



COVERSHEET

Minister	Hon Iain Lees-Galloway	Portfolio	Workplace Relations and Safety
Title of Cabinet paper	<i>Minor and technical matters for a licensing regime for refrigeration, heating and air conditioning technicians and minor amendments to the hazardous substances regulations</i>	Date to be published	15 May 2020

List of documents that have been proactively released		
Date	Title	Author
15 May 2020	<i>Minor and technical matters for a licensing regime for refrigeration, heating and air conditioning technicians and minor amendments to the Hazardous Substances Regulations</i>	<i>Office of the Minister for Workplace Relations and Safety</i>
15 May 2020	<i>DEV-20-MIN-0050</i>	<i>Cabinet Office</i>
15 May 2020	<i>Regulatory Impact Summary – Ensuring effective regulation of health and safety risks associated with work on commercial and industrial refrigeration, heat pump and air conditioning systems</i> <i>Cost Recovery Impact Statement – A licensing regime for refrigeration technicians</i>	<i>MBIE</i>

Information redacted

YES / NO (please select)

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Some information has been withheld for the reasons of Confidential advice to Government, and Confidential information entrusted to the Government.

BUDGET SENSITIVE

Office of the Minister for Workplace Relations and Safety

Chair, Cabinet Economic Development Committee (DEV):

MINOR AND TECHNICAL MATTERS FOR A LICENSING REGIME FOR REFRIGERATION, HEATING AND AIR CONDITIONING TECHNICIANS AND MINOR AMENDMENTS TO HAZARDOUS SUBSTANCES REGULATIONS

Proposal

- 1 This paper is proposing minor and technical policy decisions to support new regulations agreed to by Cabinet in May 2019 [CAB-19-MIN-0213 refers]. These regulations are being created under the *Health and Safety at Work Act 2015* (HSWA) to introduce a licensing regime for refrigeration, heating and air conditioning technicians.
- 2 This paper also seeks your agreement to minor amendments to the Health and Safety at Work (Hazardous Substances) Regulations 2017 (the Hazardous Substances Regulations) to address a number of unintended compliance issues affecting some businesses.

Executive Summary

- 3 This licensing regime supports New Zealand's international obligations under the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (the Kigali Amendment). This implemented a phase down of hydrofluorocarbons (HFCs), which are refrigerants with high global warming potential.
- 4 As these HFCs phase down in New Zealand in line with our international obligation, the health and safety risks with alternative refrigerants will increase. This regime was decided upon to manage risks associated with alternative refrigerants used in commercial and industrial refrigeration, heat pump, and air conditioning systems. The primary decisions for the licensing regime were made in May 2019.
- 5 Targeted consultation on these minor and technical matters was carried out between December 2019 and January 2020. The Ministry of Business, Innovation and Employment received 140 submissions throughout the consultation process. Submitters engaged more with some matters than others, and generally agreed with most of the proposals.
- 6 This paper seeks decisions on minor and technical matters relating to definitions, exclusions, offences and penalties, transitional timeframes, and fees of the regime.

- 7 Given that implementing this licencing scheme will require amendments to the Hazardous Substances Regulations [DEV-19-SUB-0105 refers], this paper also proposes using this opportunity to make a number of minor amendments to address unintended compliance issues that have arisen in these regulations. Targeted consultation on these proposals was carried out November 2019 to January 2020, with these proposals generally supported.

Background

New Zealand has started the phase down of hydrofluorocarbons (HFCs), which are widely used in refrigeration, heat pump and air conditioning systems

- 8 As HFCs are phased down in accordance with New Zealand's international obligations under the Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer (the Kigali Amendment), the use of alternative refrigerants is expected to increase.
- 9 While alternative refrigerants are less harmful to the environment, they typically present increased risks to health and safety because of their hazardous properties. The current prevalence of HFCs means many technicians lack the knowledge and experience to safely install, maintain, or repair systems that use flammable, toxic or very high operating pressure refrigerants.

