged against the code of ethics and Rules of the Institution of the day.*"
- 1.9 Mr Willmot contacted Mr Major to advise him of the inquiry on 14 August 2012 seeking a submission by 16 September 2012. In that submission Mr Willmot asked that Mr Major specifically answer some questions posed to him.
- 1.10 Mr Major supplied a submission on 24 September 2012 and provided a more substantive response on 1 October 2012.
- 1.11 Mr Willmot also obtained copies of relevant Producer Statements, some plans and file notes from the Invercargill City Council.
- 1.12 Mr Willmot completed a Complaints Research Officer's (CRO) Report on 1 October 2012. This was submitted to a Chair of Investigating Committee the same day and he provided an Adjudicator's Report dated 8 October 2012.
- 1.13 The Adjudicator determined that there was substance to Dr Cleland's concerns and consequently referred the inquiry to an Investigating Committee (IC).
- 1.14 On 30 October 2012 an IC was established under Clause 42 of the Regulations comprising:
- Mr Colin Hickling FIPENZ CPEng IntPE(NZ) (Chair)
  - Mr Fraser Henderson FIPENZ CPEng IntPE(NZ)
  - Mr Dale Turkington FIPENZ CPEng
- 1.15 The IC prepared their preliminary decision based on the documentation provided by both parties at the time of their appointment. Additionally, they sought a report on the Stadium by Ashley Smith CPEng MIPENZ IntPE(NZ) (one of the authors of the MBIE report referred to in para 1.5 above) for further clarification.
- 1.16 Following consideration, the IC confirmed its preliminary conclusion that "*having considered the grounds set out under Regulation 8 of the IPENZ Disciplinary Regulations, no grounds exist for dismissing the complaint and therefore, under Regulation 11(a), the complaint should be referred to a Disciplinary Committee*".
- 1.17 This preliminary report was sent to Mr Major for comment and submission on matters of fact. Mr Major's submission was received on 17 June 2013.
- 1.18 Following receipt of his comments, the IC report concluded:

- 1.18.1 *“The IC has reviewed all the evidence made available to it including the design reports by others, and Mr Major’s submission in response to the proposed decision. The IC maintains its initial conclusion that key elements of the original design did not meet the NZ Building Code required at the time; and that the retrofit design, developed to correct the errors in the original design, was not appropriately detailed and monitored by Mr Major. These errors and omissions put public safety at risk.”*
- 1.18.2 *“The IC considers that in being responsible for these errors and omissions, Mr Major has shown aspects of both incompetence and negligence in his role as a professional engineer.”*
- 1.18.3 *“At the time of the design of the Southland Stadium Mr Major was subject to the IPENZ Code of Ethics published in 1996 which is appended to this report (Appendix 1). In particular it requires Members to have a duty of care to protect life and to safeguard people and to undertake their duties with professionalism and integrity and work within their levels of competence.”*
- 1.18.4 *“It is the view of the IC that Mr Major did neither of these things.*
- 1.18.5 *“Based on its review of the available documents the IC has concluded that a mixture of incompetence and negligence in various degrees, however argued, has occurred in design and construction, while under the professional responsibility of Mr Major.”*
- 1.19 Consequently, the matter was referred to a Disciplinary Committee.

## **2. DISCIPLINARY COMMITTEE’S PROCEEDINGS**

- 2.1 A Disciplinary Committee (DC) was appointed in accordance with Clause 43 of the Regulations, comprising the following persons:
- Mr Brian Hasell FIPENZ (Chair)
  - Mr Barry Brown FIPENZ CPEng IntPE(NZ)
  - Mr John Hare FIPENZ CPEng IntPE(NZ)
  - Mr Paul Blackler
  - Mr Bill Whitley (Consumer NZ Inc)
- 2.1.1 The Committee convened to hear the matter on 6 December 2013 at the Ascot Park Hotel, cnr Tay Street and Racecourse Road, Invercargill, commencing at 10.00am.
- 2.2 Due to bad weather disrupting air travel Mr Hare attended from Christchurch by teleconference;
- 2.3 Also attending the hearing in person were:
- Mr Dale Turkington FIPENZ CPEng IntPE(NZ) representing the Investigating Committee;
  - Mr Charles Willmot FIPENZ CPEng IntPE(NZ) of IPENZ as the complainant;
  - Ms Becca Barrow of IPENZ;
  - Mr Anthony Major MIPENZ, respondent;

