MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HIKINA WHAKATUTUKI

Discussion document

Seeking feedback on the proposed additions to Schedule 2 of the Accident Compensation Act 2001

30 October 2024.

Permission to reproduce

Important notice

The opinions contained in this document are those of the Ministry of Business, Innovation and Employment and do not reflect official Government policy. Readers are advised to seek specific legal advice from a qualified professional person before undertaking any action in reliance on the contents of this publication. The contents of this discussion paper must not be construed as legal advice. The Ministry does not accept any responsibility or liability whatsoever whether in contract, tort, equity or otherwise for any action taken as a result of reading, or reliance placed on the Ministry because of having read any part, or all, of the information in this discussion paper or for any error, inadequacy, deficiency, flaw in or omission from the discussion paper.

ISBN 978-1-991316-40-0

How to have your say

Submissions process

The Ministry of Business, Innovation & Employment (MBIE) seeks written submissions on the changes proposed in this document by 5:00pm on **27 November 2024.**

A submission may range from a short response on one disease and exposure pairing recommended for inclusion in Schedule 2, to a more detailed response covering all fourteen proposed additions. Where possible, please explain the reasoning behind your views. This will better inform our final policy advice to the Minister for ACC.

You can make a submission in a variety of ways. You can:

- complete the submission template provided at: ***https://www.mbie.govt.nz/have-your-say/seeking-feedback-on-accs-occupational-diseases-list***
- Email a submission to us at: ***ACregs@mbie.govt.nz***
- Mail your submission to us at:

  The Manager, Accident Compensation Policy
  Ministry of Business, Innovation & Employment
  PO Box 1473
  Wellington 6140
  Aotearoa New Zealand

Please direct any questions that you have in relation to the submissions process to ***ACregs@mbie.govt.nz***

Use of information

The information provided in submissions will be used to inform MBIE's policy development process and will inform advice to Ministers on proposed additions to the list of occupational diseases in Schedule 2 of the *Accident Compensation Act 2001.* We may contact submitters directly if we require clarification of any matters in submissions.

Release of information

MBIE intends to upload PDF copies of submissions received to our website at ***https://www.mbie.govt.nz/*** to make them publicly available. MBIE will consider you to have consented to your submission being uploaded, unless you clearly specify otherwise in your submission.

If your submission contains any information that is confidential, commercially sensitive, or you otherwise wish us not to publish, please:

- indicate this on the front of the submission, with any confidential information clearly marked within the text
- provide a separate version excluding the relevant information for publication on our website.

Submissions remain subject to request under the *Official Information Act 1982*. Please set out clearly in the cover letter or e-mail accompanying your submission if you have any objection to the release of any information in the submission, and in particular, which parts you consider should be withheld, together with the reasons for withholding the information. MBIE will take such objections into account and will consult with submitters when responding to requests under the *Official Information Act 1982*.

Private information

The *Privacy Act 2020* establishes certain principles regarding the collection, use and disclosure of information about individuals by various agencies, including MBIE. Any personal information you supply to MBIE in the course of making a submission will only be used for the purpose of assisting in the development of policy advice in relation to this review. Please clearly indicate in the cover letter or email accompanying your submission if you do not wish your name, or any other personal information, to be included in any summary of submissions that MBIE may publish.

Contents

List of Acronyms

AC Act	*Accident Compensation Act 2001*
ACC	Accident Compensation Corporation
AC Scheme	Accident Compensation Scheme (administered by ACC)
Deemed Diseases List	Safe Work Australia's List of Deemed Diseases
IARC	International Agency for Research on Cancer
ILO	International Labour Organisation
ILO List	The International Labour Organisation's List of Occupational Diseases
MBIE	Ministry of Business, Innovation and Employment
NIOSH	National Institute for Occupational Safety and Health
OSH	Occupational Safety and Health
Schedule 2	Schedule 2 of the *Accident Compensation Act 2001,* the List of Occupational Diseases
The panel	The panel of independent health experts who assessed the ILO List, Deemed Diseases List, and public submissions to make recommendations for additions to Schedule 2
WRGPDI	Work-related gradual process, disease, or infection

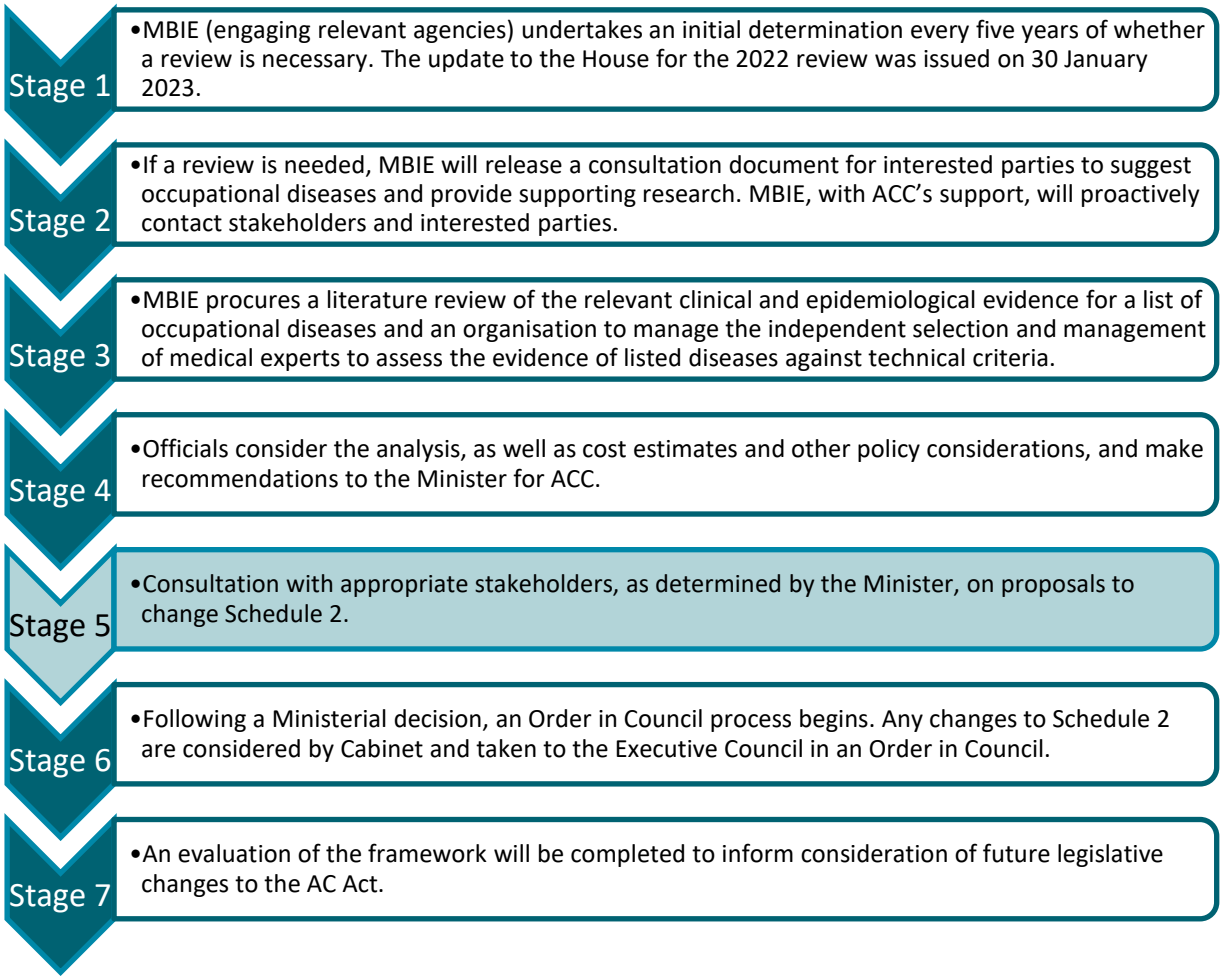
1 Introduction

Purpose of this consultation

1. The purpose of this consultation is to obtain feedback from workers, employers, occupational health professionals, academics, and any other interested parties on proposed additions to **Schedule 2** of the *Accident Compensation Act 2001* (AC Act). Schedule 2 provides a streamlined cover route for personal injury caused by certain work-related gradual processes, diseases, or infections (WRGPDIs) resulting from exposures in employment tasks or environments.

