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Discipline Committee of the Association of Professional Engineers of Ontario

In the matter of a hearing under the Professional Engineers Act, R.S.O. 1990, Chapter P.28

And in the matter of a complaint regarding the conduct of Man-Woon Lai, P.Eng., a member of the Association of Professional Engineers of Ontario and 843812 Ontario Inc. operating as A & M Engineering, a holder of a Certificate of Authorization

BETWEEN:

The Association of Professional Engineers of Ontario and

Man-Woon Lai, P.Eng. and 843812 Ontario Inc. operating as A & M ENGINEERING

Decision and Reasons

A Panel of the Discipline Committee of the Association of Professional Engineers of Ontario (PEO) met in the offices of PEO on Wednesday, August 29, 2001 to hear allegations of professional misconduct and incompetence against Man-Woon Lai, P.Eng. (hereinafter referred to as "Lai"), and 843812 Ontario Inc., operating as A & M Engineering (hereinafter referred to as "A & M").

Michael E. Royce (hereinafter referred to as "Royce") of Lenczner Slaght Royce Smith Griffin appeared as legal counsel for the Association.

John V. Kranjc (hereinafter referred to as "Kranjc") of Leggat Baldwin Keesmaat & Dickson appeared as legal counsel for Lai.

Nancy J. Spies (hereinafter referred to as "Spies") of Stockwood Spies appeared as independent legal counsel to the Panel of the Discipline Committee.

The hearing arose as a result of the involvement of Lai and A & M in the preparation of structural drawings and structural sketches for a new condominium building to be located at 77 Governor's Road in Dundas, Ontario, on or about September 17, 1997, and their further involvement after deflections of more than one inch were observed in the reinforced concrete floor slab spanning about 9.0 metres in or about October 1998.

The allegations of professional misconduct set out in Appendix "A" to the Notice of Hearing and filed as Exhibit 1 are as follows:

Appendix A

"It is alleged that Man-Woon Lai, P. Eng. (hereinafter referred to as "Lai") is guilty of incompetence and Lai and 843812 Ontario Inc., operating as A & M Engineering (hereinafter referred to as "A & M") are guilty of professional misconduct, the particulars of which are as follows:

Notice to the profession Design shortcoming in National Building Code

National Research Council issued a notice on November 13, 2001 that there is a "potentially significant design shortcoming in the snow load provisions of the National Building Code." This shortcoming affects buildings with arched roof structures with rise-to-span ratios greater than one in 10. Ministry of Municipal Affairs and Housing has confirmed that it will issue an OBC bulletin to reflect this. PEO suggests that professional engineers may wish to review their projects (including both designs and existing structures) to determine those that may be affected by this notice and take steps to ascertain the risks associated with each particular building. If in fact a design or building may be at risk as a result of the design shortcoming in the Code, engineers would be well advised to bring any such concern to the attention of their client, and consider how best to address the problem. Engineers may also wish to consider discussing this matter with their insurer. For detailed information about the revised snow load criteria contact Canadian Codes Centre at (613) 993-9960.