- Mr Bob Simpson, observer.
- 2.4 The Hearing Procedure had previously been circulated to all those in attendance and was adopted. The Chair explained that the procedure could be amended as the hearing progressed, and noted the DC's inquisitorial, rather than adversarial approach to proceedings.
- 2.5 The hearing commenced with Mr Willmot presenting an overview of the reasons that IPENZ had initiated the inquiry and its initial stages. There was the opportunity for other parties to ask questions of Mr Willmot; however none were asked.
- 2.6 Mr Turkington then presented on behalf of the IC. He highlighted the salient points of the IC's investigations and answered questions from the attendees.
- 2.7 In response to Mr Major's suggestion that the retrofit design was necessary because the Community Court roof trusses that had been erected were not as originally designed by him. Mr Turkington pointed out that the structural review report by Harris Consulting listed 10 further items that did not meet code strength and/or serviceability limits. He said that plans for all the retrofit work had been submitted to the Council with Mr Major's Producer Statements Design PS1 but that he was concerned that some of the details shown were complex and would require careful and well supervised work on site to be effective. He said that the splice weld to the top chord of the community trusses which was part of the refit work was at a critical location and would have been very difficult to carry out.
- 2.8 Mr Turkington was asked to comment on Mr Major's suggestion that the roof failure was not initiated by failure of the Community Court trusses as concluded in the StructureSmith/Hyland report but was the result of the stripping of bolts connecting the spine truss to the columns. He responded that in his view this was "possible, but unlikely".
- 2.9 Mr Major then presented a summary of his views on the matters raised by the IC report. He answered questions and engaged in discussion with the complainant, the IC representative and members of the DC.
- 2.10 Mr Major explained that he was responsible for the design of the building, the checking of the drawings and was available to advise the contractors on that design. He described the contractual relationship between A. S. Major Consulting Engineer and the Principal Consultant McCulloch Architects as "casual" and advised that no formal contractual arrangement was in place. He said that he carried out all of the design and checking work in person. There was no design review carried out on the original design.
- 2.11 He said that he had not agreed to reduce the original roof truss chord design wall thicknesses from 9mm to 6mm although he had been at a meeting where this was discussed as being a possible cost saving. He said that he expected that the contractor would have sent him a notice for any change that he had made to the design, but he received no such notice.
- 2.12 Mr Major advised that 'site visits' generally occurred as a result of "specific request" and that he prepared no formal record of his visits in the form of a Site Report or similar.

- 2.13 He said that he spent time explaining the welding required for the remedial works to the contractors staff onsite but did not inspect any of the welding carried out. He said that he was not aware of any shop fabrication drawings prepared by the contractor for the construction of the original steel work offsite and did not visit their premises in Ashburton to check the work against his design as it was too far away. He said that he was not aware of the provisions for construction monitoring inspection in the Steel Structure Standard NZ3404 (1997).
- 2.14 He said that he was not a welding specialist and relied on the provision in the steelworks specification requiring the contractor to have expert staff and to ensure the standard of welding is satisfactory. Mr Major was asked by the DC whether he reconsidered his attitude to the inspection or observation of the work in light of messages from Council building officers advising that, for example, "It appears that welding has not been completed as per the detail" (Letter dated 10 January 2000 from S Tonkin to McCulloch Architects). Mr Major responded that such matters would have been passed on to him, but he had no recollection of what happened in this instance.
- 2.15 In response to questions about his issuing of a Producer Statement – Construction Review (PS4) for the building on 17 January 2001 Mr Major said he had believed '*on reasonable grounds*' that the contractor had constructed the works in accordance with his requirements. It was a statement of his opinion not a statement of fact. He expected the contractor to have notified him if any change had been made and he had not received any such advice. He said that the main contractor did not advise him of the completion of the work and had removed the staging preventing him from carrying out any final inspection. It was noted at the hearing that Mr Major's Producer Statement did not follow the IPENZ/ACENZ model and did not include any qualifying statement concerning reasonable grounds. Mr Major said that that was an error on the form and his Producer Statements normally included such a statement.
- 2.16 Mr Major was asked whether he had requested any formal certification of the quality of the works from the contractor, such as a PS3. He said he did not and had never seen such a form.
- 2.17 Mr Major said that the stadium was larger than anything else he had previously designed, although the trusses were not larger than others that he normally dealt with. He was available to interpret the drawings and he spent a long time telling the welders what they were to do.
- 2.18 Members of the DC asked Mr Major about his understanding of the way in which the butt weld on the top chord of the roof truss would have been carried out in an area of limited access and also explored his understanding of the way he expected flexural torsional buckling and seismic loads on the truss would be resisted. Mr Major said that he relied on roof bracing and purlins in this regard. When asked whether the choice of ductility factor for the roof bracing needed to consider the need to keep the truss top chord aligned and stabilised in all foreseeable load conditions, Mr Major did not appear to understand the importance of the matter.
- 2.19 In describing his previous experience Mr Major told the Disciplinary Committee about the Farmers Buildings and a shopping arcade but under questioning he said that he did not feel that there was any different duty of care for public buildings over any other, even though the Southland Stadium

had a capacity of 2,556 people. Mr Major told the Disciplinary Committee that he felt he had a duty to always do the best that you can and that he had done that.