2. MBIE wants to ensure that the proposed additions to Schedule 2 appropriately reflect the risks workers in Aotearoa New Zealand experience. Your expertise and/or experience can help to support further analysis on these options and ensure any additions to Schedule 2 have been comprehensively considered.

3. This consultation supports the principle of transparency and constitutes Stage 5 of the Schedule 2 Review framework agreed to by Cabinet in September 2022. The full review process is set out below:



Context

4. In September 2022, Cabinet agreed to introduce a formal process for reviewing Schedule 2. You can find the full process **here**. In December 2022 it was determined that a review of Schedule 2 should occur because of developments in occupational diseases knowledge, the length of time since the previous review of Schedule 2, and the variety of claims for gradual process injury claims with a 50% or higher acceptance rate. The objectives underpinning this review framework are as follows:

   - **Clinical and epidemiological knowledge:** how well Schedule 2 reflects current knowledge.
   - **Clarity:** the review is easy to understand.
   - **Transparency and consistency:** honesty and openness about what is involved in the review, including an evaluation of the framework against these objectives as soon as practicable after implementation of the review.
   - **How well the option maintains existing coverage:** the outcome of the review does not narrow or expand the scope of ACC's coverage.

Scope of the review

5. This review is specifically focused on determining if additions to Schedule 2 are needed to ensure that Schedule 2 is up to date with epidemiological knowledge and is supporting fair access to WRGPDI cover. If the proposed additions to Schedule 2 are agreed to by Cabinet, the updates will be made via an Order in Council.

6. An Order in Council is a type of secondary legislation that is made by the Executive Council which gives effect to Cabinet decisions. The Order in Council process does not require public consultation and there are no Select Committees held on the matter. Therefore, this consultation provides the opportunity for the public to submit their feedback on the proposed additions to Schedule 2 and to help inform our final recommendations.

7. **Section 336(1)** of the AC Act sets the following parameters for amending Schedule 2 by Order in Council:

   (a) adding or varying the description of a personal injury, together with the corresponding:

      i. agents, dusts, compounds, substances, radiation, or things (as the case may be) and, if appropriate, the relevant level or extent of exposure to such agents, dusts, compounds, substances, radiation, or things; or

      ii. occupations, industries, or processes; or

   (b) updating the schedule in order that the schedule may conform with the terminology or recommended practices of any international organisation.

8. This review will not consider wider changes to the AC Scheme or AC Act, including broader cover for WRGPDI, changes to section 30 of the AC Act, how other injuries are covered under

the AC Act, or the addition of work-related mental injury cover to Schedule 2 (as this is dealt with in **section 21B** of the AC Act).

2 Background on WRGPDI

9. This section provides background on what work-related gradual process, disease, or infections (WRGPDI) are and why the AC Scheme provides cover for them.

AC Scheme cover for personal injury caused by WRGPDI

What is a WRGPDI?

10. A WRGPDI is an injury caused by a work-related task or environment. Examples of WRGPDI include, but are not limited to, the following:

    a. injuries arising from work with substances which cause illness to develop over time (e.g., lung cancer arising from exposure to asbestos);

    b. performing tasks that involve particular forceful and repeated movement that causes a gradual onset injury (e.g., hand-arm vibration syndrome from use of power tools); or

    c. single exposure to harmful agents such as certain infections from animals or their carcasses (e.g., orf caused by working with animals or their carcasses).

11. WRGPDI do not include work-related mental injury. This is covered under **section 21B** of the AC Act which is separate from WRGPDI injury cover. Work-related mental injury will not be considered as part of this review.

Why does the AC Scheme cover WRGPDI?

12. Cover for WRGPDI has been a fundamental component of Aotearoa New Zealand's historical and current workers' compensation schemes.

13. The AC Scheme generally provides cover for physical injuries (for example a broken wrist resulting from a fall) and not for illnesses or disease. However, the AC Scheme does have specific settings for WRGPDI to provide cover for some illnesses caused by work.

14. These cover provisions acknowledge that not all injuries take immediate effect, some worker activities have a higher risk than others, and that workers may have little control over their work tasks or environments.

How are WRGPDI assessed under the AC Act?

15. There are two routes for accessing cover for WRGPDI under the AC Act. The first is through successful application of the three-step test provided in **section 30(2)** of the AC Act; this is used to determine if the employment task or environment more likely than not caused or

contributed to a personal injury. Section 30 enables ACC to consider claims for WRGPDI, such as hearing loss, which can also be caused by non-work factors (e.g., ageing).

16. The second cover route is through a WRGPDI being included in **Schedule 2** (the AC Act's list of occupational diseases). As previously mentioned, this is a streamlined cover route as the entries on this list are already established to have a strong causal link to exposure to a substance or specific work task.

Schedule 2

17. An occupational disease being included in Schedule 2 reflects that there is a sufficiently strong causal relationship between the disease and exposure(s) faced in an occupational setting, rendering any other cause (i.e., non-work-related) for the disease unlikely. The ability to demonstrate a causal relationship is often completed in high quality scientific studies.

18. Inclusion in Schedule 2 does not guarantee the acceptance of a WRGPDI claim. **Section 60** of the AC Act allows for ACC to decline a claim for cover under Schedule 2 if the claimant does not have a personal injury (e.g., they make a claim for exposure only), or if the personal injury was not caused by their employment (e.g., their condition's causal factor, per the Schedule 2 entry, was not present in their work tasks or environment).

19. Schedule 2 is largely based on the International Labour Organization's List of Occupational Diseases (the ILO list). The ILO list was originally created in 1934 and was most recently updated in 2010. Per the ILO's **Convention C042,** which New Zealand is a party to, members are recommended to implement a list, test, or mixed approach to provide workers' compensation for occupational diseases.

20. New Zealand implements a mixed approach using both Schedule 2 and the section 30(2) three-step test to provide workers a route for compensation for their WRGPDI's. Our mixed approach combines the streamlined pathway to cover from Schedule 2 with the flexibility of the section 30(2) three-step test.

21. Schedule 2 has not been updated since 2008 (two years prior to the ILO List's last revision). This makes it over ten-years since the epidemiological evidence has been reviewed to assess whether new occupational diseases and their corresponding exposures are suitable for inclusion on Schedule 2. Given this length of time, Cabinet agreed that it was time not only to review Schedule 2, but to develop a framework to support all future reviews.

3 Work undertaken on the review

22. In 2022, a framework to review Schedule 2 was developed and subsequently approved by Cabinet. The design of the framework supports MBIE's regulatory stewardship of the AC Act and allows MBIE to determine if a review is required every five years. There are seven stages in the review process ranging from the initial determination that a review is required to evaluation of the framework itself.

23. In December 2022, officials from MBIE and ACC determined that a review of Schedule 2 should be undertaken, and in January 2023 the then Minister for ACC (Hon Carmel Sepuloni) informed the House of Representatives that this would occur. Officials then ran a public consultation through April to May 2023 seeking the public's suggested additions to Schedule 2.

24. Following this, MBIE contracted Allen + Clarke to procure and manage a panel of independent health experts (the panel) and support them in undertaking an evidence review on the public's suggested additions, alongside the ILO List (as revised in 2010), and the Safe Work Australia Deemed Diseases List.

