

CONTAMINATED LAND PRACTITIONER ACCREDITATION: WHAT WOULD WORK?

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Introduction

The standard of contaminated land practice in New Zealand is variable, and at times inadequate. The Ministry for the Environment's February 2010 discussion document on the proposed *National Environmental Standard for Assessing and Managing Contaminants in Soil* (MfE, 2010) recognises this and requires site assessment to be carried out by *appropriately experienced and qualified practitioners*. No definition is given.

A number of submitters to the NES proposal queried what qualifications and experience would be sufficient to meet the requirement, with some advocating an accreditation scheme or a national register of practitioners. This issue is not new; suggestions were earlier made in submissions to the 2006 Ministry for the Environment discussion document on the management of contaminated land, the Contaminated Land Sector Group of WasteMINZ subsequently posted some suggestion on the WasteMINZ website and discussion has more recently appeared in *Waste Awareness*.

This paper is intended to further the discussion that has occurred to date. It considers appropriate requirements and examines some existing national and international bodies with suitable accreditation schemes. A practitioner with accreditation from such a body would be deemed to be appropriately experienced and qualified for the purposes of the proposed NES.

Background

In 2006 the Ministry for the Environment (MfE) published a discussion document on a management framework for contaminated land (MfE, 2006). The document was released to public consultation with several submissions supporting some sort of accreditation scheme for practitioners. The subsequent position paper (MfE, 2007) recommended:

Recommendation 10 (low priority):

- a. Encourage and support local government, professional bodies and the consulting profession to develop a system for accrediting contaminated land professionals.*

Subsequently, the steering committee of the Contaminated Land Sector Group of WasteMINZ decided as part of its 2006 – 2009 strategic plan to encourage training and increased professionalism across the industry, and suggested the following as the components of an accreditation scheme¹:

Relevant Qualifications

The qualified person will need to have academic qualifications relevant to the area of activity. There is no list of qualifications at the moment and these will be explored.

¹ <http://www.wasteminz.org.nz/sectorgroups/contaminated/activities.htm>

Experience

A fully qualified person will need to have a minimum of 5 years experience and be currently engaged in the planning or oversight of remediation projects, or projects involving site materials management. The committee will consider how to bring people with less experience into the scheme.

Corporate Authority

A qualified person is likely to be in a position where they are authorised to sign on behalf of their company in this area of activity.

Professional standing

In establishing the parameters of the scheme, the certification body may set their own methods or work with other professional bodies that have existing methods to determine standing. In many cases standing is awarded by a recognised body that sets restrictions on areas of activity and has the capacity to apply sanctions in the event of unprofessional conduct.

Training

The qualified person will need to attend a recognised training course and fully understand the role of a qualified person. Ongoing professional development may also be required.

In early 2010, MfE released proposals for a National Environmental Standard (NES) for assessing and managing contaminants in soil (MfE, 2010). That document proposed that investigations and remediation should be carried out by *appropriately experienced and qualified practitioners*, but was silent on what qualifications or experience were appropriate. Judging whether a practitioner is suitably qualified is, in effect, up to those commissioning investigations and remediation, the regulatory authorities that might assess the results of investigations or remediation and the third parties that may rely on the reports. A number of submissions to the proposed NES pointed out that there was no definition of the minimum education and professional experience necessary. Some submitters suggested the NES should contain guidance while others supported implementing an accreditation scheme².

Is an accreditation scheme necessary?

An accreditation system is not necessary. An accreditation scheme is merely a means to an end, but it greatly simplifies the process of determining the fitness and competence of the person undertaking or overseeing investigation and reporting for a variety of people or organisations that would otherwise have to make their own enquiries. This includes:

- an owner or developer commissioning an investigation
- those relying on an investigation during due diligence
- those lending money for purchasing land or financing a development
- regulatory bodies evaluating reports
- those seeking an expert to provide evidence at a hearing

An owner or developer seeking proposals from practitioners always has the option of seeking reassurance through requesting information about the consulting company and individuals within that company, including seeking references. However, other parties relying on a

² <http://www.mfe.govt.nz/laws/standards/contaminants-in-soil/index.html#submissions>

report or regulators evaluating information do not have that option, and have to take on good faith that the person who wrote or approved the report was competent.