1. Lai was at all material times a member of the Association of Professional Engineers of Ontario.
2. A & M was at all material times the holder of a Certificate of Authorization to offer and provide to the public services within the practice of professional engineering and was responsible for supervising the conduct of its employees and taking all reasonable steps to ensure that its employees, including Lai, carried on the practice of professional engineering in a proper and lawful manner. Lai was the professional engineer responsible for the services provided by A & M.
3. On or about August 11, 1997, the Town of Dundas (the "Town") received an unsigned building permit application for the construction of building footings and foundation walls up to the finished floor elevation of the parking garage floor level for a new condominium building to be located at 77 Governor's Road in Dundas, Ontario. The owner of the proposed building was 1186468 Ontario Ltd. operating as Urban Horse Developments (the "owner"). The architect for the building was McCallum Sather Architects Inc. ("MSA"), and the structural engineer was Lai and A & M. The general contractor was Southside Construction (London) Ltd. ("Southside").
4. The proposed building was to have 48 units, a building area of approximately 1420 sq. metres, and was to consist of six storeys in addition to a parking level. The building structure was reinforced concrete, with columns and walls supporting flat plate floor slabs generally, with some flat slab floors.
5. Lai and A & M prepared structural drawings S1 to S11 and structural sketches SK1 to SK13 on and before September 17, 1997 with respect to the building. The said drawings and sketches carried the seal and signature of Lai.
6. On or about October 23, 1997, the Town received a signed building permit application for the remainder of the building. The Town also received a general review/commitment certificate for the building dated October 24, 1997 and signed by Lai.
7. By fax dated November 6, 1997 to MSA, Lai made reference to structural drawing S3 regarding the structural integrity reinforcing steel and drawing S9 regarding the reinforcing steel in the stepped detail of the flat concrete floor slab.
8. In or about April 1998, Cliff Blundell, P.Eng., and Blundell & Associates (collectively "Blundell") entered into a field review contract with the owner to perform field observations of the building envelope and to provide monthly reports and a final technical report pursuant to the provisions of the Ontario New Home Warranty Program Builder Bulletin 19.
9. A building permit to construct the building footings and foundations was issued by the Town on May 26, 1998 and a building permit to construct the remainder of the building was issued by the Town on May 27, 1998.
10. On or about June 3, 1998, construction of the footings and foundations for the building commenced. In or about the week of June 30, 1998, above grade construction of the building commenced.
11. In or about October, 1998, the owner was advised that deflections of more than one inch had been observed in reinforced concrete floor slabs spanning about 30 feet. When asked about these deflections, Lai took the position that he had anticipated the deflections in the concrete slabs and represented that there would be no further deflection of the slabs.
12. Because of concerns about the deflections, Blundell, on instructions from the owner, retained Dr. Robert Drysdale, P.Eng., ("Drysdale"), an expert in concrete structures, to review and provide advice with respect to the deflections in the reinforced concrete slabs of the building. On or about December 24, 1998, Blundell and Drysdale met at the building site to review the deflections. At this time, the reinforced concrete structural components of the building were completed to the roof, and workmen were installing the interior and exterior steel studs for the walls. The measured concrete slab deflections were tabulated by Blundell on each of the six floors along grid lines 2, 4, 6, 8, 10, 12 and 14, indicating a maximum deflection of 1.5 inches on the third floor at grid line 2.
13. After performing design calculations with respect to the concrete slabs, Drysdale met Blundell and the owner on January 4, 1999 and expressed the opinion that the observed deflections in the concrete slabs would increase and that there were other potentially serious structural design flaws with the structural components of the building. During that meeting, Blundell and Drysdale prepared a letter to Lai dated January 5, 1999 confirming that the structural review had been initiated, requesting that certain calculations be provided and setting out concerns, including:
 - a) the concrete slab thickness did not satisfy the normal requirements as a safeguard against excessive deflection;
 - b) the design process for the floor slabs was problematic as large differences in spans prevented the use of the direct design method;
 - c) unbalanced concrete slab moments due to gravity load caused additional shear around columns;
