

Letters of Assurance in the BC Building Code and Due Diligence

Letters of Assurance (LOA) are required before building permits or occupancy permits are granted on buildings described under Section 2.2.7 of Division C of the *British Columbia Building Code (BCBC)* or the equivalent section in the *Vancouver Building Bylaw (VBB)*. These letters are legal documents based on the authority of the *BCBC* and the *VBB*. Uniform mandatory LOA have been incorporated as Schedules into the *BCBC* since December 1992, and the *VBB*, which has incorporated similar LOAs, since 1990. Changes to the *BCBC* regarding LOA come into effect on September 1, 2010. This bulletin has been updated to reflect these changes. The *VBB* has not yet adopted the changes made to the *BCBC*. For projects requiring the submission of LOAs under the *VBB* please refer to the LOA in the *VBB*.

The professional engineer (this includes limited licensees granted the appropriate scope of practice) who signs and seals a LOA is accepting responsibility to meet all requirements identified in that LOA. For example, in signing and sealing a *Schedule C-B, Assurance of Professional Field Review and Compliance*, after completion of the project, a professional engineer is giving his or her assurance, based on their *field reviews*¹, that the relevant aspects of the project for which they are responsible substantially comply, in all material respects, with the applicable requirements of the *BCBC* and the plans and supporting documents submitted in support of the application for the building permit (design documents).

However, experience has shown that the use and application of LOA across BC may not be uniform and there can be misunderstandings among *owners*, the *authority having jurisdiction (AHJ)*, professional engineers and architects about the responsibilities that flow from the LOA. The Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) has become aware of instances where professional engineers have not exercised the appropriate due diligence before putting their signature and seal on the LOA.

This bulletin has been prepared to clarify the roles and responsibilities of professional engineers under the LOA in accordance with the changes made to the LOA in the *BCBC* effective September 1, 2010 and the *Engineers and Geoscientists Act (the Act)*. The LOA were developed after discussions between the City of Vancouver, the Province of British Columbia, the Architectural Institute of British Columbia (AIBC), the APEGBC, and the Building Officials Association of British Columbia.

Intent and References

The collective intent of the LOA is to assure the *AHJ* that:

- The activities of the various *Registered Professionals of Record (RPRs)* are coordinated.
- The design documents substantially comply with the *BCBC*.
- The appropriate *RPR* will undertake, and have undertaken, the necessary *field reviews* to ascertain that the building as constructed substantially complies in all material respects with the *BCBC* and the design documents.

¹ words or terms in this bulletin in italics are defined in the *BCBC*.

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In addition to the LOA themselves, *owners* and *registered professionals* should be thoroughly familiar with the following:

- The appropriate sections of the revised *BCBC* regarding *professional design and review* including the revisions to Division C, Appendix A, Section A-2.2.7, 2.2.7.1 and 2.2.7.2.
- The *Guide to the Letters of Assurance in the BCBC 2006* (the *Guide*) dated September 1, 2010 published by the Building and Safety Standards Branch of the Province of British Columbia. A copy of the *Guide* is on the website www.housing.gov.bc.ca/building/docs/2006GuideLoA.pdf.

The LOA in the *BCBC* provide a uniform standard across the Province for the design and *field review* of new construction. The roles and responsibilities of the *owner*, *RPR* and *AHJ* are clearly defined in the *BCBC*.

Engineers are advised that the LOA included in the *BCBC* are deemed necessary before building permits are issued for complex buildings and alterations regulated under Parts 3 and 4 of the *BCBC* requiring professional design and *field review*. As identified in the *Guide* this can include buildings included under Part 9 of the *BCBC*. The LOA are the only acceptable forms for submission. If changes to the LOA are absolutely necessary to suit an unusual situation, they must be clearly identifiable as a change. The method to be followed for making changes to the LOA is addressed in the *Guide*. Members who deal with the *AHJ* for building permits on behalf of *owners* must be conversant with the requirements of the LOA as described in the *Guide*.

The LOA state clearly and succinctly that the signatories – *owner*, *Coordinating Registered Professional (CRP)* and *RPRs* – are giving their assurances to the *AHJ*. Specifically, those assurances include:

Owner – Assures that a *CRP* and/or *RPRs* have been retained to undertake certain responsibilities that are explained fully in the LOA.

Coordinating Registered Professional (CRP) – Is responsible for coordinating design and field reviews by all the various *RPRs* retained on the project and this includes coordinating the submission of LOAs by the various *RPRs*.

Registered Professional of Record (RPR) – The *RPR* is responsible for the design and *field review* of the components of the plans and supporting documents prepared by them. The *RPR* is also responsible for reviewing the shop drawings prepared under the direction of any supporting *registered professionals* within that discipline, and either performing the *field review* of those components or satisfying him or herself that the necessary *field reviews* have been performed by the supporting *registered professional* (see following section regarding the role of the supporting *registered professional*).

The *RPRs* document their commitment to provide *field review*, and provide assurance that *field reviews* within their particular disciplines have been completed by submitting LOAs (Schedules B and C-B) to the *CRP*.

