



Explanatory note

The following guideline provides general guidance in relation to investigation levels for soil, soil vapour and groundwater in the assessment of site contamination.

This Schedule forms part of the National Environment Protection (Assessment of Site Contamination) Measure 1999 and should be read in conjunction with that document, which includes a policy framework and assessment of site contamination flowchart.

The original Schedule B10 to the National Environment Protection (Assessment of Site Contamination) Measure 1999 has been repealed and replaced by this document.

The National Environment Protection Council (NEPC) acknowledges the contribution of SA Environmental Protection Authority and Queensland Department of Environment and Heritage Protection to the development of this Schedule.

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Competencies and acceptance of environmental auditors and related professionals

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1 Introduction

The assessment of contaminated sites is a specialised professional area involving a number of disciplines. Practitioners must have a range of competencies and be able to recognise the need for supporting professional advice beyond their own expertise when assessing contamination and its effects on land use and the environment.

The extent to which these competencies are required varies with the level and nature of work being carried out by the professional. For example, the professional may be operating as an accredited auditor, a third-party reviewer, a specialist professional certifying work under statute or an environmental consultant involved in carrying out contaminated site assessments. The complexity of contamination issues will vary on individual sites from a single known contaminant with limited site distribution to sites with multiple contaminants of unknown vertical and lateral spread, off-site impacts and obvious human health and environmental risks.

Professional assessments of site contamination deal with health and environmental issues of concern to landowners, occupiers, regulators, local government, planning authorities and the public. These assessments are required by regulatory and planning authorities for the management of contaminated land and in development approval processes.

This Schedule should assist the development of arrangements to provide consistency in the recognition of competent professionals for contaminated site assessment across Australia.

2 Purpose

The purpose of this Schedule is to:

- describe the competencies and experience that are essential for professionals involved in contaminated site assessment including auditors, third-party reviewers and professionals who are certifying assessments of complex contaminated sites
- provide a general framework for the appointment or acceptance by regulatory authorities of contaminated land professionals who are required under statute to certify site assessments.

3 Use of these guidelines

This Schedule is primarily intended for use by regulatory authorities within the scope of their environmental and planning legislation. Its application in individual states and territories will assist in establishing a consistent minimum level of knowledge, experience and technical competencies for environmental professionals carrying out contaminated site assessment within Australia, and the mutual recognition of these professionals.

Individual states and territories may have specific legislative requirements relating to the appointment or acceptance of:

- auditors appointed or accredited for the independent third-party auditing of site contamination
- third-party reviewers accepted to conduct independent third-party reviews for the certification of assessment and remediation
- specialised professionals who are required under statute to demonstrate relevant qualifications and experience when presenting contamination assessment reports to regulatory authorities and to certify assessment work under statutory declarations.

To be recognised in these roles individuals must be professionals with significant technical expertise and experience in the assessment of site contamination. The application of a high level of technical competency assessment is to be applied to the appointment of accredited auditors and to third-party reviewers and the acceptance of professionals who are certifying assessments of contaminated sites.

While regulatory authorities in individual states and territories may require specific knowledge and understanding of legislation and guidelines relevant to their jurisdiction, it is intended the broad assessment process and minimum criteria described in this Schedule be used to establish the professional competencies required and to then determine the technical skills, experience and proficiency of these individuals.

Relevant aspects of this Schedule provide advice on appropriate qualifications, experience and competencies of environmental consultants involved in the assessment and/or remediation of contaminated sites. These considerations may also be applied to assess the abilities of environmental professionals and their companies not otherwise subject to specific legislative requirements for appointment or accreditation, in order to assess their capability to carry out specific assessments of site contamination.

To improve the quality of site contamination assessment work and encourage professional specialisation in this area, regulatory authorities may use this Schedule as the basis of advice for stakeholders, including professional associations, on the competence of practitioners.

This Schedule may also assist members of the community in decision-making regarding the employment of environmental professionals for contaminated site assessment work, by informing them of the broad range of competencies, knowledge and experience that should be held by environmental professionals in designing and carrying out contaminated site assessments.

4 Professional roles in the assessment of site contamination

Professionals involved in the assessment of site contamination need to demonstrate appropriate competence, knowledge and experience relative to their role and the complexity of site contamination.

4.1 Auditors and third-party reviewers

Auditors and third-party reviewers appointed under legislative requirements typically only act in the capacity of that role when they are carrying out an audit or a third-party review in accordance with those legislative requirements. In other situations, for example, when that person is involved in any other site assessment and/or remediation, that individual is acting as an environmental consultant.