Councils have the option of pre-qualifying consultants and individuals and maintaining a local list. However, in the same way as many councils do not have the technical ability to evaluate a report, many councils also do not have the ability to evaluate whether a consultant is adequately qualified and experienced. Local lists also risk accusations of favouritism. Councils and potential purchasers also have the option of having reports independently peer reviewed, but the report writer being accredited potentially avoids that need, and may protect the council from liability.

How should the industry approach this?

The general theme to date has been to develop a dedicated accreditation scheme for contaminated land professionals. The Institution of Professional Engineers New Zealand (IPENZ) has expressed some interest in administering such a scheme. However there has also been recognition (Cussins, 2009) that an existing scheme or schemes could be suitable.

A dedicated accreditation scheme is the ideal but getting a scheme off the ground is likely to be a multi-year process, in reaching agreement on a set of rules, writing competency standards and a code of ethics, and devising and setting up the application process. A sufficient number of adequately qualified and experienced people then have to be found to review applications (including the possibility of professional review interviews). In addition, an accreditation scheme should be self-funding, with applicants paying for the costs of the scheme (although costs can be reduced by using volunteer practitioners for review of applications). However, establishment is likely to require initial funding before self-funding can take over. A possible source is central or local government funding, but in the current economy this seems unlikely.

Given that the NES is proposed to be in effect in 2011, it is my view that existing accreditation schemes are the best way to go, at least in the interim, with perhaps a specifically New Zealand scheme implemented at some later date if the industry considers it necessary. Such an approach could be supported by MfE (or the new Environmental Protection Authority) issuing a guidance note on the necessary components of a suitable accreditation scheme (see next section) and even endorsement of particular schemes. A further step would be to define *appropriately experienced and qualified practitioners* within the NES to include those with accreditation, with the necessary components of accreditation schemes also defined, but still allowing other means of demonstrating competence.

Not every practitioner needs to be accredited. It should be sufficient for an accredited practitioner to supervise and review the work of colleagues who do not hold accreditation, with the accredited practitioner countersigning the report, much as an engineer with CPEng would approve and take responsibility for an engineering design. The signature page of the report would show the name, qualifications and accreditation of the accredited practitioner.

Definition of a suitable accreditation scheme/body

Contaminated land practitioners come from a variety of backgrounds, as there are no specific degree programmes in contaminated land evaluation in New Zealand. Practitioners typically have a relevant initial degree, possibly a postgraduate degree with an environmental focus and then receive on-the-job training. Common degrees include engineering (civil,

environmental, natural resources, chemical), technology and science (geology, earth sciences, physical geography, chemistry, soil science, environmental).

Given the variety of educational backgrounds, a variety of accreditation schemes could be suitable. However, whatever the scheme, they should all have similar components:

The applicant must:

- have a relevant university qualification or knowledge gained through work experience equivalent to a degree qualification;
- demonstrate a qualifying period of relevant postgraduate work experience, typically at least four years;
- demonstrate competence against a set of key competency benchmarks, using examples drawn from past work to show competence has been achieved;
- be judged competent by experienced professional peers (i.e. having professional standing) by review of work history and performance of work;
- agree to comply with a code of ethics;
- agree to ongoing professional development

Additionally, there must be an accreditation and registration body which:

- administers the application process;
- maintains a register of accredited people, accessible to those needing to check that accreditation does indeed exist as claimed, whether a public on-line register or a means of enquiring whether somebody is on the register;
- provides a complaints and disciplinary process, to investigate claims of poor practice and breaches of ethics and the like, with the power to suspend or cancel accreditation.

There are many environmentally-focused membership bodies, some of which have contaminated land practitioner members. However, unless membership requires the components listed above, membership is not sufficient to demonstrate *appropriately experienced and qualified practitioner* status. In particular, merely paying a subscription to join is not sufficient. Examples are WasteMINZ, the Australasian Land and Groundwater Association (ALGA), Water New Zealand and the Environment Institute of Australia and New Zealand (EIANZ). However, I would encourage professionals to join such bodies for other reasons.

Suitable accreditation schemes

A large number of suitable accreditation schemes exist around the world. I have only looked at a few schemes potentially of most interest to New Zealand contaminated land practitioners in an attempt to prompt interest and, hopefully, further debate.