Triaging of the diseases and exposures for the panel

25. The first stage of Allen + Clarke's work to support the review of Schedule 2 was the development of a triaging framework to organise the list of potential additions to be presented to the panel.

26. Triaging the conditions was vital in the interests of keeping the workload for the panel manageable and ensuring their evidence review was completed in a reasonable timeframe.

27. Allen + Clarke's approach to triaging was informed by a preliminary review of the suggested additions from the public submissions, along with disease and exposure pairings listed in the ILO List and Deemed Diseases Lists. This preliminary review assessed the level of existing information and indicated if the pairing would have a good level of available evidence for the panel to assess.

28. The initial triaging exercise enabled Allen + Clarke to slim down the significant volume of pairings for the panel to assess. Suggested additions which would not have been appropriate for inclusion in Schedule 2 were withdrawn and those left were sorted into seven categories with five outcomes: automatic selection for panel consideration; targeted evidence review; high quality evidence review; fast search for sufficient evidence; fast search with inadequate evidence; not included for panel consideration. This produced a wide-ranging but manageable list of suggestions for panel consideration in the final report.

29. In November 2023, the panel completed their evidence review and, in their report, recommended fourteen disease/exposure pairings for inclusion on Schedule 2.

4 The panel's recommendations

31. This section explains the panel's report methodology, analytical criteria, and fourteen recommended additions.

Methodology

32. The panel's key sources of evidence included guidance notes from the ILO and Safe Work Australia, and advice published by NIOSH, IARC and OSHA. These organisations provide reputable studies as they possess the resources to undertake long-term epidemiological studies with large sample sizes.

33. Guidance notes from the ILO were particularly useful as they provided the panel with background information relevant to determining causal relationships between the factor (such as infrared radiation) and the resulting illness (such as heat-induced cataracts).

34. Where the above organisations may not have provided advice on a pairing, the independent panel made use of other peak body publications, technical reports, peer-reviewed literature, and in-depth specialist works assessing the relationship between the disease/exposure pairings. For papers to be included, they must have been published within an appropriate date range, contain sufficient statistical data on causality, and be fully available for the panel to read.

35. Where appropriate, the panel also drew on their clinical experience to assist in their assessments of each disease/exposure pairing. The three panel members had diverse backgrounds in epidemiology and research providing them with a wealth of professional knowledge to draw from.

Analytical criteria

36. In line with the overall review framework agreed to by Cabinet, the panel used the Bradford Hill Criteria when conducting their evidence review on each disease/exposure pairing. This is an internationally recognised review criteria comprising nine principles used to evaluate epidemiological evidence to establish causation between a presumed cause (exposure) and observed effect (disease). Table One below outlines the principles of the Bradford Hill Criteria.

Table One: Technical criteria for Schedule 2 review

Criteria to establish a causal relationship	
Criteria	**Description**
Strength of association	The greater the impact of an exposure on the occurrence or development of a disease, the stronger the likelihood of a causal relationship.
Consistency or reproducibility	Consistent findings observed by different persons in different places with different samples strengthen the likelihood of an effect.

Specificity	Causation is likely if there is a very specific population at a specific site and disease with no other likely explanation. The more specific an association between a factor and an effect is, the bigger the probability of a causal relationship.
Temporality of time sequence	The effect has to occur after the cause (and if there is an expected delay between the cause and expected effect, then the effect must occur after that delay).
Biological gradient	Greater exposure should generally lead to greater incidence of the effect. However, in some cases, the mere presence of the factor can trigger the effect. In other cases, an inverse proportion is observed: greater exposure leads to lower incidence.
Biological plausibility	From what is known of toxicology, chemistry, physical properties, or other attributes of the studied risk or hazard, it makes biological sense to suggest that exposure leads to the disease or injury.
Coherence	A general synthesis of all the evidence (e.g., human epidemiology and animal studies) leads to the conclusion that there is a cause-effect relationship in a broad sense and in terms of general common sense.
Analogy	The use of analogies or similarities between the observed association and any other associations.
Experimental evidence	This can be considered if relevant.
Criteria to establish if the causal connection between the disorder and employment is sufficiently strong enough to enable automatic acceptance of a claim	
Criteria	**Description**
Insufficient causal evidence	Diseases will be excluded if evidence of the causal connection between the disorder and employment is not sufficiently strong to allow a connection to work to be automatically accepted. 'Sufficiently strong' here is not generally quantifiable. For each condition on Schedule 2 it will need to be based on an expert assessment of the evidence available and its quality.
Proportion of work cases	Diseases will only be included if employment is the cause of the disorder in a significant majority of the cases of that disorder in a subset of the population, identified based on the subset's exposure to particular work tasks, or particular work environments.

The panel's recommended additions to Schedule 2

37. Following their evidence review, the panel recommended fourteen disease/exposure pairings for inclusion on Schedule 2. Each of the fourteen pairings recommended for inclusion on Schedule 2 demonstrated strong, consistent, well-defined relationships between the exposure to a factor at work and development of corresponding disease/illness. There was also biological plausibility that exposure to the substance could cause the corresponding

disease/illness and presented a dose-response relationship which means increased levels of exposure were associated with an increased risk of developing the disease/illness.

38. Table Two below outlines the fourteen pairings recommended for inclusion on Schedule 2 by the panel.

Table Two: The panel's recommended additions to Schedule 2

New entry	Erionite and malignant mesothelioma
	Infrared radiation and heat-induced cataracts
	Nickel and nasal cancer
	Ammonia and chronic corneal ulcer
	1,2-Dichloropropane and cholangiocarcinoma
	Butadiene and leukaemia
	Trichloroethylene and kidney cancer
New entry with specific occupation or process	Welding and ocular melanoma
	Firefighting and mesothelioma
Add to existing entry in Schedule 2	Potroom emissions and asthma (amend entry 37 which is currently: *Occupational asthma diagnosed as caused by recognised sensitising agents inherent in the work process such as, but not limited to, isocyanates, certain wood dusts, flour dusts, animal proteins, enzymes, and latex*).
	Asbestos and laryngeal cancer (amend entry 2 which is currently: *Lung cancer or mesothelioma diagnosed as caused by asbestos).*
	Asbestos and ovarian cancer (amend entry 2 which is currently: *Lung cancer or mesothelioma diagnosed as caused by asbestos).*
	Vinyl chloride and hepatocellular carcinoma (amend entry 21 which is currently: *Angiosarcoma of the liver diagnosed as caused by vinyl chloride monomer*).
Add to existing entry with specific occupation	Firefighting and bladder cancer (amend entry 33 which is currently: *Bladder carcinoma diagnosed as caused by 2-naphthylamine, benzidine, 4-aminobiphenyl, N, N-Bis (2-chloroethyl)-2-naphthylamine, other aromatic amines, or poly-cyclic aromatic hydrocarbons*).

Occupations and processes

39. While the majority of the recommended additions are diseases or illnesses associated with specific causative agents (for example nasal cancer caused by occupational exposure to nickel), the panel has also recommended the inclusion of a specific process (welding) and occupation (firefighting) as causative factors.

Welding

40. The panel followed advice from the IARC's 2012 specialised report on radiation which found strong evidence of ocular melanoma occurring in welders. However, without a full review into the carcinogenic effects of welding, the IARC's Working Group did not feel comfortable attributing the occurrence of ocular melanoma to ultraviolet radiation alone. Therefore, the IARC Working Group's final evaluation was that there was sufficient evidence linking the broader process of welding to the development of ocular melanoma.