 - d) it was unclear how the conversion of north/south shear walls at the ground floor to large columns in the garage, was intended to provide adequate resistance to overturning moment and shear;
 - e) there did not appear to be any major shear walls above the garage level in the east/west direction, and if the building was intended to resist lateral load by frame action, the impact of this on increased shear stresses around columns needed to be taken into account;
14. On or about January 5, 1999, Blundell met with Lai to discuss Lai's design of the building. At that meeting, Lai represented to Blundell that there was nothing wrong with the structural design and stated that no one in the construction industry actually designed to the full extent of the applicable Canadian Standards Association Code ("CSA") design code.
15. During a telephone conversation on January 6, 1999, Lai advised Blundell that he had not personally performed the computer iterations on the computer program that developed the structural design, and that the inputs had been carried out by an employee of A & M who was no longer employed by A & M.
16. On or about January 7, 1999, Blundell and Drysdale met with Lai at the offices of A & M. At that meeting, Lai was unable to produce a current copy of the CSA design code for reinforced concrete. Design analysis carried out by Drysdale before and during the meeting indicated some building forces that were in the order of more than four times greater than those calculated by A & M. During that meeting, Lai and Drysdale contacted by telephone the Canadian Portland Cement Association ("CPCA"), which had supplied the computer program used by A & M to develop the design of the building. This telephone call disclosed that the value for slab-to-column fixity of the building was incorrectly input by A & M as zero (0) instead of one (1), and that this incorrect value had provided no unbalanced moment transfer to the columns supporting the 6-metre concrete span, resulting in computed shear stresses less than the actual at the column/slab junction. In addition, it was ascertained during the meeting that the building structure had not been adequately designed for seismic resistance in the long direction of the building.
17. By letter dated January 7, 1999, Drysdale advised the Town of his concerns with several safety-related aspects of the structural design of the building, with the result that the Town subsequently declared the building to be unsafe, and the building site was secured.
18. After the building site was secured, Lai provided a temporary shoring design to be implemented to address the unbalanced live load effects in the concrete floor slabs. On or about January 11, 1999, Lai met with officials of the Town at the site to review the temporary shoring requirements. At that meeting, Lai advised that the concrete floor slabs, deflections were within tolerance and that the stair shafts and elevator shaft provided the required lateral bracing for the building.
19. As a result of the safety concerns raised by Drysdale, Morrison Hershfield Limited ("MH") was retained by the owner to review the shoring requirements, to review the structural design of the building and to assist in resolving the problems that had been raised.
20. On or about January 19, 1999, the owner, the architect, Lai, MH, and Southside attended a meeting during which the following matters, among others, were discussed:
 - a) the seismic load transfer system used by Lai was questioned by MH;
 - b) after Lai produced an ADOSS computer finite concrete slab analysis, MH pointed out that the program used by Lai did not take into account cracking as required by CAN3-A23.3-M84, and there was a column input error. The concrete slab in fact was overstressed in shear by 35 to 40%;
21. On or about February 4, 1999, the owner, MH, Blundell, Lai and representatives of Lai's insurer attended a meeting to discuss structural problems and propose structural solutions. The structural problems included five OBC non-compliance items comprising flat slab punching shear, inadequate lateral load resistance, deficient steel reinforcement detail at the steps in the flat slab, unusual framing conditions and deflections. Conceptual solutions to correct the various structural strength problems were put forth by MH.
22. By letter dated February 15, 1999 to the owner, MH clarified the rationale for placement of temporary shoring and bracing in the building, listing six structural non-compliances with the OBC (1990) and confirming the items discussed at the aforementioned January 19, 1999 meeting.
23. By letter dated February 19, 1999 to the owner, MH provided further details of one of the building's structural deficiencies identified in the MH letter of February 15, 1999. MH at that time noted that structural sketches SK9, SK10 and SK12 indicated a portion of the concrete roof slab adjacent to the cantilevered slab supporting suspended balconies, was thickened from 200 mm to 400 mm, and that created a 200-mm step in the roof slab top