Membership of the Institution of Professional Engineers New Zealand (MIPENZ)

Professional membership of the Institution of Professional Engineers New Zealand is available to engineers who can demonstrate competence against the 12 competency elements (and additional performance indicators) set out in the *IPENZ Competence Standard For Professional Engineers (Including Performance Indicators)*³. One of the elements requires suitable educational qualifications, which generally means a four-year Washington Accord engineering or technology degree or being able to demonstrate equivalent knowledge.

³ <http://www.ipenz.org.nz/ipenz/forms/pdfs/Competence%20Standard%20for%20Professional%20Engineers.pdf>

As part of the application, applicants must complete a competence self-review with examples setting out competence against the 12 competency elements, nominate two referees (who must be practising at a professional engineer level or equivalent) who complete referee evaluation documentation after reviewing the applicant's competence self-review, and prepare work history and continuing professional development (CPD) summaries. The applicant must also agree to be bound by the IPENZ rules and code of ethics, which set out, amongst other things, the minimum standard of ethical behaviour and the disciplinary process.

The application is assessed by an assessment panel and the applicant will, in most cases, undergo a professional interview. The assessment for competence is in the practice area(s) the applicant has chosen. In the case of practising in contaminated land, the overarching practice "field" would most likely be Environmental with perhaps an additional field such as Civil or Chemical, depending on the applicant's particular competencies, with practice "area" descriptions giving the specific detail such as:

- investigation and assessment of contaminated land
- remediation of contaminated land
- groundwater monitoring and assessment
- environmental impact assessment

The IPENZ rules and code of ethical conduct require that professional members work only within their competence – members must refuse to undertake any proposed work that lies outside their area of expertise. Failure to do so could result in disciplinary action, censure, fines, or suspension or removal from the register of members. The minimum standards of acceptable ethical behaviour are summarised below⁴:

1. *Take reasonable steps to safeguard health and safety*
2. *Have regard to effects on the environment*
3. *Act with honesty, objectivity, and integrity*
4. *Not misrepresent competence*
5. *Not misrepresent Membership status*
6. *Inform others of consequences of not following advice*
7. *Not promise, give, or accept inducements*
8. *Not disclose confidential information*
9. *Not misuse confidential information for personal benefit*
10. *Disclose conflicts of interest*
11. *Not review other engineers' work without taking reasonable steps to inform them and investigate*

While there is no minimum experience requirement stated in the rules, in practice an engineer will not be able to meet the Competence Standards without typically four to five years postgraduate work experience (IPENZ, 2010).

On achieving MIPENZ the member is placed on a searchable register on the IPENZ website. Accordingly, achieving MIPENZ in the relevant practice areas should be sufficient to demonstrate that an engineer is an *appropriately experienced and qualified practitioner* for the purposes of the proposed NES. However, the qualification has some disadvantages:

⁴ Detail of the code of ethics can be found at http://www.ipenz.org.nz/ipenz/who_we_are/ethics_inc.cfm

- The application process is time-consuming and relatively expensive – of the order of \$1200 and ongoing annual fees of the order of \$500.
- There is no regular reassessment. With time the member's practice area or competence could change, although the code of ethics is supposed to stop the member from claiming competence in a practice area they no longer practice in.
- The register of members does not list the practice field or areas.
- Membership of IPENZ is available only to professional engineers

Through mutual recognition agreements, members of overseas engineering bodies such as the Institution of Civil Engineers in the UK, or Engineers Australia can become members of IPENZ. However, for a member of an IPENZ-equivalent overseas body to be appropriately experienced and qualified for the purposes of the NES, that member will need to have gained their membership through competence in contaminated land assessment and related fields.

Chartered Professional Engineer (CPEng)

Chartered Professional Engineer is a statutory title under the Chartered Professional Engineers Act of New Zealand 2002, which established a register of professional engineers whose competence is up-to-date. In New Zealand the title CPEng can be used only by engineers on the CPEng register, which is administered by IPENZ. CPEng replaced the old engineering registration under the now repealed Engineers Registration Act 1924. It is now illegal to claim to be a Registered Engineer. The CPEng register is publically available on the IPENZ website, but like the MIPENZ register, does not list the particular competencies of the engineers on the register.