There are eight principle disciplines identified in the LOA in the *BCBC*:

- Architectural
- Structural

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- Mechanical
- Plumbing
- Fire Suppression
- Electrical
- Geotechnical (Temporary)
- Geotechnical (Permanent)

Typically, only one LOA is to be provided to the *AHJ* for each discipline identified in the *BCBC*, as applicable to the project. The *registered professional* providing the LOA for each discipline is the *RPR*.

Supporting Registered Professional (SRP)

A *RPR* should only undertake design and field review for the items identified on the LOA for their discipline based on their competency. As such, a *RPR*, or owner, may require supplementary supporting engineering or architectural services for a particular component, or sub-component, of a discipline. In instances where supporting engineering or architectural services are required, it is recommended that appropriate assurances should be obtained by the relevant *RPR* from the SRP (who could be engaged by the *RPR*; the owner; a contractor, sub-trade or supplier) providing the supporting design service and/or field service. Upon receipt of assurance from such SRP that a particular component, or sub-component substantially complies, in all material respects, with the applicable requirements of the *BCBC*, the *RPR* can complete and submit the LOA for his or her discipline. Please refer to *AIBC/APEGBC Practice Note 16* to view the model supporting LOAs Schedules S-B and S-C, that APEGBC and the AIBC have recommended for use by *registered professionals* acting as a SRP.

Building Envelope Services

Where professional engineers are involved in the submission of LOAs related to *building envelope services*, please refer to *APEGBC/AIBC Bulletin 34*. This bulletin includes Model Schedules D and C-D. These model schedules are recommended for use by AIBC and APEGBC for the purpose outlined in Bulletin 34.

It is noted that the City of Vancouver uses *Schedule D-1 – Commitment for Building Envelope Professional Review* and *Schedule D-2 – Completion of Building Envelope Professional Review*. LOAs prescribed for use by *AHJs* for building envelope related professional services, but which have not been endorsed by APEGBC, should be reviewed for appropriate language from a professional practice and professional liability perspective.

Design and *Field reviews* – Matters of Responsibility

The LOA permits *registered professionals* to sign as the *RPR* and on behalf of the professional services firm by which they are employed or to which they are contracted. While the *registered professional* signing on behalf of a firm may address civil and contractual liability issues, for the purposes of the *Code of Ethics* of APEGBC, professional engineers and licensees will remain personally and professionally responsible pursuant to the *Act* Section 22(2)(b).

Field Reviews

In the LOA the *CRP* and the *RPRs* undertake to notify the *AHJ* in writing as soon as possible if their contract for *field reviews* is terminated at any time during construction.

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However in order to maintain clear divisions of responsibility and to avoid accountability gaps, the preferred approach is that the *CRP* and *RPRs* responsible for particular aspects of the design also take responsibility for the relevant *field review* activities.

On this basis *field reviews* are the responsibility of the designing *RPR* unless circumstances make this impractical. Generally, engineers should not accept an engagement to conduct *field reviews* for a project designed by another *RPR* unless the designing *RPR* is incapable of performing the role or it is impractical to do so.

If it is necessary to conduct such *field reviews* in place of the designing *RPR*, the field reviewer should arrange with the designing *RPR* that he or she should still be available for reporting/two way communication during construction. In circumstances where a divided responsibility is unavoidable, the *Guide* discusses the correct procedure for altering the wording of LOA (Schedules B and C-B). If an *AHJ* refuses to accept LOA in which the wording has been altered in accordance with the *Guide*, the *AHJ* should be directed to the intent, as outlined in Section 2.2.7 of Division C, of the *BCBC* and the *Guide*.

Following are examples of instances where the design and *field reviews* are conducted by different *RPR*'s:

- If the designing *RPR* is available and assumes responsibility for the design and there is a separate *RPR* taking responsibility for the *field review* there is no need for the *field review RPR* to review the design or take responsibility for design matters. In this case the designing *RPR* must be willing and able to consult with the *RPR* taking responsibility for the *field review* as required during construction, and to clarify the design and approve any adjustments or changes to the design, as necessary, during construction.
- If the designing *RPR* is unable to consult with the *field review RPR* during construction, the latter must consider whether he/she can provide the necessary assurance for *field reviews* or whether he/she must review and accept responsibility for the design documents before undertaking the *field reviews*.
- Where an engineer has provided sealed shop drawings for a certain component of the structure, he/she is responsible for conducting the necessary *field reviews* and reporting to the *RPR* having primary responsibility. The *RPR* is responsible for seeing that all necessary *field reviews* are carried out and that the necessary confirmation is received to enable him/her to issue the LOA at the conclusion of the project.

In addition, Section 7 of the *Guide* deals with the matter when there is a change of the *CRP* or *RPR* during construction.

Finally, in carrying out *field reviews*, engineers may become aware of a deficiency in other aspects of the building that involves the practice of professional engineering. In such instances the engineer must act in a fashion which is consistent with the intent of the APEGBC Bylaw 14(a)(9) under the *Code of Ethics* which states the following:

“report to their association or other appropriate agencies any hazardous, illegal or unethical professional decisions or practices by engineers, geoscientists, or others;”

On this basis, the engineer observing a deficiency in other aspects of the building has a duty to report it to the responsible *registered professional* and the *CRP*. If those parties do not respond

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appropriately, then the APEGBC and the *AHJ* must be informed of the deficiency by the observing engineer.

