Ministry for the Environment
Manatū Mō Te Taiao

Proposed Amendments to the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

CONSULTATION DOCUMENT



newzealand.govt.nz

Disclaimer

The opinions and options contained in this document are for consultation purposes only, do not reflect final government policy and are not intended to constitute legal advice. The Government does not accept any responsibility or liability whatsoever for any action taken as a result of reading, or reliance placed because of having read, any part, or all, of the information in this discussion document, or for any error, inadequacy, deficiency, flaw or omission from this document.

Acknowledgements

The Ministry for the Environment would like to thank everyone who contributed to the interim review, particularly the council staff and contaminated land practitioners who generously gave their time to attend focus groups, participate in meetings, and provide information.

This report may be cited as:

Ministry for the Environment. 2016. *Proposed Amendments to the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health: Consultation Document*. Wellington: Ministry for the Environment.

Published in September 2016 by the
Ministry for the Environment
Manatū Mō Te Taiao
PO Box 10362, Wellington 6143, New Zealand

ISBN: 978-0-908339-58-7 (online)

Publication number: ME 1261

© Crown copyright New Zealand 2016

This document is available on the Ministry for the Environment's website: www.mfe.govt.nz.

Contents

Tables

Figures

Executive summary

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) came into effect on 1 January 2012. The NESCS applies to assessing and managing the actual or potential adverse effects of contaminants in soil on human health from five activities: subdivision, land-use change, soil disturbance, soil sampling, and removing fuel storage systems.

The Ministry for the Environment conducted an interim review of the NESCS over 2014/15. The interim review determined that the NESCS has decreased the likelihood that sites will be developed, and then later found to pose an unacceptable risk to human health. Concern that sites were being missed was a major driver for developing the NESCS, and as such the NESCS is largely achieving its original objectives. The review identified, however, several areas where implementation of the NESCS framework is creating inefficiencies, resulting in low-risk sites and activities being required to comply with the NESCS.

Landowners are being caused unnecessary costs and delays through:

- resource consents being required even where there is a low risk to human health
- uncertainty in the consenting process
- controls not being appropriately targeted to the effects of an activity.

To address these issues, the Ministry is proposing to amend the NESCS framework. The proposed amendments aim to deliver more effectively on the original policy intent of the NESCS, to ensure that land affected by contaminants in soil is appropriately identified and assessed at the time of being developed and, if necessary, the land is remediated or exposure to contaminants is managed to make the land safe for human use.

To enable this, the amendments seek to achieve four outcomes:

- require a risk-based assessment when deciding whether the NESCS applies to a site
- remove resource consent requirements for low risk activities
- increase certainty of the consenting process and target controls more closely to effects
- provide options for site-specific management that are appropriate for the risk.

The proposed amendments also include guidance to support landowners, councils and practitioners in implementing the NESCS framework.

The proposed amendments will also introduce two mechanisms designed to minimise management costs for landowners when a site is contaminated:

- a template ongoing site management plan for residential properties
- bioavailability testing.

The template ongoing site management plan will be an option for some residential landowners where a detailed site investigation (DSI) has found that contamination on a site exceeds the soil contaminant standard for residential or rural-residential land use. Bioavailability testing will be recognised to calculate site-specific soil guideline values for arsenic and lead concentrations in soil. The introduction of a bioavailability methodology into the NESCS framework will be the first time this method of testing has been recognised in New Zealand legislation.

The proposed amendments intend to improve how the NESCS is working in practice, and work towards the identification and management of risks from contaminated land in New Zealand.

The Ministry welcomes your views on the proposals in this consultation document. You can find details on how to make a submission in chapter 7.

A full review of the NESCS, including a full evaluation of the effects of the NESCS, will be undertaken after the final amendments are implemented.

More information on the interim review can be found in the *Interim Review Summary Report* (Ministry for the Environment, 2016a).

1 Introduction

Background

Development or use of contaminated land can increase the risk of exposing people to contaminants in soil. The policy objective of the NESCS is to provide a comprehensive framework to ensure that land affected by contaminants in soil is appropriately identified and assessed at the time of being developed and, if necessary, remediated, or the contaminants contained to make the land safe for human use.[1] The framework is comprised of four parts:

Figure 1: The four parts of the NESCS framework

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS)

1. Hazardous Activities and Industries List (HAIL)	HAIL identifies industries that have historically been associated with hazardous substances. The NESCS targets sites that pose a potential risk by applying only to land on which an activity or industry on the HAIL is currently taking place, has taken place, or is more likely than not to have taken place.
2. Nationwide set of planning controls	The NESCS sets out rules that apply when a person wants to undertake an activity (eg, disturbing soil, subdividing land, or removing a fuel storage system) on land that has the potential for soil contamination.
3. Requirements for undertaking and assessing site investigations and reports	A consistent approach to investigating and reporting on contaminated sites is required.
4. Nationwide set of soil contamination standards for 12 priority contaminants	A nationwide set of soil contaminant standards for 12 priority contaminants and a method for developing standards for other contaminants was developed to ensure the same level of health protection for people around the country. Soil contaminant standards set a level at which contamination is considered acceptable.

The NESCS only applies to land on which an activity or industry on the hazardous activities and industries list (HAIL) is, has been, or is more likely than not to have been undertaken. The NESCS applies to five specified activities:

- removing or replacing all, or part of, a fuel storage system
- sampling the soil
- disturbing the soil
- subdividing the land
- changing the land use.

These activities can all be carried out as permitted activities if certain criteria are met. The criteria are different for each activity. Where activities cannot meet the permitted activity requirements, resource consent is required in one of three categories (controlled, restricted discretionary, and discretionary), based on the risk posed to human health on the site.

The NESCS provides protection for long term occupiers of residential and commercial properties and users of recreational areas. Short term occupiers (eg, construction / maintenance workers) are considered under the Health and Safety at Work Act 2015.

[1] [EGI(11)68]

More background information on the NESCS framework can be found in Appendix 1. Information can also be found in on the Ministry's website (www.mfe.govt.nz) or in the *Users' Guide: National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health* (Ministry for the Environment, 2012).

Why do we need to amend the NESCS?

An interim review of the NESCS, carried out by the Ministry in 2014/15, found that there are several areas where implementation of the NESCS framework is creating inefficiencies, resulting in low-risk sites and activities being required to comply with the NESCS. The interim review found that:

- There is considerable variation in how the HAIL is being applied by councils across the country, resulting in different sites in each region being identified as needing to be listed on the HAIL. This creates costs and delays for landowners during development, and is expected to be magnified as more regional councils identify HAIL sites in their region and the number of these sites increases.
- A substantial proportion of sites identified as HAIL sites are found to be below the soil contaminant standards after testing. This finding means that a considerable percentage of land captured by the NESCS is later found not to pose a risk to human health.
- The NESCS is requiring landowners to obtain resource consent in circumstances where the risk to human health could be managed in other ways. For example, landowners may be required to remediate their property in circumstances where other management options are appropriate – some of which may be more cost effective for the landowner.
- There is variation in how the NESCS planning controls are being applied by councils and practitioners across the country. This is creating differences between districts in terms of what activities require NESCS resource consent. In particular, determining whether an activity is permitted can be a cumbersome process for some landowners. This delays projects, increases costs and inefficiencies for landowners, and sometimes results in consents being obtained when not required by the NESCS.

The proposed amendments in this document will address all of these issues to improve how the NESCS is working in practice.

A full discussion of the findings of the interim review can be found in the *Interim review of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health: Summary Report* (Ministry for the Environment, 2016a).

Purpose of this consultation document

The overall objective of the amendments is to deliver more effectively on the original policy intent of the NESCS. That is, to ensure that land affected by contaminants in soil is *appropriately* identified and assessed at the time of being developed and *if necessary* remediated, or the contaminants contained to make the land safe for human use.

To enable this, the proposed amendments seek to achieve four outcomes:

1 require a risk-based assessment when deciding whether the NESCS applies to a site

2 remove resource consent requirements for low risk activities

3 increase certainty of consenting process and target controls more closely to effects

4 provide options for site-specific management that are appropriate for the risk.

This document seeks your feedback on the Ministry's proposed amendments to the NESCS. Specifically, we are interested in your views on:

- Potential impacts of the proposal(s):
  - What will be the expected cost(s) of the proposal? Who will bear that cost?
  - What will be the expected benefit(s) of the proposal? Who will benefit?
- Evidence of the scale of the current problem/issues:
  - eg, testing results relating to sports turfs results on sports fields, costs of obtaining NESCS consent?
- Unintended outcomes:
  - How will the amendment work in practice?
  - What implementation support would be required to ensure effective implementation of the amendment?

The Ministry acknowledges that this document does contain some highly technical discussion and feedback on these parts is mainly aimed at territorial authorities and practitioners, who commonly engage in this area. This document identifies what feedback questions the Ministry is particularly interested in feedback on from territorial authorities and practitioners.

2 Key proposals

Below is a summary of the key proposals to amend the NESCS framework. A full list of the proposals is provided in Appendix 2.

Summary of key proposals

Hazardous Activities and Industries List (HAIL)
Clarify the HAIL categories to increase consistency
Remove express reference to 'sports turfs' in category A.10
Remove express reference to 'environmental discharges' in category A.14 and 'risk' in categories H and I
Provide guidance on the HAIL, including the characteristics of activities and industries that have potential to contaminate soil
Does the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) apply to my land?
Require a risk-based assessment when deciding whether the NESCS applies to a site
NESCS activities and planning controls
• *Remove consent requirements for low-risk activities*
No resource consent required for activities on sites found to be have contamination below soil contaminant standards or Tier 1 soil acceptance criteria (except for soil disposal or where a site-specific soil guideline value has been used)
No resource consent required for soil disturbance by a network utility operator
No resource consent required for subdivisions that are purely 'paper-based' or do not facilitate a current or future change in use
• *Increase certainty of consenting process and target controls more closely to effects*
Class soil disposal as a stand-alone NESCS-controlled activity
Amendments to the consent status and planning controls for the NESCS-controlled activities
Clarification of key terms
Contaminated Land Management Guidelines updated
Require suitably qualified and experienced practitioners to use a standardised certifying statement in their reports to provide clarity to report readers
Management of contaminated land
Option of a template for an ongoing site management plan (with controls) for residential property owners
Option to enable site-specific soil guideline values to be calculated using the site-specific bioavailable concentration of arsenic and lead

3 Hazardous Activities and Industries List (HAIL)

Consistency in interpretation and application

Identifying potentially contaminated land is critical for the implementation of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS). The NESCS only applies to land on which an activity or industry on the Hazardous Activities and Industries List (HAIL) is, has been, or is more likely than not to have been undertaken. The wording of many of the HAIL categories is intentionally broad, as the HAIL has multiple uses and is intended as a broad risk categorisation tool. The interim review, however, identified considerable variation in how the HAIL is being applied by regional councils across the country. Inconsistency in regional council interpretation causes confusion for developers and landowners, and results in increased costs and delays during development.

This issue is expected to be magnified as more regional councils undertake a process of identifying HAIL sites in their region. The *Resource Management Act: Two-yearly Survey of Local Authorities 2012/13* (Ministry for the Environment, 2014) reported a total of 19,568 sites nationwide that had been identified as HAIL sites. Since then, many regional councils have continued to identify HAIL sites, but it is widely accepted that a significant proportion of HAIL sites remain unidentified. It is estimated that 6,000–20,000 hectares of land will be identified as HAIL sites over the next 20 years.

To increase consistency in the interpretation and application of the HAIL, the Ministry proposes to reword and provide guidance on the HAIL. These changes will also help target sites that are likely to present a genuine risk to human health.

Proposals

3.1 Clarify the HAIL categories to increase consistency.

3.2 Remove express reference to ‘sports turfs’ in category A.10.

3.3 Remove express reference to ‘environmental discharges’ in category A.14 and ‘risk’ in categories H and I.

3.4 Provide guidance on the HAIL, including the characteristics of activities and industries that have potential to contaminate soil.

Amendments to the NESCS framework

All proposed amendments to the HAIL are detailed in Appendix 3.

Clarify the HAIL to increase consistency

3.1 Clarify the HAIL categories to increase consistency.

The Ministry proposes to reorder the words in the majority of the HAIL categories. Although there are many changes to the order of words, most of these changes are minor. The proposed reordering avoids changing the numbering of the HAIL categories, as this would result in significant costs and resources to councils.

The minor reordering changes intend to clarify the types of activities that should be identified as HAIL. An industry or activity heading has been added to most categories, to allow the reader to easily scan through before reading the more detailed description, as outlined in the examples below. This will make the HAIL easier for councils to use when identifying HAIL sites.

Example: Category A.11

Current wording: Pest control including the premises of commercial pest control operators or any authorities that carry out pest control where bulk storage or preparation of pesticide occurs, including preparation of poisoned baits or filling or washing of tanks for pesticide application.

Proposed wording: Pest control: Premises where commercial pest control operators, or any authorities that carry out pest control, store or prepare pesticides for application.

Explanation: The proposed wording simplifies the category, removing detailed descriptions of activities that are part of the wider activity (of preparing pesticides for application). In some cases (not just in this category) users of the HAIL have interpreted the examples given as being the only activities covered by the HAIL.

The changes will promote consistent implementation of the HAIL, and HAIL site identification nationwide, as outlined in the examples below.

Example 1: In category A, the words manufacture, formulation and mixing have been adopted for consistency. These words will be described in further guidance.

Example 2: In category A.15, terminology has been changed to make wording consistent with that used in the Agricultural Compounds and Veterinary Medicines Act 1997.

Example 3: Category F.1:

Current wording: Airports including fuel storage, workshops, washdown areas, or fire practice areas.

Proposed wording: Airports: fuel storage, workshops, washdown areas or fire practice areas.

Explanation: In some cases, whole airports have been listed as HAIL, when in reality it is only small areas of the airport where the listed activities occur that pose a risk. The wording has been changed so that there is an industry title (in this case Airports), followed by an explanation of the specific areas considered to be HAIL. It is proposed that this general format be adopted throughout the HAIL document.