Primary decisions to introduce a licensing regime have already been made

- 10 In May 2019, I proposed to Cabinet that new regulations be made under the HSWA to support a safe transition away from HFCs [CAB-19-MIN-0213 refers]. These regulations are currently being drafted by PCO.
- 11 The regulations will place a duty on technicians to only carry out a class of work on a commercial or industrial refrigeration, heat pump, or air conditioning system – which uses a flammable, toxic or very high operating pressure refrigerant – if that person holds a licence for that type of work. Individual technicians must obtain a licence from WorkSafe before being permitted to work on such systems. The licence will be valid for five years from the day of issue.
- 12 There will be a three-year transitional period (once the regulations come in to force) to provide technicians with sufficient time to complete any training required. On completion of the three-year period, technicians can apply to WorkSafe for their licence. The requirement to have a licence will not start until the end of the fourth year.
- 13 Applicants must meet general competency requirements based on the Australian Model Work Health and Safety Regulations, which are:
- a. Have knowledge of the installation, commissioning, servicing, and maintenance of refrigeration and/or heat pump, and/or air conditioning plant

and equipment relevant to the class of work for which the applicant seeks a licence,

- b. Have knowledge of the hazardous properties for the classes of refrigerants that they are likely to use,
- c. Have had suitable training and experience.

14 The requirement to be licensed does not apply to:

- a. Trainees or apprentices working towards a trade certification in order to be licensed, and who are under direct supervision of a technician with a current licence,
- b. Plant operators responsible for the day-to-day operation of a commercial or industrial refrigeration system,
- c. Work on domestic or light commercial refrigeration, heat pump or air conditioning systems, because of the low levels of risk presented by the low levels of refrigerant in these systems,
- d. Work on automotive air conditioning systems, because of the low levels of risk presented by the low levels of refrigerant in these systems,
- e. Work on commercial or industrial refrigeration, heat pump or air conditioning systems that use non-hazardous refrigerant gases,
- f. Work on refrigeration, heat pump and air conditioning systems within/intrinsic to ships or aircraft, because the individuals carrying out this work are already subject to licensing regimes under the Maritime Rules and the Civil Aviation Rules.

15 The processes for the issue, renewal, suspension, and cancellation of licences, and processes for the review of decisions and appeals are based where possible on the processes set out in the high-risk work licensing provisions of the Australian Model Work Health and Safety Regulations.

Decisions on technical matters as a result of consultation

16 In May 2019, I was delegated authority by Cabinet to release a targeted consultation document to affected stakeholders for minor and technical matters to implement the licensing regime. MBIE received 140 submissions during this consultation.

17 Submitters engaged significantly with some areas, which were:

- a. The definition of 'light commercial and domestic' received feedback from every submission,
- b. The definition of 'very high operating pressure',
- c. Whether on-farm milk vats are included was also of particular interest,
- d. Whether there should be a separate licensing class for technicians who work exclusively on transport systems.

Domestic and light commercial systems are excluded from the regime, and a technical definition is needed

- 18 Cabinet decided that domestic and light commercial systems are excluded from the licensing regime, as the risks associated with these systems are managed elsewhere, and the low levels of refrigerant in these systems present low risk.
- 19 I propose to include a definition of 'domestic and light commercial systems' that provides clarity to WorkSafe and technicians that these systems that typically contain a factory-assembled, hermetically sealed, vapour-compression refrigeration system with a small refrigerant charge.
- 20 This definition will include domestic systems (e.g. domestic refrigerators, freezers and heat pumps), as well as light commercial systems such as:
 - a. Refrigerated display cabinets
 - b. Bottle water coolers and water dispensers for offices, factories, gyms
 - c. Refrigerated beverage vending machines
 - d. Ice makers used in cafes, hotels, bars and food courts
 - e. Post-mix beverage cooling and dispensing equipment
 - f. Drop-in and slide in packaged refrigeration units
 - g. Small packaged liquid chillers used in laboratories
 - h. Small heat pumps (domestic, for example)

Defining 'very high operating pressure'

- 21 I propose that 'very high operating pressure' be defined in the regulations as a refrigerant with a critical temperature below 40 °C or with a liquid phase saturation pressure above 355 psia at 40 degrees Celsius.

- 22 I propose that this definition will only apply to new alternatives to HFCs, as some HFCs also operate at a very high pressure. HFCs are excluded from this regime.
- 23 This is consistent with suggestions made by stakeholders in the targeted consultation carried out by MBIE.