2.20 Mr Brown observed that the arrangements for the job seemed to be very casual and Mr Major agreed but said that e-mail had changed all that nowadays because there was usually something written in an e-mail that provided a trail.

2.21 Mr Major advised that he did not wish to make any closing statement. The DC Chair advised that there would be an opportunity for the complainant and respondent to submit on the matter of penalty should the DC decide that the complaint be upheld.

2.22 The hearing was closed at 1.15pm and the DC retired to consider its decision.

### 3. DOCUMENTATION CONSIDERED

3.1 The Disciplinary Committee considered the following documents, circulated prior to the hearing.

IPENZ ref #	Dated	Description
211120500	11/05/11	Stadium Southland Roof Collapse Report (for Department of Building and Housing)
211120501	24/05/12	Letter, LOGIMA request to Invercargill City Council
211120701	09/07/12	Letter, initial letter raising concerns
211120702-00	20/07/12	Letter, response from Invercargill City Council to LOGIMA request
211120702	Undated	Results of LOGIMA request
211120801	09/08/12	Email, complaint initiated under IPENZ own motion by the Chief Executive
211120902	24/09/12	Email, Mr Major's initial submission
211121001-00	01/10/12	Email, Mr Major's substantive submission, including two attachments
211121001-01	Undated	Attachment to submission – Mr Major's calculations
211121001-02	July 1999	Attachment to submission – Roof framing plan
211121002	01/10/12	Complaints Research Officer's Report
211121003	08/10/12	Adjudicator's Decision
211121102-00	13/11/12	Email, Complaints Administrator's response to the Investigating Committee's request for more information
211121102-01	Multiple dates	Mr Major's 2012 CPEng application

<b>IPENZ ref #</b>	<b>Dated</b>	<b>Description</b>
211121102-02	06/08/12	Mr Major's 2012 CPEng application – self assessment
211121105-00	16/11/12	Email, advising Mr Harris of the Investigating Committee's intention to commission a review of the retrofit design for the Stadium
211121105-01	16/11/12	Email, request to Ashley Smith to review the retrofit design for the Stadium
211121201	12/12/12	Short-form agreement with Ashley Smith
211130403	24/04/13	Southland Stadium report by Ashley Smith
211130403	16/05/13	Preliminary Investigating Committee Report
211130501	02/05/13	Correspondence with Maurice Harris
211130601	Undated	Mr Major's submission on preliminary IC report
211130702	11/07/13	Final Investigating Committee Report
211131202	Undated	Submission by IPENZ on penalties following circulation of the proposed determination

#### **4. DISCIPLINARY COMMITTEE'S DELIBERATIONS**

4.1 The DC reviewed all the information presented to it prior to the Hearing and the very helpful verbal responses from the parties at the Hearing. The following paragraphs summarise its understanding of the pertinent facts relating to the complaint.

##### **Mr Major's Role**

4.2 It is clear to the DC that Mr Major was required to undertake design of the building's structure and prepare necessary plans and specifications to have that structure built within the then current regulatory framework, viz Building Act 1991 and Building Code; and to provide necessary "monitoring of construction" (also termed "observation") during the build phase of the project- with these services being provided to the architect (McCulloch) in the first instance.

##### **Agreement for Professional Services/Design and Construction Monitoring**

4.3 It is clear that there were no written agreements relating to the provision of these services – i.e. agreements made were all verbal.

4.4 An implied term of these verbal agreements appear to be that Mr Major would provide "whatever services were required" to meet the outputs described above plus satisfying the pre-agreed fast-track project timelines - i.e. complete build within (we understand) seven months.

4.5 In terms of construction monitoring the services required of Mr Major included responding to contractor/subcontractor queries as and when raised;

undertaking necessary inspections of works during construction; and preparing such Producer Statements as required to satisfy Building Consent requirements. Mr Major said he did not have any constraints from his client on how he carried out his tasks or any fixed budget.

### **Initial Design – Sufficiency**

4.6 In terms of design compliance, the design review undertaken by Harris Consulting Limited (Harris) identified some 11 deficiencies in terms of Code strength and/or serviceability compliance in Mr Major's original design as consented, specifically:

1. Community Court roof trusses (9No, T1 through T9);
2. Beams supporting community trusses as grid 4, viz T7, 8, and 9;
3. Community Court columns;
4. Connections of spine trusses T10 through T15 to concrete columns C13 through C20;
5. Precast concrete wall panels to Community Courts (grid A/4-5) under wind loading;
6. Base slab and top connection to precast wall panels (grids A and G/4-5);
7. Roof and wall bracing - overall stability under seismic loading (appropriate ductility assumptions);
8. Lateral support to top chord of truss T32 over squash courts;
9. Purlin design - serviceability wind deflection and end connections in end bays over Community Courts;
10. Main structural steel seating frames under full gravity load combinations and seismic load cases; and
11. Precast stair No.2.