Substantial changes

3.2 Remove express reference to 'sports turfs' in category A.10.

3.3 Remove express reference to 'environmental discharges' in category A.14 and 'risk' in categories H and I.

Some other changes to the HAIL are more substantial. These changes are intended to remove ambiguity and help clarify the types of activities and industries that should be identified as HAIL.

Remove express reference to sports turfs

Current wording of A.10: Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds.

Proposed wording: Use and bulk storage of persistent pesticides, including in market gardens, orchards, glass houses and spray sheds.

Explanation: Category A10 of HAIL is intended to capture locations where persistent pesticides were handled and regularly used. Sports turfs were originally included in the HAIL to target persistent pesticide use on bowling greens, golf greens and other intensively managed turfs. In practice, many councils are identifying a much wider range of playing fields under this classification, including school playing fields and sports fields that were not intended to be classified as HAIL. The Ministry proposes to remove sports fields from the named examples in this category, and provide an explanation and advice in the non-regulatory guidance, so that playing fields that have not been intensively managed are excluded from HAIL classification. On this particular issue, the Ministry is seeking feedback and evidence as to whether this exclusion would pose an unacceptable risk.

Remove express reference to environment discharges and risk

Three categories that specifically referred to environment discharges (A14) and risk (H and I) have been modified to remove these words.

Explanation: The words have been removed because all activities on the HAIL have potential for environmental discharges, and all can pose a risk to human health and/or the environment.

A full list of the proposed changes and a discussion of these is provided in Appendix 3.

The Ministry is seeking feedback on the proposed changes, and any opportunities to further clarify activities and industries captured by the HAIL.

Guidance on the HAIL

3.4 Provide guidance on the HAIL, including the characteristics of activities and industries that have potential to contaminate soil.

The Ministry proposes to provide guidance on the HAIL, including the characteristics of activities and industries that have potential to result in soil contamination, to assist councils to identify HAIL sites. Guidance could include information on (amongst other things):

- size, scale and volumes that should be considered to be 'bulk storage and use', which is referred to in a number of HAIL categories
- descriptions of particular activities and industries that could lead to soil contamination
- types of hazardous substances associated with an industry or activity periods of time when hazardous substances were associated with an activity or industry.

The Ministry is seeking evidence on the contamination profiles of HAIL sites through this consultation process to help inform guidance. We are also interested in your views on whether this guidance should be regulatory (incorporated into the NESCS by reference) or non-regulatory (not incorporated by reference).[2]

Anticipated impacts of change

It is anticipated that rewording of the HAIL, combined with the provision of HAIL guidance, will result in more consistent interpretation and application of the HAIL and HAIL site identification.

The guidance and the proposed new risk-based test (described in Proposal 4.1) will help councils and landowners to make decisions about whether land is HAIL land, and if the NESCS should be applied to it. It is estimated that the impacts of these changes could be to reduce the number of HAIL sites by 5–10 per cent, or 5,500–11,000 HAIL sites, over a 20-year period. Overall, there may be a reduction in costs and delays during development for some landowners or developers, because they do not have to comply with the NESCS.

The amendments have not involved any change to the numbering of the HAIL classifications, as this would result in significant costs and resources to councils, as they have existing databases based on the current classifications.

Questions

1 Do you agree with the overall approach to amending the HAIL? Why, or why not?

2 Do you agree or disagree with any of the amendments to the HAIL provided in Appendix 3? Why, or why not? Where possible, please provide quantitative evidence for or against any of the proposed changes (ie, soil testing of playing fields).

3 Are there any further amendment(s) to the HAIL that should be made? If so, what and why? Where possible, please provide quantitative evidence.

[2] More information on material incorporated by reference into the NESCS can be found in the NESCS Users' Guide (Ministry for the Environment, 2012).

4 What kind of information would you like to see included in the guidance? Where possible, please provide information that would support the development of the guidance.

5 What do you expect to be the impacts of the proposed amendment(s) (to landowners, territorial authorities, practitioners, the general public)? Where possible, please provide quantitative evidence.

We also seek specific feedback, particularly from territorial authorities and practitioners, on:

6 Could there be unintended outcomes from the proposed amendment(s)? If so, what are they and how could they be avoided? Where possible, please provide quantitative evidence.

7 What implementation support, if any, would be required to ensure effective implementation of the HAIL?

4 Does the NESCS apply to my land?

Introducing a risk-based approach

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) applies to land if it is determined that a Hazardous Activities and Industries List (HAIL) activity has been, is, or is more likely than not to have been undertaken on it. Currently the NESCS does not allow for any judgement to be made about whether the HAIL activity or industry on that land is likely to have resulted in contamination that poses a risk to human health.

Because the HAIL is intentionally broad, the NESCS is being applied to some HAIL sites that are unlikely to contain contamination that poses a risk to human health. The interim review found evidence of this, with a substantial proportion of sites identified as HAIL found to have soil concentrations below the soil guideline value after testing (ie, the HAIL activity has not resulted in contamination that poses a risk to human health). For example, more than 60 per cent of the 83 detailed site investigations (DSIs) provided to Christchurch City Council during a six-month monitoring period found site contamination levels to be below soil guideline values.

The Ministry proposes introducing a requirement to conduct a risk-based assessment when deciding whether the NESCS applies to a site, to ensure that the NESCS only applies to land where the HAIL activity is likely to have resulted in contamination that poses a risk to human health.

Proposals

4.1 Require a risk-based assessment when deciding whether the NESCS applies to a site.

Amendments to the NESCS framework

An example of what the amendment may look like is below. This example shows regulation 5(7) and 6 of the NESCS.

5 Application

…

Land covered

(7) The piece of land is described by one of the following:

(a) an activity or industry described in the HAIL is being undertaken on it

(b) an activity or industry described in the HAIL has been undertaken on it

(c) it is more likely than not that an activity or industry described in the HAIL is being or has been undertaken on it

and where it is more likely than not that the activity or industry has resulted in contaminants in soil that could pose a risk to human health.

6 Methods

(1) Sub clauses (2) and (3) prescribe the only two methods that a person may use for establishing whether a piece of land is as described in regulation 5(7).

(2) One method is by using the most up-to-date information about the area where the piece of land is located that the territorial authority—

(a) holds on its dangerous goods files, property files, or resource consent database or relevant registers; or

(b) has available to it from the regional council.

(3) The other method is by relying on the report of a preliminary site investigation—

(a) stating that an activity or industry described in the HAIL is, or is not, being undertaken on the piece of land; or

(b) stating that an activity or industry described in the HAIL has, or has not, been undertaken on the piece of land; or

(c) stating the likelihood of an activity or industry described in the HAIL being undertaken, or having been undertaken, on the piece of land.

(4) *When using either method described in sub clauses (2) and (3), consideration must be given to the likelihood that the activity or industry has resulted in contaminants in soil that could pose a risk to human health.*

Risk-based means a risk assessment that includes combinatorial analysis of the likelihood (probability) of an adverse effect occurring, and of the significance of the effect (severity of consequences).

The purpose of the risk-based approach is to allow landowners and councils the opportunity to demonstrate that a 'piece of land' should not trigger the NESCS if (although a HAIL activity or industry is, has, or may have been undertaken on the land) it is not likely[3] that the activity or industry has resulted in contamination that could pose a risk to human health. In some instances it may be necessary for a suitably qualified and experienced practitioner (SQEP) to make the assessment. Wherever possible, though, it is intended that landowners and councils assess and exclude sites where it is clear that there is unlikely to be a risk to human health.

Landowners and councils will assess whether the NESCS should apply, not whether the HAIL applies to a site. The determination would be made on the basis that even if a HAIL activity has occurred, it is not likely to have resulted in contamination that poses a risk to human health. In a practical sense, this may mean a site is listed in the regional council's database as HAIL, but there would be no requirement under the NESCS. The following are examples where this might apply:

a) A particular orchard has only ever used copper-based sprays. Copper is not toxic to humans (the soil contaminant standards set no limit to the concentration of copper that may be present in soil), so there would be no requirement under the NESCS. The site would remain listed as a HAIL site, as copper can be toxic to organisms in water or soil.

b) A site was recorded on the HAIL register as it once contained an underground fuel storage tank. The tank was removed, soil samples taken, and the results provided to the council in a report in accordance with the *Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand* (Ministry for the Environment, 2011d)

[3] The use of the terms 'likely' and 'not likely' in this section are to facilitate discussion only. We are seeking feedback on what likelihood standard should be adopted – please see page 18 for further detail.

(the Petroleum Guidelines). The site would remain listed as a HAIL site, as it is important to record that the tank existed, particularly in the event of a change to a more sensitive land-use. If the land owner decided in future to undertake some soil disturbance works in the same area, however, the council could decide that the NESCS does not apply to the works if the soil samples indicate that there is not likely to be a risk to human health from the soil disturbance.

The proposed assessment would apply to all activities regulated by the NESCS. It is similar to the regulation 8(4) test which applies only to the change of use or subdivision activities. This allows a preliminary site investigation (PSI) to demonstrate that the proposed activity of subdivision or change of use is not likely to have resulted in contamination that poses a risk to human health.

The Ministry is seeking feedback on the best way to achieve the intent of the risk-based approach, including what terminology should be used in the assessment (ie, what likelihood standard should be adopted). To aid feedback, the Ministry has identified one potential option to introduce the assessment – amend regulations 5(7) and 6 of the NESCS (as outlined in the box above).

The use of the terms 'likely' and 'not likely' in this section are to facilitate discussion only. We have identified two potential options for the likelihood standard that may be appropriate to be used in the assessment:

- "more likely than not"
- "reasonably likely".

Both of these terms are currently used in the NESCS.

To aid feedback on what terminology should be used, we set out below what each term could look like in the potential amendment to regulation 5(7):

1 *"And where it is more likely than not that the activity or industry has resulted in contaminants in soil that could pose a risk to human health"*

2 *"And where it is reasonably likely that the activity or industry has resulted in contaminants in soil that could pose a risk to human health".*

The risk-based assessment would be supported by guidance, which would set out how and why a decision about the likelihood of contamination could be made. Guidance would set out the type of information a landowner or council might collate in order to demonstrate that, although a HAIL activity is, has or may have been undertaken on the land, it is not likely to have created a risk for human health.

Anticipated impacts of changes

The proposed assessment will mean that the NESCS will not apply to HAIL sites where it is not likely to have resulted in contamination which poses a risk to human health. Overall, this is expected to result in a net reduction in the number of HAIL sites to which the NESCS applies, with a follow-on reduction in costs during development for some landowners or developers. It is estimated that the impacts of these changes could be to reduce the number of NESCS consents by 5–10 per cent.

Questions

8 Do you agree with the proposal to introduce a risk-based assessment into the NESCS framework? Why, or why not?

9 What terminology should be used in the risk-based assessment (ie, “reasonably likely”, “more likely than not”)?

10 What are the expected impacts of this proposal? Where possible, please provide quantitative evidence.

We also seek specific feedback, particularly from territorial authorities and practitioners, on:

11 Could there be unintended outcomes from this proposal? If so, what are they and how could they be avoided?

5 NESCS activities and planning controls

Activities related to land development

The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) targets activities related to land development, to appropriately manage risks to human health of contaminated soils. The NESCS provides councils with a set of planning requirements for five activities, and criteria to determine the appropriate degree of consenting control for each activity according to the potential risk to human health (collectively termed the NESCS planning controls). The five activities can all be carried out as permitted activities if certain criteria are met. Where activities cannot meet the permitted activity requirements, resource consent is required in one of three categories (controlled, restricted discretionary, and discretionary), based on the risk posed to human health on the site.

Table 1: Types of resource consent under the NESCS and relationship to risk

Types of NESCS consents	Risk to human health
Controlled	A DSI has found that the contaminants present on site are below human health guideline values, but above background concentrations.
Restricted discretionary	A DSI has found that contaminant concentrations on site exceed guideline values.
Discretionary	A DSI has not been undertaken, and so the risks to human health on the site have not been established.

The interim review identified that there is considerable variation in how the NESCS planning controls are being applied by councils and practitioners across the country. This is creating differences between districts in terms of what activities require NESCS resource consent, resulting in project delays, increased costs and inefficiencies for landowners. On some occasions, consents are being obtained when the NESCS does not require them. Two areas of inconsistent application of the NESCS planning controls have been identified:

- determining whether an activity is permitted, which can be a cumbersome process for some landowners
- the area of land that requires investigation and management at the time of obtaining NESCS.

Further, the NESCS currently requires landowners to obtain resource consent where the risks could be managed in other ways. Two areas have been identified where the risk to human health could be managed in other ways:

- sites where soil concentrations are below guideline values
- network utility operators undertaking soil disturbance.

Landowners may be required to remediate their property in circumstances where other management options are available – some of which may be more cost effective for the landowner (ie, soil disposal).

Proposals outlined below are intended to ensure:

- low-risk activities are not being targeted by the NESCS
- certainty of the consenting process
- consenting controls are targeted closely to the effects of the activity.

Proposals

Remove resource consent requirements for low-risk activities

5.1 No NESCS resource consent required for activities on sites found to have contamination below soil contaminant standards or Tier 1 soil acceptance criteria.

5.2 No NESCS resource consent required for soil disturbance by a network utility operator.

5.3 No NESCS resource consent required for subdivisions that are purely 'paper-based' or do not facilitate a current or future change.

Increase certainty of consenting process and target controls more closely to effects

5.4 Class soil disposal as a stand-alone controlled activity.

5.5 Remove option of discretionary activity class for soil disturbance and removal or replacement of fuel tank storage systems.

5.6 Remove option of restricted discretionary and discretionary activity classes for soil sampling.

5.7 Define 'soil disturbance ratio' in regulation 8(3).

5.8 Define 'piece of land' in regulation 8(3).

5.9 Remove term 'per year' from regulation 8(3).

5.10 Require suitably qualified and experienced practitioners to use a standardised certifying statement in their reports.