The role of an auditor or third-party reviewer acting under statute is to carry out reviews of the assessment and/or remediation work carried out by environmental consultants and to provide independent expert opinion regarding any potential impacts to human health and/or the environment relating to site contamination, and the suitability of land for its intended use.

Auditors and third-party reviewers must be able to demonstrate that:

- they have exercised their own professional judgment
- they have taken appropriate specialised advice when the contamination issue is outside their expertise
- their opinions have been reached independently
- in forming those opinions, they have not been unduly influenced by the views or actions of others who may have an interest in the outcome of the review.

Legislative requirements may include provisions in relation to conflicts of interest and ethical codes of conduct and integrity. Individuals may be subject to penalties for any breaches of those requirements.

There is a clear distinction between the roles of an auditor or third-party reviewer acting under statute, and an environmental consultant. Jurisdictions typically have legislation regarding the provision of false and misleading information relating to statutory decisions.

Individuals applying to regulatory authorities for the purpose of appointment or acceptance of certification in these roles need to demonstrate significant knowledge and extensive experience in site contamination assessments. This should include the ability to meet all of the assessment criteria described in Section 6 of this Schedule.

The multidisciplinary nature of site contamination assessment requires that auditors and third-party reviewers are able to identify when there is an issue that is not within their own expertise and to obtain the additional professional advice required. In considering applications, it should be recognised by regulatory authorities that it is unlikely an individual could demonstrate all technical competencies relevant to site contamination.

4.2 Environmental consultants

An environmental consultant is usually a company that employs a range of professional and technical staff, or it can be an individual person. An environmental consultant can be engaged to carry out site contamination assessments for a variety of reasons. Engagement of a consultant is undertaken in accordance with the terms and conditions of that company or, in some cases, to complete an agreed scope of works. Their role is to design, prepare and carry out the assessment and/or remediation work in accordance with the scope of works.

Although not necessarily subject to specific legislative requirements, environmental consultants responsible for the assessment of contaminated sites and the preparation of assessment reports should

demonstrate relevant qualifications and experience to a level appropriate to the contamination issues relevant to the site under investigation.

While not having to demonstrate meeting all assessment criteria identified in Section 6.1 of this Schedule for auditors and third-party reviewers under statute, environmental consultants should be able to demonstrate:

- qualifications consistent with this Schedule
- competencies relevant to the work to be undertaken
- demonstrated relevant experience in site assessment
- comprehensive knowledge of relevant legislation and guidelines
- knowledge of relevant scientific literature for assessment of the impacts of site contamination on human health and the environment
- a demonstrated commitment to training and professional development
- relevant memberships and/or accreditation with professional societies.

Further information about qualifications and experience is provided in Section 6 of this Schedule.

Consultants should provide evidence that addresses these factors when it is requested. Individual jurisdictions may accredit consultants for certain activities or provide guidance on selection criteria and should be contacted for further advice as appropriate.

5 Application for acceptance

The application requirements described in this section relate to individuals applying to regulatory authorities for the appointment or acceptance of certification in the role of an environmental auditor or third-party reviewer under statute.

Subject to the specific legislative, policy and guideline frameworks applying in each state and territory, regulatory authorities reviewing applications from professionals for acceptance of their qualifications and experience should require the following information to be supplied for assessment.

1. A detailed current curriculum vitae that identifies relevant qualifications and the number of years' relevant experience held by the applicant in the assessment of contaminated sites.
2. A detailed statement of the applicant's knowledge, experience and expertise in relation to the assessment of contaminated sites and environmental issues, addressing the required technical competencies.
3. A statement demonstrating the applicant's understanding of the relevant provisions of environmental legislation in the particular state or territory and knowledge of policy, regulations and procedures.
4. A statement demonstrating the applicant's knowledge and understanding of the relevant provisions of guidelines issued or approved in the particular state or territory.
5. Nomination of people or companies who will provide support to the applicant in the competencies in which the applicant is not an expert.
6. Information that demonstrates the applicant's experience in forming and managing appropriate multidisciplinary teams for complex assessments.
7. A commitment that a professional liability insurance policy is, or will be, held by the applicant or on the applicant's behalf by the company employing the applicant, that demonstrates an appropriate level of coverage. Policies should cover the person for the activities to be undertaken and should not contain any exclusion that may have the effect of limiting cover for work carried out.
8. Examples of two or more relevant reports or studies on site contamination, which were authored or substantially prepared by the applicant and prepared no more than two years prior to the date of application. The reports should demonstrate the applicant's expertise in the assessment of contamination and their written communication skills. The report should clearly support the statements made by the applicant under items 2, 3 and 4 above. The role of the applicant in conducting the study (consultancy) and in preparing the report must be clearly indicated. Individual regulatory authorities may have specific requirements relating to requiring consent to be obtained from the client(s) for the reports to be submitted with the application, and may decide to return the reports to the applicant.
9. Summary information about additional reports and studies in which the applicant has made a major contribution may be presented, indicating the title of the project, the date of the report, the role of the applicant and the purpose of the project.
10. Nomination of referees. Referees should include people not directly associated with the applicant or the company employing the applicant, who have direct and recent knowledge of the applicant and can confirm the applicant's experience and expertise as stated under items 2, 3 and 4.