4.7 The DC notes that Mr Major stated at the Hearing that he was not aware that his design for the community roof trusses (item 1 in list above) had not been constructed as designed and consented. The contractor substituted smaller gauge RHS chords (5mm and 6mm) for the 9mm he had specified. However it is clear from his letter of response to the draft IC report that he had agreed that this substitution might be possible at a meeting to discuss possible cost savings.

### **Design Review**

4.8 The original design prepared for consenting purposes was backed by at least one Producer Statement (PS1) signed by Mr Major and dated 30 July 1990. There was no requirement by council to provide evidence of a design review (PS2), and therefore none was provided. Mr Major stated that he checked his own work.

### **Site Meetings/Attendance and Recording**

4.9 The DC understands that site meetings were held throughout the project, chaired by the architect/project manager, where the contractor had an opportunity to raise technical and other issues. We understand that Mr Major attended those meetings at times where structural engineering issues were



discussed. Mr Major said that he had no record of these meetings and no recollection of specific discussion about the quality of the steel fabrication and its erection.

- 4.10 He said that the architect/project manager would contact him by facsimile at other times to address issues such as variations to the contract.

**Key Point Inspection (eg trusses)**

- 4.11 The DC was informed that inspections of site-based building work were undertaken on an "as required" basis.

**Offsite Items (eg steel fabrication and precast concrete)**

- 4.12 No specific arrangements were made for off-site inspections, unless these were specifically requested by the contractor. We understand none were.

**Interaction with Contractor/Subcontractor**

- 4.13 Instructions by Mr Major were typically provided verbally to site operatives, e.g. charge hand, steelworkers, rather than in writing through any "Notice to Contractor" system.

**Site Meetings**

- 4.14 Mr Major attended these as required, with follow-up actions by request of architect/project manager.

**Remedial works design**

- 4.15 Remedial works proposed for the defective Community Courts trusses T1-T9 were specified on Major's drawing 97139/Truss 1-9 Elevation dated 12/99, with "Precamber Procedure" prescribed via 9 steps as listed on the drawing.

- 4.16 We note that the specification notes for precambering (particularly Steps 5 and 6) did not refer to any supplementary design details which would have more clearly specified the nature and extent of the work referred to.

- 4.17 The design reviewer (Harris), in his letter dated 4 January 2000, signalled that the precamber concepts referred to on Mr Major's drawing applied only to 6No trusses with lighter chord sections, but, in his view, all 9No trusses required chord strengthening to achieve compliance. However, we note that Mr Major's drawing clearly limits the strengthening requirements to 6No trusses (refer Note 6). This matter remains unclear.

- 4.18 There was no specific reference to any special quality assurance requirement for this work beyond the general materials and workmanship specification, despite the comment by Mr Harris who, when referring to the original Community Court trusses, stated in 3.1 of his Structural Review that "Because the design was so critical the construction methodology should have been clearly outlined and monitored by the design engineer."

- 4.19 It appears that other aspects of rectification work specified by Mr Major in response to the Harris peer review report were carried out separately.

## **Responses to Questions Raised at Disciplinary Hearing**

4.20 In the course of the disciplinary hearing a number of questions were put to Mr Major by DC panel members to improve the DC's understanding of his approach to the project. These questions covered the following four topics.

### **A. Knowledge of construction monitoring obligations on design engineer inherent in materials design standards, eg NZS 3404:1997 cl 1.6, which would apply in particular to steel fabrication and erection work**

4.21 Mr Major said he was not familiar with the NZ Standard and relied on the requirements of his materials and workmanship specification to ensure that the fabricator provided his own quality assurance without reference to the design engineer.

### **B. Structural engineering design principles, such as ensuring the provision of a permanent stable system of bracing sufficient to keep the truss top chord aligned and stabilised in all foreseeable load conditions, including during an earthquake**

4.22 When asked whether the choice of ductility factor for the roof level bracing needed to acknowledge that stability condition, Mr Major did not appear to understand the importance of this point. This lack of understanding was apparent in his detailing of the trusses, in his explanation of the design to the DC and in the check calculations attached to his undated letter to IPENZ (date assumed November 2013). The significance of restraint to resist lateral-torsional buckling actions was apparently misunderstood by Mr Major and his assumption that the full section capacity could be effective did not appear to be consistent with his approach to provision of bracing. From the limited design details available to the DC it is apparent that in some cases the bracing failed to achieve a full load path, as it terminated some distance from the restraining panel. This would require gravity resisting members to resist lateral loads in potentially significant bending about their weak axis.