A class for transport systems needs to be included in the regime

- 24 I propose that a separate class be included in the regime for transport refrigeration systems. The class would be specific to those technicians who work exclusively on transport refrigeration systems mounted in trucks, trailers and shipping containers.
- 25 If a technician works on transport as well as other commercial and industrial systems, they will be required to apply for a licencing class for the more complex/hazardous systems they work on, which will generally be one of the other licence classes. This will also enable them to work on transport refrigeration systems.
- 26 I propose the class would only cover the servicing and repair of the refrigeration unit. It would not apply to the servicing and repair of the diesel engine that powers the refrigeration unit. I propose that the licence class would not apply to the servicing and repair of any off-engine powered refrigeration units used on small trucks and vans given the smaller refrigerant charge in these systems.
- 27 Transport is included in the current classes; however, I am advised by officials that consultation with industry and WorkSafe show risks involved with these systems are different and lesser than some other commercial and industrial systems which are already included in the current classes. This is because they have a smaller refrigerant charge.
- 28 If we did not add a class specific to those technicians who work exclusively on transport systems, it may add an unnecessary compliance cost where they have to prove their competence to work on other systems which pose different risks, when in practice they will not be working on these systems.

On-farm milk vats will not be excluded from the regime

- 29 I propose that on-farm milk vats are not excluded from the regime, because the risk involved with these systems will increase as HFCs are phased down and alternative refrigerants are used in their place. Submitters showed overwhelming support for including these systems where they are using alternate refrigerants. WorkSafe support this view.
- 30 Some submitters raised the suggestion in public consultation in 2018 that we may need to exclude on-farm milk vats from the regime because there may be reduced access to refrigeration technicians in remote areas, and also because

they are built to standardised designs and located in well ventilated semi-detached or detached buildings. There were arguments that they were lower risk than other systems in the regime. However, this argument is only applicable to the systems when they are operating with HFCs.

- 31 [redacted] Confidential information entrusted to the Government proposed that these systems should be excluded. Their reasoning for excluding these systems was that they currently operate on HFCs, and therefore the risk is low. They also considered that it may increase the costs of refrigeration technicians to farmers.
- 32 However, both said that if the systems were to become riskier as the older HFC systems are replaced with newer systems, that they should be included in the licensing regime.
- 33 As HFCs are phased out and more dangerous alternatives are used, the risk profile will change. There is no basis for excluding these systems once they are high risk. As this licensing regime does not include the lower risk HFCs, a licensed technician will not need to work on the current HFC systems. A licensed technician will be required only if and when they switch to a hazardous alternative refrigerant.
- 34 This means that while on-farm milk vats continue using HFCs, they will not be captured by this regime and there will be no cost increase to farmers. Only when the risk becomes greater will these systems be captured, in line with the submissions made by [redacted] Confidential information entrusted to the

Corresponding duties to be placed on persons conducting a business or undertaking (PCBUs) to strengthen the regime

- 35 I propose that a PCBU must ensure that a licence holder provides direct supervision to a trainee or apprentice, unless the nature of the task makes it impractical or unnecessary, or the reduced level of supervision will not place the supervised person or any other person at risk. Submitters were widely in support of this proposal.
- 36 I also propose that a PCBU may not direct or allow a worker to carry out (or supervise) a class of work unless the PCBU sees written evidence that the worker has the relevant licence for that class of work. Submitters were widely in support of this proposal.
- 37 These two duties will strengthen the licensing regime. There are no cost implications of these proposed duties, as they simply strengthen the existing general duties placed on PCBUs in the HSWA. A duty on both a PCBU and a technician to adhere to these requirements provides greater assurance for both parties involved.

Licensing fees

- 38 I propose that the licensing fees be set at \$720, as well as \$720 for a renewal of a licence, and \$120 for a replacement licence. These fees are consistent with the standard principles for setting public sector charges by the Treasury and the Auditor-General, and are comparable to the fees of other similar regimes administered by WorkSafe.