- surface. Due to the stepped detail, the reinforcing steel on three sides of the upturned slab was of no value to resist tension, with the result that the roof slab in this area was inadequate.
24. By letter dated April 1, 1999 to the owner, MH summarized its findings of the structural review of the building and addressed the issues of governing codes, structural requirements of codes and structural deficiencies found.
25. MH prepared eight drawings indicating the layout of major temporary shoring required from the parking garage floor to the sixth floor of the building and 25 drawings indicating remedial work required on the building, including addition of new piers, footings, columns, beams, seismic frames and temporary bracing as well as rebuilding concrete walls, removing areas of existing concrete slabs, replacing reinforcing steel, and pouring new reinforced concrete slabs.
26. In the course of its review of the building structure designed by Lai and A & M, MH found a number of situations which did not comply with OBC requirements, including:
- the as-designed lateral load-resisting system in the condominium building was inadequate in both the north/south and east/west directions to resist the specified earthquake forces;
 - the computed shear stresses at columns and wall ends exceeded values permitted by the OBC at approximately 20 locations in each flat plate concrete floor slab;
 - localized bending and shear strength inadequacies were found in areas of unusual framing where columns terminated on strips of concrete floor slabs;
 - the cantilevered roof structure used to support suspended balconies had inadequate bending and shear strength;
 - the as-designed steel reinforcement across steps in the concrete floor slab at three levels of the condominium building provided inadequate bending strength at the step;
- there was inadequate bending strength at several areas in the concrete roof slab; and
 - in some areas of the concrete floor slabs, the computed deflection values significantly exceeded OBC limits for serviceability.
27. In summary, Lai and A & M with respect to the building:
- provided an unsafe design of a reinforced concrete building;
 - provided a reinforced concrete building design that contained errors, omissions, and deficiencies, and which did not comply with the requirements of the Ontario Building Code, and Standard CAN3-A23.3-M84;
 - repeatedly failed to recognize and acknowledge that there was anything wrong with the A & M design of the reinforced concrete building, when other engineers and building officials advised Lai of structural concerns;
 - failed to ensure that computer iterations on the computer program that developed the structural design of the reinforced concrete building were done correctly and provided a safe design; and
 - demonstrated a standard of care that was less than that reasonably expected of a licensed professional engineer, given the number and nature of the structural design deficiencies in the condominium building.
- 28. By reason of the facts aforesaid, it is alleged that Lai is guilty of incompetence as defined in Section 28(3)(a) and Lai and A & M are guilty of professional misconduct as defined in Section 28(2)(b) of the Professional Engineers Act, R.S.O. 1990, Chapter P.28.**
- 29. "Incompetence" is defined in Section 28(3)(a) as: "The member or holder has displayed in his or her professional responsibilities a lack of knowledge, skill or judgement or disregard for the welfare of the public of a nature or to an extent that demonstrates the member or holder is unfit to carry out the responsibilities of a professional engineer".**