### **C. Establishment of an appropriate Quality Assurance (QA) framework for a major facility intended for public use**

4.23 From the outset, this building was clearly a significant one for the Southland region, and a high level of quality assurance could have been expected for the design and construction components of the project.

4.24 For such a project, the design engineer might well have recommended :

- Formal review of his design, leading to the issue of a PS2 as a demonstration of design assurance; and
- A sequence of structural inspections covering the building work as it progressed (both on site and off site) with appropriate documentation.

4.25 These appear to the DC to be all the more important given the fast-track nature of the project, where pressure on time would have created its own set of risks.

- 4.26 Neither of these aspects appear to have been raised, or (it appears) seriously considered. This shows lack of judgement by the design engineer concerned – Mr Major.
- 4.27 As discussed separately, the construction monitoring aspect was particularly important in the truss modification work, but this was not sufficiently recognised.

#### **D. Field Inspection of Truss Modifications**

- 4.28 According to Mr Major, the steel fabricator had previously varied the member sizes in the Community Court trusses without direct reference to him, and this had only become apparent once these trusses were erected and the roof had sagged.
- 4.29 With this background, we consider that Mr Major should have been "on notice" that the fabricator's word could not be trusted, and that any reasonable and prudent design engineer would have:
1. formally clarified the action and timings of monitoring inspections that Mr Major required, to allow him to visually check samples of the work actually carried out; and
  2. fully documented the work done, eg photographs, for signing off purposes.
- 4.30 It is a matter of record that the access staging was removed by the contractor before Mr Major had been given an opportunity to visually inspect the truss modification work, particularly the work to the top chord. Mr Major's acceptance of this situation (difficult as it was) and his decision to accept the steelwork fabricator's word as to the sufficiency of the work done was unacceptable in the circumstances, given the nature and criticality of this work.
- 4.31 In these circumstances, Mr Major's issuing of a PS4 covering this aspect of the work in the manner he did was unacceptable, given the reliance that others such as the owner and regulator would be placing on it.

#### **5. DISCIPLINARY COMMITTEE DECISION ON THE COMPLAINT**

- 5.1 The DC at the conclusion of the Hearing were appalled at the apparent lack of responsibility that Mr Major assumed for the work he had carried in 1999/2000. The building he had designed required extensive structural modification during construction and collapsed 10 years later. It was clear that he had learned very little from the experience as he gave no substantive evidence that his professed casual practices in his professional engineering activities had changed significantly. While it is not for the DC to make determinations on the cause of the collapse and others have reported on the contributory factors involved, that fact remains that Mr Major was the professional engineer tasked with designing the structure and issuing the Producer Statement Construction Review (PS4).
- 5.2 The DC had some difficulty determining the details of Mr Major's brief for his role as the structural engineer on the stadium project, particularly with respect to his monitoring the construction of his designs. At the time of the design of the Southland Stadium Mr Major as a Member of IPENZ was subject to the

IPENZ Code of Ethics published in 1996 which is appended to this report. The Code of Ethics requires “Members to carry out their duties with professionalism” and one of the guidelines is that a Member should “Follow a recognised professional practice (Model Conditions of Engagement are available) in communicating with your client on commercial matters.” It is clear that Mr Major operated without any formal Conditions of Engagement or any schedule of inspections. Rather than operating in a professional manner it was clear to the DC that Mr Major operated in a very casual manner, and that this was a significant contributory factor to the problems that occurred during construction and the later collapse.

- 5.3 Under the Code Members also have “a duty of care to protect life and to safeguard people in their professional engineering activities”. They need to “Be responsible for ensuring that reasonable steps are taken to minimise the risk of loss of life, injury or suffering that may result from the work or the effects of your work”.
- 5.4 This was a publicly accessible building capable of holding over 2,500 people and in the opinion of the DC Mr Major failed to protect the health and safety of the public by his casual attitude to his professional engineering activities at the time. At the Hearing he still failed to take responsibility, contradicted his earlier written submissions and tried to lay blame on anyone other than himself.
- 5.5 Under the IPENZ Rules (Rule 4), as well as the Ethical Obligation on Members, there is also a Competence Obligation. This requires Members to carry out their professional engineering work in a careful and competent manner, commensurate with their Membership class. Mr Major is a Professional Member and the DC has assessed his competence against the standards applying to his peers at the time.
- 5.6 The summary of events outlined above in Section 4 has led the DC to question whether Mr Major possessed the technical knowledge and judgement to undertake the role of design engineer on this project. Mr Major’s response to our questions led us to the view that he did not recognise the special nature and risks inherent in a project of this size and type and was acting outside his level of competence in undertaking it. He was unaware of the requirements in relevant NZ Standards for steelwork construction, made errors in his design work that were discovered when his work was reviewed during construction and failed to record his activities and instructions onsite in any permanent fashion.
- 5.7 This assessment covers both design and construction monitoring aspects, particularly the latter.
- 5.8 In certain specific instances, of which the community truss modification work was a prime example, the DC believe Mr Major did not recognise and/or take steps that we consider were necessary to minimise risk in a manner that we would expect of a professional engineer. These actions (or inactions) occurred at times and in circumstances when the consequences of non-compliance were clearly significant and obvious.
- 5.9 In one particular case, the issue of a PS4 for the community truss modification work, his action was in our view bordering on the reckless, and did not demonstrate the judgement we would expect of a professional engineer. That action was therefore negligent in the view of the Committee.