6 Assessment Criteria

This section details appropriate minimum criteria that should be considered by regulatory authorities in the assessment of individual applicants seeking acceptance for certification of contaminated site assessment work. Individual regulatory authorities may have further specific requirements for the criteria.

The ability of environmental consultants not otherwise subject to legislative requirements to demonstrate these criteria may also be used to assist in the decision-making process regarding the use of environmental consultants to carry out the assessment of site contamination.

6.1 Technical basis of application

The applicant should be able to demonstrate extensive experience and a high level of expertise in the core competencies required in each state and territory. In general, this will comprise such experience and expertise in all or a majority of the following:

- assessment of contaminant exposure pathways
- contaminated site assessment and management
- evaluation and interpretation of chemical and analytical data
- soil sampling design and methodology
- soil gas sampling design and methodology
- groundwater sampling design and methodology
- identification of potential human health and environmental risks
- quality control/quality assurance procedures
- risk communication.

The applicant should have basic proficiency in and be able to demonstrate experience and expertise relating to site contamination in the following areas, or otherwise have access to such expertise, to the level required by individual regulatory authorities:

- air quality (volatile emissions and dust) assessment relating to contamination
- assessment of impacts on groundwater from contaminated sites
- contaminant fate and transport
- environmental chemistry
- environmental sampling
- environmental toxicology
- geology
- human health and ecological risk assessment relating to contamination
- human toxicology
- hydrogeology
- identification of contaminants of concern from past industrial land uses
- work health and safety relating to contamination
- remediation technologies and geo-technology
- soil science
- statutory and environmental planning.

6.2 Legislative and guideline knowledge and understanding

The applicant should be able to demonstrate knowledge and an understanding of relevant legislation, regulations and policies relating to site contamination in each state or territory for which acceptance is sought.

The applicant should be able to demonstrate knowledge and an understanding of relevant guidelines issued or approved in each individual state and territory for which acceptance is sought.

The applicant should also be able to demonstrate consistency with relevant legislation and guidelines, in their carrying out and reporting of contaminated site assessments.

6.3 National framework

The applicant should be able to demonstrate an understanding of the National Environment Protection (Assessment of Site Contamination) Measure 1999 and other national guidance documents relevant to contamination.

The applicant should also be able to demonstrate consistency with the National Environment Protection (Assessment of Site Contamination) Measure 1999, in their carrying out and reporting of contaminated site assessments.

6.4 Experience and expertise

The applicant should demonstrate his/her expertise in the competencies identified in Section 6.1, to the level required by individual states and territories.

Where a competency, other than a core competency, is not able to be demonstrated by the applicant to the level required, the applicant should demonstrate access to relevant expertise in that competency.

All applicants should be required to nominate an expert support team of specialised professionals on whom they would rely for site issues beyond their areas of expertise.

Regulatory authorities in individual states and territories may have specific requirements relating to the qualifications, experience and expertise of expert support team members, and their use by applicants. However, an individual nominated as an expert in an auditor's support team should:

- be able to demonstrate a high level expertise or knowledge in the competencies where the applicant does not personally possess such expertise or knowledge to the level required
- hold qualifications relevant to and supporting the nominated competencies
- have at least eight years' relevant experience
- be actively working in the field of the nominated competencies
- be a current member of professional organisations/associations relevant to the field of the nominated competencies
- be able to demonstrate an ongoing commitment to professional training and development.

The applicant should demonstrate a sound ability and experience in forming and managing a multidisciplinary team for complex site assessment which contains the appropriate balance of expertise.