Applicable standard means if the contaminant of concern is a priority contaminant and the land use fits within an exposure scenario adopted in the Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health (Ministry for the Environment, 2011e) (the methodology), the applicable standard is the soil contaminant standard for the priority contaminant.

If the contaminant of concern is a priority contaminant and the land use does not fit within an exposure scenario adopted in the Methodology, the applicable standard is whichever of the following is more appropriate in the circumstances: the guideline value derived in accordance with the methods and guidance on site-specific risk assessment provided in the Methodology; or the soil contaminant standard for the priority contaminant of the exposure scenario adopted in the Methodology with greater assumed exposure than the actual exposure.

If the contaminant of concern is *not* a priority contaminant, the applicable standard is whichever of the following is more appropriate in the circumstances: the guideline value derived in accordance with the methods and guidance on site-specific risk assessment provided in the Methodology; or a guideline value for the protection of human health that is chosen in accordance with the current edition of Contaminated Land Management Guidelines No. 2– Hierarchy and Application in New Zealand of Environmental Guideline Values (Ministry for the Environment, 2011) (CLMG No.2).

Soil contaminant standard means the Tier 1 or screening criteria in the Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health (the methodology). There are soil contaminant standards for 12 priority contaminants for five land uses (these are shown in tables B2 and B3 in Appendix B of the Users' Guide (Ministry for the Environment, 2012)).

The 12 soil contaminant standards were calculated by estimating the level of exposure (or intake) of contaminant that a person may receive in a typical setting, in comparison to the acceptable level of intake for that contaminant. Intake rates vary, depending on the exposure pathways by which people can come into contact with soil, which varies depending on the land use. The greater the amount of contact that a person may have with contaminated soil, the greater the exposure, and therefore the acceptable soil concentration will be lower. As a result, allowable soil concentrations (or soil contaminant standards) vary with land use.

Guideline value means a value derived on a site-specific basis, following the methods and guidance on site-specific risk assessment outlined in the Ministry for the Environment (2011e); or is a guideline value for the protection of human health, chosen following the current Contaminated Land Management Guidelines No. 2: Hierarchy and Application in New Zealand of Environmental Guideline Values (Ministry for the Environment, 2011) (CLMG No.2).

Tier 1 soil acceptance criteria means the Tier 1 soil acceptance criteria derived in the Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (Revised 2011d) (the Petroleum Guidelines).

Sites found to have contamination below soil contaminant standards or Tier 1 soil acceptance criteria

5.1 No NESCS resource consent required for activities on sites found to have contamination below *soil contaminant standards or Tier 1 soil acceptance criteria*.

The NESCS requires landowners to obtain controlled activity resource consent where a DSI finds that contaminants on a site are below an applicable standard but above background concentrations. Controlled activity consents made up almost 30 per cent of all consents collated during the interim review, and more than 60 per cent of the consents that had provided a DSI.

The NESCS included this consent requirement to allow councils to thoroughly review site investigations, and recover costs. The interim review found, however, that the quality of site investigations varied considerably, indicating that requiring resource consent is not an effective mechanism for controlling the quality of site investigations. Also, requiring consents for land that does not present a risk does not align with the objectives of targeting sites that pose a risk to human health.

Therefore, rather than requiring landowners to obtain resource consent as a safeguard on quality, the Ministry has updated CLMG No 1 (Ministry for the Environment, 2011a) and CLMG No 5 (Ministry for the Environment, 2011c) to clarify what is required for a site investigation.[4]

It is proposed that the NESCS not require resource consent for activities covered by the NESCS if a DSI shows that contamination on the site is below soil contaminant standards or Tier 1 soil acceptance criteria.[5] The proposed change does not alter the 'hierarchy of guideline

[4] More information on the Guideline consultation can be found on the Ministry's website (http://www.mfe.govt.nz/consultation/consultation-contaminated-land-management-guidelines).

[5] These are not considered to include 'route specific soil acceptance criteria', 'soil acceptance criteria for protection of groundwater quality' or 'soil screening criteria for heavy fraction TPH' which are also listed in the Petroleum Guidelines.

values' outlined in CLMG No 2. In other words, activities will be a permitted activity under the NESCS as long as they meet certain requirements. The requirements of the permitted activity would be:

- the DSI is undertaken by a suitably qualified and experienced practitioner (SQEP) and concludes that contamination is below the soil contaminant standards or Tier 1 soil acceptance criteria
- the DSI is reported in accordance with CLMG No 1 (Ministry for the Environment, 2011a) and is done in accordance with CLMG No 5 (Ministry for the Environment, 2011c) and is provided to the responsible council
- if the proposed activity includes soil disturbance, measures must be in place for the duration of the activity to minimise exposure of people to mobilised contaminants (in line with current requirements of the permitted activity for small scale soil disturbance)
- the policy intent of this change is that a certificate of compliance would not be obtained by an applicant before undertaking the proposed works.

Exceptions to the proposed amendment

It is proposed that resource consent is required for soil disposal, and for sites where a site-specific soil guideline value has been used, regardless of whether the site is found to have contamination below guideline values.

(i) Soil disposal

Proposal 5.4 proposes that soil disposal is classed as a stand-alone controlled activity under the NESCS. Resource consent would still be required for soil disposal from sites found to have contamination below soil contaminant standards or Tier 1 soil acceptance criteria, because soil disposal needs to be carefully managed to avoid the creation of new HAIL sites. Soil that might be acceptable for the existing land use may not be acceptable on a more sensitive land use, leading to the creation of a new HAIL site. For example, soil on an industrial site may meet the industrial standards, but if it was moved to a residential site it may exceed the guidelines for residential land use.

(ii) Sites where a site-specific soil guideline value has been used

The NESCS and the *Methodology for deriving standards for contaminants in soil to protect human health* (Ministry for the Environment, 2011e) (the methodology) provide an option to calculate a site-specific soil guideline value for any contaminant, or select a guideline value from another jurisdiction in accordance with the current edition of CLMG No 2 (Ministry for the Environment, 2011b). This option can be used when the contaminant of concern is not one of the 12 priority contaminants, or the generic land-use scenarios in the methodology do not reflect the actual site use. For example, where:

- the majority of a site is covered in concrete, with very limited opportunity for human exposure to contaminated soil
- a residential property has no vegetable garden and no potential for a future vegetable garden
- it has a raised-bed vegetable garden with clean soil.

The current settings of the NESCS will remain for sites that use a site-specific soil guideline value to evaluate the risk at the site. This is to ensure that the soil guideline values are selected

or derived appropriately, and/or ensure that any current site-specific circumstances/measures creating lower exposure will remain into the future.

Amendments to the NESCS framework

Proposal 5.1: Amend regulation 8(1)–(4) to require that an activity can be a permitted activity where a DSI demonstrates that contamination is below guidelines values. This requirement will not apply to soil disposal or sites with a site-specific guideline value. How this amendment may look for each activity is provided in Tables 2–5 and 7 below. An alternative format of the tables (by consent status) is provided in Appendix 4.

Anticipated impacts of the change

This change will mean that landowners will no longer be required to obtain resource consent for sites below the standards set to protect human health. This could reduce the number of NESCS consents by up to a third and so would reduce the administrative burden on landowners. The council consent fees for a stand-alone NESCS resource consent are likely to be between $500 to $2000.

The cost and time savings may not be significant for individual landowners, as many NESCS consents are obtained as part of a wider application for resource consent. Permitting activities on sites below the soil contaminant standards or Tier 1 soil acceptance criteria, however, will be particularly beneficial for sites that repeatedly 'trigger' the NESCS throughout the development process (ie, site development involving soil disturbance, followed by subdivision, followed by change of use).

There is a risk that councils won't be as thorough or timely when reviewing DSIs for permitted activities as when reviewing DSIs accompanying resource consent applications. There may also be additional costs and people-hours for councils to review site investigations, which will not be able to be recovered through resource consent fees. Requiring landowners to obtain resource consent for sites below soil contaminants standards or Tier 1 soil acceptance criteria, however, does not align with the NESCS's original policy intent.

The changes to CLMG No 1 and CLMG No 5 clarify what is required for a site investigation. These are intended to make it simpler for councils and SQEPs to determine whether a site investigation is satisfactory. Further, the introduction of the Environment Institute of Australia and New Zealand (EIANZ) and Cooperative Research Centre for Contamination Assessment and Remediation of the Environment (CRC CARE) certification schemes[6] are expected to clarify who is an appropriate person to be considered an SQEP. The Ministry is considering what further support could be provided to clarify the requirements for a SQEP, which should reduce the requirement for councils to oversee the quality of site investigations.

Soil disturbance

5.5 Remove option of discretionary activity class for soil disturbance and removal or replacement of fuel tank storage systems.

[6] For more information, see www.cenvp.org/ and www.crccare.com/products-and-services/certification-scheme

The effects that need to be managed in soil disturbance activities are the short-term increased mobilisation of soil, and the long-term effects of ensuring contaminated soil is not spread around the site. The NESCS currently links the results of the DSI (which is required to compare soil contaminant concentrations with the applicable standard as per regulation 7 of the NESCS) to the level of council control and resource consent requirements. The use of applicable standards that are linked to long-term exposure is creating confusion about the effects that need to be controlled. This has resulted in some councils requiring remediation of the site at the time of soil disturbance, although this is not necessary to manage the effects of the soil disturbance. To target the intended effects, the amended resource consent classes are proposed:

- permitted: low volume soil disturbance and soil disturbance carried out by network utility operators[7]
- controlled: soil disturbance exceeds the permitted volume. A DSI exists and adequately demonstrates the contamination profile for the area of soil disturbance. Council has the report.
- restricted discretionary: Soil disturbance exceeds the permitted threshold. No DSI exists or is provided.

The effects to be regulated by the NESCS will be clarified by setting out the areas that councils can control (ie, the matters of discretion).

The anticipated impacts of this proposal are discussed at page 35.

Soil disturbance by network utility operators

5.2 No NESCS resource consent required for soil disturbance by a network utility operator.

Purpose

Network utility operators often trigger the NESCS when installing or maintaining network infrastructure such as broadband cables or waste water systems, due to the volume of soil disturbance.

The interim review identified that it may not be appropriate or necessary for the NESCS to require consent for soil disturbances by network utility operators as:

- the NESCS resource consent process was imposing unjustified costs and inefficiencies on operators – obtaining NESCS resource consent for network utility projects can cause significant delays on individual projects, and can carry significant costs for operators. To mitigate these costs and inefficiencies, some network utility operators have been successful in obtaining global resource consents, which enable them to carry out activities across a district without needing to obtain individual consents for each activity. Councils are not consistently granting global consents, however, and even if an operator was able to obtain global consents in all districts, they would need to obtain a minimum of 67 consents (one in each district) at an estimated cost of more than $1.3 million per operator. This cost would be duplicated across all network utility operators, despite the risks being reasonably low.

[7] Definition to be confirmed as part of this consultation, refer proposal 5.2 below.

- The risks associated with these types of soil disturbance are generally low in relation to the NESCS objectives, as:
  - soil is usually replaced under a sealed surface
  - the effects are often consistent (so can be managed in a consistent manner)
  - the operators are experienced in appropriately managing risks
  - the main people exposed to the soil are workers (not the general public), and risks to their health are addressed by health and safety regulations. The NESCS was not intended to cover risks to workers undertaking soil disturbance, as they are covered by health and safety regulations.

Network utility operators are also generally subject to a robust industry management system (ie, there are existing controls in place to manage adverse effects to human health).

There is a definition of 'network utility operators' in section 166 of the Resource Management Act 1991 (RMA) and the Ministry considers that the group of people covered by proposal 5.2 will be linked to this definition. However, the Ministry is seeking feedback on:

- anticipated impacts of adopting the definition of 'network utility operator' in section 166 of the RMA
- whether other groups should be included in proposal 5.2, for example, a 'requiring authority' as defined in section 166 of the RMA.

Application

The main effects associated with works carried out by network utility operators are:

- contaminated soil is brought to the surface, where the public may come into contact with it. Workers may also come into contact, but are covered by health and safety regulations.
- contaminated soil may be transported off site, and, if it is disposed of poorly, the public may come into contact with it, or it may create a new HAIL site.

To address these risks, the following controls are proposed as conditions of the permitted activity:

- a site management plan (SMP) should be prepared in accordance with the requirements of CLMG No 1, and provided to council as part of notice of commencement. The SMP will include:
  - an unexpected discovery protocol
  - sediment and dust control
  - controls for handling and transport of soil, including testing to be carried out to inform disposal
  - description of the condition in which the land will be left on completion of works.
- the SMP will be required to be held on site and be presented on request. Non-regulatory guidance on SMPs for network utility operators would be developed to support implementation of this option.
- proposed disposal location to be provided to council in notice of commencement of work. Results of testing and confirmation of disposal location to be provided at completion of works.

Where a network utility operator cannot meet the permitted activity requirements, the normal soil disturbance controls will apply.

Amendments to the NESCS framework

Proposal 5.2: Amend regulation 8 to provide that soil disturbance by a network utility operator is a permitted activity.

Proposal 5.5:

- Amend regulation 11 so that it does not apply to soil disturbance.
- Amend regulation 9 so that soil disturbance is a controlled activity where it cannot meet the permitted activity controls and a DSI is provided and soil contamination exceeds soil contaminant standards or Tier 1 soil acceptance criteria.
- Amend regulation 10 so that soil disturbance is a restricted discretionary activity where it cannot meet the permitted activity controls and no DSI is provided.

Table 2 provides an overview of the proposed changes for the activity of soil disturbance, including the application to network utility operators, and corresponding planning controls. An alternative format of the changes (by activity classification) is provided in Appendix 4.