- 5.10 In considering and assessing these matters the DC is guided by the standards expected of an engineer practising as a Professional Engineer in the structural engineering field at the time the work was carried out. Based on what the DC heard from Mr Major, plus the information provided to us, we have formed the view that Mr Major fell well short of the competency standard expected.
- 5.11 Having questioned Mr Major during the Hearing the DC has also determined that Mr Major has failed to improve his competency over the subsequent years and most probably has continued to operate below the necessary standard.

## **6. RANGE OF AVAILABLE DISCIPLINARY ACTIONS**

- 6.1 This being a disciplinary matter considered under the IPENZ Disciplinary Regulations, there are a range of disciplinary actions available to the Committee.
- 6.2 Having decided that there are grounds for disciplining the Member complained about under Rule 11 of the Institution, the Disciplinary Committee must decide whether and how to exercise the Institution's powers, including imposing one or more of the following penalties set out in the current Regulations:
- (a) that the Member be expelled from membership of the Institution;
  - (b) that such Member be suspended from Membership for any period;
  - (c) that such Member be suspended from the Membership until such time as the Member has fulfilled requirements for professional development as have been specified by the Committee;
  - (d) that if by a prescribed date the Member fails to fulfil requirements for professional development as have been specified by the Committee such Member be suspended from Membership for a specified period of time;
  - (e) that the Member must pay a fine not exceeding \$5,000;
  - (f) that the Member be reprimanded or admonished (for guidance reprimand is seen as lower level telling off than admonishment);
  - (g) that the Member must pay costs and expenses of, and incidental to, the inquiry by the Institution;
  - (h) that upon completion of consideration of the complaint according to these Regulations, the Member be named, the order made against the Member be stated and the nature of the breach described in the official journal of the Institution, or publicised in any other manner as may be prescribed by the Committee.

## **7. DISCIPLINARY COMMITTEE'S DETERMINATIONS ON PENALTIES**

- 7.1 On 20 December 2013 the DC invited written submissions on the matter of penalty to be received by 13 January 2014. The complainant IPENZ immediately responded with a submission. The IPENZ submission and the draft Decision were both sent to the respondent Mr Major by email on 20 December 2013 and also by mail.

- 7.2 Mr Major did not respond to the invitation to make a submission and on 13 January 2014 the Chair asked the IPENZ Complaints Administrator to contact him by phone. Mr Major confirmed that he had received the invitation and the two documents but had not considered them. He said that he did wish to make a submission and asked for a short extension of time. It was agreed that the due date would be extended to 16 January. No submission was received by that date or subsequently.
- 7.3 The IPENZ submission states that it is their opinion that expulsion from Membership is appropriate for cases of incompetence and negligence where this has caused or could have caused loss of life. They further state *"If the Disciplinary Committee's determination is that Mr Major has contributed to the demise of the Southland Stadium in any material way, then he should be expelled from membership"*.
- 7.4 They draw the DC's attention to IPENZ Rule 8.17.7 which allows for future reinstatement of a Member and advise *"that a successful application for reinstatement by Mr Major is likely to require that Mr Major is able to provide evidence of his current competence"*.
- 7.5 The Institution also seeks orders requiring the publication of the story in the national press and in Engineering Dimension outlining the DC's determinations and naming Mr Major. They seek costs and argue that full costs should be recovered unless there is a very good reason not to.
- 7.6 The DC considered the matter of penalty by email discussion. They agree with the view of IPENZ that in matters of public safety there is a strong need to ensure that those who are Members of the Institution are practising with full regard to their ethical responsibilities and that a breach of that requirement could be a matter that justifies the penalty of expulsion from membership. They considered the view expressed in the IPENZ submission that in this case the test for expulsion should be whether or not Mr Major had contributed to the demise of the Southland Stadium in any material way. The DC is aware that other individuals and organisations were involved in the construction process as submitted previously by Mr Major but it is only concerned with Mr Major's activities. The DC has determined that Mr Major had failed in this regard and formed the strong view that his failure to ensure the roof trusses were adequately constructed was a significant contributory factor of the collapse.
- 7.7 The DC next considered whether the penalty should be expulsion or suspension of membership. There is a provision in the IPENZ Regulations for a member to have membership suspended while undergoing prescribed professional development. Having heard from Mr Major at the Hearing on his views on his responsibilities as a professional engineer in the past and currently the DC has reached the conclusion that further professional development is unlikely to be productive in altering his attitudes. The DC has therefore decided that Mr Major should be expelled from membership.
- 7.8 The DC next considered the matter of a contribution towards the costs of the enquiry process, confirmed at \$10,720.00 including GST. In the absence of any information or submissions arguing for any reduction it considers that Mr Major should pay costs at the 100% level.