6.5 Qualifications

The applicant should hold qualifications as required by the regulatory authorities in individual states and territories (for example, a relevant bachelor's degree from a recognised institution).

6.6 Professional societies

The applicant should be required to demonstrate individual membership of and/or accreditation from one or more relevant professional societies, for example, Engineers Australia, the Royal Australian Chemical Institute, the Australian Institute of Geoscientists, the Environment Institute of Australia and New Zealand. In addition, applicants should also be able to demonstrate membership and/or accreditation of professional associations where relevant to nominated technical competencies (identified in section 6.1).

When considering professional societies that may be acceptable, regulatory authorities should consider the following criteria:

- discipline or area of expertise or interest relates directly to the assessment and management of contaminated sites
- membership is qualification-based
- membership requires adherence to an appropriate code of ethics.

Regulatory authorities should also take into consideration whether the maintenance of the membership and/or accreditation by the applicant is active and current. Maintenance of memberships should be in accordance to any code of ethics relevant to the particular society, and adherence to professional standards.

6.7 Professional experience

Regulatory authorities in individual states and territories may have specific requirements for the number of years of experience that applicants would be expected to have. Applicants should be expected to have had at least eight years' continuous relevant experience in the assessment and management of contaminated sites for appointment as accredited auditors or for acceptance as professionals involved in preparation and certification of assessments of complex contaminated sites. Individual regulatory authorities may also consider applicants with less than the required years' contaminated land experience but with significant years of relevant and related environmental experience, including assessment and management of major environmental issues involving complex sampling design and chemical or hydrogeological data collection and interpretation, where this experience is relevant.

It is generally desirable that an applicant's experience include at least two years of relevant work in Australia and two years in the role of project manager involving a multidisciplinary team approach to contaminated land or related environmental assessment and management.

It is preferable that the experience in contaminated sites work is broadly based in terms of the scale of work undertaken, the range of contaminants encountered and the scope of work performed, and includes contaminated site or environmental auditing experience, for example, as a member of an accredited auditor's expert support team or as an auditor's assistant.

6.8 Principles of audits

The applicant should be able to demonstrate a thorough understanding of the principles of, and methods for, conducting contaminated site assessments and environmental audits as required by the relevant state and territory, and be able to act independently using balanced professional judgement based on site-specific data and the advice of specialised support professionals.

6.9 Literature

The applicant should be able to demonstrate up-to-date knowledge of relevant scientific, technical developments and regulatory literature relating to new legislation and court proceedings and decisions relating to contaminated sites.

6.10 Professional development

The applicant should be able to demonstrate an active commitment to ongoing training and professional development relevant to the technical competencies (identified in Section 6.1) and the assessment and/or remediation of contaminated sites. Applicants should be able to provide evidence of continuous professional development and learning outcomes.

7 Acceptance processes and general conditions

This section provides general guidance on processes for the acceptance and ongoing review of applicants seeking certification of contaminated site assessment work.

7.1 General acceptance processes

Regulatory authorities may apply the following processes for the assessment, selection and review of auditors or third-party reviewers in accordance with legislative requirements and operational policies applying in each jurisdiction.

The regulatory authority may consider the establishment of a panel to assess applications. Typical panels would have not less than three professionals including a suitably qualified chairperson. Panels need to be able to adequately assess all of the competencies relevant to contaminated land assessment and management. The panel must consider the applicant's ability to meet all of the assessment criteria identified in Section 6, including the composition and relevance of their expert support team, their demonstrated ability to act independently on the basis of factual evidence, and their adherence to ethical and professional standards of conduct.

7.2 Ongoing practice

Once appointed or accepted for certification, regulatory authorities should ensure that professionals continue to update their training and experience in relation to the assessment of contamination, and comply with the relevant legislative requirements of the individual states and territories. This may be carried out through the implementation of a quality assurance program by the regulatory authority and review of a person's appointment, particularly at times of renewal. Applicants for renewal should also be able to demonstrate they are actively auditing.

The regulatory authority in individual states and territories may conduct independent audits and peer reviews of assessment work and adopt a system that involves the periodic review of the status of appointed professionals. Reviewers within the regulatory authorities should have appropriate qualifications and experience.

In the event of proven malpractice, such as a breach of legislative requirements by accepted persons, the regulatory authority may suspend or revoke the acceptance and may apply appropriate additional penalties in accordance with their legislative requirements.