APEGBC Bylaw 14 (b) (4) – Quality Management - *Field Reviews*

Bylaw 14(b) states:

“Members and licensees shall establish quality management processes for their practices which shall include as a minimum;

(4) Field reviews, by members or licensees, of their projects during construction.”

While this bylaw implies that all *field reviews* are to be undertaken by members or licensees, like the design responsibility of professional engineers and licensees, there are some circumstances where an assisting non-member² or a subordinate member or licensee may be delegated to carry out *field reviews* under the direct supervision and full responsibility of the engineer professionally responsible for the work.

What Can Be Delegated?

Direct supervision of a task that occurs outside the office is, by definition, difficult and care must be taken to ensure that *field reviews* meet the standard expected of a professional engineer. Such direct supervision would typically take the form of specific instructions on what to observe, check, confirm, test, record and report back to the professional engineer. Where circumstances go beyond this or where engineering decisions/judgements are required, contact must be made with the responsible engineer so that the engineering decisions/judgements are made by the responsible engineer and, further direction/instruction can, at that point, be provided to the non-member or a subordinate member or licensee operating under the direct supervision and responsibility of the responsible engineer.

When the responsible engineer is directing a non-member or a subordinate member or licensee with respect to undertaking *field review* tasks that are to be carried out under the responsible engineer's direct supervision, that engineer must ensure that such work is carried out in a fashion which meets the definition of “direct supervision”. Section 1(1) of the Act states:

“direct supervision” means the responsibility for the control and conduct of the engineering or geoscience work of a subordinate;”

Meeting the intent of this definition includes having the responsible engineer exercise his or her professional judgement and due diligence in addressing the following matters:

1. Considering all the circumstances surrounding the project and the above context, whether or not it is appropriate to delegate one or more of the *field reviews* to a non-member or a subordinate member or licensee.
2. Consideration of the level, complexity or critical nature of the *field review* to be conducted, in order that the responsible engineer can be satisfied with the quality and accuracy of the observations being made by the assisting non-member or a subordinate member or licensee.

² EIT's are not “members” and any *field reviews* by them must also be directly supervised

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3. Whether or not the assisting non-member or a subordinate member or licensee, that will be carrying out the *field reviews*, has the appropriate level of training and experience, taking into consideration the complexity of the project at hand.
4. The instruction required to be provided to the assisting non-member or a subordinate member or licensee on the level of effort to be exercised in the *field review*, the level of detail required when reporting on the *field review* and the specific aspects of the construction activities, which are to be included in the *field review*.
5. Subsequent review of the field reports by the responsible engineer and follow up, as required.

Many of these considerations are equally relevant when deciding on the delegation of design work to an assisting non-member or a subordinate member or licensee.

Ethical Considerations

The *Code of Ethics* contains two principles that apply directly to LOA matters:

- Engineers shall conduct themselves with fairness, courtesy and good faith towards clients, colleagues and others;
- Engineers shall uphold the principle of appropriate and adequate compensation for the performance of engineering work.

With these provisions in mind, engineers should require that the scope of an assignment to prepare design documents includes the signing of a LOA and conducting all necessary *field reviews* if the project proceeds to construction. Unless considerations are such that it is impossible or impractical an engineer should not accept an engagement to provide design documents unless the client accepts that the scope of work includes *field reviews*.

Similarly, an engineer should not accept an engagement to conduct *field reviews* of another's design if the designer is available to conduct the *field reviews*. Engineers who represent *owners* should recognize that the division of design and *field review* responsibilities should occur only in unusual circumstances, such as when it is impractical or impossible for the design professional engineer to conduct the *field reviews*.

Summary

1. The LOA, together with the relevant sections of the *BCBC* which deal with *Professional Design and Review* and the Guide in the *BCBC*, set out the procedures to be followed when using the LOA. Engineers must thoroughly familiarize themselves with, and abide by, these documents.
2. In cases where it becomes necessary for *RPRs* to be replaced during the course of a project, professional engineers must respect the *Code of Ethics* and where practicable communicate with the previous professional engineer (see Practice Bulletin entitled "Contacting the Prior Member" in the July/August 2005 issue of *Innovation*). Engineers are encouraged to decline an assignment to conduct *field reviews* when the *RPR* that carried out the design is available to conduct them.

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3. Like the design responsibility of professional engineers, *field reviews* may be undertaken by an assisting non-member or a subordinate member or licensee, under the direct supervision and full responsibility of the responsible engineer. However, when delegating *field review* tasks to subordinates, the responsible engineer must ensure that such work is carried out in a fashion which meets the intent of the definition of “direct supervision” as per Section 1(1) of the *Act*. Meeting the intent of this definition includes having the responsible engineer exercising his or her professional judgement and due diligence in addressing the various items identified in the section of Bulletin K entitled “What Can Be Delegated”.