

June 25, 2010



As-Built Drawing Submission Requirements

TO: Industry Clients

BACKGROUND:

Leave of the BC Oil and Gas Commission (Commission) to open a pipeline or section of a pipeline for service is not granted unless the company undertakes to submit to the Commission, within three months of the opening of the line for service (or completing permitted modifications), all as-built drawings, specifications, and data.

REQUIREMENT:

As-Built drawings submitted to the Commission in accordance with regulatory requirements must be sealed by a professional engineer who is a registered member of the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC).

The Commission notes that in applying a professional seal, an engineer is attesting to the fitness for purpose and compliance of the sealed drawings. As such, APEGBC has prepared the following advice to members:

In order to avoid exposing professional engineers to discipline action and potential lack of professional liability coverage, as-constructed drawings should only be signed and sealed by a professional engineer when the following certification is included on the drawing:

The signature and seal of the undersigned on this drawing certifies that the design information contained in these drawings accurately reflects the original design and the material design changes made during construction, that were brought to the undersigned's attention. These drawings are intended to incorporate addenda, change orders and other material design changes, but not necessarily all site instructions.

The undersigned does not warrant or guarantee, nor accept any responsibility for the accuracy or completeness of the as-constructed information supplied by others contained in these drawings, but does certify that the as-constructed information, if accurate and complete, provides an as-constructed system which substantially complies in all material respects with the original design intent.

The Commission will accept drawings sealed with the aforementioned caveat. To assist professional engineers, a copy of the letter in which APEGBC relayed this information to the Commission has been

attached to this bulletin. The letter also provides advice on engineering supervision of projects and contains a brief summary of the legal and liability issues pertaining to the sealing of drawings.

Should you have any questions regarding this Information Bulletin, please contact:

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Original signed by:

Alex Ferguson
Commissioner and CEO
BC Oil and Gas Commission

Attachment



Professional Engineers
and Geoscientists of BC

April 30, 2010

Mr. K. Paulson, P.Eng.
Deputy Commissioner & Chief Engineer
Engineering Division
BC Oil & Gas Commission
PO Box 9331 Stn Prov Govt
Victoria BC V8W 9N3

Dear Mr. Paulson:

Re: As Constructed Drawings

Last Thursday's meeting was very timely as the issue of "as constructed drawings" was recently raised by one of the engineers at Terasen Gas.

As a result of questions posed by engineers at Terasen Gas and issues raised by consulting engineers and professional liability insurance providers, the attached summary of the legal and liability issues regarding the issuance of "as constructed drawings" was prepared. APEGBC then engaged external legal counsel experienced in such matters (Robert Hunter at Bull Housser Tupper) to work with APEGBC staff and representatives from the Consulting Engineers of BC (CEBC) and the liability insurance industry (Jardine Lloyd Thompson Canada Inc.) to consider the matter.

This group recommended that in order to avoid exposing professional engineers to discipline action and potential lack of professional liability coverage, as constructed drawings should only be signed and sealed by a professional engineer when the following certification is included on the drawing:

"The signature and seal of the undersigned on this drawing certifies that the design information contained in these drawings accurately reflects the original design and the material design changes made during construction, that were brought to the undersigned's attention. These drawings are intended to incorporate addenda, change orders and other material design changes, but not necessarily all site instructions.

The undersigned does not warrant or guarantee, nor accept any responsibility for the accuracy or completeness of the as-constructed information supplied by others contained in these drawings, but does certify that the as-constructed information, if accurate and complete, provides an as-constructed system which substantially complies in all material respects with the original design intent."

I would also like to comment on the delegation of field reviews which are carried out to confirm that the installed work substantially complies with the design. Under the *Engineers and Geoscientists Act* (the

“Act”), a Professional Engineer can only take professional responsibility for a particular professional activity by placing their seal on the relevant documents if the work has been carried out by themselves or under their direct supervision (which is defined as identified below).

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 the professional engineer taking responsibility for the work and providing their seal with signature and date on the relevant drawing. 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/judgments are required, contact must be made with the responsible engineer (the Engineer of Record (EOR)) so that any engineering decisions/judgments are made by the EOR 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 EOR.

When an EOR 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 EOR’s direct supervision, the EOR must ensure that such work is carried out in a fashion which meets the definition of “direct supervision”. Section 1(1) of the *“Engineers and Geoscientists Act”* states:

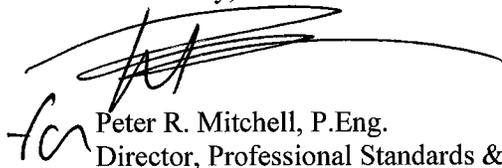
“direct supervision” means the responsibility for the control and conduct of the engineering or geoscience work of a subordinate;”

Meeting the intent of this definition includes having the EOR exercise his or her professional judgment 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 EOR can be satisfied with the quality and accuracy of the observations being made by the assisting non-member or a subordinate member or licensee.
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 EOR and follow up, as required.

Please feel free to contact me should you have any questions regarding this matter.

Yours truly,


Peter R. Mitchell, P.Eng.
Director, Professional Standards & Development

PRM/lb

Summary of Legal and Liability Issues Regarding “As Constructed Drawings”

LEGAL ISSUES

The *Engineers and Geoscientists Act* section 20(9) provides that a professional engineer must use her/his seal with signature and date only on plans prepared by the professional engineer in her/his professional capacity or that have been prepared under the professional engineer's direct supervision. Further, the *Act* at section 1(1) defines direct supervision as responsibility for the control and conduct of the engineering work of a subordinate.

The Association's lawyer has advised that, as a result, unless the professional engineer or her/his subordinate prepared the as-constructed drawings from information the professional engineer or her/his subordinate developed the professional engineer is not permitted to seal the as-constructed drawings. This would preclude the professional engineer from sealing as-constructed drawings either prepared by the contractor/developer or which were based on information/measurements provided by the contractor/developer.

In order to comply with the *Act*, the professional engineer or her/his subordinate must observe and record all measurements used in the as-constructed drawings. Even if the professional engineer or her/his subordinate were present on the project site full time, the professional engineer would not likely be in a position to observe and record all necessary measurements for as-constructed drawings. According to the Association's legal counsel, if the professional engineer did not comply with the *Act* and sealed as-constructed drawings she/he would be exposed to discipline proceedings for a breach of the *Act*.

INSURANCE/LIABILITY ISSUES

A typical exclusion in a standard professional engineer's professional liability insurance policy excludes coverage for claims against the professional engineer resulting from warranties or guarantees provided by the professional engineer, unless the professional engineer's liability would already exist at law.

If a professional engineer signed and sealed as-constructed drawings this would be considered a warranty or guarantee of the accuracy of those as-constructed drawings. If the professional engineer prepared the as-constructed drawings from information the professional engineer or her/his subordinate developed, the professional engineer's liability would already exist at law and the exclusion in the standard professional liability insurance policy would not apply.

However, if the professional engineer or her/his subordinate did not prepare the as-constructed drawings from their own information and instead relied on others, such as the contractor/developer, for that information, the professional engineer's liability would likely not already exist at law and the warranty or guarantee of the professional engineer by the sealing of the as-constructed drawings would likely be caught by the typical exclusion in the standard professional liability insurance policy, with the result that the professional engineer's professional liability insurance coverage for any claim concerning the accuracy of the as-constructed drawings would be compromised or negated.