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technicians to recover establishment costs and depreciation, as once WorkSafe transitions other licensing schemes over to this system, this refrigeration licensing scheme will make up around half of the volume of licensees in the system.

- 41 I propose that this fee be reviewed four years after the requirement to be licensed begins. As this is a new regime and numbers of applicants cannot be guaranteed, this fee must be reviewed to ensure that it is recovering the suitable amount for WorkSafe's ongoing costs to administer the scheme.
- 42 MBE consulted on a fee of \$680 in November last year, and a large majority of submitters agreed with that proposed fees. A few suggested that the fees could be lower, such as the Institute for Refrigeration, Heating and Air Conditioning Engineers (IRHACE).
- 43 The Treasury indicated that this fee would need to be higher in order to recover more establishment costs and depreciation. This small increase in the fee from what was consulted on is not significant enough that it needs to be consulted on again, as it only marks an \$8 increase per year for the duration of the licence.
- 44 As normal, fees will be reviewed at periodic intervals to ensure continued appropriateness of the fee.

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A three-month transitional timeframe for compliance with signage requirements for ammonia systems

- 45 In May 2019, I proposed that we amend the *Health and Safety at Work (Hazardous Substances Regulations) 2017* to ensure that owners of ammonia-based refrigeration systems comply with the joint AS/NZ standard for commercial refrigeration systems, as well as the signage requirements in these regulations.
- 46 I now propose that we include a three-month transitional timeframe for owners of ammonia-based refrigeration systems to have sufficient time to be in compliance with those signage requirements.
- 47 My officials inform me that this three-month transitional timeframe received wide support from submitters during consultation. The only disagreements were submitters who thought a transitional timeframe was not needed.

Offences and penalties, infringement offences, and licencing processes to be set in accordance with the current framework under HSWA and the Australian Model Work Health and Safety Regulations

- 48 In May 2019, I proposed that that offences and penalties for the proposed licensing regime be identified and set in accordance with the framework for offences and penalties for regulations made under the HSWA, which was set by Cabinet (under the previous Government) in September 2015.
- 49 I also proposed that infringement offences and fees for the proposed licensing regime be identified and set in accordance with: the approach for identifying infringement offences which was agreed by Cabinet (under the previous Government) in September 2015; and the infringement fee framework previously agreed to by the Minister for Workplace Relations and Safety and the Minister of Justice (under the previous Government) in February 2016.
- 50 I proposed licensing processes be set in accordance with the Australian Model Work Health and Safety Regulations.
- 51 During targeted consultation, stakeholders confirmed this approach to offences and penalties and infringement offences was appropriate. Submitters also confirmed that the licensing processes were practical and applicable to this licensing regime.

Minor Amendments to the Hazardous Substances Regulations

- 52 Given implementing this licencing scheme will require amendments to the Hazardous Substances Regulations; I also propose we use this opportunity to make a number of minor amendments to the Hazardous Substances Regulations. These amendments will address a number of technical issues that are causing unintended compliance problems for some businesses.

Background to these proposals

- 53 The Hazardous Substances Regulations establish requirements for the workplace use, storage and handling of explosive, flammable, toxic and corrosive substances. These 2017 regulations consolidated requirements previously found across fifteen previous sets of regulations, nine transfer notices and around 1700 substance approvals.
- 54 Since the commencement of these regulations in 2017, MBIE and WorkSafe have become aware of a number of unintended compliance issues for some businesses. The majority of these issues have arisen from technical errors as earlier compliance instruments were transferred into the new Hazardous Substances Regulations. Several issues that existed in earlier requirements but were previously unrecognised by industry have also now been noted as businesses check their compliance with the 2017 regulations.
- 55 Because of these issues a number of businesses that previously met legal requirements no longer do so, often due to small variations in standards. In such cases the costs of complying with the 2017 regulations are often grossly disproportionate to any potential increases in safety. In other cases businesses are having difficulties gaining insurance, or there is an unacceptable level of uncertainty about what requirements are applicable.
- 56 WorkSafe is able to suggest alternatives for businesses in some instances, and may grant exemptions to certain requirements. However, it is preferable to amend the regulations to remove uncertainty and potential inconsistencies.