30. The sections of Regulation 941 made under the said Act and relevant to this misconduct are:

◆ **Section 72(2)(a): negligence as defined at Section 72(1): In this section, "negligence" means an act or an omission in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances;**

◆ **Section 72(2)(b): failure to make reasonable provision for the safeguarding of life, health or property of a person who may be affected by the work for which the practitioner is responsible;**

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

◆ **Section 72(2)(g): breach of the Act or regulation, other than an action that is solely a breach of the code of ethics;**

◆ **Section 72(2)(h): undertaking work the practitioner is not competent to perform by virtue of the practitioner's training and experience;**

◆ **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.**

Counsel for the association advised the Panel that agreement had been reached on the facts and introduced an Agreed Statement of Facts (Exhibit 3) which provides as follows:

"It is agreed for the purposes of this hearing before the APEO only, that the following facts are admitted:

- Lai was at all material times a member of the Association of Professional Engineers of Ontario.
- A & M was at all material times the holder of a Certificate of Authorization to offer and provide to the public services within the practice of professional engineering and was responsible for supervising the conduct of its employees and taking all reasonable steps to ensure that its employees, including Lai, carried on the practice of professional engineering in a proper and lawful manner. Lai was the professional engineer responsible for the services provided by A & M.
- On or about August 11, 1997, the Town of Dundas (the "Town") received an unsigned building permit application for the construction of building footings and foundation walls up to the finished floor elevation of the parking garage floor level for a new condominium building to be located at 77 Governor's Road in Dundas, Ontario. The owner of the proposed building was 1186468 Ontario Ltd. operating as Urban Horse Developments (the "owner"). The architect for the building was McCallum Sather Architects Inc. ("MSA"), and the structural engineer was Lai and A & M. The general contractor was Southside Construction (London) Ltd. ("Southside").
- The proposed building was to have 48 units, a building area of approximately 1420 sq. metres, and was to consist of six storeys in addition to a parking level. The building structure was reinforced concrete, with columns and walls supporting flat plate floor slabs generally, with some flat slab floors.
- Lai and A & M prepared structural drawings S1 to S11 and structural sketches SK1 to SK13 on and before September 17, 1997, with respect to the building. The said drawings and sketches carried the seal and signature of Lai.
- On or about October 23, 1997, the Town received a signed building permit application for the remainder of the building. The Town also received a general review/commitment certificate for the building dated October 24, 1997 and signed by Lai.
- In or about April 1998, Cliff Blundell, P.Eng., and Blundell & Associates (collectively "Blundell") entered into a field review contract with the owner to perform field observations of the building envelope.
- A building permit to construct the building footings and foundations was issued by the Town on May 26, 1998, and a building permit to construct the remainder of the building was issued by the Town on May 27, 1998.
- On or about June 3, 1998, construction of the footings and foundations for the building commenced. In or about the week of June 30, 1998, above grade construction of the building commenced.
- In or about October, 1998, the owner was advised that deflections of more than one inch had been observed in reinforced concrete floor slabs spanning about 9.0 metres. When asked about these deflections, Lai took the position that he had anticipated deflections in the concrete slabs and indicated it will be within the allowable limit.
- The owner retained Dr. Robert Drysdale, P.Eng., ("Drysdale") an expert in concrete structures, to review and provide advice with respect to the deflections in the reinforced concrete slabs in the building. On or about December 24, 1998, Blundell and Drysdale met at the building site to review the deflections. At this time, the reinforced concrete structural components of the building were completed to the roof, and workmen were installing the interior and exterior steel studs for the walls. The measured concrete slab deflections were tabulated by Blundell on each of the six floors along grid lines 2, 4, 6, 8, 10, 12 and 14, indicating a maximum deflection of 1.5 inches on the third floor at grid line 2.
- Blundell and Drysdale prepared a letter to Lai dated January 5, 1999, confirming that the structural review had been initiated, requesting certain calculations be provided and setting out concerns, including:
 - the concrete slab thickness did not satisfy the normal requirements as a safeguard against excessive deflection;
 - the design process for the floor slabs was problematic as large differences in spans prevented the use of the direct design method;
 - unbalanced concrete slab moments due to gravity load caused additional shear around columns;
 - it was unclear how the conversion of north/south shear walls at the ground floor to large columns in the garage was intended to provide adequate resistance to overturning moment and shear;
 - there did not appear to be any major shear walls above the garage level in the east/west direction, and if the building was intended to resist lateral load by frame action, the impact of this on increased shear stresses around columns needed to be taken into account;
 - it was difficult to use concrete slabs as the horizontal members in frame action for seismic loading;
 - lack of required columns at internal corners and termination of columns above the lower floor; and
 - a review of the shop drawings was required to check the placement of temperature steel and the provision of bottom steel over the columns.
- On or about January 5, 1999, Blundell met with Lai to discuss Lai's design of the building. At that meeting, Lai represented to Blundell that there was nothing wrong with the structural design and stated that no one in the construction industry actually designed to the full extent of the applicable Canadian Standards Association Code ("CSA") design code.