Firefighting

41. The panel followed advice from the IARC's 2023 specialised report on firefighters' occupational exposures which found a causal relationship between firefighting and bladder cancer, and firefighting and mesothelioma. In their concluding notes, the IARC acknowledged that the occupational exposures firefighters face are complex and contain a variety of hazards given their diverse roles and responsibilities. As the events firefighters respond to vary so widely, their potential exposures also vary and while carcinogenicity can be proven for many of these potential exposures, the panel determined that listing all of these could be too prescriptive. Therefore, it would be more accurate to include firefighting as a causative factor for developing bladder cancer and mesothelioma.

Not recommended for inclusion

Pairings to monitor

42. The independent panel highlighted eleven disease/exposure pairings which, at present, did not have enough evidence to demonstrate a sufficient causal relationship. However, through the evidence review process, the independent panel found there to be a developing body of evidence to establish causality between the pairings and flagged that these should be prioritised for assessment in the next review.

43. Table Three below outlines the pairings flagged by the panel to be prioritised for assessment as part of the next review of Schedule 2, along with the panel's reasoning for this.

Table Three: Pairings to monitor for the next review of Schedule 2

Disease/exposure pairing	Panel assessment
Asbestos and cholangiocarcinoma	The panel identified some limited evidence which suggested a potential link between asbestos and the development of cholangiocarcinoma. However, there was not sufficient evidence to warrant the panel's recommendation at this time.

Disease/exposure pairing	Panel assessment
Carcinogenic effects of cadmium	Evidence identified by the panel was insufficient to support a causal link between cadmium exposure and the development of kidney and/or prostate cancer.
Coal tar pitch and bladder cancer	The panel identified a limited but emerging body of research on the link between coal tar pitches and the development of bladder cancer. However, this was not sufficiently strong to warrant the panel's recommendation at this time.
Coal tar pitch and kidney cancer	The panel identified a limited but emerging body of research on the link between coal tar pitches and the development of kidney cancer. However, this was not sufficiently strong to warrant the panel's recommendation at this time.
Formaldehyde and endometriosis	As part of the panel's commitment to applying an intersectional and gender-equitable lens to this review, they looked at evidence for female-specific occupational diseases. They identified an emerging body of evidence linking formaldehyde exposure to the development of endometriosis. However, this was not sufficiently strong to warrant the panel's recommendation at this time.
Formaldehyde and leukaemia	While the IARC has determined there to be a causal link between formaldehyde exposure and the development of leukaemia, this decision has been contested and the panel did not find the evidence to be sufficiently strong to prove causality.
Nickel and asthma	The panel identified limited epidemiological evidence to support a causal link between exposure to nickel and the development of asthma.
Platinum and asthma	The panel identified limited epidemiological evidence to support a causal link between exposure to platinum and the development of asthma.

Disease/exposure pairing	Panel assessment
Polycyclic aromatic hydrocarbons (PAHs) and skin cancer	The panel identified a limited but emerging body of research on the link between specific PAHs (which are by products of coal tar pitches) and the development of skin cancer. However, this link was not sufficiently strong, and the panel recognised that some coverage can be obtained under Schedule 2 already (per entry 15: *Primary epitheliomatous cancer of the skin diagnosed as caused by tar, pitch, bitumen, mineral oil, anthracene, or the compounds, products, or residues of these substances*).
Shift work and breast cancer	As part of the panel's commitment to applying an intersectional and gender-equitable lens to this review, they looked at evidence for female-specific occupational diseases. They identified an emerging body of evidence linking shift work to the development of breast cancer. However, this was not sufficiently strong to warrant the panel's recommendation at this time.
Vanadium and asthma	The panel identified limited epidemiological evidence to support a causal link between exposure to vanadium and the development of asthma.

Not recommended for inclusion

44. A lack of sufficient evidence to support a causal relationship between an exposure and disease (or other illness) was the most frequently cited reason provided by the panel when not recommending a pairing for inclusion in Schedule 2.

45. This conclusion was often supported by the panel's clinical experience and accompanied by the panel noting that, for the time being, many of the proposed disease/exposure pairings were best left to being assessed on a case-by-case basis (i.e., through the section 30 test) until the body of evidence develops.

46. For example, sensitiser asthma caused by occupational exposure to platinum was not recommended for inclusion on Schedule 2 given there was limited epidemiological evidence to support causation. Additionally, the panel noted that in their joint clinical experience, a variety of metal fumes can be a cause of occupational asthma, but this is best assessed on a case-by-case basis until more evidence is available.

47. Table Four below outlines the pairings assessed by the panel which were not recommended for inclusion on Schedule 2 and the reasoning.

Table Four: Pairings assessed and not recommended for inclusion on Schedule 2

Disease/exposure pairing	Panel assessment
Irritant and allergic dermatitis for any exposure	While contact dermatitis is a common occupational disease, it is too complex to determine causality and is best left to being assessed on a case-by-case basis.
Acrylonitrile and associated cancers	The carcinogenic effects of acrylonitrile should be excluded from Schedule 2 for now as determining causality is complex. The panel found that this is not suitable for inclusion on Schedule 2 as there was insufficient causal evidence.
Alcohol, glycols or ketones and associated diseases	Methyl isobutyl ketone and methyl ethyl ketone are already covered on Schedule 2 as organic solvents corresponding to laryngeal carcinoma, chronic solvent-induced encephalopathy, and peripheral neuropathy. There was insufficient causal evidence linking alcohols and glycols to other associated diseases.
Aluminium and aluminosis, bauxite fibrosis, and chronic obstructive pulmonary disease	The panel's proposed addition of asthma diagnosed as caused by potroom emissions would sufficiently address this pairing.
Ammonia and chronic obstructive pulmonary disease and pulmonary fibrosis	Chronic obstructive pulmonary disease and pulmonary fibrosis resulting from exposure to ammonia should continue to be considered on a case-by-case basis as it can be caused by exposures other than ammonia.
Antimony and nose septal ulceration, deposits on teeth or antimoniosis	Nasal septal ulceration is caused by other activities and antimoniosis is extremely rare meaning there was insufficient causal evidence throughout the panel's review. The panel also noted that, if these were to be added, then all other causes of lung opacity would need to be ruled out.
Benzoquinone and vitiligo	Vitiligo is best assessed on a case-by-case basis. It is currently covered on Schedule 2 when diagnosed as being caused by para-tertiary-butylphenol, para-tertiary-butylcatechol, para-amylphenol, hydroquinone, or the monobenzyl or monobutyl ether of hydroquinone.
Cadmium and pulmonary emphysema, ansomia, osteoporosis, osteomalacia, itai-itai disease, nephropathy, and Fanconi disease	Pulmonary emphysema, ansomia, osteoporosis, osteomalacia, and itai-itai disease are best left to being assessed on a case-by-case basis as there are a range of causes other than cadmium exposure.
Carbon disulphide and chronic toxic encephalopathy, toxic optical neuropathy, ototoxic hearing loss, atherosclerosis, chronic ischaemic heart disease, secondary hypertension, and chronic kidney disease	Chronic toxic encephalopathy, toxic optical neuropathy, ototoxic hearing loss, atherosclerosis, chronic ischaemic heart disease, secondary hypertension, and chronic kidney disease are best left to being assessed on a case-by-case basis as there are a range of causes other than carbon disulphide exposure.