Table 2: Proposed consent status and planning controls for the activity of soil disturbance

Activity status	Application	Requirements
Permitted	Small scale soil disturbance (ie, 25m³ per 500m²)	Same as existing requirements but with better definitions of volume.
	Soil disturbance by network utility operators (as defined in the RMA)	• SMP prepared in accordance with CLMG No 1 and provided to council as part of notice of commencement • SMP implemented for duration of works • A surface which appropriately mitigates risks from the contaminants of concern is installed, over the area of disturbance only, at the completion of works.
	Soil disturbance on a site where a DSI demonstrates that it is below soil contaminant standards or Tier 1 soil acceptance criteria (but above background concentrations)	• DSI in accordance with CLMGs • DSI provided to council • Site management practices in place for duration of works to avoid discharges to the environment and minimise exposure to people.
Controlled	Soil disturbance exceeds the permitted volume/other permitted activity requirements. A DSI exists and adequately demonstrates the contamination profile for the area of soil disturbance. Contamination exceeds soil contaminant standards or Tier 1 soil acceptance criteria and/or uses soil guideline values.	• DSI in accordance with CLMGs • Consent authority has the report • Matters of control: – adequacy of DSI – the approach to managing the soil disturbance, including adequacy of SMP, how it must be monitored and reported on – duration of consent – timing and nature of review of conditions.

Activity status	Application	Requirements
Restricted discretionary	Soil disturbance exceeds the permitted threshold/other permitted activity requirements. No DSI exists or is provided.	Matters of discretion: • suitability of the piece of land for the proposed disturbance • approach to managing the soil disturbance, including adequacy of SMP, how it must be monitored and reported on, and whether soil testing is required to inform management • adequacy of site validation report, as appropriate • duration of consent • timing and nature of review of conditions • requirement for and conditions of a financial bond.

Anticipated impacts of the change

The anticipated impacts of proposal 5.5 (remove option of discretionary activity class for **soil disturbance** and removal or replacement of fuel tank storage systems) are discussed at page 35.

In terms of proposal 5.2, it is expected that this change would reduce costs and delays on network infrastructure maintenance. The Ministry is seeking feedback on the likely scale of impact. Anecdotal evidence suggests that the proposed permitted activity requirements align with industry best practice, which many network utility operators are already following, so costs for network utility operators to comply with permitted activity requirements should be minimal.

This change may result in an increase in processing and monitoring costs for councils, as there will not be a consent. In most instances, however, network utility operators will need to obtain resource consent for other reasons, so councils may be able to consider compliance with the NESCS permitted activity requirements as part of their assessment of the overall consent application.

It is expected that the proposed controls in the permitted activity should be sufficient to control the potential adverse effects of soil disturbance by network utility operators. The Ministry is seeking feedback, however, on whether the permitted activity controls are sufficiently comprehensive. The main risk identified with the proposal is that network utility operators produce poor quality SMPs, or do not comply with the requirements of the permitted activity. It's anticipated that the risks of non-compliance are low, as network utility operators have other drivers (eg, commercial liability) for ensuring effective site management practices, which mean the risks of non-compliance are expected to be low.

Soil disposal

5.4 Class soil disposal as a stand-alone controlled activity.

Introducing soil disposal as a stand-alone activity in the NESCS acknowledges that it is important that soil disposal from contaminated sites is carefully managed, to avoid creating new contaminated sites. As discussed under proposal 5.1, soil that might be acceptable for the existing land use may not be acceptable on a more sensitive land use, leading to the creation of a new HAIL site.

Currently under the NESCS, the effects of soil disposal that need to be controlled are not clear and can often be overshadowed by other requirements of the controlled activities.

The main effects associated with soil disposal are:

- HAIL sites may be accidentally created
- soil may be taken from one site to another where it could pose a risk.

To address these risks, the following controls are proposed for soil disposal:

- permitted: a DSI demonstrates that the soil is at or below background concentrations, or meets clean fill criteria for the area OR if volume is less than 5m³ per 500m² (in line with current permitted activity for disposal).
- controlled: a DSI is provided which demonstrates the level of contamination in the soil, (even if soil is below applicable standard as per regulation 7), to allow councils to oversee an appropriate disposal location.
- restricted discretionary: no DSI provided. Council would control any testing requirements, disposal location, and reporting.

The effects regulated by the NESCS will be clarified by setting out the areas that councils can control (ie, the matters of discretion).

The activity would not have the option of a discretionary consent class (aligning with the proposed consent cascade for soil disturbance and fuel tank storage systems).

This proposal does not affect the permitted volumes for soil disposal associated with removing or replacing a fuel storage system under regulation 8(1).

Amendments to the NESCS framework

Proposal 5.4:

- Amend regulation 5 to insert soil disposal as a stand-alone activity. The exact amendment to the regulation 5 has not been finalised, however, for example the amendment could look like the following:

  5 Application

  Activities

  …

  (x) An activity is disposing the soil of the piece of land, which means soil taken away in the course of an activity under sub clauses (2)–(6).

- Amend regulation 9 to provide that soil disposal is a controlled activity.

Table 3 provides an overview of the proposed changes for the activity of soil disposal and corresponding planning controls. An alternative format of the changes (by activity classification) is provided in Appendix 4.

Table 3: Proposed consent status and planning controls for the activity of soil disposal

Activity status	Application	Requirements
Permitted	Small scale soil disposal	• same as existing requirements but with better definitions for calculating volume • remove reference to per year.
	Disposal of soil at or below	• soil testing has been done, demonstrates concentrations

Activity status	Application	Requirements
	background concentrations	of contaminants are at or below background concentrations. Results of testing provided to council.
Controlled	Soil disposal exceeds the permitted volume/other permitted activity requirements A DSI exists, and finds contamination that exceeds background concentration.	DSI adequately demonstrates the contamination profile for the area of soil disposal. Consent authority has the report, and regional council is notified. Matters of control: • adequacy of DSI • transport method and disposal location • monitoring and reporting of disposal • duration of consent • timing and nature of review of conditions.
Restricted discretionary	Soil disposal exceeds the permitted volume No DSI exists or is provided	Matters of discretion: • the approach to managing the soil disposal including soil testing requirements, disposal location, transport method • monitoring and reporting of disposal • duration of consent • timing and nature of review of conditions • requirement for and conditions of a financial bond.

The anticipated impacts of this proposal are discussed at page 35.

Fuel tank storage systems

5.5 Remove option of discretionary consent class for soil disturbance and **removal or replacement of fuel tank storage systems**.

Controls for fuel tank removals and replacements were included in the NESCS to encourage the replacement of fuel tank storage systems. Often the reason for replacement is that the existing tanks are old and leaking, or are at risk of leaking. It is important that the regulatory regime does not create incentives to leave tanks underground. Where the regulatory requirements are too great, it can result in projects being cancelled, which is often not the best environmental outcome.

Currently, stakeholders report that councils around the country have different expectations about the timing and extent of site investigations, as well as the area of the site that needs to be managed during fuel tank removals. In particular, some councils are requesting that site investigations be undertaken prior to tank removal. In most instances, however, soil testing will not be carried out prior to a fuel tank removal. This is because it is either:

- not safe to conduct testing (ie, there is a risk of piercing pipes and potentially creating a leak)
- not possible to reach the soil to conduct the testing (ie, as the potentially contaminated soil will be underneath the fuel tank, which is not accessible until the tank is removed).

In practice, soil testing is usually undertaken during the tank removal, and the results are used to inform the activity's remediation action plan.

Consequently, if a fuel tank is unable to conduct testing prior to removal or replacement, it will not be a permitted activity and currently, by default, a discretionary consent will likely be obtained. This is because under the existing consent cascade, if a DSI cannot be provided prior

to the removal or replacement, then the applicant does not meet the requirements for controlled or restricted discretionary activity status, and must seek a discretionary consent.

It is proposed that the consent cascade be amended to remove the option of discretionary consent class for removal or replacement of a fuel tank storage system. The following consent requirements are proposed:

- permitted: fuel tank removals below permitted volume of soil disturbance (no change from existing permitted activity, except added requirement to report location of any soil disposal.
- controlled: fuel tank removals that exceed the permitted volume of soil disposal, and where a detailed site investigation has been provided to council.
- restricted discretionary: fuel tank removals that exceed the permitted volume of soil disposal, and where no detailed site investigation has been undertaken or provided.

This amendment clarifies that the effects that need to be controlled are those associated with the fuel tank removal, not the surrounding site, and excluding worker safety. The effects regulated by the NESCS will be clarified by setting out the areas that councils can control (ie, the matters of discretion).

Amendments to the NESCS framework

Proposal 5.5:

- Amend regulation 11 so that it does not apply to fuel tank storage systems.
- Amend regulation 9 so that a fuel tank removal is a controlled activity where it cannot meet the permitted activity controls and a DSI is provided, and soil contamination exceeds the soil guideline values.
- Amend regulation 10 so that so that a fuel tank removal is a restricted discretionary activity where it cannot meet the permitted activity controls and no DSI is provided.

Table 4 provides an overview of the proposed changes for the activity of removing and/or replacing a fuel tank storage system and corresponding planning controls. An alternative format of the changes (by activity classification) is provided in Appendix 4.

Table 4: Proposed consent status and planning controls for the activity of the removal and/or replacement of a fuel storage system

Activity status	Application	Requirements
Permitted	Fuel tank replacement or removal	Same as existing requirements.
	Fuel tank replacement or removal where site is found to be below soil contaminant standards and/or Tier 1 soil acceptance criteria, but above background concentrations (regulations do not apply if site at or below background).	• DSI in accordance with CLMGs • DSI provided to consent authority • site management practices in place for duration of works to avoid discharges to the environment.
Controlled	Fuel tank removal cannot meet the permitted activity requirements. A DSI exists, the consent authority has the DSI, and it adequately demonstrates the contamination profile of the area for the fuel tank	• DSI in accordance with CLMG No 1 and CLMG No 5. • Consent authority has the report, and regional council is notified. • Matters of control: – activity in accordance with Petroleum Guidelines (Ministry for the Environment, revised 2011d)

Activity status	Application	Requirements
	removal. Soil contamination exceeds soil contaminant standards and/or Tier 1 soil acceptance criteria.	– adequacy of DSI – transport method and disposal location – monitoring and reporting of disposal – duration of consent – timing and nature of review of conditions.
Restricted discretionary	Fuel tank removal cannot meet the Permitted Activity requirements. No DSI exists or is provided	Matters of discretion: • activity in accordance with Petroleum Guidelines (Ministry for the Environment, revised 2011d) • transport method and disposal location • monitoring and reporting of disposal • duration of consent • monitoring and reporting of disposal • duration of consent • timing and nature of review of conditions • requirement for and conditions of a financial bond.

The anticipated impacts of this proposal are discussed at page 35.

Soil sampling

5.6 Remove option of restricted discretionary and discretionary consent classes for soil sampling.

Controls for soil sampling were introduced into the NESCS to incentivise soil testing, and to give certainty that it could be carried out. Accordingly, almost all soil sampling is a permitted activity under the NESCS, as the requirements of the permitted activity are broad enough to capture most soil sampling. This means resource consent for the activity is very rare, and in circumstances where it is required, it seems unnecessary to have all three consent classes apply (ie, controlled, restricted discretionary, and discretionary). To clarify that the NESCS intends to permit soil sampling in most circumstances, it is proposed that the option of restricted discretionary and discretionary consent classes be removed for soil sampling.

The following consent requirements are proposed:

- permitted: same as the existing controls for soil sampling.
- controlled: sampling that exceeds the permitted requirements, where a detailed site investigation has been provided to council. Council will (amongst other things) have discretion over the measures to protect or reinstate the structures designed to contain the contaminants.

Amendments to the NESCS framework

Proposal 5.6: Table 5 provides an overview of the proposed changes for the activity of soil sampling and corresponding planning controls. An alternative format of the changes (by activity classification) is provided in Appendix 4.

Table 5: Proposed consent status and planning controls for the activity of soil sampling

Activity status	Application	Requirements
Permitted	Soil sampling	Same as existing requirements
Controlled	Soil sampling cannot meet the permitted activity requirements	DSI in accordance with CLMG No 1 and CLMG No 5 • consent authority has the report • matters of control: – controls to minimise exposure to mobilised contaminants – duration of the activity – transport and disposal of soil – measures to protect or reinstate structures designed to contain contaminants.

The anticipated impacts of this proposal are discussed at page 35.

Subdivision or change of use

5.3 No NESCS resource consent required for subdivisions that are purely 'paper-based' or do not facilitate a current or future change in use

The NESCS currently covers all types of subdivision, including cross-lease to freehold subdivisions, unit title updates and boundary adjustments. The interim review found that in practice the NESCS frequently applies to 'paper-based' subdivisions, with no changes in use facilitated by the subdivision.

There is a lot of inconsistency in how these situations, with no increase in risk, are dealt with by councils. Some councils require that a DSI is undertaken around the existing uses, and if it is found that it does not meet the standards, landowners are required to address the risks. Other councils treat consents for these sites as a 'paperwork exercise' and do not require any investigation or management of risks as the risk is not increasing.

It is proposed that the NESCS only apply to subdivisions that increase risks to health, and exclude subdivisions that are purely paper-based and do not facilitate a current or future change in use. This is consistent with a focus on considering the effects of a new land use at the time that new lots are created. Table 6 outlines examples of subdivisions that the proposal will cover.

Table 6: Examples of subdivisions the proposal will cover

Subdivisions intended to be covered	Subdivisions *not* intended to be covered
• A block of orchard land is being divided to create a number of residential sections. The NESCS should be used to assess that the land is appropriate for residential land use at the time that the lots are created, rather than waiting until after subdivision when an individual landowner comes to build on a lot. • A boundary adjustment that results in a property (where previously no HAIL activity has occurred) expanding onto an area where a HAIL activity occurred, as this would pose a potential increased risk to human health.	• Two houses on a cross-lease title are situated on a HAIL site. The owners want to update the title, to create two freehold properties. No physical works are required. • A new house will be built behind an existing house, and the section will be divided into two lots. The owner will not be required to investigate or remediate around the existing house. The proposed lot for the new house will need to be investigated and remediated.

The mechanism for achieving these outcomes has not been finalised, and feedback is sought on the best approach for achieving the intent. To aid this feedback, the Ministry has identified two potential options:

- Option 1: specifying that cross lease-to-freehold subdivisions and unit-title updates are exempt from the NESCS. It is anticipated, however, that this will still result in some paper-based subdivisions being required to obtain resource consent.
- Option 2: introducing an assessment into the NESCS to determine whether a particular subdivision is 'highly unlikely to increase risks to human health'.