CPEng registration is gained by demonstrating professional competence in an identical manner to that required to achieve MIPENZ status. There is a different set of CPEng Rules, but the code of ethics is virtually identical, as is the disciplinary process. The essential difference between CPEng and MIPENZ is that competence must be re-assessed at not more than five-yearly intervals. This allows an engineer who has moved into new work areas or has gained additional competencies to remain up-to-date with their registration, giving additional confidence to a client or third party that the engineer is indeed competent in the area(s) claimed.

The cost of application is similar to that for achieving MIPENZ. Five-yearly reassessment is about half the cost of the initial application. Maintaining registration requires paying an annual fee of approximately \$320. CPEng engineers do not need to belong to IPENZ.

As for MIPENZ status, mutual recognition agreements allow some overseas engineers, such as an Australian CPEng or a UK Chartered Engineer, to become CPEng in New Zealand. However, for the purposes of the NES, the additional step of gaining CPEng in New Zealand is not necessary if the overseas chartered engineer (or equivalent recognised by IPENZ) gained their status by demonstrating competent in contaminated land and related areas.

Certified Environmental Practitioner (CEnvP)

The Certified Environmental Practitioner Program is a scheme run by the Environment Institute of Australia and New Zealand (EIANZ). To become a CEnvP an applicant must⁵:

- Have a relevant environment-related degree.

⁵ For the application process see <http://www.cenvp.org/downloads/CENVPAApplication2010.pdf>

- Have five years of full time experience in the functional areas of environmental practice during the last 10 years (contaminated land assessment, in this case).
- Comply with a statement of ethical conduct
- Be nominated by three respected environmental professionals who are willing to act as referees for the candidate.
- Demonstrate evidence in the form of referee statements (at least two), publications, citations, curriculum vitae, reports and other documentary evidence that the candidate is a respected, competent, ethical and active member of the profession.
- Commit to ongoing training and professional improvement in the order of 50 hours of training, professional improvement and service to professional practice over a two year period.
- Sign a witnessed statutory declaration covering qualifications, experience, ethics, commitment and the accuracy of materials provided to the Certification Board.

The code of ethics for a CEnvP is the same as the EIANZ code of ethics⁶:

- *The member shall carry out his or her professional activities, as far as possible, in accordance with emerging principles of sustainable development and the highest standards of environmental protection.*
- *The member shall at all times place the integrity of the natural environment and the health, safety and welfare of the human community above any commitment to sectional or private interests.*
- *The member shall be personally accountable for the validity of all data collected, analyses performed, or plans developed by the member, and for the scrutiny of all data collected, analyses performed or plans developed under the member's direction.*
- *The member shall actively discourage misrepresentation or misuse of work the member has performed or that which was performed under the member's direction.*
- *The member shall conduct professional activities, as far appropriate, in an interdisciplinary manner and recognise the need to collaborate with suitably qualified persons in subject areas where the member is less experienced.*
- *The member shall ensure the incorporation of environmental protection considerations from the earliest stages of project design or policy development.*
- *The member shall not conduct professional activities in a manner involving dishonesty, fraud, deceit, misrepresentation or bias.*
- *The member shall not advertise or present the member's services in a manner that may bring discredit to the profession.*

There are two intakes per year to apply to become a CEnvP, in June and December. Application processing often takes 6 months from the closing date. The application fee is A\$360 with an annual fee of A\$265. There are discounts available if the applicant is also a member of EIANZ, but it is not necessary to be a member of EIANZ to be CEnvP. Certification is reviewed on a two yearly basis. At review the applicant must provide evidence of CPD and a statement verifying any changed circumstances, including employment and ethical conduct.

⁶ <http://www.eianz.org/membershipinfo/eianz-code-of-ethics>

The advantages of CEnvP are that it is:

- Available to all environmental professionals with suitable experience
- Somewhat cheaper than some other schemes
- Somewhat simpler to apply for than some other schemes
- The on-line register shows the field for which the CEnvP is certified

A disadvantage is that that CEnvP is not yet well known in New Zealand. Of the 282 listed CEnvPs, 49 are listed as practising in contaminated land, but of the 10 New Zealanders listed as CEnvP, none are listed as contaminated land practitioners.