Disease/exposure pairing	Panel assessment
Chlorine and chronic obstructive pulmonary disease, emphysema, chronic bronchiolitis, pulmonary fibrosis, chronic rhinitis, and erosion of the teeth	Chronic obstructive pulmonary disease, emphysema, chronic bronchiolitis, pulmonary fibrosis, chronic rhinitis, and erosion of the teeth are best left to being assessed on a case-by-case basis as there are a range of causes other than chlorine exposure.
Copper and hepatic granuloma, chronic pulmonary fibrosis and chalcosis	Chronic pulmonary fibrosis is best left to being assessed on a case-by-case basis as it can be caused by exposures other than copper exposure; linking hepatic granuloma to copper exposure would be difficult; and chalcosis is extremely rare.
Cyclophosphamide and leukaemia	While the panel determined that a causal relationship between cyclophosphamide and leukaemia is possible if the affected person was manufacturing cyclophosphamide, it is significantly less likely to occur in a hospital setting. Therefore, is best left to being assessed on a case-by-case basis to check exposure status.
Fluorine and dental fluorosis and chronic obstructive pulmonary disease	There are no recent reports of dental fluorosis and skeletal fluorosis resulting from a workplace exposure and are both difficult to link to a work task or environment. Chronic obstructive pulmonary disease was also not recommended for inclusion on Schedule 2 as it is incidental to asthma when attributed to fluorine exposure.
Food flavourings and obliterative bronchiolitis	Food flavouring is too broad of a category, making it inappropriate for inclusion on Schedule 2.
Hard metal dust and sensitiser-induced occupational asthma and hard metal lung disease	The panel determined that it would be sufficiently covered by entry 24: *diseases of a type generally accepted by the medical profession as caused by tungsten.*
Isocyanates allergic rhinitis, allergic conjunctivitis, and chronic obstructive pulmonary disease	Allergic rhinitis, allergic conjunctivitis, and chronic obstructive pulmonary disease are best left to being assessed on a case-by-case basis as there are a range of causes other than exposure to isocyanates.
Lindane and non-Hodgkin's lymphoma	Lindane as a pesticide was banned from use in New Zealand in 2009, meaning all claims would be historical. Shifting the exposure to 'pesticides' would be too broad.
Methyl ethel ketone and chronic toxic encephalopathy	Chronic toxic encephalopathy is already adequately covered by entry 35: *Chronic solvent-induced encephalopathy diagnosed as caused by organic solvents, particularly styrene, toluene, xylene, trichloroethylene, methylene chloride, or white spirit.*
Methyl isobutyl ketone and polyneuropathy	Polyneuropathy is already adequately covered by entry 36: *Peripheral neuropathy diagnosed as caused by organic solvents such as n-hexane, carbon disulphide, or trichloroethylene; pesticides such as organophosphates; acrylamide.*

Disease/exposure pairing	Panel assessment
Mineral acids and nasal septal ulceration and laryngeal cancer	Nasal septal ulceration is caused by other activities and, as smoking is the primary causal factor, attributing a work-related task or activity to the development of laryngeal cancer may be difficult.
Nail technician and respiratory diseases	Respiratory diseases is too broad of a category and the evidence review only identified low-quality evidence from the 1990's and early 2000's, but this was insufficient to support a causal relationship.
Nitroglycerin (and nitric acid esters) and chronic toxic encephalopathy, angina pectoris, and Raynaud's phenomenon	It is not practical to assess Raynaud's phenomenon in relation to a work-related task or environment.
Non-fibrogenic mineral dust and stannosis, baritosis, pneumoconiosis due to titanium oxide and antimoniosis	There was insufficient evidence to determine a causal relationship between this disease(s)/exposure pairing. Baritosis is best left to being assessed on a case-by-case basis as it can be caused by exposures other than non-fibrogenic mineral dust. Antimoniosis is extremely rare; if this was to be added, then all other causes of lung opacity would need to be ruled out. Additionally, entries 26, 28, 37 and 38 on Schedule 2 cover other dusts (wood, organic, flour, cotton, and grain).
Optical radiations and chronic blepharoconjunctivitis, chronic actinic dermatitis, and B12 deficiency	Chronic blepharoconjunctivitis, chronic actinic dermatitis, actinic cataract are best left to being assessed on a case-by-case basis to ensure work-related exposure is the attributable cause.
Oxides of nitrogen and bronchiolitis obliterans, chronic obstructive pulmonary disease, and B12 deficiency	Nitrogen oxides, while occupational irritants, have transient and acute effects making them unsuitable for inclusion on Schedule 2. As respiratory health effects from exposure to nitrogen oxides require high levels of exposure, the panel concluded that these are best left to being assessed on a case-by-case basis.
Pentachlorophenol and non-Hodgkin's lymphoma	Given the rarity of pentachlorophenol use nowadays, it is likely that exposure or development of non-Hodgkin's lymphoma would be historical. The carcinogenic effects of the broader category of pesticides is best left to be assessed on a case-by-case basis.
Pesticides and anti-coagulation syndrome due to exposure to coumarin derivatives, toxic effects caused by pentachlorophenol and carcinogenic effects of pesticides	The carcinogenic effects of the broader category of pesticides is best left to be assessed on a case-by-case basis. Additionally, cover may be provided under entry 36: *Peripheral neuropathy diagnosed as caused by organic solvents such as n-hexane, carbon disulphide, or trichloroethylene; pesticides such as organophosphates; acrylamide.*

Disease/exposure pairing	Panel assessment
Pharmaceutical agents and carcinogenic effects of antineoplastic drugs	While there is causal evidence of antineoplastic drugs having carcinogenic effects, this was either not specific to occupational exposure (per IARC advice), or, where theoretically possible, is unlikely to occur in a hospital setting as a high level of exposure is required. The panel determined that this was best left to being assessed on a case-by-case basis.
Platinum and allergic rhinitis and allergic urticaria	Given its various uses and variety of occupations which can face platinum exposure, allergic rhinitis and allergic urticaria as a result of platinum exposure are best left to being assessed on a case-by-case basis.
Polychlorinated biphenyl and malignant melanoma	Polychlorinated biphenyls have been banned in New Zealand since the 1980's meaning exposure would be historic. As a result, the panel determined that this is not appropriate for inclusion on Schedule 2 and is best left to being assessed on a case-by-case basis.
Polycyclic aromatic hydrocarbons and lung cancer	The panel determined that lung cancer diagnosed by exposure to polycyclic aromatic hydrocarbons are adequately covered by entry 31: *Lung cancer diagnosed as caused by bis (chloromethyl) ether (and chloromethyl methyl ether), cadmium, coke oven emissions, nickel, radon, silica, or soot.*
Selenium and selenosis	Selenosis is best left to being assessed on a case-by-case basis.
Sulphur oxides and chronic skin and mucous membranes irritation, nose septal ulceration, chronic obstructive pulmonary disease, chronic bronchiolitis obliterans, emphysema, and pulmonary fibrosis	Chronic skin and mucous membrane irritation, COPD, chronic bronchiolitis obliterans, emphysema and pulmonary fibrosis are best left to being assessed on a case-by-case basis as there are many causal factors for these diseases.

5 Questions

48. This section seeks your feedback on the panel's fourteen proposed additions to Schedule 2.

49. Please note, we are not seeking further proposals for potential additions to Schedule 2. This consultation is only in seeking your feedback on the fourteen proposed additions outlined in this document.

50. We are primarily interested in your views on how appropriate each recommendation is for inclusion in Schedule 2, if these will make for practical additions, and what impacts these will have on awareness around occupational exposures faced by Aotearoa New Zealand's workforce.

51. Where possible, please include reasoning behind your response as this will better inform our upcoming policy advice to the Minister for ACC.

5.1 Erionite and malignant mesothelioma

1. Erionite is a naturally occurring fibrous mineral found in volcanic ash and rocks. It belongs to a group of silicates called zeolites and is similar in appearance and properties to asbestos. While erionite is relatively common in Auckland, those most likely to face occupational exposure to erionite include maintenance workers and people undertaking road construction or reconstruction.

2. Malignant mesothelioma is a cancer that develops in the thin lining of the lungs, stomach, heart, and testes. Pleural (lung) mesothelioma is the most common kind and forms when an individual inhales pathogenic fibres. This typically develops as a result of asbestos inhalation, but local and international research has shown a strong correlation between erionite inhalation and malignant (lung) mesothelioma.