The Ministry is seeking feedback on these options, whether they are likely to achieve the intended outcomes, and any alternative options for clarifying the types of subdivisions that the NESCS applies to.

Amendments to the NESCS framework

Proposal 5.3: Amend regulation 8 to provide that permitted activity for subdivision and change of use linked to increase in risk.

Table 7 provides an overview of the changes for the activity of subdivision and change of use and corresponding planning controls if the proposed Option 2 was adopted. An alternative format of the changes (by activity classification) is provided in Appendix 4.

Table 7: Proposed consent status and planning controls for the activity of subdivisions or change of use

Activity status	Applicability	Requirements
Permitted	A preliminary site investigation (PSI) demonstrates that the activity is highly unlikely to *increase* risks to health.	• PSI in accordance with CLMGs • site plan provided • council has the report
	DSI finds contamination below soil contaminant standards or Tier 1 soil acceptance criteria, but above background concentrations (regulations do not apply if site at or below background).	• DSI is carried out in accordance with CLMG 1 and 5 • DSI is provided to council.
Controlled	Soil testing finds contamination exceeds the soil contaminant standard (for residential or rural residential land-use) but does *not exceed* the applicable soil guideline value for the template ongoing site management plan (TOSMP) (this plan is discussed in chapter 6] below). Landowner opts for TOSMP.	• DSI is provided to council. Council has control as to the adequacy of the DSI (ie, is it in accordance with CLMG No 1 and CLMG No 5). • TOSMP is provided to council. The TOSMP is recorded as conditions of resource consent, which will apply for duration of residential/rural residential land use.
	A site-specific guideline value has been used. Soil testing finds contamination below the soil guideline.	Matters of control: • adequacy of DSI • appropriateness of site-specific guideline • any site management measures required for site-specific guideline to apply (eg, no produce consumption).
Restricted discretionary	For residential or rural residential land-use, a DSI has found that soil contaminants on a site exceeds the applicable soil guideline value for a TOSMP.	Same as existing requirements
	Soil contamination exceeds the soil	

Activity status	Applicability	Requirements
	guideline values and soil contaminant standards	
Discretionary	No DSI provided.	N/A – council has full discretion

Anticipated impacts of the changes to the NESCS activities and planning controls

The changes to the consent status for the (proposed) six controlled activities under the NESCS are expected to reduce costs and delays associated with obtaining NESCS resource consent, by clarifying the activities that require consent. By clarifying the effects that need to be controlled when obtaining resource consent, these changes should also reduce and target the costs for complying with NESCS consent conditions. It is difficult to quantify these potential impacts, as it will vary between regions depending on how different the proposals are to current practice. The Ministry is seeking feedback on the likely impacts and the best options for achieving the proposed intent.

Definition changes

5.7 Define "soil disturbance ratio" in regulation 8(3).

5.8 Define 'piece of land' in regulation 8(3).

5.9 Remove term "per year" from regulation 8(3).

There are three key terms that are critical for determining whether a soil disturbance proposal will be permitted. These have varied interpretation and application:[8]

- application of 'The piece of land' in regulation 8(3), which determines the area of land that is used to calculate how much soil disturbance can be undertaken as a permitted activity
- soil disturbance ratio provided in regulation 8(3), which states that 25m³ of soil disturbance per 500m² is permitted
- application of 'per year' in regulation 8(3), which states that a maximum of 5m³ per 500m² can be disposed of 'per year'.

As a result of the varied interpretation of these terms, soil disturbances on HAIL sites are affected by uncertain regulatory requirements. In a broad sense, the different interpretations mean a landowner could carry out the same activity across different districts – in some districts the council would consider it to be a permitted activity, while in others it would require consent.

The intention is that small-scale soil disturbance can occur as a permitted activity, to avoid unnecessary regulation of everyday activities. The purpose of defining these terms is to improve consistency and certainty, removing uncertainty over whether soil disturbance will be permitted or require resource consent.

Based on feedback provided throughout the review, there appear to be simple options for clarifying the interpretation of these three key terms.

[8] More information on the impacts of varied interpretation of these terms in provided in the Interim review of the *National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health: Summary Report* (Ministry for the Environment, 2016a).

‘piece of land’

Clarify that, for the purposes of calculating how much soil disturbance is permitted, the piece of land is the smaller of:

- the area where the HAIL activity occurred, or is more likely than not to have occurred
- the property boundary.

This is to avoid landowners being able to undertake significant volumes of soil disturbance as a permitted activity if their property is situated within a large HAIL site spread over a number of properties (eg, a former orchard).

‘soil disturbance ratio’

Clarify that 25m³ of soil disturbance is permitted on pieces of land up to 500m². For pieces of land larger than 500m², the permitted volume of soil disturbance is calculated on a pro-rata basis (ie, a landowner with a 600m² piece of land could undertake 30m³).

This will avoid the situation where disturbing very small volumes of soil requires the owner to obtain resource consent. Some councils interpret the permitted activity on the basis that as the site shrinks, so does the permitted volume of soil disturbance. Using this interpretation, for a 100m² HAIL site, only 5m³ of soil disturbance would be permitted. This interpretation penalises small sites. The proposed change would clarify that a minimum of 25m³ is permitted, regardless of site size, to avoid normal maintenance activities such as re-laying a driveway needing to obtain resource consent.

‘per year’

The NESCS currently limits permitted disposal of soil to 5m³ per year. It is proposed to remove the reference to ‘per year’ – there is no increase in risk by allowing landowners to dispose of soil more frequently, so long as it is disposed of to an appropriate location. This is already a requirement of the permitted activity, and will be retained.

Amendments to the NESCS framework

Proposal 5.7: Amend regulation 3 to insert proposed definition of “soil disturbance ratio”.

Proposal 5.8: Amend regulation 3 to insert proposed definition of “piece of land”.

Proposal 5.9: Amend regulation 8(3) to remove term “per year”.

Standardised certifying statements for contaminated land investigations

5.10 Require suitably qualified and experienced practitioners to use a standardised certifying statement in their reports, to provide clarity to report readers.

Purpose

The purpose of introducing standardised certifying statements for contaminated land investigations is to provide users of reports with clarity and confidence in the report’s conclusions and its compliance with the NESCS requirements. Feedback during consultation on updates to CLMG No 1 and CLMG No 5 indicated a possible need for this.

The NESCS require preliminary site investigations (PSIs) and detailed site investigations (DSIs) to be certified by a suitably qualified and experienced practitioner (SQEP) when the purpose of the report is to address one of the five regulated activities covered by the NESCS. This is because the regulated activities have the potential to cause harm to human health, and to assess this requires the skills and judgement of an SQEP.

Application

SQEPs would be required to certify reports using standardised certifying statements if an investigation had been completed for NESCS purposes. An amendment to CLMG No 1 would be made to reflect this requirement.

Amendments to the NESCS framework

Proposal 5.10:

- amend CLMG No 1 to require SQEPS to certify reports using standardised certifying statements if an investigation had been completed for NESCS purposes
- an amendment to regulation 3 could be made to require a DSI to be done in accordance with CLMG No 1 and CLMG No 5. For example:

  3 Interpretation

  …

  detailed site investigation means an investigation that—

  a. is done by a suitably qualified and experienced practitioner; and

  b. is completed, reported and certified in accordance with the current edition of—

  i. Contaminated Land Management Guidelines No. 1: Reporting on Contaminated Sites in New Zealand, Wellington, Ministry for the Environment; and

  ii. Guidelines No. 5: Site Investigation and Analysis of Soils, Wellington, Ministry for the Environment.

  …

  preliminary site investigation means an investigation that—

  a. is done by a suitably qualified and experienced practitioner; and

  b. is reported and certified in accordance with the current edition of Contaminated Land Management Guidelines No. 1: Reporting on Contaminated Sites in New Zealand, Wellington, Ministry for the Environment.

Examples of what a standardised certified statement could look like are provided below. The examples are provided in the context of the current edition of the NESCS. These are not the final version, and are provided to promote discussion on the proposed policy option.

Subdivision/change of use as a permitted activity

I have assessed the site and reported in accordance with the current edition of Contaminated Land Management Guidelines No 1: Reporting of Contaminated Sites in New Zealand.

I certify the results of this report and its conclusion, that at the time of reporting [report date], it was highly unlikely that there would be a risk to human health if [insert activity] was completed at [insert property address]. This report can be relied upon by [insert name of consenting authority].

I am a suitably qualified and experienced practitioner pursuant to the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

A summary of my qualifications and experience is attached to this report.

Name: Signed: Date

Subdivision or change of use as a controlled activity

I have assessed the site in accordance with the current edition of Contaminated Land Management Guidelines No 5: Site Investigation and Analysis of Soils, and reported in accordance with Contaminated Land Management Guidelines No 1: Reporting of Contaminated Sites in New Zealand.

I certify the results of this report and its conclusion, that [insert property address] was at the time of reporting suitable for the following proposed activities [insert activities]. This report can be relied upon by [insert name of consenting authority].

I am a suitably qualified and experienced practitioner pursuant to the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

A summary of my qualifications and experience is attached to this report.

Name: Signed: Date

Anticipated impacts of the change

It is expected that standardised certifying statements for contaminated land investigations will provide users of reports with clarity and confidence in the report's conclusions and its compliance the NESCS requirements. It is also expected to significantly reduce costs and delays in the consenting process, as it will reduce the perceived need to peer review an SQEP's report (a costly and timely step).

Questions

12 Do you agree with the proposal(s)? Why, or why not?

13 In terms of proposal 5.2 (soil disturbance by network utility operators), should other groups (ie, requiring authorities) be included? Why or why not? Where possible, please provide quantitative evidence.

14 In terms of proposal 5.3 (subdivisions and change of use), do you agree with either Option 1 or Option 2? Why, or why not?

15 What are the expected impacts of the proposal(s)? Where possible, please provide quantitative evidence. For example:

- Do you think that the SQEP certification statement will reduce costs and/or delays in the consenting process?
- What will be the impact of adopting the definition of 'network utility operator' in section 166 of the RMA?

We also seek specific feedback, particularly from territorial authorities and practitioners, on:

16 Do you agree with the proposed consent requirements for the activity(s)? If not, what changes would you recommend?

17 Could there be unintended outcomes from the proposal(s)? If so, what are they and how could they be avoided?

18 What (if any) implementation support would be required to ensure effective implementation of the proposal(s)?

6 Management of contaminated land

Site-specific management appropriate for risk

Risks to human health from contamination in soil can be managed through a variety of means, which can broadly be split into remediation or on-site management.[9] The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) uses the term 'applicable standard' to describe the concentration of a contaminant in soil at or below which exposure to soil is acceptable for people, and determine whether management or remediation is required. The methods for determining the 'applicable standard' are set out in the NESCS and in the *Methodology for deriving standards for contaminants in soil to protect human health* (Ministry for the Environment, 2011e) (the methodology). Once soil on a site has been tested, the results are compared to the 'applicable standard' to understand the suitability of the site for the proposed site use (eg, residential use).

To provide flexibility to the landowner, and allow for the variable characteristics and circumstances of contaminated sites, the NESCS does not dictate how remediation or on-site management should occur. Instead, the discretion as to whether a proposal will adequately manage risk to human health lies with the council. The *Interim review of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health: Summary Report* found that, in some circumstances, this discretion is not being exercised. For example:

- contaminated land practitioners may recommend 'dig and dump' of contaminated soil as a default, regardless of the actual level of risk
- a council may be unwilling to grant resource consent for proposals that do not remove the contaminated soil.

In these instances, the controls imposed can be NESCS is often an unexpected and significant cost to landowners, when there may have been other lower cost options. This is a particular issue for residential property owners, as there is no clearly described pathway that describes the actions appropriate to manage risks. This is causing delays and stress as landowners must negotiate with practitioners and their council to determine what is required of them.

The Ministry seeks to amend the NESCS framework to provide options for site-specific management that are appropriate for the risk to human health.

Proposals

Introduce a template ongoing site management plan

6.1 Option of a template ongoing site management plan (with controls) for residential property owners.

[9] In general terms, remediation means a reduction of the mass of contaminants on site to achieve concentrations of soil contaminants below guideline values (ie, removing contamination). On-site management means no change in the mass of contaminants (ie, preventing exposure to contaminants). In practice, a combination of remediation and on-site management is often used to reduce risk.

6.2 Non-regulatory guidance on options for managing contamination on residential properties.

Introduce bioavailability testing in New Zealand

6.3 Option to enable site-specific soil guideline values to be calculated using the site-specific bioavailable concentration of arsenic and lead.

Bioavailable for NESCS purposes means the proportion of a substance that would be absorbed from soil, via the digestive system, into the human body.

Template ongoing site management plan

6.1 Option of a template ongoing site management plan (with controls) for residential property owners.

Purpose

The purpose of the template ongoing site management plan (TOSMP) is to control future activities on sites where contamination has been identified but on-site management is considered sufficient to manage the risk, or for sites that have been remediated but where residual contamination requires management. It is proposed that landowners of residential and rural residential properties would be able to opt for a TOSMP at the time of obtaining NESCS consent for subdivision or change of use, rather than needing to carry out remediation.

Guidance on the content of TOSMPs is contained in CLMG No 1. This proposal specifically targets residential and rural residential scenarios. It is not proposed that this option be applied to other land uses, such as childcare centres or schools (which may use residential soil contaminant standards).

As children are most susceptible to the effects of contaminants in soil, a key element of the TOSMP is ensuring that the areas where children are likely to spend the majority of their time do not have unacceptable concentrations of contaminants.

A TOSMP does not provide a guarantee that people will not be exposed to contaminants in soil, as it will not eliminate all the exposure pathways of contaminants. Effective implementation of a TOSMP will reduce the overall intake of soil, however, and therefore the corresponding risks to human health.

Application

An ongoing site management plan is already an option under the NESCS (as per regulation 10(3)(c)). Proposal 6.1 seeks to generate a template of an ongoing site management plan for residential property owners – the TOSMP.