14. During a telephone conversation on January 6, 1999, Lai advised Blundell that he had not personally performed the computer iterations on the computer program that developed the structural design, and that the inputs had been carried out by an employee of A & M who was no longer employed by A & M.
15. On or about January 7, 1999, Blundell and Drysdale met with Lai at the offices of A & M. At that meeting, Lai was unable to produce a current copy of the CSA design code for reinforced concrete. Design analysis carried out by Drysdale before and during the meeting indicated some building forces that were in the order of more than four times greater than those calculated by A & M. During that meeting, Lai and Drysdale contacted by telephone the Canadian Portland Cement Association ("CPCA"), which had supplied the computer program used by A & M to develop the design of the building. This telephone call disclosed that the value for slab-to-column fixity of the building was incorrectly input by A & M as zero (0) instead of one (1), and that this incorrect value had provided no unbalanced moment transfer to the columns supporting the 6-metre concrete span, resulting in computed shear stresses less than the actual at the column/slab junction. In addition, it was ascertained during the meeting that the building structure had not been adequately designed for seismic resistance in the long direction of the building.
16. By letter dated January 7, 1999, Drysdale advised the Town of his concerns with several safety-related aspects of the structural design of the building, with the result that the Town subsequently declared the building to be unsafe, and the building site was secured.
17. After the building site was secured, Lai provided a temporary shoring design to be implemented to address the unbalanced live load effects in the concrete floor slabs. On or about January 11, 1999, Lai met with officials of the Town at the site to review the temporary shoring requirements.
18. As a result of the safety concerns raised by Drysdale, Morrison Hershfield Limited ("MH") was retained by the owner to review the shoring requirements, to review the structural design of the building and to assist in resolving the problems that had been raised.
19. On or about January 19, 1999, the owner, the architect, Lai, MH, and Southside attended a meeting during which the following matters, among others, were discussed:
- the seismic load transfer system used by Lai was questioned by MH;
 - after Lai produced an ADOSS computer finite concrete slab analysis, MH pointed out that the program used by Lai did not take into account cracking as required by CAN3-A23.3-M84, and there was a column input error. The concrete slab in fact was overstressed in shear by 35 to 40%;
 - after Lai produced a deflection chart from the ADOSS computer analysis, MH disagreed with the long term concrete slab deflection calculations performed by Lai;
 - MH was concerned with the lateral load resistance of the building;
 - MH was concerned with Lai's analysis of earthquake distribution in the east/west direction of the building;
 - MH was concerned with the punching shear at the reinforced concrete columns;
 - the requirement for temporary shoring of the building; and
 - the requirement to thicken some of the reinforced concrete columns.
20. On or about February 4, 1999, the owner, MH, Blundell, Lai and representatives of Lai's insurer attended a meeting to discuss structural problems and propose structural solutions. The structural problems included five OBC non-compliance items comprising flat slab punching shear, inadequate lateral load resistance, deficient steel rein-

- forcement detail at the steps in the flat slab, unusual framing conditions and deflections. Conceptual solutions to correct the various structural strength problems were put forth by MH.
21. By letter dated February 15, 1999 to the owner, MH clarified the rationale for placement of temporary shoring and bracing in the building, listing six structural non-compliances with the OBC (1990) and confirming the items discussed at the aforementioned January 19, 1999 meeting.
22. MH prepared eight drawings indicating the layout of major temporary shoring required from the parking garage floor to the sixth floor of the building and 25 drawings indicating remedial work required on the building, including addition of new piers, footings, columns, beams, seismic frames and temporary bracing as well as rebuilding concrete walls, removing areas of existing concrete slabs, replacing reinforcing steel, and pouring new reinforced concrete slabs.
23. In the course of its review of the building structure designed by Lai and A & M, MH found a number of situations that did not comply with OBC requirements including:
- the as-designed lateral load-resisting system in the condominium building was inadequate in both the north/south and east/west directions to resist the specified earthquake forces;
 - the computed shear stresses at columns and wall ends exceeded values permitted by the OBC at approximately 20 locations in each flat plate concrete floor slab;
 - localized bending and shear strength inadequacies were found in areas of unusual framing where columns terminated on strips of concrete floor slabs;
24. In summary, Lai and A & M with respect to the building:
- provided an unsafe design of a reinforced concrete building;

- provided a reinforced concrete building design that contained errors, omissions, and deficiencies, and which did not comply with the requirements of the Ontario Building Code, and Standard CAN3-A23.3-M84;
- failed to ensure that computer iterations on the computer program that developed the structural design of the reinforced concrete building were done correctly and provided a safe design; and
- demonstrated a standard of care that was less than that reasonably expected of a licensed professional engineer, given the number and nature of the structural design deficiencies in the condominium building.

The Panel retired to read the Agreed Statement of Facts, which sets out the facts admitted by Lai and A & M.