3. The panel found there to be a sufficient causal relationship between erionite inhalation and the development of mesothelioma. This is supported by the clinical experience of the independent panel, designation as an occupational disease/exposure pairing by the ILO and advice from the IARC.

4. The panel has recommended malignant mesothelioma diagnosed as caused by occupational exposure to erionite for inclusion as a new entry in Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.1.1

Do you agree or disagree that *mesothelioma diagnosed as caused by exposure to erionite* is appropriate for inclusion in Schedule 2? Please provide reasons for your view.

Question 5.1.2

Do you agree or disagree that it is practical to include *mesothelioma diagnosed as caused by exposure to erionite* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.1.3

How could the inclusion of *mesothelioma diagnosed as caused by exposure to erionite* in Schedule 2 impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.2 Infrared radiation and heat-induced cataracts

1. Infrared radiation is a type of energy that is not visible to the human eye, but can be felt as heat on the skin. Exposure to infrared radiation can occur naturally (i.e., the sun or fire) and artificially (i.e., heated glass and metal). Artificial infrared radiation exposure is most likely to affect those in the occupation of glassblowing, blacksmithing, or those working with molten glass and metals.

2. A cataract occurs when the normally clear lens of the eye clouds over, making it difficult for the person to see through. The primary cause for cataracts is ageing, with family history, complications from eye surgery, and diabetes also being risk factors. Occupational health and safety research has shown that prolonged exposure to artificial radiation can also be a cause of heat-induced cataracts. A heat induced cataract occurs when the tissue of the eye is damaged following the iris and lens absorbing infrared radiation.

3. The panel found there to be a sufficient casual relationship between exposure to infrared radiation and the development of heat-induced cataracts. This is supported by the clinical experience of the independent panel, designation as an occupational disease/exposure pairing by the ILO and advice from NIOSH.

4. The panel has recommended heat-induced cataracts diagnosed as caused by occupational exposure to infrared radiation for inclusion as a new entry in Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.2.1

Do you agree or disagree that *heat-induced cataracts of the eye diagnosed as caused by exposure to infrared radiation* is appropriate for inclusion in Schedule 2? Please provide reasons for your view.

Question 5.2.2

Do you agree or disagree that it is practical to include *heat-induced cataracts of the eye diagnosed as caused by exposure to infrared radiation* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.2.3

How could the inclusion of *heat-induced cataracts of the eye diagnosed as caused by exposure to infrared radiation* in Schedule 2 impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.3 Nickel and nasal cancer

1. Nickel is a metallic element found in the earth's crust. As nickel is ductile, malleable, and tough it has various industrial uses especially in occupations where mining, smelting, welding, casting, and grinding are common activities. The most common occupational exposure to nickel occurs through inhalation of its dusts and fumes.

2. Nasal cancer is caused by the spread of malignant cells into the nasal cavity (the space behind the nose) and sinuses (small cavities inside the nose, cheekbones, and forehead). There are several recognised causes for nasal cancer including smoking, human papillomavirus (HPV), occupational exposures to wood dust, leather dust and nickel dust.

3. The panel found there to be a sufficient causal relationship between exposure to nickel and the development of nasal cancer. This is supported by the clinical experience of the independent panel, designation as an occupational disease/exposure pairing by the ILO and advice from the IARC. Schedule 2 currently accepts nickel as a cause of lung cancer and occupational contact dermatitis.

4. The panel has recommended nasal cancer diagnosed as caused by occupational exposure to nickel fumes, dusts, or mists for inclusion as a new entry on Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.3.1

Do you agree or disagree that *nasal cancer diagnosed as caused by exposure to nickel fumes, dusts, or mists* is appropriate for inclusion in Schedule 2? Please provide reasons for your view.

Question 5.3.2

Do you agree or disagree that it is practical to include *nasal cancer diagnosed as caused by exposure to nickel fumes, dusts, or mists* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.3.3

How could the inclusion of *nasal cancer diagnosed as caused by exposure to nickel fumes, dusts, or mists* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.4 Ammonia and chronic corneal ulcer

1. Ammonia is a colourless gas that occurs both naturally and commercially. It has a variety of uses, but the majority of commercially produced ammonia is used as fertilizer in the agricultural sector. Those most likely to face occupational exposure to ammonia include manufacturers of fertilizers and pharmaceuticals. The potential for everyday exposure to ammonia is high given its prevalence in household cleaning and gardening supplies.

2. Corneal ulcers are open sores of the outermost layer of the eye. They can commonly be caused by infections (bacterial, fungal, or viral), foreign material entering the eye, and scratches to the surface of the eye. In severe cases, or with delayed treatment, a corneal ulcer can lead to loss of vision and blindness.

3. The panel found there to be a sufficient causal relationship between exposure to ammonia (in liquid and gas forms) and the development of chronic corneal ulcers. This is supported by the clinical experience of the independent panel and designation as an occupational disease/exposure pairing by the ILO.

4. The panel has recommended chronic corneal ulcer diagnosed as caused by occupational exposure to ammonia for inclusion as a new entry in Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.4.1

Do you agree or disagree that *chronic corneal ulcer diagnosed as caused by exposure to ammonia* is appropriate for inclusion in Schedule 2? Please provide reasons for your view.

Question 5.4.2

Do you agree or disagree that it is practical to include *chronic corneal ulcer diagnosed as caused by exposure to ammonia* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.4.3

How could the inclusion of *chronic corneal ulcer diagnosed as caused by exposure to ammonia* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.5 - 1,2 dichloropropane and cholangiocarcinoma

1. 1,2 dichloropropane (also known as propylene dichloride) is a colourless liquid used as an ingredient in a variety of productions including industrial solvents (e.g., drycleaning fluid), photographic film, and paper coating. As 1,2 dichloropropane does not occur naturally, everyday exposure risks are low. Those most likely to face exposure include manufacturers of the aforementioned products.

2. Cholangiocarcinoma (also known as bile duct cancer) is a disease where malignant cells have formed in the tubes of the bile duct which connects the liver, gallbladder, and small intestines. Cholangiocarcinomas can be both intrahepatic (inside the liver) and extrahepatic (outside the liver). Risk factors for cholangiocarcinoma include bile duct stones, inflammation in the bile ducts, and parasites in the liver.

3. The panel found there to be a sufficient causal relationship between exposure to 1,2 dichloropropane and the development of cholangiocarcinoma. This is supported by IARC and NIOSH advice, and inclusion on the Deemed Diseases List.

4. The panel has recommended cholangiocarcinoma diagnosed as caused by occupational exposure to 1,2 dichloropropane for inclusion as a new entry in Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.5.1

Do you agree or disagree that *cholangiocarcinoma diagnosed as caused by exposure to 1,2 dichloropropane* is appropriate for inclusion in Schedule 2? Please provide reasons for your view.

Question 5.5.2

Do you agree or disagree that it is practical to include *cholangiocarcinoma diagnosed as caused by exposure to 1,2 dichloropropane* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.5.3

How could the inclusion of *cholangiocarcinoma diagnosed as caused by exposure to 1,2 dichloropropane* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.6 Butadiene and leukaemia

1. Butadiene is a colourless gas primarily produced through the process of petroleum refinery. It is used to make synthetic rubber products including tyres, shoe soles, resins, and other thermoplastics. Everyday exposure to butadiene is low but can occur through motor vehicle emissions and cigarette smoke. Those most likely to be exposed to butadiene include workers at rubber, plastic, or chemical plants.

2. Leukaemia are cancers which develop in the blood forming tissues. There are four main types of leukaemia: acute lymphocytic leukaemia, acute myelogenous leukaemia, chronic lymphocytic leukaemia, and chronic myelogenous leukaemia. Leukaemia can develop as a result of internal and external factors including certain genetic disorders, family history of leukaemia, history of smoking, and exposure to industrial chemicals.