Effective implementation of the TOSMP will reduce the overall intake of soil that is contaminated. This will be reflected in a new soil guideline value.

To make it clear which sites are eligible to use a TOSMP, a new soil guideline value will need to be derived (in accordance with the *Methodology*) which takes account of both the elimination of the produce consumption pathway *and* the effect on other exposure pathways (mainly ingestion) where site management controls have been implemented. The *Methodology* already contains soil guideline values for the elimination of the produce consumption pathway for residential and rural-residential land-use scenarios, and a TOSMP that includes resource consent conditions could be approved for a site that implements this management control **only**. (This may be a good option where the contaminants of concern are cadmium or dieldrin, for example, as these have relatively high bioconcentration factors, and the elimination of the produce ingestion exposure pathway has a significant effect on the SGV.)

To determine what this new soil guideline value should be, the Ministry commissioned a report from Golders Associates (NZ) Limited on site management options for residential land to manage potential health risks from low-level diffuse contamination (Golders Associates, 2016b).[10]

The report identifies an option of calculating a new soil guideline value by modifying (reducing) the *assumed* soil intake by 50 per cent, as set out in Appendix 5. It is proposed that this new soil guideline value could be available for all 12 priority contaminants.[11]

The template

The TOSMP will set out mandatory management practices for a site that must be implemented, and a set of voluntary practices ('advice notes') to minimise exposure to contaminated soil. The mandatory requirements are designed to provide an increased level of protection from soil contamination. As discussed above, effective implementation of the mandatory requirements in the TOSMP will reduce the overall intake of and exposure to soil which is contaminated.

The Ministry has identified mandatory management practices and advice notes that may be included in the TOSMP, and these are outlined in table 8.

[10] This report states that diffuse contamination has arisen from activities that have spread contamination fairly evenly over wide areas of land, at the hectare scale or even larger (ie, it explicitly excludes hotspots of contamination).

[11] Discussion in the report is limited to four of the priority contaminants (arsenic, lead, DDT and cadmium), however, the report focused on these as they are the four primary contaminants of concern for residential and rural residential sites.

Table 8: Proposed template ongoing site management plan for residential properties

Mandatory management practices:

- all vegetables to be grown in clean soil in raised garden beds
- children's primary play area on site identified and ground cover replaced with clean material*
- any soil removed from the site is disposed of appropriately
- soil brought onto site is clean soil (see page 12 of Golders Associates, 2016b) for the proposed use
- all residents, including temporary residents and tenants, are to be made aware of the requirements of the site management plan.

**This management practice would be optional where the 'no produce' option is selected*

Advice notes on simple practices to minimise people's exposure to contaminated soil will also be included:

- reduce soil transport indoors – eg, removing shoes before going inside
- thoroughly wash any home grown produce, remove outer leaves or skin
- minimise dust inside – eg, thorough and regular cleaning
- avoid having exposed soil (by maintaining vegetative or other cover).

These are advice notes, as they would be unenforceable as rules.

The TOSMP would be a management option where a landowner has:

a) carried out a DSI, and

b) found that contamination on a site exceeds the soil contaminant standard (for residential or rural-residential land-use) but does not exceed the applicable soil guideline value (either the value derived for the elimination of the produce consumption pathway only, or the value derived that takes account of both the elimination of the produce consumption pathway and the effect on other exposure pathways).[12]

Further, the mandatory management practices within the template have been determined based on some fundamental assumptions about the site. For example, that soil contamination is spread fairly evenly over the site (there are no hotspots). The Golders report sets out some of these assumptions at section 1.4 – noting that this is not an exhaustive list. The Ministry will provide a 'checklist' of what assumptions have been made about the site in generating the template, and landowners should take these into account when deciding whether the TOSMP option is appropriate for them.

If a landowner chooses to opt for a TOSMP, their proposed subdivision or change of use under the NESCS will be a controlled activity where:

- a DSI has been undertaken and states that the soil contamination does not exceed the applicable standard for sites with TOSMPs
- council must have the DSI
- council must have the TOSMP, and
- council control is reserved over the adequacy of the DSI and certain implementation measures of the TOSMP (ie, council must have the plan, evidence of soil excavation is provided to council).

The proposal is to classify this as a controlled activity in order to ensure that future landowners are aware that a TOSMP is in place for a property. The TOSMP will be recorded as a condition

[12] That is, the soil guideline value that takes into account the elimination of the produce consumption pathway and the effect on other exposure pathways (mainly ingestion) where site management controls have been implemented.

of consent, and future and prospective property purchasers could discover the TOSMP through the process of obtaining a LIM report and carrying out due diligence. Controlled resource consent is considered to be a straight forward and cost-effective method for recording the presence of a TOSMP for future landowners. Other options for ensuring future landowners were aware of the TOSMP were considered, including covenants on the property title, or requiring a certificate of compliance. The legal fees and costs associated with registering covenants, however, would undermine the objective of providing a low-cost option for residential landowners, while the process for obtaining a certificate of compliance is similar to obtaining resource consent, but with less certainty around timeframes and costs.

For sites where contaminant concentrations exceed the soil guideline value for sites with TOSMPs, the standardised site management measures will not be sufficient to address the risks and need to apply for NESCS resource consent with the appropriate site-specific risk management measures. Under this, the council has restricted discretion over the proposed management or remediation of a site.

The Ministry is interested in your feedback on:

- the overall proposal to introduce a TOSMP
- the proposed new soil guideline value (ie, the proposed percentage reduction of soil ingestion rates of 50 per cent)
- the proposed mandatory management practices and advice notes of the TOSMP
- how a TOSMP's implementation should be monitored.

Anticipated impacts of change

It is expected that under the proposal, a TOSMP will be an option for 20–40 per cent of residential properties required to obtain NESCS consent for subdivision or change of use.[13] This will increase their certainty about the outcomes for management practices, and streamline the process of obtaining NESCS consent.

The effectiveness of the management practices will depend on the type, location and concentration of contaminants on a site, and implementation of the measures by the occupant. For example, if someone spends a lot of time outdoors, they will be more likely to be exposed to unacceptable levels of contamination, even if they adhere to their TOSMP.

The compliance costs for landowners opting for the residential TOSMP are expected to be $6000–$10,000, which is the estimated cost of obtaining a DSI, and minor physical works to implement the approved controls (eg, sealing a play area for children). This is in comparison to reported costs for remediation, which can be up to $50,000 to dispose of the contaminated topsoil layer from a 700m^2 residential site.

Amendments to NESCS framework

Proposal 6.1:

- Amend regulation 9 to require that the TOSMP is provided to council, and to provide that council control is reserved over the adequacy of certain implementation measures of the TOSMP (ie, evidence of soil excavation is provided to council).
- Amend the methodology (Ministry for the Environment, 2011e) to include derivation of new soil guideline value that applies where a residential TOSMP is in place.

[13] Based on the estimated proportion of sites that are found to have low levels of contamination.

- Update CLMG No 1 to provide guidance on TOSMPs.

Guidance on options for managing residential properties

6.2 Non-regulatory guidance on options for managing contamination on residential properties.

In addition to the TOSMP, it's proposed that non-regulatory guidance is produced on the options for managing risks in a residential context. Risks to human health from contaminants in soil can be managed through a variety of means, but landowners, council staff, and some contaminated land practitioners may not be aware of the range of options available.

Non-regulatory guidance should help to create awareness of the options for managing sites, such as soil mixing, capping and site management plans. These options may cost less than removing and disposing of soil.

Bioavailability testing in New Zealand

6.3 Option to enable site-specific soil guideline values to be calculated using the site-specific bioavailable concentration of arsenic and lead.

Purpose

The purpose of introducing bioavailability testing is to enable the controls on contaminated land in New Zealand to be better targeted towards the risks they manage.

The methodology (Ministry for the Environment, 2011e) currently requires that the total concentration of contaminants in soil be taken into account when assessing the level of risk. Only a portion of the total concentration of the contaminant is potentially available for uptake by people; this is referred to as the biologically available (bioavailable) portion. As the remaining portion is not absorbed into the human body beyond the cell membrane, it is not capable of causing adverse effects. Therefore the assessment of risk from the total concentration of contaminants in soil is a conservative approach.

At the time that the methodology was developed, it was recognised that contaminants in soil were not 100 per cent bioavailable. However, at the time it was considered that there was not sufficient science to support the use of the bioavailable concentration. Since then, the use of bioavailability in the assessment of risk from contaminants in soil has been adopted in Australia, Canada, Denmark, the United Kingdom and the United States.

The current method for determining the level of risk from contaminated soil has therefore become outdated in relation to international practice. This is resulting in risk assessments that may not reflect actual health risks, and subsequently resulting in unnecessary management or remediation costs for landowners. Introducing an appropriate methodology in New Zealand to test the bioavailability of contaminants will align the risk assessment process with international practice and ensure that any remedial or mitigation activities are proportionate to the level of risk a site presents.

Application

The Ministry has commissioned an evaluation of the potential to adopt a bioavailability methodology in New Zealand (Golders Associates, 2016a). The evaluation concluded that the United States EPA method could be adopted in New Zealand to assess the risk to humans from arsenic and lead concentrations in soil on a site-specific basis. If adopted, bioavailability testing could be used to calculate site-specific soil guideline values.

If a bioavailability assessment methodology was adopted, the Ministry would:

- make changes to the methodology (Ministry for the Environment, 2011e) which currently precludes the use of bioavailability, to facilitate the use of the U.S. EPA assessment method for arsenic and lead when generating site-specific soil guideline values
- provide guidance on the use of bioavailability testing and subsequent calculation of specific soil guideline values.

Amendments to NESCS framework

Amendments would be made to the methodology (Ministry for the Environment, 2011e) and *Contaminated Land Management Guideline No 5* (Ministry for the Environment, 2011c), to facilitate the use of a bioavailability assessment methodology.

Anticipated impacts of change

Sites that have utilised persistent pesticides (Category A10) comprise the largest HAIL category – making up almost 40 per cent of sites reported by regional councils in 2015. The Ministry collated the results of detailed site investigations undertaken on A10 sites from four regions in order to understand the types and levels of contaminants being found. This study found that approximately half the investigations reported an arsenic and/or lead concentration above a residential standard.

The risk at these sites is currently being calculated on total contaminant concentrations, rather than the bioavailable concentration. This conservative approach overestimates the risk presented by contaminants in soil. The cost to remediate a standard A10 residential site contaminated with arsenic and/or lead so that it no longer exceeds a residential standard has been estimated to cost a landowner $15,000–$200,000, depending on the volume of soil requiring remediation and the methods used to address contamination.

Internationally, arsenic bioavailability values have been calculated at 25–80 per cent, depending on factors such as the source of the arsenic (mining, pesticide use etc) and soil characteristics. If similar values were found in New Zealand, the number of sites that reported an exceedance of a residential standard in our DSI collation study would reduce by approximately 40 per cent. Of those sites that still required remediation, the extent of remediation would be expected to be reduced.

Questions

Template ongoing site management plan (TOSMP)

19 Do you agree with the overall proposal to introduce an option for a TOSMP that applies to residential and rural-residential land-uses? Why, or why not?

20 Are you aware of any international examples of TOSMPs for residential land uses? If so, please provide information on these.

21 What information would you like to see included in the guidance on options for remediating or managing contamination on residential properties?

22 What are the expected impacts of the proposal (ie, on landowners, territorial authorities, practitioners, the general public)? Where possible, please provide quantitative evidence.

We also seek specific feedback, particularly from territorial authorities and practitioners, on:

23 Do you agree with the new soil guideline value proposed to apply to sites that have a TOSMP? Why, or why not?

24 How should a TOSMP's implementation (both short-term and long-term) be monitored? For example, what matters of control should be reserved for council (ie, council must have the plan, and evidence of the soil excavation is provided to council)?

25 Do you agree with the proposed mandatory management practices and advice notes of the TOSMP? Why or why not?

26 Could there be unintended outcomes from the proposal(s)? If so, what are they and how could they be avoided?

Bioavailability

27 Do you agree with the proposal(s)? Why, or why not?

28 What are the expected impacts of the proposal(s)? Can you provide evidence to support your assessment?

We also seek specific feedback, particularly from territorial authorities and practitioners, on:

29 Could there be unintended outcomes from the proposal(s)? If so, what are they and how could they be avoided?

30 What, if any, implementation support would be required to ensure effective implementation of the proposal(s)?

7 Consultation process

How to make a submission

The Government welcomes your feedback on this consultation document. The questions posed throughout this document are summarised below. They are a guide only, and all comments are welcome. You do not have to answer all the questions.

To ensure your point of view is clearly understood, you should explain your rationale and provide supporting evidence where appropriate.

There are three ways you can make a submission:

- Use our online submission tool, available at www.mfe.govt.nz/more/consultations.
- Download a copy of the submission form to complete and return to us. This is available at www.mfe.govt.nz/nescs/proposed-amendments. If you do not have access to a computer, we can post a copy of the submission form to you.
- Type up or write out your own submission.

If you are posting your submission, send it to NESCS Consultation 2016, Ministry for the Environment, PO Box 10362, Wellington 6143, and include:

- the title of the consultation (NESCS Consultation 2016)
- your name or organisation name
- your postal address
- your telephone number
- your email address.

If you are emailing your submission, send it to nescs.submissions@mfe.govt.nz as a:

- PDF
- Microsoft Word document (2003 or later version).

Submissions close at 5.00pm on Friday 14 October 2016.

Contact for queries

Please direct any queries to:

Email: nescs.submissions@mfe.govt.nz
Postal: NESCS Consultation 2016, Ministry for the Environment, PO Box 10362, Wellington 6143.

Publishing and releasing submissions

All or part of any written submission (including names of submitters), may be published on the Ministry for the Environment's website, www.mfe.govt.nz. Unless you clearly specify otherwise in your submission, the Ministry will consider that you have consented to website posting of both your submission and your name.