Royce advised the Panel that Richard Leibtag (hereinafter referred to as "Leibtag") the owner and President of 1186468 Ontario Ltd., operating as Urban Horse Developments, was available to answer any questions that the Panel may have by way of background.

The Panel conducted a plea inquiry and was satisfied that the Member's admission of facts, as set out in the Agreed Statement of Facts, was voluntary, informed and unequivocal. The Panel advised counsel that they had questions of Leibtag. In response to questions from the Panel, Leibtag advised that Lai was retained by the owner, and that Cliff Bundell, P.Eng., was also retained to carry out a bulletin 19 inspection required under the New Home Warranty Program. Blundell and Lai were both retained at the commencement of the project. This was the extent of the oral evidence given at the hearing.

Following the evidence, Royce made submissions with respect to guilt. Royce stated that by reason of the agreed facts, Lai and A & M were guilty of professional misconduct. With respect to the sections of Regulation 941 made under the said Act and relevant to this misconduct set out in the Notice of Hearing, Royce submitted with

respect to Section 72(2)(a) that Lai and his firm were negligent. With respect to Section 72(2)(b), Section 72(2)(d), Section 72(2)(g), he submitted that the association took no position, but it was in the discretion of the Panel to make a finding of guilt with respect to those sections.

Royce advised the Panel that there was no evidence before them that would support a finding under Section 72(2)(h). Royce submitted that on the admitted facts, the conduct of Lai and A & M was unprofessional, as set out in Section 72(2)(j).

With respect to the allegation that Lai was guilty of incompetence as defined in Section 28(3)(a) of the Professional Engineers Act, R.S.O. 1990, Chapter P.28, he stated that a finding of incompetence was in the discretion of the committee.

Kranjc, on behalf of Lai and A & M, submitted that the Panel should only make a finding of negligence under Section 72(2)(a) of Regulation 941.

After hearing the submissions by counsel for the parties, with respect to the allegations of professional misconduct and incompetence, the Panel retired to deliberate.

The Panel found that Lai and A & M were guilty of Section 72(2)(a): negligence as defined at Section 72(1): In this section, "negligence" means an act or an omission in the carrying out of the work of a practitioner that constitutes a failure to maintain the standards that a reasonable and prudent practitioner would maintain in the circumstances.

The reason for the Panel's finding of guilt was the agreed fact that Lai and A & M provided an unsafe design of a reinforced concrete building.

The Panel found Lai and A & M guilty of Section 72(2)(b): failure to make reasonable provision for the safe guarding of life, health or property of a person who may be affected by the work for which the practitioner is responsible.

The reason for the Panel's findings are that Lai provided an unsafe design of a reinforced concrete building, provided a reinforced concrete building design that contained errors, omissions and deficiencies, and that did not comply with the requirements of the Ontario Building Code and Standard CAN3-A23.3-M84. Lai failed to ensure that computer iterations on the computer program that developed the structural design of the reinforced concrete building were done correctly and provided a safe design, and demonstrated a standard of care that was less than that reasonably expected of a licensed professional engineer, given the number and nature of the structural design deficiencies in the condominium building.

The Panel found Lai and A & M guilty of Section 72(2)(d): failure to make responsible provision for complying with applicable statutes, regulations, standards, codes, by-laws and rules in connection with work being undertaken by or under the responsibility of the practitioner.

The reason for the Panel's finding of guilt was the agreed fact that Lai and A & M provided a reinforced concrete building design that contained errors, omissions and deficiencies, and which did not comply with the requirements of the Ontario Building Code and Standard CAN3-A23.3-M84.

The Panel found Lai and A & M not guilty of Section 72(2)(g): breach of the Act or regulation, other than an action that is solely a breach of the code of ethics. The Panel found that the acts of Lai and A & M were covered by the other sections.

The Panel found Lai and A & M not guilty of Section 72(2)(h): undertaking work the practitioner is not competent to perform by virtue of the practitioner's training and experience.