Proposed Amendments

- 57 To address such issues I am proposing 39 minor amendments to the Hazardous Substances Regulations. A full list of these proposals can be found in Annex One. These proposals cover a range of subjects, but have a particular focus on correcting minor changes to separation distances, fire safety standards and other requirements regarding the storage and use of flammable, toxic and corrosive substances.
- 58 These proposals will not introduce significant additional costs or compliance burdens for businesses. Several will mean significant cost savings.

Public consultation on these proposals

- 59 Targeted consultation with stakeholders likely to be affected by these proposals was carried out November 2019 to January 2020. 39 submissions were received, primarily from technical experts, industry associations and businesses. This relatively low number of submissions reflects the reliance many stakeholders have on technical experts and associations to represent their interests in this technical area of regulation.
- 60 Submissions were largely positive regarding the proposals. Only one submitter indicated they opposed the proposals overall. Overall, submissions

indicated support for the proposed amendments, while suggesting further changes to the regulations should also be considered.

- 61 Submitters made a number of comments on the wording and scope of individual amendments. Where appropriate, this feedback has been incorporated into the outline of proposals in Annex One. Other elements will be addressed when amendments are drafted.
- 62 The Environmental Protection Authority were consulted regarding these amendments, and indicated they had no concerns regarding the majority of proposals. Where potential issues were noted (regarding potential regulatory gaps that could arise from proposals 14 and 33) these did not relate to the policy intent behind these changes and can be addressed through adjusting the wording of amendments as they are drafted.

Recommendation

- 63 I therefore recommend the Committee agrees to the 39 proposed minor changes to the Hazardous Substances Regulations listed in Annex One.

Consultation

- 64 Targeted consultation with technicians, businesses and owners of commercial and industrial refrigeration, heat pump, or air conditioning systems was carried out between 6 December 2019 and 17 January 2020. Key feedback from the consultation process is discussed under each proposal.
- 65 Targeted consultation regarding the proposed minor amendments to the Hazardous Substances Regulations was carried out from 26 November 2019 to 15 January 2020 with businesses, industry associations and hazardous substance technical experts.
- 66 WorkSafe NZ has been consulted in the preparation of this paper.

Financial Implications

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- 68 There are financial implications for individual technicians, who must pay the \$720 fee in order to be licensed. This is \$144 per year. This is \$40 more than the \$680 that was consulted on with stakeholders in early 2020. It covers a licence application for five years.

Legislative Implications

- 72 As the primary decisions for this regime have already been made, there are no further legislative implications.

Impact Analysis

- 73 MBIE's Regulatory Impact Analysis Review Panel has reviewed the attached Cost Recovery Impact Statement prepared by MBIE. The Panel considers that the information and analysis summarised in the Cost Recovery Impact Statement meets the criteria necessary for Ministers to make informed decisions on the proposals in this paper.
- 74 MBIE's Regulatory Impact Analysis Review Panel has reviewed the attached Impact Summary prepared by MBIE. The Panel considers that the information and analysis summarised in the Impact Summary meets the criteria necessary for Ministers to make informed decisions on the proposals in this paper.

Publicity

- 75 The Ministry of Business, Innovation and Employment will release this Cabinet paper and associated Cabinet minutes on its website and let key stakeholders know this has occurred.
- 76 Given these changes are technical and relate to relatively small industry sectors I do not anticipate these changes will attract any significant media attention.

Proactive Release

- 77 The Ministry of Business, Innovation and Employment plans to proactively release this paper on its website subject to any necessary redactions, in a timely manner following consideration by the Cabinet Economic Development Committee.

