



## NEWSLETTER – November 2013

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### Direct Supervision demystified

A lot of issues are raised over what constitutes direct supervision under the Professional Engineers Act 2002 (the Act). As you are all aware the Act prohibits persons other than RPEQ's from carrying out professional engineering services, unless a person carries out the professional engineering services under the direct supervision of an RPEQ.

Some guidance is provided in the Act and the Code of Practice and the extracts are set out below.

Section 115 (5) provides:

*For this section, a person carries out professional engineering services under the direct supervision of a registered professional engineer only if the engineer **directs** the person in the carrying out of the services and **oversees** and **evaluates** the carrying out of the services by the person.*

Clause 3.6 of the Code of Practice provides:

*Supervision:*

*If a registered professional engineer supervises a person in the carrying out of professional engineering services within the meaning of section 115 of the Act, the registered professional engineer, in the role of the supervisor, must*

- (a) have sufficient knowledge of the professional engineering services carried out; and*
- (b) sufficient control over any outputs of the professional engineering services to reasonably form the view that the standard of the professional engineering services is that to be expected of a registered professional engineer; and*
- (c) take full professional responsibility for the professional engineering services provided by the supervised person.*

Set out below is a breakdown of the elements to assist in understanding what is required:

1. The supervising RPEQ must be the person who is **responsible** for the services;
2. The supervision must be **direct**. ( no intermediaries)
3. The supervising RPEQ must **direct the unregistered person** in the carrying out of the services.
4. The RPEQ must **oversee** the carrying out of the services.
5. The RPEQ must **evaluate** the carrying out of the services by the unregistered person.

How a supervising RPEQ ensures compliance will vary depending on the nature and circumstances of the work being supervised. This is a matter for the supervising RPEQ and the unregistered person to determine but it is critical that the supervision provided is documented.

Queensland is a large state with some engineers working in quite remote areas. The Board appreciates that it is unrealistic to expect to have an RPEQ in all remote areas and has therefore formulated a position that it is possible to directly supervise an unregistered person from another office. However if the supervising RPEQ is not in the same office as the unregistered engineer it is critical that very good records are kept to show that both the requirements of the Act and the Code are being complied with. The contact must be **directly** between the supervising RPEQ and the unregistered person. Records should be kept of email exchanges, notes of teleconferencing and video conferencing, details of any visits and if appropriate photographs of work being undertaken.

The Board commenced disciplinary proceedings in 2008 against an RPEQ for unsatisfactory professional conduct and one of the grounds included the failure to adequately supervise field work for a site classification and an effluent disposal design for a client. In this matter the Tribunal found that there was a more onerous responsibility upon the RPEQ to supervise the unregistered person as he was based in a different office from the RPEQ. The RPEQ could not establish frequent trips to the other office and in this matter the person carrying out the work did not have the qualifications or formal training in site classification and effluent disposal design. Although the RPEQ had provided some training the Tribunal found that the RPEQ should have at a minimum the recording and retention of structured and detailed field notes and regular and timely review of those notes. Also note that this matter referred to conduct carried out before the word ' direct' was added to supervision.( Section 115 was amended in 2008 to include the word 'direct').

## Elements of a Professional Engineering Service

Again another issue which arises frequently is 'what is a professional engineering service'.

The Board has prepared a breakdown of the elements of a professional engineering service which can be found on the Board's website on the following link:

[http://www.bpeq.qld.gov.au/imis15/BPEQ/Resources/Practice\\_Notes/BPEQ/Navigation/CodesandGuides/PracticeNote](http://www.bpeq.qld.gov.au/imis15/BPEQ/Resources/Practice_Notes/BPEQ/Navigation/CodesandGuides/PracticeNote) \* *for ease of reference please also refer to Appendix A.*

## Regional Board meeting

The Board commenced regional board meetings in 2012 and the first regional board meeting was held in Townsville last October. The Board took the opportunity to meet local RPEQ's. This year the Board is meeting in Mt Isa and will be meeting with local RPEQ's on Monday 11 November.

## Code of Practice

The review of the Code was undertaken in 2011 with proposed amendments put forward. The Board has been advised that it will be considered by the Governor in Council on 28 November.

## Changing nature of complaints

Some unregistered persons hold the view that the Board would never find out they are not registered and that they are not being directly supervised. Comments are made that a person is more exposed if they are an RPEQ but this is not the case. The Board has received fewer complaints in the last financial year against RPEQ's but the numbers have increased against unregistered persons.

In the financial year ending 30 June 2012 6 new complaints were made against unregistered persons. However in the financial year ending 30 June 2013 there was an increase to 21 new complaints against unregistered persons. Whilst in relation to RPEQ's the number of new complaints received in the financial year ending 30 June 2012 was 27 and for the financial year ending 30 June 2013 the number of new complaints had dropped to 17.

## The Register

On 1 July 2013 there were 9715 registered professional engineers. During the course of the financial year, the Board registered 1417 new engineers and re-registered 117 previously registered engineers.

## Case update

### 1. BPEQ v M

M was charged with two offences against section 115(1) of the Act (carrying out professional engineering services when not an RPEQ) for carrying out an inspection of a piece of plant and subsequent preparation and presentation of an inspection report regarding that inspection. The plant in question was a Lucas Righ DRS57 Rod Loader, and the inspection and report M prepared and presented was undertaken with to provide for modifications and upgrades to the loader to increase its working load limit by 36%. In the inspection report, M provided instructions and design details for the modifications to achieve the working load limit increase. M pleaded guilty to the two offences of carrying out professional engineering services while not an RPEQ. The Court imposed a penalty of \$2,000 to be paid to the Board, and costs of \$4,000 to be paid to the Board.