Contents of submissions may be released to the public under the Official Information Act 1982 following requests to the Ministry for the Environment (including via email). Please advise if you have any objection to the release of any information contained in a submission and, in

particular, which part(s) you consider should be withheld, together with the reason(s) for withholding the information. We will take into account all such objections when responding to requests for copies of, and information on, submissions to this document under the Official Information Act.

The Privacy Act 1993 applies certain principles about the collection, use and disclosure of information about individuals by various agencies, including the Ministry for the Environment. It governs access by individuals to information about themselves held by agencies. Any personal information you supply to the Ministry in the course of making a submission will be used by the Ministry only in relation to the matters covered by this document. Please clearly indicate in your submission if you do not wish your name to be included in any summary of submissions that the Ministry may publish.

Questions to guide your feedback

The Ministry welcomes your feedback on this consultation document. We particularly welcome comment on the questions posed throughout this document. They are a guide only, however, and all comments are welcome. You do not have to answer all the questions, which have been highlighted in boxes throughout this consultation document.

What happens next?

Once submissions have been considered by officials of the Ministry for the Environment, recommendations will be provided to the Minister for the Environment. Once the Minister has considered the recommendations, any progression of the proposals outlined in this document requires Cabinet approval.

Appendix 1 – Further background

Drivers for developing a national environmental standard

The past use of chemicals (hazardous substances) in industry, agriculture and horticulture has left a legacy of soil contamination in New Zealand. This contamination is mainly caused by past practices including storage and use of hazardous substances, and disposal of hazardous wastes. These contaminants are a problem when the hazardous substances are at a concentration and in a place where they have, or are reasonably likely to have, an adverse effect on human health and the environment.

Development or use of contaminated land can increase the risk of exposing people to contaminants in soil. In 2005, regional councils' and territorial authorities' functions in sections 30 and 31 of the Resource Management Act 1991 (RMA) were changed, introducing new requirements for managing contaminated land (discussed further below). A 2007 review by the Ministry for the Environment found that the process for dealing with contaminated land across the country was ad hoc, and varied between local authorities. More information on the 2007 review and the context for developing a national standard on contaminants in soil is provided in the *Proposed National Environmental Standard for Assessing and Managing Contaminants in Soil: Discussion Document* (Ministry for the Environment, 2010). Table 9 outlines the review's findings, which included that only 14 of the 73 council plans reviewed had contaminated land rules relating to council functions under section 31 of the RMA.

Table 9: Number of district plans that had no contaminated land-specific provisions in 2007

Contaminated land specific provisions	Number of district plans
No objectives/policies	27
No rules	55
No rules for section 31 functions	59

The 2007 review concluded it was *highly likely* that contamination was not being identified at the time land was developed, and potential risks were being passed on to subsequent purchasers. Concerns about the potential human health impacts led to the development of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS). More information on the context for developing a national standard on contaminants in soil is provided in *Proposed National Environmental Standard for Assessing and Managing Contaminants in Soil: Discussion Document* (Ministry for the Environment, 2010).

Council roles for implementing the NESCS

Under section 31 of the RMA, territorial authorities (district, city and unitary councils) are responsible for controlling the adverse effects of the development, subdivision, or use of contaminated land.[14] The NESCS specifically states that the regulation deals with territorial authority functions under the RMA; it does not deal with regional council functions. The NESCS provides a nationwide set of planning controls to enable territorial authorities to carry out this

[14] Section 31(1)(b)(iia).

function,[15] and all territorial authorities are required to give effect to and enforce the requirements of the NESCS.

In practice, regional councils also play an important role in the implementation of the NESCS. One of the RMA functions of regional councils is "the investigation of land for the purposes of identifying and monitoring contaminated land" under the RMA. To fulfil this function, most regional councils identify potentially contaminated sites (including sites with current or former uses on the hazardous activities and industries list (HAIL)), and maintain a contaminated sites register (in line with their duty under section 35 of the RMA to gather information, monitor and keep records). As a result, in practice the regional councils' listed land-use databases are often the primary source for territorial authorities identifying potential HAIL sites, to determine whether the NESCS applies to a property or proposal.

Background to the interim review of the NESCS

In July 2013, feedback provided to the Ministry for the Environment through the *Resource Management Act Survey of Local Authorities 2012/13* (Ministry for the Environment, 2014) showed that councils were not implementing the NESCS consistently:

- there were numerous interpretations of key terms within the NESCS
- several territorial authorities identified capability issues as a major hindrance. Many felt they did not have sufficient resources to meet the requirements of the NESCS and as a result were struggling to fulfil their responsibilities
- there was limited understanding of local authorities' responsibilities under the NESCS, with resulting difficulties in enforcing the NESCS.

Following the earthquakes in Christchurch, local agencies recognised that the requirements of the NESCS would be widely applicable to the rebuild, as soil disturbance was required for a significant proportion of repair works. To facilitate the rebuild and remove delays associated with the NESCS, Environment Canterbury undertook large scale identification of HAIL land in greater Christchurch. This process identified a further 11,000 properties as HAIL, in addition to the 8,000 previously identified in the Canterbury region.

In this context, the Ministry decided to conduct an interim review to improve its understanding of how the NESCS was working in practice, and to identify the specific obstacles to effective implementation of the NESCS. Evidence gathering for the review took place from July 2014 to August 2015. More information on the interim review's methodology and data sources is provided in the *Interim review of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health: Summary Report* (Ministry for the Environment, 2016a). The interim review focused on three areas:

- How is the HAIL framework working within the NESCS?
- How is the NESCS being applied, particularly in relation to:
  - soil disturbance and removal of soil
  - subdivision
  - change in land use?
- Are sites obtaining NESCS consent being remediated, or are contaminants being managed on site? What factors are driving the approaches used?

[15] The NESCS only relates to human health. Territorial authorities may develop rules to control other effects of the development, subdivision or use of contaminated land.

A full discussion of the interim review, and its findings, can be found in the *Interim review of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health: Summary Report* (Ministry for the Environment, 2016a).

Appendix 2 – Proposals

3.1 Clarify the HAIL categories to increase consistency.

3.2 Remove express reference to ‘sports turfs’ in category A.10.

3.3 Remove express reference to ‘environmental discharges’ in category A.14 and ‘risk’ in categories H and I.

3.4 Provide guidance on the HAIL, including the characteristics of activities and industries that have potential to contaminate soil.

4.1 Require a risk-based assessment when deciding whether the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NESCS) applies to a site.

5.1 No resource consent required for activities on sites found to be have contamination below soil contaminant standards, or Tier 1 soil acceptance criteria

5.2 No resource consent required for soil disturbance by a network utility operator.

5.3 No resource consent required for subdivisions that are purely ‘paper-based’ or do not facilitate a current or future change in use.

5.4 Soil disposal as a stand-alone controlled activity.

5.5 Remove discretionary activity class for soil disturbance and removal or replacement of fuel tank storage systems.

5.6 Remove restricted discretionary and discretionary activity classes for soil sampling.

5.7 Define ‘soil disturbance ratio’ in regulation 8(3).

5.8 Define ‘piece of land’ in regulation 8(3).

5.9 Remove term ‘per year’ from regulation 8(3).

5.10 Require suitably qualified and experienced practitioners to use a standardised certifying statement in their reports.

6.1 Option of an ongoing site management plan (with controls) for residential property owners.

6.2 Option to enable site-specific soil guideline values to be calculated using the site-specific bioavailable concentration of arsenic and lead.

Appendix 3 – HAIL: What will the changes look like?

Hazardous activities and industries list (HAIL)

October 2011 ***(September 2016 proposed revised wording is in green italics)***

General comments:

- an industry or activity heading has been added to most categories, to allow the reader to easily scan through before reading the more detailed description. For example:
  - in category A, the words manufacture, formulation and mixing have been adopted for consistency; these will be described in guidance
- three categories that specifically referred to environment discharges (A14) and risk (H and I) have been modified to remove these words. This is because all activities on the HAIL have potential for environmental discharges, and all can pose a risk to human health and/or the environment.

A Chemical manufacture, application and bulk storage

1. Agrichemicals including commercial premises used by spray contractors for filling, storing or washing out tanks for agrichemical application
   Agrichemicals: Manufacture, formulation or mixing of agrichemicals, including premises where authorities or commercial operators store or prepare agrichemicals for application.
2. Chemical manufacture, formulation or bulk storage
   Chemicals: Manufacture, formulation or bulk storage of chemicals.
3. Commercial analytical laboratory sites
4. Corrosives including formulation or bulk storage
   Corrosives: Manufacture, formulation or bulk storage of corrosives.
5. Dry-cleaning plants including dry-cleaning premises or the bulk storage of dry-cleaning solvents
   Dry-cleaning: Premises where dry-cleaning takes place.

Commentary: Bulk storage of dry-cleaning solvents at locations where dry-cleaning doesn't take place will be covered by category A2.

6. Fertiliser manufacture or bulk storage
   Fertiliser: Manufacture, formulation or bulk storage of fertiliser.
7. Gasworks including the manufacture of gas from coal or oil feedstocks
   Gasworks: The manufacture of gas from coal or oil feedstocks.
8. Livestock dip or spray race operations
9. Paint manufacture, formulation (excluding retail paint stores)
   Paint: Manufacture, formulation or bulk storage of paint (excluding retail paint stores).
10. Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds
    Persistent pesticides: Use and bulk storage of persistent pesticides, including in market gardens, orchards, glass houses and spray sheds.

Commentary: This category is intended to capture locations where persistent pesticides were handled and regularly used. Sports turfs were originally included in the HAIL to target

persistent pesticide use on bowling greens, golf greens and other intensively managed turfs, rather than school playing fields and sports fields. The Ministry proposes to remove sports turfs from the named examples in this category, and provide advice in guidance of the types of persistent pesticides that this covers, and typical applications. The Ministry is seeking feedback and evidence as to whether this change would pose an unacceptable risk.

11. Pest control including the premises of commercial pest control operators or any authorities that carry out pest control where bulk storage or preparation of pesticide occurs, including preparation of poisoned baits or filling or washing of tanks for pesticide application
    Pest Control: Premises where authorities or commercial operators store or prepare pesticides for application.

12. Pesticide manufacture (including animal poisons, insecticides, fungicides or herbicides) including the commercial manufacturing, blending, mixing or formulating of pesticides
    Pesticides: Manufacture or formulation of pesticides.

13. Petroleum or petrochemical industries including a petroleum depot, terminal, blending plant or refinery, or facilities for recovery, reprocessing or recycling petroleum-based materials, or bulk storage of petroleum or petrochemicals above or below ground
    Petroleum or petrochemicals: Blending, refining or bulk storage of petroleum hydrocarbons or petrochemicals, or facilities for recovery, reprocessing or recycling petroleum-based materials.

14. Pharmaceutical manufacture including the commercial manufacture, blending, mixing or formulation of pharmaceuticals, including animal remedies or the manufacturing of illicit drugs with the potential for environmental discharges
    Pharmaceuticals: Manufacture or formulation of pharmaceuticals and veterinary medicine and the manufacturing of illicit drugs.

Commentary: Terminology has been changed to make wording consistent with that used in the Agricultural Compounds and Veterinary Medicines Act 1997.

15. Printing including commercial printing using metal type, inks, dyes, or solvents (excluding photocopy shops)
    Printing: Commercial printing using metal type, inks, dyes, or solvents (excluding premises solely using photocopiers).

16. Skin or wool processing including a tannery or fellmongery, or any other commercial facility for hide curing, drying, scouring or finishing or storing wool or leather products
    Skin or wool processing, including at a tannery or fellmongery.

17. Storage tanks or drums for fuel, chemicals or liquid waste.

18. Wood treatment or preservation including the commercial use of anti-sapstain chemicals during milling, or bulk storage of treated timber outside
    Timber treatment or bulk storage of treated timber outside.

B Electrical and electronic works, power generation and transmission

1. Batteries including the commercial assembling, disassembling, manufacturing or recycling of batteries (but excluding retail battery stores)
    Batteries: The commercial assembling, disassembling, manufacturing or recycling of batteries (but excluding retail battery stores).

2. Electrical transformers including the manufacturing, repairing or disposing of electrical transformers or other heavy electrical equipment
   Transformers: Electrical transformers or the manufacturing, repairing or disposing of electrical transformers or other heavy electrical equipment.
3. Electronics including the commercial manufacturing, reconditioning or recycling of computers, televisions and other electronic devices
   Electronics: The commercial manufacturing, reconditioning or recycling of computers, televisions and other electronic devices.
4. Power stations, substations or switchyards

C Explosives and ordnance production, storage and use

1. Explosive or ordnance production, maintenance, dismantling, disposal, bulk storage or re-packaging.

Commentary: No change to wording, other than correction of typographic error on ordnance.

2. Gun clubs or rifle ranges, including clay targets clubs that use lead munitions outdoors
   Gun clubs or rifle ranges that use or used lead munitions outdoors.
3. Training areas set aside exclusively or primarily for the detonation of explosive ammunition.

D Metal extraction, refining and reprocessing, storage and use

Commentary: In general, wording in these categories has been simplified. Examples and descriptions of the types of activities occurring, and their potential to result in contamination, will be provided in the guidance document.

1. Abrasive blasting including abrasive blast cleaning (excluding cleaning carried out in fully enclosed booths) or the disposal of abrasive blasting material
   Abrasive blasting (excluding blasting carried out in fully enclosed booths)
2. Foundry operations including the commercial production of metal products by injecting or pouring molten metal into moulds
   Foundry operations
3. Metal treatment or coating including polishing, anodising, galvanising, pickling, electroplating, or heat treatment or finishing using cyanide compounds
   Metal treatment or coating
4. Metalliferous ore processing including the chemical or physical extraction of metals, including smelting, refining, fusing or refining metals
   Metalliferous ore extraction and processing
5. Engineering workshops with metal fabrication
   Engineering workshops

E Mineral extraction, refining and reprocessing, storage and use

1. Asbestos products manufacture or disposal including sites containing asbestos products known to be in a deteriorated condition
   Asbestos: Manufacture of asbestos products, or sites containing asbestos known to be in a deteriorated condition.