Recommendations

The Minister for Workplace Relations and Safety recommends that the Committee:

Minor and technical decisions to support the new regulations for a licensing regime for technicians that work on commercial and industrial refrigeration, heat pump, or air conditioning systems

1. **note** that the primary decisions for this licensing regime were made by Cabinet in May 2019 [DEV-19SUB-0105];
2. **note** that the new regulations to introduce a licensing regime are currently being drafted by the Parliamentary Counsel Office;
3. **note** that Cabinet agreed that the minor and technical matters to support the new regulations would be decided after consultation with affected stakeholders;
4. **note** that these minor and technical decisions are needed by the Parliamentary Counsel Office (PCO) to draft these new regulations;
5. **agree** to include a definition in the new regulations of:
 - 5.1 'domestic and light commercial systems' that will:
 - 5.1.1 provide clarity that these systems typically contain a factory-assembled, hermetically sealed, vapour-compression refrigeration system with a small refrigerant charge.
 - 5.1.2 include domestic systems (e.g. domestic refrigerators, freezers and heat pumps), as well as light commercial systems such as:
 - 5.1.2.1 Refrigerated display cabinets
 - 5.1.2.2 Bottle water coolers and water dispensers for offices, factories, gyms
 - 5.1.2.3 Refrigerated beverage vending machines (e.g. for Coca-Cola, Pepsi)
 - 5.1.2.4 Ice makers used in cafes, hotels, bars and food courts
 - 5.1.2.5 Post-mix beverage cooling and dispensing equipment
 - 5.1.2.6 Drop-in and slide in packaged refrigeration units
 - 5.1.2.7 Small packaged liquid chillers used in laboratories

5.1.2.8 Small heat pumps

6. **agree** that the new regulations for technicians' work involving commercial and industrial refrigeration, heat pump and air conditioning systems should:
 - 6.1 specify that 'very high operating pressure' is a refrigerant with a critical temperature below 40 °C or with a liquid phase saturation pressure above 355 psia at 40 degrees Celsius.
 - 6.2 specify that a separate transport class is included in the regulations that would enable the holder to work exclusively on transport refrigeration systems mounted in trucks, trailers and shipping containers.
 - 6.3 specify that a PCBU must ensure that a trainee or apprentice is directly supervised by a licence holder, unless the nature of the task makes it impractical or unnecessary, or the reduced level of supervision will not place the supervised person or any other person at risk;
 - 6.4 specify that a PCBU may not direct or allow a worker to carry out (or supervise) a class of work unless the PCBU sights written evidence that the worker has the relevant licence for the work;
 - 6.5 specify that the licensing fee is \$720, and \$720 for a renewal of a licence, and \$120 for a replacement licence, consistent with the Treasury and the Auditor-General's guidelines for charging in the public sector;

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9. **note** that technicians' working on-farm milk vat refrigeration systems are required to be licenced;
10. **note** that offences and penalties for the licensing regime will be identified and set in accordance with the framework for offences and penalties for regulations made under the Health and Safety at Work Act 2015;

11. **authorise** the Minister for Workplace Relations and Safety to further clarify and develop policy matters relating to the proposals in this Cabinet paper in a manner that is not inconsistent with the policy recommendations contained in this paper;

A transitional timeframe to ensure that owners of ammonia-based refrigeration systems comply with the joint AS/NZ standard for commercial refrigeration systems

12. **note** that Cabinet agreed to amend the *Health and Safety at Work (Hazardous Substances) Regulations 2017* in May 2019 so that a PCBU with management or control of a commercial or industrial refrigeration system that uses anhydrous ammonia as a refrigerant complies with the signage requirements in these regulations.
13. **agree** to amend the *Health and Safety at Work (Hazardous Substances) Regulations 2017* so that a three-month transitional timeframe is included in order for a PCBU with management or control of a commercial or industrial refrigeration system that uses anhydrous ammonia as a refrigerant to be in compliance with the signage requirements in these regulations.

Minor amendments to the hazardous substances regulations

14. **note** a number of technical issues have arisen in the Hazardous Substances Regulations that are causing unintended compliance issues for some businesses.
15. **agree** to amendments to the *Health and Safety at Work (Hazardous Substances) Regulations 2017* in accordance with the 39 proposals listed in Annex One.