- 7.9 The DC then considered the further penalty of naming of Mr Major and publication of information on the matter including the determination of the Committee.
- 7.10 The DC agrees with the submission of IPENZ that Mr Major be named. It considers that in such a serious breach of the Code of Ethics there is a need for the profession generally to be advised and for potentially affected organisations and clients of Mr Major to also be adequately informed. This action is necessary because of the public safety implications of the matter and possible potential safety implications for other projects.
- 7.11 The DC orders publication in Engineering Dimension for the education of IPENZ members to help ensure that such breaches do not occur in future. Additionally, the DC has decided to order that IPENZ place a Public Notice in major newspapers in Southland and Otago and also send a copy of that notice to all the BCAs operating in those areas.
- 7.12 The Public Notice should summarise the background to the complaint, the obligations on professional engineers, the IPENZ Code of Ethics, the DC's determinations and name Mr Major.
- 7.13 On the matter of wider publication on the matter as submitted by IPENZ the DC is aware of recent media interest in the role of the Institution in regulating its members. These matters were not brought before the Committee at the Hearing and if they had been the Committee does not consider that they are directly relevant to the complaint against Mr Major. IPENZ is able to respond to media interest as it best sees fit and is able to use any and all public information at its disposal. The DC has therefore made no orders for publication in other major centres.

## **8. DISCIPLINARY COMMITTEE'S DECISIONS**

- 8.1 It is the decision of the DC in exercising its delegated powers that there are grounds to discipline Mr Anthony Major MIPENZ under the IPENZ Rules and Disciplinary Regulations.
- 8.2 The Committee finds that Mr Major failed to carry out his Ethical Obligation to protect life and to safeguard people and that he also failed to comply with the Competence Obligation in his professional engineering activities (Rules 4.2 and 4.3).
- 8.3 While the complaint and the DC's findings above concerns professional activities carried out in the years 1999 and 2000 the Committee also found that Mr Major's attitudes and competencies had not improved over the years and are below the expected current standards applicable to a Professional Member of IPENZ.

The Committee makes the following orders:

- 8.4 That Mr Major be expelled from Membership of the Institution.
- 8.5 That Mr Major be required to pay the Institution the full amount of its costs and expenses of, and incidental to the enquiry and disciplinary process.
- 8.6 That Mr Major be named in an article published in Engineering Dimension for the education of other professional engineers.

- 8.7 That the Institution should place a Public Notice in major newspapers in Southland and Otago and send a copy of that notice to BCAs in those areas, summarising the contents of this report and naming Mr Major for the information of regulators and the public at large.

Signed by the Disciplinary Committee and dated Thursday 27 February 2014



Mr Brian Hasell FIPENZ (Chair)



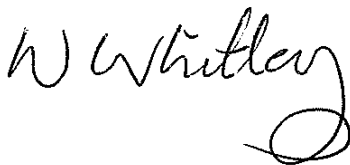
Mr Barry Brown FIPENZ CPEng IntPE(NZ)



Mr John Hare FIPENZ CPEng IntPE(NZ)



Mr Paul Blackler



Mr Bill Whitley (Consumer NZ Inc)



# IPENZ Code of Ethics

---

- **Protection of Life and Safeguarding People**
- **Professionalism and Integrity**
- **Society and Community Well-being**
- **Sustainable Management and Care of the Environment**
- **Promotion of Engineering Knowledge**

The respect which society accords the engineering and technology professions is earned and maintained by its members demonstrating a strong and consistent commitment to ethical values. These commitments are additional to the obligations, which every member of society is required to observe, such as obeying the law, and reflect the additional responsibility expected of all professionals.

It therefore follows that the Institution must maintain an appropriate Code of Ethics, to publish it for the information of the public and to enforce it impartially. This Code must be responsive to the changing expectations of both society and the profession and the global standards to which the Institution subscribes.

The Code of Ethics is based on the five fundamental ethical values set out in the Rules of the Institution. The Code is a set of principles to guide members in achieving the high ideals of professional life. To assist in the interpretation of the Code, guidelines are set out below for each Code clause.

