

**IN THE MATTER OF THE ENGINEERS AND GEOSCIENTISTS ACT
R.S.B.C. 1996, CHAPTER 116 as amended**

and

IN THE MATTER OF ZHANCHAO ZHAO, P.Eng.

File No. T15-042

FURTHER AMENDED CONSENT ORDER

Background and Facts

1. A Notice of Inquiry dated August 31, 2017 was issued to Zhanchao Zhao, P. Eng. (“Dr. Zhao”), containing, *inter alia*, the following allegations:
 - A. You failed to comply with sections 14(b)(2) and 14(b)(4) of the Association of Professional Engineers and Geoscientists of the Province of British Columbia (“**APEGBC**”) Bylaws in or around 2012 to 2014 when, in the course of carrying out designs of single family residential structures, you:
 - i. failed to ensure regular, documented checks of your engineering work using a written quality control process appropriate to the risk associated with the work; and
 - ii. failed to ensure documented independent reviews were conducted of your structural designs generally by members or licensees having appropriate experience in designing structures of a similar type and scale, and who were not involved in preparing the designs.
 - B. You demonstrated unprofessional conduct, incompetence or negligence in or around 2012 to 2014 when, in the course of carrying out designs of single family residential structures, you failed to obtain and review engineered roof truss shop drawings;
 - C. You demonstrated unprofessional conduct, incompetence or negligence in or around 2012 to 2014 when, in the course of carrying out designs of residential houses located at [REDACTED], Vancouver and [REDACTED], North Vancouver (the “[REDACTED] House”):

- i. your drawings showed inconsistencies in the design criteria between drawing specification notes and design notes, including that:
 - 1. the design loads specified in the design notes did not match the design loads specified on the drawings; and
 - 2. the soil bearing capacity stated in the design notes with respect to the [REDACTED] House does not match the soil bearing capacity on the drawings;
 - ii. you failed to obtain and review engineered roof truss shop drawings, including to review roof truss design load assumptions and to coordinate girder truss point loads;
 - iii. your drawings with respect to the [REDACTED] House fail to specify the steel criteria or codes for the steel beams and steel bolts included in the design;
 - iv. your designs lacked sufficient detail with respect to lateral seismic load paths, including detailing of the connection of roof and floor diaphragms to shear walls, detailing of the connection of roof trusses to the tops of the interior shear walls, detailing of connection and anchorage of shear walls supported on beams, and detailing of shear wall anchorage; and
 - v. your drawings lack sufficient detail with respect to framing, such as nailing for built-up members, blocking under point loads, and joist and beam hanger specifications.
- D. You demonstrated unprofessional conduct between 2015 and 2017 when, after undergoing a Practice Review by APEGBC that recommended, among other things, that you “limit new work until an aggressive, supervised program of professional development that includes instruction in the design and detailing of wood frame single buildings is completed” and that you “arrange for independent review of all projects by a suitably experienced professional engineer until the professional development program is completed”, you failed to:
- i. ensure regular, documented checks of your engineering work using a written quality control process appropriate to

the risk associated with the work, contrary to section 14(b)(2) of the APEGBC Bylaws; and

- ii. ensure documented independent reviews are conducted of your structural designs generally by members or licensees having appropriate experience in designing structures of a similar type and scale, and who are not involved in preparing the designs, contrary to section 14(b)(4) of the APEGBC Bylaws.

E. The conduct set out above at paragraphs 1A to 1D is contrary to Principle 1 of the APEGBC Code of Ethics.

Admissions

2. Dr. Zhao admits the allegations in the Notice of Inquiry as set out paragraphs 1A to 1E above.

Disposition

3. This Consent Order is made pursuant to section 32.1 of the *Engineers and Geoscientists Act*, R.S.B.C. 1996, c. 116 (the “**Act**”).
4. The following conditions are imposed on Dr. Zhao’s membership, effective on the date this order is approved:

A. Dr. Zhao shall be subject to direct supervision by a “supervising APEGBC professional” (the “**Supervising Professional**”) as described in the *Quality Management Guidelines – Direct Supervision*, who is approved in writing and in advance by the Registrar of APEGBC (doing business as “Engineers and Geoscientists British Columbia”). The Supervising Professional shall provide “direct supervision”, as defined in the Act and as set out in the *Quality Management Guidelines – Direct Supervision*, in respect of all engineering work performed by Dr. Zhao (the “**Direct Supervision**”).

B. The Direct Supervision shall commence by December 1, 2017, and shall continue until February 8, 2019 _____, subject to paragraph 4E.

C. For the first three months of the Direct Supervision, Dr. Zhao shall work full time in the Supervising Professional’s offices.

D. The Supervising Professional shall report in writing to the Registrar of APEGBC every two months during the period of Direct Supervision on the performance of Dr. Zhao.

E. At the conclusion of the ~~twelve-month~~ period of Direct Supervision set out in paragraph 4B, the Supervising Professional shall report in writing to the Disciplinary Committee of APEGBC to provide an opinion on whether Dr. Zhao requires continuing direct supervision. If the opinion of the Supervising Professional is that Dr. Zhao requires further direct supervision, the Direct Supervision shall continue for a period of an additional six months.