3. The panel found there to be a sufficient causal relationship between exposure to butadiene and the development of leukaemia. This is supported by IARC, NIOSH, and OSHA advice and inclusion on the Deemed Diseases List.

4. The panel has recommended leukaemia diagnosed as caused by exposure to butadiene for inclusion as a new entry in Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.6.1

Do you agree or disagree that *leukaemia diagnosed as caused by exposure to butadiene* is appropriate for inclusion in Schedule 2? Please provide reasons for your view.

Question 5.6.2

Do you agree or disagree that it is practical to include *leukaemia diagnosed as caused by exposure to butadiene* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.6.3

How could the inclusion of *leukaemia diagnosed as caused by exposure to butadiene* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.7 Trichloroethylene and kidney cancer

1. Trichloroethylene is a colourless, man-made liquid and organic solvent. It is commonly used as a metal degreaser, dry-cleaning solvent, and is a common ingredient in adhesives, paint strippers and typewriter correction fluids. Those most likely to be exposed to trichloroethylene include workers whose activities heavily involve the aforementioned products.

2. Kidney cancer (also known as renal cancer) is a cancer that originates in the cells of the kidney. There are many types of kidney cancers with the most common being a renal cell carcinoma, this develops in the lining of the small tubes in the kidney. Risk factors for developing kidney cancer include a history of smoking, family history of kidney cancer, obesity, certain genetic disorders, and long-term dialysis for the treatment of kidney disease.

3. The panel found there to be a sufficient causal relationship between exposure to trichloroethylene and the development of kidney cancer. This is supported by designation as an occupational disease/exposure pairing by the ILO, inclusion on the Deemed Diseases List, and IARC and NIOSH advice. Schedule 2 currently recognises trichloroethylene as a cause of chronic solvent-induced encephalopathy (entry 35) and peripheral neuropathy (entry 36).

4. The panel has recommended kidney cancer diagnosed as caused by occupational exposure to trichloroethylene for inclusion as a new entry in Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.7.1

Do you agree or disagree that *kidney cancer diagnosed as caused by exposure to trichloroethylene* is appropriate for inclusion in Schedule 2? Please provide reasons for your view.

Question 5.7.2

Do you agree or disagree that it is practical to include *kidney cancer diagnosed as caused by exposure to trichloroethylene* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.7.3

How could the inclusion of *kidney cancer diagnosed as caused by exposure to trichloroethylene* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.8 Welding and ocular melanoma

1. Welding is an occupational process common in New Zealand's workforce. There are four key types of welding: gas metal arc welding (GMAW), flux-cored wire-arc welding (FCAW), shielded metal arc welding (SMAW), and gas tungsten arc welding (GTAW). Each type of welding produces a different amount of welding fumes.

2. Ocular melanoma is a type of cancer originating in the uvea of the eye. This comprises the iris (coloured part), ciliary body (assists with focus) and choroid (connects the retina to the sclera). Risks factors for developing ocular melanoma include light eye colour, ageing, and exposure to ultraviolet (UV) light.

3. The panel found there to be a sufficient causal relationship between undertaking welding as an occupational process and developing ocular melanoma. This is supported by the clinical experience of the panel, IARC advice, and inclusion on the Deemed Diseases List.

4. Due to the variation of welding types, the independent panel found it most appropriate to include welding as an occupational process on Schedule 2, rather than separating out potential welding exposures. This aligns with advice from the IARC which states that, without a full review of welding as a process, ocular melanoma cannot be attributed to UV radiation specifically.

5. The panel has recommended ocular melanoma diagnosed as caused by occupational welding for inclusion as a new entry in Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.8.1

Do you agree or disagree that *ocular melanoma diagnosed as caused by occupational welding* is appropriate for inclusion in Schedule 2? Please provide reasons for your view.

Question 5.8.2

Do you agree or disagree that it is practical to include *ocular melanoma diagnosed as caused by occupational welding* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.8.3

How could the inclusion of *ocular melanoma diagnosed as caused by occupational welding* in Schedule 2 impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.9 Firefighting and mesothelioma

1. Firefighters perform a variety of activities in their everyday roles. This includes, but is not limited to, putting out fires, responding to motor vehicle incidents, assisting with medical emergencies, and attending incidents involving hazardous substances. Given the diversity of the role, the panel found it to be impractical to separate out the potential hazards a firefighter may be exposed to over the course of their career. Therefore, they have recommended firefighting as an occupation be included in Schedule 2 as a cause of bladder cancer and mesothelioma.

2. Malignant mesothelioma is a cancer that develops in the thin lining of the lungs, stomach, heart, and testes. Pleural (lung) mesothelioma is the most common kind and forms when an individual inhales pathogenic fibres. This typically develops as a result of asbestos inhalation, but local and international research has shown a strong correlation between erionite inhalation and malignant (lung) mesothelioma.

3. The panel found there to be a sufficient causal relationship between the exposures faced by firefighters and the development of mesothelioma. This is supported by IARC and NIOSH advice, along with guidance from the Deemed Diseases List. Schedule 2 currently recognises asbestos exposure as a cause for mesothelioma (entry 2).

4. The panel has recommended mesothelioma diagnosed as caused by firefighting for inclusion as a new entry in Schedule 2. MBIE is now seeking your feedback on this recommendation.

Question 5.9.1

Do you agree or disagree that *mesothelioma diagnosed as caused by exposures faced in occupational firefighting* is appropriate for Schedule 2? Please provide reasons for your view.

Question 5.9.2

Do you agree or disagree that it is practical to include *mesothelioma diagnosed as caused by exposures faced in occupational firefighting* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.9.3

How could the inclusion of *mesothelioma diagnosed as caused by exposures faced in occupational firefighting* improve awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce? Please provide reasons for your view.

5.10 Potroom emissions and asthma

1. Potroom emissions (including fluorine and aluminium) occur in the industrial production of aluminium and fluoride; the term 'potroom' comes from the use of metal pots in the preparation of these materials. Those most likely to be exposed to potroom emissions include potroom workers, smelters, and casters.

2. Occupational asthma is a type of asthma caused by exposure to workplace irritants. ILO guidance notes identify fumes containing hydrogen fluoride, cryolite, and elements adsorbed onto aluminium as primary irritants. A key difference between occupational asthma and 'normal' asthma is that occupational asthma is caused by specific agents and can be reversible by discontinuing exposure to these agents.

3. The panel found there to be a sufficient causal relationship between exposure to potroom emissions and the development of occupational asthma. This is supported by the panel's clinical experience and designation as an occupational disease/exposure pairing by the ILO. Schedule 2 currently recognises 'sensitising agents inherent in the work process' including isocyanates, certain wood dusts, flour dusts, animal proteins, enzymes, and latex as a causes of occupational asthma (entry 37).

4. The panel has recommended amending entry 37 in Schedule 2 to include potroom emissions, including, but not limited to, fluorine and aluminium as causes for occupational asthma. MBIE is now seeking your feedback on this recommendation.

Question 5.10.1

Do you agree or disagree that amending entry 37 to include *potroom emissions, including, but not limited to, fluorine and aluminium as causes for occupational asthma* is appropriate for Schedule 2? Please provide reasons for your view.

Question 5.10.2

Do you agree or disagree that it is practical to include *potroom emissions, including, but not limited to, fluorine and aluminium as causes for occupational asthma* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.10.3

How could amending entry 37 to include *potroom emissions, including, but not limited to, fluorine and aluminium as causes for occupational asthma* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.11 Asbestos and laryngeal cancer

1. Asbestos is a group of naturally occurring fibrous minerals most commonly found in rocks or soil. Historically, asbestos has been used commercially in building materials, fireproofing materials and for insultation due to its resistance to heat, electricity, and corrosion. Those likely to be exposed to asbestos include workers in the building, construction, and maintenance sectors.