### 2. BPEQ v B

B was charged with an offence against section 115(1) of the Act (carrying out professional engineering services when not an RPEQ) for preparing and presenting a Form 15 certificate pursuant to section 46 of the *Building Regulation 2006* (Qld) in relation to air conditioning systems and ventilation systems for the ground floor kitchen tenancy at a Sports Centre. B was lead Mechanical Engineer and Team Leader for the project, and in that capacity he certified the design of the air conditioning and ventilation systems for the project, which consisted of a number of design drawings prepared in accordance with engineering principles, and AS 1668.2 Air Conditioning, AS1668 Exhaust Systems, and AS 3666 Mechanical Systems. B pleaded guilty to the offence of carrying out professional engineering services while not an RPEQ. The Court imposed a penalty of \$1,000 to be paid to the Board.

### 3. BPEQ v H

H, an RPEQ, was the subject of disciplinary proceedings by the Board. H prepared and presented geotechnical reports and slab and footing designs for a number of properties. The conduct was said to amount to unsatisfactory professional conduct because in the case of the geotechnical reports for the properties, a competent engineer exercising proper skill, knowledge and judgment would not have issued the reports because they included the following defects:

- the sites were classified as “S” when the samples from boreholes from the sites revealed the sites should have been classified as “E”.
- the reports did not present any data, scientific basis, testing, or method of justification for classifying the site “S” rather than “E”.
- there were no site maintenance requirements specified in the reports that would ensure the site soils would behave as “S” and not “E”.
- due to the misclassification, the expected ongoing performance of the footing systems designed in reliance on the report will fall well short of the performance limitations expected under AS2870, and give the nature of the footing systems designed and the reactive nature of the soils on which they will be situated, rectification work is likely to prove difficult and potentially impossible.

In the case of the footing and slab designs for the properties, a competent engineering exercising proper skill, knowledge, and judgment would not have issued the designs because they included the following defects (and also that they were not suitable for “E” class sites for which they were destined):

- the slabs were not pierced to natural material despite the presence of fill below the slab with no level 1 certification, and in one design lacked the appropriate internal stiffening beams to the slab;
- there was no physical tie specified between external pavements and the main footing systems despite the pavements being constructed against and adjacent to isolated brick piers which support the roof structure
- there was no physical connection between the footing systems and the footing piers;
- the specified drainage for the sites was not sufficient to prevent possible damage to the footing system from the effects of seasonal changes in soil moisture content.

The Tribunal found that a disciplinary ground existed, namely that H behaved in a way which constitutes unsatisfactory professional conduct namely:

(a) for the above reasons H’s conduct in preparing the geotechnical reports and slab and footing designs was conduct that is of a lesser standard than that which might reasonably be expected of an RPEQ by the public or the RPEQ’s professional peers; and

(b) conduct that demonstrates a lack of judgment in the practice of engineering.

The Tribunal reprimanded H, and ordered him pay a penalty of \$8,000 to the Board, and costs of \$18,000 to the Board. The Tribunal also noted H provided an undertaking that if, within the next 5 years, any slab and footing design for the properties in question in the proceeding fell unreasonably below the expected performance with reference to the applicable standard, he would cease to provide professional engineering services, not oppose the Board suspending his registration, and not re-apply for registration as an RPEQ. The Tribunal also noted that H undertook not to use designs of the kind he used at the properties in question in the future.

I hope this has been of interest to you and if you have anything you would like to see in future newsletters please do not hesitate to contact me.

I regularly undertake presentation on the Professional Engineers Act and its requirements to various organisations and to groups ranging from 5 persons to over 100. If you are interested in a presentation please contact the Registrar: Clare Murray on (07) 3224 4632 or e-mail [clare.murray@bpeq.qld.gov.au](mailto:clare.murray@bpeq.qld.gov.au).

**The Registrar**

1.

A Service

**A Service:** *is the action of helping or doing work for someone; or an act of assistance; or assistance or advice given to customers and will include services provided internally.*

2.

which is an **Engineering Service**

The **Engineering Service** requires or is based on the "application of **engineering principles or data**"



**Engineering Principles** are the principles of **Engineering** and **Engineering Data** is the data used in the application of those principles



**Engineering** is the science of design, construction, maintenance and operation of man-made structures, machines, systems and processes according to scientific and mathematical principals



Therefore – an engineering service is a service which is based on or requires the application of scientific and mathematical principles and data to the design, construction and operation of man-made structures, machines, systems and processes

3.

that **requires, or is based on** the application of engineering principles and data

**Subjective Element**

a service will be "**based on**...the application of engineering principals and data" if in fact that is the basis on which the service is provided

**Objective Element**

a service "**will require**...the application of engineering principals and data" if a description of the service is such that it must involve "the application of engineering principles and data" in order for the service to meet that description

4.

to a **design or construction or production activity relating to engineering**

5.

and it does **not** include an engineering service that is provided only in accordance with a **Prescriptive Standard**

A **Prescriptive Standard** is a document that states procedures or criteria:

- a. for carrying out of a design, or construction or production activity, relating to engineering; and
- b. the application of which, to the carrying out of the design, or the construction or production activity, does not require advanced scientifically based calculations