Chartered Environmentalist (CEnv) (United Kingdom)

The Chartered Environmentalist qualification is granted by the Society for the Environment (SocEnv), an independent, not for profit organisation incorporated by Royal Charter in the United Kingdom. Chartered Environmentalists come from no single profession but operate across all professional sectors. CEnv is awarded through one of the 23 diverse professional bodies and learned societies (“Constituent Bodies”) licensed by SocEnv, all of which share a common vision – sustainability through environmental professionalism⁷.

A CEnv applicant must first be a member of one of the 23 Constituent Bodies. Typically, membership of one of the bodies requires an appropriate university qualification, four years postgraduate experience, standing in the chosen field demonstrated by nomination by two or three referees, commitment to continuing education, adherence to a code of ethics and, in many cases, demonstration of professional competence in written form and satisfactory performance at a professional review interview. To become CEnv, an applicant must then demonstrate knowledge of, competence in and engagement with sustainable management of the environment and agree to comply with the SocEnv’s Code of Ethics⁸.

Demonstrating competence is a three-step process; (1) submitting an application demonstrating a suitable qualification and postgraduate experience (most likely already achieved through being admitted as a member of the Constituent Body), (2) submitting a report/review which demonstrates competence with reference to five Key Competences and subsets (thirteen in total) and (3) successfully completing a professional interview in which knowledge of sustainable practice and achievement of the five Key Competences must be demonstrated. Once Chartered status is achieved, retention will require continued membership of one of the licensed Constituent Bodies and payment of the annual fee.

For engineering candidates in New Zealand, membership of IPENZ will generally allow equivalent membership of, for example, the Institution of Civil Engineers or the Institution of Chemical Engineers, both of which are SocEnv Constituent Bodies. For science graduates with appropriate experience, membership of the Institution of Environmental Science (IES), for example, appears to be relatively readily gained, as no professional interview is required for membership. An alternative could be membership of the Chartered Institution of Water and Environmental Management. The next step of obtaining CEnv requires a professional interview but both IES and SocEnv have advised that this interview can be conducted by video conference.

⁷ <http://www.socenv.org.uk/>

⁸ See CEnv Specification: <http://www.socenv.org.uk/chartered-environmentalist-cenv/could-you-be-a-cenv/>

Cost will vary depending on which Constituent Body the environmental professional joins. For the example of obtaining CEnv through the IES, there is an initial application fee to join IES of £25 with an annual membership fee of £75. The CEnv application will cost £270 with an annual fee of £55.

Possibly few New Zealander will apply for CEnv status from New Zealand. However, professionals who have gained CEnv while practising contaminated land assessment in the UK should qualify as *appropriately experienced and qualified*, provided they retain their UK membership and fulfil ongoing CPD requirements of their Constituent Body and SocEnv.

Conclusion

The proposed NES for the assessing and managing of contaminants in soil requires investigation reports to be prepared by an *appropriately experienced and qualified practitioner*. Some form of practitioner accreditation will simplify satisfying the competence requirement. However, there is no contaminated-land-specific scheme in New Zealand and establishing one will probably take a number of years, whereas the NES is scheduled to come into effect in 2011. The cost of establishing a dedicated scheme will also be a barrier.

A number of existing accreditation schemes are generally suitable, but accreditation must be gained by demonstrating experience and competence in contaminated land assessment and related fields rather some other competency the practitioner may hold. Suitable schemes should have a publically available register and a complaint and disciplinary process, and require applicants to hold a relevant degree or equivalent knowledge and demonstrate their competence to an assessment panel using their work history and work experience examples. The applicants must also commit to CPD and a code of ethics. Suitable schemes are, for engineers, MIPNZ and CPEng, and for all environmental professionals, the Australian-based CEnvP and the UK CEnv. Other schemes will be suitable but have not been examined.

An incentive for becoming accredited under one of these schemes would be if the NES defined accreditation as one means of demonstrating a practitioner is appropriately experienced and qualified, with the minimum components of accreditation also being defined. This would encourage individuals to increase their skills and seek accreditation and also encourage employers to train and mentor their staff to achieve accreditation. This would lift the level of contaminated land assessment practice throughout New Zealand.

References

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