These guidelines, which do not form part of the Code, are not exhaustive - they are offered as a guide to the understanding and intentions of the Code. They should be read with the Code as a whole and given a free and liberal meaning. They range from exhortations to excellence to prescriptive directions as to what constitutes ethical professional behaviour. Members will find in the Code and the Guidelines assistance in deciding the proper response to most of the situations they will meet in their professional life. In the final analysis the judgement of the member's peers as to what the 'reasonable professional' would have done faced with the same situation and applying the same Code will prevail. This is another reason why members should discuss any ethical problem that troubles them with senior members of the Institution. The Chief Executive would be pleased to assist in arranging this.

---

## **Protection of Life and Safeguarding People**

**Members have a duty of care to protect life and to safeguard people.**

### *Guidelines*

To satisfy this clause you need to:

- 1.1 Give priority to the safety and well-being of the community and have regard to this principle in assessing duty to clients and colleagues.
  - 1.2 Be responsible for ensuring that reasonable steps are taken to minimise the risk of loss of life, injury or suffering which may result from the work or the effects of your work.
  - 1.3 Draw the attention of those affected to the level and significance of risk associated with the work.
  - 1.4 Assess and minimise potential dangers involved in the construction, manufacture and use of your products or projects.
- 

## **Professionalism and Integrity**

**Members shall undertake their duties with professionalism and integrity and shall work within their levels of competence.**

### *Guidelines*

To satisfy this clause you need to:

- 2.1 Exercise initiative, skill and judgement to the best of your ability for the benefit of your employer or client.
- 2.2 Give engineering decisions, recommendations or opinions that are honest, objective and factual. If these are ignored or rejected you should ensure that those affected are made aware of the possible consequences.

In particular, where vested with the power to make decisions binding on both parties under a contract between principal and contractor, act fairly and impartially as between the parties and (after any appropriate consultation with the parties) make such decisions independently of either party in accordance with your own professional judgement.

- 2.3 Accept personal responsibility for work done by you or under your supervision or direction and take reasonable steps to ensure that anyone working under your authority is both competent to carry out the assigned tasks and accepts a like personal responsibility.
- 2.4 Ensure you do not misrepresent your areas or levels of experience or competence.
- 2.5 Take care not to disclose confidential information relating to your work or knowledge of your employer or client without the agreement of those parties.
- 2.6 Disclose any financial or other interest that may, or may be seen to, impair your professional judgement.
- 2.7 Ensure that you do not promise to, give to, or accept from any third party anything of substantial value by way of inducement.
- 2.8 First inform another member before reviewing their work and refrain from criticising the work of other professionals without due cause.
- 2.9 Uphold the reputation of the Institution and its members, and support other members as they seek to comply with the Code of Ethics.
- 2.10 Follow a recognised professional practice (Model Conditions of Engagement are available) in communicating with your client on commercial matters.

.....

**Society and Community Well-being**

Members shall actively contribute to the well-being of society and, when involved in any engineering project or application of technology, shall, where appropriate, recognise the need to identify, inform and consult affected parties.

*Guidelines*

To satisfy this clause you need to:

- 3.1 Apply skill, judgement and initiative to contribute positively to the well-being of society.
- 3.2 Recognise in all your work your obligation to anticipate possible conflicts and endeavour to resolve them responsibly, and where necessary utilise the experience of the Institution and colleagues for guidance.
- 3.3 Treat people with dignity and have consideration for the values and cultural sensitivities of all groups within the community affected by your work.
- 3.4 Endeavour to be fully informed about relevant public policies, community needs, and perceptions, which affect your work.
- 3.5 As a citizen, use your knowledge and experience to contribute helpfully to public debate and to community affairs except where constrained by contractual or employment obligations.

.....

**Sustainable Management and Care of the Environment**

Members shall be committed to the need for sustainable management of the planet's resources and seek to minimise adverse environmental impacts of their engineering works or applications of technology for both present and future generations.

*Guidelines*

To satisfy this clause you need to:

- 4.1 Be committed to the efficient use of resources.
- 4.2 Minimise the generation of waste and encourage environmentally sound reuse, recycling and disposal.
- 4.3 Recognise adverse impacts of your work on the environment and seek to avoid or mitigate them.
- 4.4 Recognise the long-term imperative of sustainable management throughout your work. (Sustainable Management is often defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs).

.....

**Promotion of Engineering Knowledge**

Members shall continue the development of their own and the profession's knowledge, skill and expertise in the art and science of engineering and technology, and shall share and exchange advances for the benefit of society.

*Guidelines*

To satisfy this clause you need to:

- 5.1 Seek and encourage excellence in your own and others' practice of the art and science of engineering and technology.
- 5.2 Contribute to the collective wisdom of the profession and art of engineering and technology in which you practice.

5.3 Improve and update your understanding of the science and art of engineering and technology and encourage the exchange of knowledge with your professional colleagues.

5.4 Wherever possible share information about your experiences and in particular about successes and failures.

.....

This version of the IPENZ Code of Ethics was approved by the Board to take effect from 1 November 1996.