Authorised for lodgement

Hon Iain Lees-Galloway

Minister for Workplace Relations and Safety

Annex One: Minor Amendments to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Type of Amendment	Amendment Number	Regulation Subject	Proposed Change
Correction of simple typological errors	1.	Controlling effects of unintended ignitions of flammable substances at hazardous substance locations	Amend regulation 10.28 (4) to correct wording error.
	2.	Separation of buildings containing flammable liquids from protected places	Add reference to "paint mixing rooms" to 11.17 (5) and 11.37 (5), to make the wording within these regulations consistent.
	3.	Separation of buildings containing flammable liquids from protected places	Correct title of regulation 11.17 to avoid it being misleading.
	4.	Separation of buildings holding LPG gas cartridges or flammable aerosols from protected places	Amend 11.23 (1) so it cross-references the correct part of these regulations.
	5.	Storage of flammable liquids in retail stores	Delete penalty provision in 11.32 that is not relevant to this regulation.
	6.	Separation of buildings containing flammable liquids from protected places	Correct title of regulation 11.37 to avoid it being misleading.
	7.	Compliance certificate requirements for hazardous substance locations	Amend 13.38 (1) so it cross-references the correct regulation.
	8.	Cylinder location requirements for the supply of LPG	Amend 15.71 (2) to correct wording error.
	9.	Rear-end collision protection requirements for road tank wagons	Correct wording error in 16.22 (2) to clarify that the specified requirements are minimums.
	10.	Separation distances for above ground tanks containing liquefied flammable gases	Amend Schedule 12, table 2 so that it refers to the correct unit of measurement when specifying tank capacities.
Correcting references to	11.	Requirements to separate tanks, transportable containers and tank wagons	Amend 11.28 (3) to reference the correct international testing standard.

external standards		from protected and public places	
	12.	Requirements for securing oxidising substances in containers	Amend 12.45 (1) to refer to the correct sections of the relevant Australian Standard.
	13.	Valve fire safety requirements for tanks and transfer lines containing flammable liquids	Amend 17.2, 17.74 and 17.75 to reference the correct international standard.
	14.	Separation of tanks containing corrosive substances from protected and public places	Amend 17.29 (1) to refer to the full relevant section of the Australian Standard, instead of only part of it, and 17.20 and 17.23 as needed to ensure these regulations are consistent with this standard.
	15.	Explosive substances requiring a controlled substance licence	Add reference to UN standard excluded by error from Sch 7, Table 1.
Resolving inconsistencies within the regulations	16.	Excluding limited fuel storage at certain farms from needing to meet specific secondary containment requirements	Amend various regulations to increase clarity regarding in what circumstances limited fuel storage at farms are exempted from specific secondary containment requirements.
	17.	Separation of buildings holding flammable liquids in use or in opened packages from protected places	Amend 11.17 (2) and 11.37 (2) to correct the maximum quantities of flammable liquids that can be held in "type 1" workrooms.
	18.	Requirements for signs where vertebrate toxic agents have been laid	Transfer the exception to the requirements of 13.9 once specified signage requirements are met from 13.19 to 13.9.
	19.	Requirement to keep toxic and corrosive substances separated from other incompatible substances	Amend 13.29 to clarify that substances which are incompatible under that regulation those listed as incompatible under Sch 15.
	20.	Applications for WorkSafe to determine the maximum pressure for altered designs of compressed gas cylinders	Amend 15.4 to grant WorkSafe a power to approve, approve subject to conditions, or decline applications. Currently while WorkSafe can set application forms, they do not have a power to approve or decline these applications.
	21.	Design standards for tanks storing hazardous liquids	Amend 17.6 to clarify tanks designed, constructed and installed to standard API STD 650 will meet the installation, seismic and wind-