E. The costs of the Supervising Professional providing the Direct Supervision and preparing the reports referenced above shall be borne by Dr. Zhao.

F. During the period of Direct Supervision, Dr. Zhao must successfully complete the following courses and examinations at his expense:

- i. the Professional Engineering and Geoscience Practice in BC Online Seminar (provided by Engineers and Geoscientists British Columbia);
- ii. the Professional Practice Examination (provided by Engineers and Geoscientists British Columbia);
- iii. the C11 Timber Design of Light Residential and Commercial Buildings examination (provided by the Structural Engineers Association of BC) (**C11**);
- iv. the E11 National Building Code (NBC) Part 4 - Structural Design course and examination (provided by the Structural Engineers Association of BC) (**E11**); and
- v. the Field Review Responsibilities of Design Consultants course (provided by Engineers and Geoscientists British Columbia)

(together, the **“Courses and Examinations”**)-

with the exception that if C11 or E11 are not offered by the Structural Engineers Association of BC during the period of Direct Supervision, Dr. Zhao shall complete each of C11 and E11 at the first opportunity that they are offered by the Structural Engineers Association of BC following the end of the Direct Supervision period.

- G. Dr. Zhao will provide written notice to the Registrar of APEGBC that he has completed and passed each of the Courses and Examinations within four weeks of completion of each respective Course or Examination.
- H. Subject to paragraph 4(I) below, twenty-four months after the completion of the Direct Supervision, or within a reasonable period thereafter, Dr. Zhao will undergo a Practice Review conducted by APEGBC and will pay the costs associated with that review.
- I. If, throughout the twenty-four month period after the completion of the Direct Supervision, Dr. Zhao is continuously employed by the firm Zhao Consulting, Ltd., and Zhao Consulting, Ltd. obtains Organizational Quality Management certification before the expiry of the twenty-four month period, then the requirement under paragraph 4(H) above will not apply.
- J. The scope of Dr. Zhao's practice shall be restricted to structural engineering of Part 9 wood frame buildings (the "Practice Restriction"). If a Part 9 wood frame building includes any Part 4 components, an independent review of the overall structural integrity of the entire building must be completed by a separate engineer using the Checklist and Signoff for an Independent Review form found in the Association's Quality Management Guidelines: Documented Independent Review of Structural Designs. Dr. Zhao must provide the independent review to the Authority Having Jurisdiction.
- K. If Dr. Zhao wishes to lift or modify the Practice Restriction, after all of the Courses and Examinations have been successfully completed, he may apply for reinstatement of full practice rights and request that the Association's Registration Committee lift the Practice Restriction ("Dr. Zhao's Competency Application").

In partial fulfilment of Dr. Zhao's Competency Application, Dr. Zhao shall report his updated experience and competencies through the Association's Competency-Based Assessment system, using Structural Indicators for the technical competencies and providing registered professional engineers practising in the structural discipline as Validators, as described in the Association's Competency Assessment Guide. The validated competency assessment will be assessed by structural Assessors, as described in the Association's Competency Assessment Guide.

L. After Dr. Zhao's Competency Application is reviewed by the Validators and the Assessors, the Association's Registration Committee shall review Dr. Zhao's Competency Application. An interview may be required to further assess Dr. Zhao's competency to return to full practice rights in the structural discipline. If the Registration Committee is of the opinion that Dr. Zhao is competent to practice structural engineering beyond the restriction detailed in paragraph 4J, the Registration Committee may lift the practice restriction and reinstate Dr. Zhao's full practice rights. No fees will be charged to Dr. Zhao in relation to the Competency Application detailed in paragraphs 4K and 4L.

5. Dr. Zhao shall pay a fine in the amount of \$3,000 to APEGBC within 30 days of the date of this Consent Order.
6. Dr. Zhao shall pay \$3,000 towards APEGBC's legal costs and costs of the investigation within 30 days of the date of this Consent Order.

Consequences of the Consent Order

7. The full text or a summary of this Consent Order will be published by APEGBC in print and electronic publications including on APEGBC's website.
8. This Consent Order has the same force and effect as an Order made under section 33(2) of the Act and may be dealt with under section 34 of the Act if conditions in the Consent Order are not met.
9. Dr. Zhao agrees that he has had the benefit of independent legal advice regarding this Consent Order.

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10.APEGBC and Dr. Zhao agree that this Consent Order may be executed in counterparts and delivered as an electronic document.

This Consent Order is approved and accepted by Dr. Zhao and the members of the Discipline Committee Review Panel this 31st day of October, 2017, and is amended as of December 1, 2018, and is further amended as of July 31, 2019.

<original signed by>

Zhanchao Zhao, P.Eng.

Mike Stewart, P.Eng.

Name of Witness

<original signed>

Signature of Witness

<original signed by>

Ron Yaworsky, P.Eng.,
Member, Discipline Committee

<original signed by>

Frank Denton, P.Eng., FEC, FGC,
Member, Discipline Committee

<original signed by>

Thomas Leung, P.Eng., Struct.Eng., FEC,
Member, Discipline Committee