Commentary: Removing the words "with buildings" and "products" to widen this category to include all sources of asbestos.

2. Asphalt or bitumen manufacture or bulk storage (excluding single-use sites used by a mobile asphalt plant)

Bitumen: manufacture, blending and bulk storage of bitumen and asphalt.

3. Cement or lime manufacture using a kiln including the storage of wastes from the manufacturing process
   Cement: Manufacture and bulk storage of cement and lime, including areas used for waste disposal.
4. Commercial concrete manufacture or commercial cement storage
   Concrete: Commercial concrete manufacture.

Commentary: cement storage has been removed from E4 as it is covered by E3.

5. Coal or coke yards
6. Hydrocarbon exploration or production including well sites or flare pits
   Hydrocarbon exploration or production.
7. Mining industries (excluding gravel extraction) including exposure of faces or release of groundwater containing hazardous contaminants, or the storage of hazardous wastes including waste dumps or dam tailings
   Mining: Mine sites including areas used for waste disposal or dam tailings (but excluding gravel extraction).

F Vehicle refuelling, service and repair

1. Airports including fuel storage, workshops, washdown areas, or fire practice areas
   Airports: Fuel storage, workshops, washdown areas or fire practice areas.
2. Brake lining manufacturers, repairers or recyclers
3. Engine reconditioning workshops
4. Motor vehicle workshops
5. Port activities including dry docks or marine vessel maintenance facilities
   Ports and marine facilities: Fuel storage, workshops or vessel maintenance facilities.
6. Railway yards including goods-handling yards, workshops, refuelling facilities or maintenance areas
   Railways: Goods-handling, workshops or refuelling facilities.
7. Service stations including retail or commercial refuelling facilities
8. Transport depots or yards including areas used for refuelling or the bulk storage of hazardous substances
   Transport depots: Areas used for refuelling or the bulk storage of hazardous substances.

G Cemeteries and waste recycling, treatment and disposal

1. Cemeteries
2. Drum or tank reconditioning or recycling
3. Landfill sites
4. Scrap yards including automotive dismantling, wrecking or scrap metal yards
   Scrap yards: automotive dismantling, wrecking or scrap metal.
5. Waste disposal to land (excluding where biosolids have been used as soil conditioners)
   Waste disposal to land

Commentary: Examples and descriptions of these types of activities, including biosolids and landfarming, and those with the potential to result in contamination, will be provided in the guidance document.

6. Waste recycling or waste or wastewater treatment
   Waste and wastewater: treatment or recycling

Commentary: Examples and descriptions of these types of activities and those with the potential to result in contamination will be provided in the guidance document.

H Any land that has been subject to the migration of hazardous substances from adjacent land in sufficient quantity that it could be a risk to human health or the environment
Any land that has been subject to the migration of hazardous substances from adjacent land.

I Any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment
Any land that has been subject to the intentional or accidental release of a hazardous substance.

Appendix 4 – Proposed changes to the NESCS activities and planning controls by activity classification

Activity classification	Land use (residential, rural residential etc)	Activity	Testing requirements	Other requirements	Change from status quo?
Permitted	Any land use	All except disposal of soil (which is controlled)	DSI – finds contamination is below soil contaminant standards or Tier 1 soil acceptance criteria	Copy of DSI to be provided to council For soil disturbance and fuel tank removals, controls in place to prevent discharges to environment and minimise exposure to people	Yes
		Soil disturbance – small scale	None	Soil disturbance can be undertaken as a permitted activity without testing up to a volume threshold	*Yes – minor changes to wording to clarify application*
		Soil disturbance – network utility operators	No testing required up front, but results of testing undertaken during course of works to be provided to council	No volume or timeframe limitations *A site management plan (SMP) must be prepared and available on site, including:* • an unexpected discovery protocol • sediment and dust control • controls for handling and transport of soil, including testing to be carried out to inform disposal • description of the condition in which land will be left on completion. Disposal must be to an appropriate location – council must be notified of location, and provided with testing results. Notification to council prior to works.	Yes
		Subdivision and change of use	PSI – demonstrates that the activity is highly unlikely to *increase* risks to health (if Option 2 of proposal 5.3 is adopted)	PSI is provided to council etc. See NESCS – no changes proposed.	Yes – change test to 'increase in risk'

Activity classification	Land use (residential, rural residential etc)	Activity	Testing requirements	Other requirements	Change from status quo?
		Fuel tank removal	None	See NESCS – no changes proposed.	No
		Soil sampling	None	See NESCS – no changes proposed.	No
		Soil disposal	None	Small volumes of soil disposed of to an appropriate location.	No – except will sit as a separate activity
Controlled	Residential and rural residential (based on the description of land-use scenarios in the methodology (Ministry for the Environment, 2011e), does not include other land uses that generally use the residential/ rural-residential exposure scenario eg, schools, childcare centres)	Subdivision, change of use	DSI - finds contamination exceeds the soil contaminant standard (for residential or rural residential land use) but does not exceed the applicable soil guideline value for a template ongoing site management plan (TOSMP) (this plan is discussed in chapter 6).	DSI is provided to council. Council has control as to the adequacy of the DSI (ie, is it in accordance with CLMG No 1 (Ministry for the Environment, 2011a) and CLMG No 5 (Ministry for the Environment, 2011c)). Landowner opts to accept a TOSMP. TOSMP is provided to council. The TOSMP is recorded as a condition of resource consent, which will apply for duration of residential/rural residential land use. Council has control over certain implementation measures of the TOSMP. *If landowner does not want to have a TOSMP, or have a TOSMP with the conditions provided, activity will be restricted discretionary. If other contaminants are found, activity will be restricted discretionary.*	Yes
	Any	Soil disposal	DSI – finds contamination is above background concentrations.	Controlled resource consent required as soil may be below the soil contaminant standard (SCS) for its source site, but may be above the SCS for the site it is disposed to (eg, if moved from industrial land use to residential land use). Matters of control: • adequacy of DSI • transport method and disposal location • monitoring and reporting of disposal • duration of consent • timing and nature of review of conditions.	Yes (these requirements previously applied to all activities, not just disposal).

Activity classification	Land use (residential, rural residential etc)	Activity	Testing requirements	Other requirements	Change from status quo?
	Any	Any	DSI – has determined concentration of contaminants, and a site-specific soil guideline value has been calculated.	A site-specific soil guideline value has been calculated, and contamination levels are below the re-calculated soil guideline value. Controlled resource consent is required as the council needs to check the derived numbers are appropriate, and resource consent serves as a mechanism for recording any management measures needed for site specific soil guideline value to apply (whereas when using the standard SCS we consider this can be done as permitted activity). The management measures which informed the site-specific soil guideline value are recorded as consent conditions (or in the case of a subdivision consent, the conditions may be recorded as a section 221 consent notice). Consent conditions apply for duration of land use/activity.	No (although clarifies that councils can record any management measures which are critical to the site specific soil guideline value as a condition of consent)
	Any	Soil disturbance	DSI is provided with the application. Contamination exceeds soil contaminant standards or Tier 1 soil acceptance criteria (if below, activity is permitted). DSI only in area of proposed activity.	Matters of control: • adequacy of DSI • the approach to managing the soil disturbance, including adequacy of site management plan (SMP), and how it must be monitored and reported on • duration of consent • timing and nature of review of conditions.	Yes
	Any	Fuel tank removal	DSI is provided with the application. Contamination exceeds Tier 1 soil acceptance criteria (if below, activity is permitted). DSI only in area of proposed activity.	Matters of control: • activity in accordance with Petroleum Guidelines (Ministry for the Environment, revised 2011d) • adequacy of DSI • transport method and disposal location • monitoring and reporting of disposal	Yes

Activity classification	Land use (residential, rural residential etc)	Activity	Testing requirements	Other requirements	Change from status quo?
				• duration of consent • timing and nature of review of conditions.	
	Any	Soil sampling	None	Where soil sampling cannot comply with permitted activity classification it is controlled. Matters of control: • adequacy of DSI • transport method and disposal location • monitoring and reporting of disposal • duration of consent • timing and nature of review of conditions.	Yes
Restricted discretionary	Residential and rural residential	Subdivision, change of use	DSI – has found that soil contaminants on a site exceeds the applicable soil guideline value for a TOSMP.	Matters of discretion will be same as existing restricted discretionary matters.	Yes
	Any	Subdivision, change of use	DSI – has found soil contaminants that exceed the soil contaminant standards or Tier 1 soil acceptance criteria.	Matters of discretion to be same as existing restricted discretionary matters.	No
	Any	Fuel tank removal, soil disturbance	No DSI provided	Matters of discretion linked to effects of the proposed activity, not wider HAIL site.	Yes
	Any	Soil disposal	No DSI provided	Matters of discretion: • the approach to managing the soil disposal including soil testing requirements, disposal location, transport method • monitoring and reporting of disposal • duration of consent • timing and nature of review of conditions • requirement for and conditions of a financial bond.	Yes
Discretionary	Any	Subdivision, change of use	None – landowner has chosen not to test their property	N/A – council have full discretion – they will determine what the requirements are	No (except now only applies to subdivision and change of use).

Appendix 5 – Proposed new soil guideline value

Soil contaminant standards (SCSs) and soil guideline values (SGV) – 50 PER CENT REDUCTION IN SOIL INGESTION RATE

Scenario	Arsenic mg/kg	Boron mg/kg	Cadmium (pH 5) mg/kg	Chromium III mg/kg	Chromium VI mg/kg	Copper mg/kg	Inorganic lead mg/kg	Inorganic mercury compds mg/kg	BaP TEQ mg/kg	DDT mg/kg	Dieldrin[2] (mg/kg) mg/kg	PCP[3] (mg/kg) mg/kg	Dioxins TEQ TCDD ug/kg	Dioxins TEQ Dioxin-like PCBs[5] ug/kg
Rural residential / lifestyle block 25% produce	17	NL	0.8	NL	290	NL	160	200	6	45	1.1	55	0.12	0.09
Rural residential / lifestyle block 10% produce	17	NL	3	NL	460	NL	210	310	8	70	2.6	55	0.15	0.12
Rural residential / lifestyle block no produce	21	NL	110	NL	770	NL	250	510	11	120	22	55	0.18	0.16
Rural residential w/TOSMP (no produce + reduced soil ingestion)	42	NL	230	NL	1500	NL	500	1000	20	230	40	88	0.34	0.30
Residential 25% produce	17	NL	0.8	NL	290	NL	160	200	7	45	1.1	55	0.12	0.09
Residential 10% produce	20	NL	3	NL	460	NL	210	310	10	70	2.6	55	0.15	0.12
Residential no produce	24	NL	110	NL	770	NL	250	510	12	120	22	55	0.18	0.16
Residential w/ TOSMP (no produce + reduced soil ingestion)	47	NL	230	NL	1500	NL	500	1000	22	230	40	88	0.34	0.30
High-density residential	45	NL	230	NL	1,500	NL	500	1,000	24	240	45	110	0.35	0.33
Recreational	80	NL	400	NL	2,700	NL	880	1,800	40	400	70	150	0.60	0.52
Commercial/industrial outdoor worker/maintenance	70	NL	1,300	NL	6,300	NL	3,300	4,200	35	1,000	160	360	1.4	1.2
Key to shading:														
SCS														
SGV														

Abbreviations

CLMG	contaminated land management guideline
DSI	detailed site investigation
HAIL	hazardous activities and industries list
NESCS	National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health
PSI	preliminary site investigation
RMA	Resource Management Act 1991
SCS	soil contaminant standard
SQEP	suitably qualified and experienced practitioner
TA	territorial authority
TOSMP	template ongoing site management plan

References

Golders Associates. 2016a. *Accounting for Bioavailability in Contaminated Land Site-Specific Health Risk Assessment.* Prepared for the Ministry for the Environment by Golders Associates. Wellington: Ministry for the Environment. Retrieved from http://www.mfe.govt.nz/publications/land/accounting-bioavailability-contaminated-land-site-specific-health-risk-assessment

Golders Associates. 2016b. *Diffuse Source Contamination. Site Management Options for Residential and Rural Residential Sites.* Prepared for the Ministry for the Environment by Golders Associates. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/land/diffuse-source-contamination-site-management-options-residential-and-rural

Ministry for the Environment. 2010. *Proposed national environmental standard for assessing and managing contaminants in soil: discussion document*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/rma-land-hazards/proposed-national-environmental-standard-assessing-and-managing-0.

Ministry for the Environment. 2011a. *Contaminated land management guidelines No. 1: Reporting on contaminated sites in New Zealand*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/land-hazards/contaminated-land-management-guidelines-no-1-reporting-contaminated-sites.

Ministry for the Environment. 2011b. *Contaminated land management guidelines No. 2: Hierarchy and application in New Zealand of environmental guideline values*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/land-hazards/contaminated-land-management-guidelines-no-2-hierarchy-and-application-new.

Ministry for the Environment. 2011c. *Contaminated land management guidelines No. 5: Site investigation and analysis of soils*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/land-hazards/contaminated-land-management-guidelines-no-5-site-investigation-and.

Ministry for the Environment. Revised 2011d. *Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/hazards/guidelines-assessing-and-managing-petroleum-hydrocarbon-contaminated-sites-new.

Ministry for the Environment. 2011e. *Methodology for deriving standards for contaminants in soil to protect human health*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/hazards/methodology-deriving-standards-contaminants-soil-protect-human-health.

Ministry for the Environment. 2012. *Users' Guide: National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/rma-land-hazards/users-guide-national-environmental-standard-assessing-and-managing.

Ministry for the Environment. 2014. *Resource Management Act: Survey of Local Authorities 2012/13*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/rma/resource-management-act-two-yearly-survey-local-authorities-20122013.

Ministry for the Environment. 2015. *A way forward for national direction*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/rma/way-forward-national-direction.

Ministry for the Environment. 2016a. *Interim review of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health: Summary Report*. Wellington: Ministry for the Environment. Retrieved from www.mfe.govt.nz/publications/land/interim-review-national-environmental-standard-assessing-and-managing-contaminants