2. Laryngeal cancer is a type of cancer that develops when malignant cells form in the tissues of the larynx (the part of the throat between the base of the tongue and the trachea). Risk factors for developing laryngeal cancer include some forms of HPV, excessive tobacco or alcohol consumption, ageing, and occupational exposure to hazardous substances.

3. The panel found there to be a sufficient causal relationship between asbestos exposure and the development of laryngeal cancer. This is supported by ILO guidance notes, IARC advice, and inclusion on the Deemed Diseases List. Schedule 2 currently recognises asbestos as a cause of lung cancer and mesothelioma (entry 2).

4. The panel has recommended amending entry 2 in Schedule 2 to include laryngeal cancer diagnosed as caused by exposure to asbestos. MBIE is now seeking your feedback on this recommendation.

Question 5.11.1

Do you agree or disagree that amending entry 2 to include *laryngeal cancer diagnosed as caused by exposure to asbestos* is appropriate for Schedule 2? Please provide reasons for your view.

Question 5.11.2

Do you agree or disagree that it is practical to include *laryngeal cancer diagnosed as caused by exposure to asbestos* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.11.3

How could amending entry 2 to include *laryngeal cancer diagnosed as caused by exposure to asbestos* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.12 Asbestos and ovarian cancer

1. Asbestos is a group of naturally occurring fibrous minerals most commonly found in rocks or soil. Historically, asbestos has been used commercially in building materials, fireproofing materials and for insultation due to its resistance to heat, electricity, and corrosion. Those likely to be exposed to asbestos include workers in the building, construction, and maintenance sectors.

2. Ovarian cancer is the collective name for cancer that originates in the ovaries. Epithelial ovarian cancer is the most common type of ovarian cancer and forms on the outside of the ovary. Risk factors for developing ovarian cancer include ageing, family history, and the early onset of periods (i.e., from age 12).

3. The panel found there to be a sufficient causal relationship between asbestos exposure and the development of ovarian cancer. This is supported by ILO guidance notes, IARC advice, and inclusion on the Deemed Diseases List. Schedule 2 currently recognises asbestos as a cause of lung cancer and mesothelioma (entry 2).

4. The panel has recommended amending entry 2 in Schedule 2 to include ovarian cancer diagnosed as caused by exposure to asbestos. MBIE is now seeking your feedback on this recommendation.

Question 5.12.1

Do you agree or disagree that amending entry 2 to include *ovarian cancer diagnosed as caused by exposure to asbestos* is appropriate for Schedule 2? Please provide reasons for your view.

Question 5.12.2

Do you agree or disagree that it is practical to include *ovarian cancer diagnosed as caused by exposure to asbestos* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.12.3

How could amending entry 2 to include *ovarian cancer diagnosed as caused by exposure to asbestos* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.13 Vinyl chloride and hepatocellular carcinoma

1. Vinyl chloride is a colourless gas industrially produced to make polyvinyl chloride (PVC) used in pipes, cable coatings, and packaging materials. Inhalation of vinyl chloride is the primary exposure route with those most likely to be exposed working in facilities producing vinyl chloride.

2. Hepatocellular carcinoma is the most common type of liver cancer and originates in the main liver cells called hepatocytes. Hepatocellular carcinoma commonly affects people who have chronic liver diseases (i.e., hepatitis B and C) with other risk factors including excessive alcohol consumption, type 2 diabetes, and occupational exposure to hazardous substances.

3. The panel found there to be a sufficient causal relationship between inhalation of vinyl chloride fumes and the development of hepatocellular carcinoma. This is supported by ILO guidance notes, IARC advice, and inclusion on the Deemed Diseases List. Schedule 2 currently recognise vinyl chloride as a cause of angiosarcoma of the liver (entry 21).

4. The panel has recommended amending entry 21 in Schedule 2 to include hepatocellular carcinoma diagnosed as caused by vinyl chloride monomer. MBIE is now seeking your feedback on this recommendation.

Question 5.13.1

Do you agree or disagree that amending entry 21 to include *hepatocellular carcinoma diagnosed as caused by vinyl chloride* is appropriate for Schedule 2? Please provide reasons for your view.

Question 5.13.2

Do you agree or disagree that it is practical to include *hepatocellular carcinoma diagnosed as caused by vinyl chloride* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.13.3

How could amending entry 21 to include *hepatocellular carcinoma diagnosed as caused by vinyl chloride* impact on different occupations and/or affect awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce?

5.14 Firefighting and bladder cancer

1. Firefighters perform a variety of activities in their everyday roles. This includes, but is not limited to, putting out fires, responding to motor vehicle incidents, assisting with medical emergencies, and attending incidents involving hazardous substances. Given the diversity of the role, the panel found it to be too challenging to separate out the potential hazards a firefighter may be exposed to over the course of their career. Therefore, they have recommended firefighting as an occupation be included in Schedule 2 as a cause of bladder cancer and mesothelioma.

2. Bladder cancer is a cancer which occurs when the cells in the bladder grow uncontrollably. There are five key types of bladder cancer with the most common being urothelial carcinoma. This type of bladder cancer originates in the cells lining the inside of the bladder. Risk factors for developing bladder cancer include a history of smoking, family history of bladder cancer, previous radiotherapy, and exposure to hazardous chemicals.

3. The panel found there to be a sufficient causal relationship between the exposures faced by firefighters and the development of bladder cancer. This is supported by IARC and NIOSH advice, along with guidance from the Deemed Diseases List. Schedule 2 currently recognises aromatic amines & poly-cyclic aromatic hydrocarbons as causes of bladder cancer (entry 33).

4. The panel has recommended amending entry 33 in Schedule 2 to include occupational firefighting as a cause for bladder cancer. MBIE is now seeking your feedback on this recommendation.

Question 5.14.1

Do you agree or disagree that amending entry 33 to include *bladder cancer diagnosed as caused by exposures faced in occupational firefighting* is appropriate for Schedule 2? Please provide reasons for your view.

Question 5.14.2

Do you agree or disagree that it is practical to include *bladder cancer diagnosed as caused by exposures faced in occupational firefighting* in Schedule 2? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

Question 5.14.3

How could the inclusion of *bladder cancer diagnosed as caused by exposures faced in occupational firefighting* improve awareness of the occupational exposure risks faced by Aotearoa New Zealand's workforce? Please provide reasons for your view. This can refer to the practicality of making a claim or the practicality of managing such claims.

5.15 Inclusion of an occupation and process

1. The panel has recommended the inclusion of a specific occupation (firefighting) and process (welding). These would be the first entries listing an occupation, industry or process opposed to an agent, dust, compound, substance, radiation, or thing.

2. As discussed on page 15, the panel's reasoning for these recommendations were due to the impracticality of separating out individual causative agents in exposures faced in firefighting or when welding, and linking these to the development of a disease or other illness.

3. MBIE is now seeking your feedback on this recommendation.

Question 5.15.1

If *ocular melanoma diagnosed as caused by occupational welding* and/or *bladder cancer* and *mesothelioma diagnosed as caused by exposures faced in occupational firefighting* were included in Schedule 2, these would be the first entries that specify a process and occupation (respectively) rather than an agent, dust, compound, substance, radiation, or thing. How do you think this would affect access to AC Scheme cover for people working in Aotearoa New Zealand? Please provide reasons for your view.

6 What happens next?

1. Once the consultation has closed at 5:00pm on 27 November 2024, we will use the submissions to further inform our advice to the Minister for ACC on any recommended additions to Schedule 2.

2. Ultimately, the Minister for ACC is responsible for making final decisions to update Schedule 2. If the Minister for ACC agrees to progress an Order in Council to update Schedule 2, subject to Cabinet approval, we will progress Amendment Regulations to action these updates.