The reason for the finding that Lai and A & M were not guilty of this section is that there was no evidence regarding the practitioner's or the Certificate of Authorization holder's practical training and experience.

The Panel found Lai and A & M guilty of 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 unprofessional.

The reasons for the Panel's finding of guilt were the agreed facts that "In or about October, 1998, the owner was advised that deflections of more than one inch had been observed in reinforced concrete floor slabs spanning about 9 metres. When asked about these deflections, Lai took the position that he had anticipated the deflections in the concrete slab and indicated it will be within the allowable limit," and Lai and A & M demonstrated a standard of care that was less than that reasonably expected of a licensed professional engineer, given the number and nature of the structural design deficiencies in the condominium building.

The Panel found that incompetence, as defined in Section 28(3) of the Professional Engineers Act, R.S.O. 1990, Chapter P.28 was not made out by the agreed facts and that Lai was not guilty of incompetence.

Royce and Kranjc made joint submissions with respect to penalty as follows:

- ◆ There be a suspension of Lai's licence to practise professional engineering for a period of six months.
- ◆ There be a suspension of the Certificate of Authorization of the company for one month.
- ◆ Both penalties (1 and 2) to commence on November 1, 2001.
- ◆ Lai is to write and pass the Professional Practice Examination by August 31, 2002.
- ◆ Lai is to write and pass the CCPE Technical Examinations in structural analysis and structural design by August 31, 2002.

- ◆ If Lai does not write or fails these examinations, the Panel will be reconvened to consider further penalty.

Royce submitted that if Blundell had not caught the errors in Lai's design, the consequences could have been serious. He advised that the discrepancy in the two suspensions sought is that Lai was the engineer responsible for the design, and that accordingly, a six-month suspension was appropriate for Lai's conduct in this matter. Royce advised the Panel that A & M has other engineers and therefore the suspension proposed for A & M is much shorter. A & M, as the holder of the Certificate of Authorization, also has responsibilities, but the sentence reflects the effect on other employees' livelihoods.

Royce submitted that the requirement for Lai to write and pass the examinations was very important so that Lai demonstrates that he has the technical skills.

Kranjc, on behalf of Lai and A & M, advised that Lai has a Master's degree in Engineering and had designed a number of buildings. Kranjc submitted that Lai acknowledged that there was a problem with this particular design. He stated that Lai had admitted to his errors and had reduced the expense of the hearing significantly and had dealt with the PEO's allegations in a professional manner. He submitted that the penalty proposed would be fair in balancing the professional concerns.

Spies advised the Panel that where both counsel have agreed on submissions with respect to penalty, the Court of Appeal has encouraged that the proposed penalty be accepted and that a joint submission should not be tinkered or interfered with unless there is good reason to do so.

She advised that this joint submission was arrived at between counsel for both parties and that the Panel ought not to reject or vary a joint submission as to penalty unless the Panel considers that the penalty will bring the justice system into disrepute.

The Panel retired to deliberate the joint submissions with respect to penalty.

The Panel ordered:

- ◆ **There be a suspension of Lai's licence to practice professional engineering for a period of six months commencing November 1, 2001.**
- ◆ **The Certificate of Authorization of the company A & M be suspended for a period of one month commencing November 1, 2001.**
- ◆ **Lai is required to write and pass the Professional Practice Examination by August 31, 2002.**
- ◆ **Lai is required to write and pass the CCPE Technical Examinations in structural analysis and structural design by August 31, 2002.**
- ◆ **The Decision and Reasons to be published with names pursuant to Section 28(5) of the Professional Engineers Act.**
- ◆ **In the event that Lai does not write or fails the examinations ordered, the Discipline Panel will reconvene to consider further penalty.**

Dated at Toronto this 30th day of October 2001.

Nick Monsour, P.Eng. (Chair)

(For and on behalf of the Panel of the Discipline Committee)

Barry de V. Batchelor, P.Eng.

Walter Bilanski, P.Eng.

Kam Elguindi, P.Eng.

R. Anthony Warner, P.Eng.