			loading requirements of this regulation.
Amendments to address unintended compliance costs	22.	Requirements to separate liquefiable gas cylinders and tanks from protected and public places (where tanks were installed and approved prior to 2004)	Amend Sch 1, cl 11 to clarify the scope of this clause and its requirements, and to more precisely specify the other sections of these Regulations it cross-references. Also amend Sch 1, cl 11 so that this clause additionally applies to filling stations storing up to 1000kg of liquefiable gas (where these stations were installed and approved prior to 1 April 2004).
	23.	Requirements to separate liquefiable gas cylinders and tanks from protected and public places (where tanks were installed and approved prior to 2004)	Amend Sch. 1, cl. 11 to allow the separation distances between cylinders, tanks and filling stations, and protected places to be reduced, where certain intervening walls that were installed and approved prior to 2004 are present and these walls meet prescribed minimum construction standards.
	24.	Requirements to separate liquefiable gas cylinders and tanks from protected and public places (where tanks were installed and approved prior to 2 September 2010)	Add a clause to Sch. 1 allowing cylinders and tanks installed and approved prior to 2 September 2010 to be compliant, if they meet the distance requirements specified in Sch. 12 table 3. The requirements in this table more closely align with the standards in place at the time these tanks were installed.
	25.	Diesel tanks used in agriculture and horticulture systems (where tanks installed prior to December 2017)	Add a clause to Sch. 1 excepting diesel tanks of less than 600L in capacity from certain location and installation requirements, where these tanks were installed prior to December 2017 and are part of systems used for agricultural or horticultural purposes.
	26.	Issue of certificates for certified handlers	Amend 4.2 to allow the date compliance certificates for certified handlers come into force to be specified in the certificate, rather than automatically being the date the certificate is issued.
	27.	Requirements for fire extinguishers or hydrants to manage risks from LPG tanks	Amend 5.3 (3) to clarify that a hydrant system or fire hose reel can meet the requirements of this regulation, and to change the required specifications of these systems or hoses to align with current best practice standards.
	28.	Storage requirements for alcohol dilutions	Amend 8.7 to require containers storing certain alcohol dilutions intended for drinking to be constructed in accordance with the relevant

		intended for drinking	<p>Australian Standard on the storage of flammable liquids or a relevant safe work instrument, instead of from stainless steel.</p> <p>Also amend 8.7 to exclude the storage of alcohol dilutions intended for drinking from the general standards of Parts 11 (controls to limit effects of unintended ignition) and 17 (stationary container system requirements) of these Regulations.</p>
29.		Storage requirements for alcohol dilutions intended for drinking	Amend 8.7 to require storage areas for alcohol dilutions intended for drinking to be equipped with fire protection according the relevant requirements of the current Australian Standard on the storage of flammable liquids and to be equipped with appropriate vapour detectors.
30.		Storage of flammable liquids in retail stores	Amend 11.32 so the exclusion to separation distance requirements for flammable liquids in small packages for retail sale applies to all flammable liquids, not only those classified as the most flammable.
31.		Separation requirements between protected places and hazardous substance locations holding large quantities of corrosive substances	<p>Amend 13.43 so the separation distances prescribed in this regulation can be reduced by up to 50% between hazardous substance locations and certain on-site protected places, where appropriate risk identification, assessment and control measures are in place.</p> <p>This will better align requirements with current Australian Standard on best practice storage of corrosive substances.</p>
32.		Testing requirements for imported fire extinguishers	<p>Amend 15.16 so that fire extinguishers that have obtained a fire extinguisher registration number under regulation 15.22 do not also have to obtain design verification and endorsed manufacturers' certificates under 15.16.</p> <p>This will avoid unnecessary duplicate testing of extinguishers.</p>
33.		Restrictions on where workers can leave tank wagons containing hazardous substances unattended	Amend 16.41 so that workers are only required to place tank wagons in transit depots or hazardous substance locations when leaving them unattended if the substance contained in the wagon is of a classification and quantity that would need to be placed in a depot or hazardous substance location, if it were stored other than in a tank wagon.

34.	Separation of tanks containing toxic substances from protected and public places	<p>Amend 17.28 to require tanks to be separated from protected and public places according to the requirements of the relevant New Zealand Standard on best practice storage of toxic substances, rather than those specified in Sch. 17 of the regulations.</p> <p>This will correct several unintended changes to requirements introduced in the 2017 regulations.</p>
35.	Installation requirements for diesel stationary tanks	<p>Amend 17.57 to except certain tank systems supplying fire protection systems from requirements to have anti-drainage valves or other mechanisms to prevent substances draining, provided that the tank system meets specified requirements to be separated from protected places.</p> <p>This will allow fire pump systems that supply fuel to pumps by gravity feed to be compliant.</p>
36.	Restrictions on where service tanks containing flammable substances (e.g. diesel) can be located	<p>Amend 17.64 so that service tanks can be placed in locations other than on the lowest floor of buildings, provided either the tank or the room it is contained in meets specified fire safety requirements.</p> <p>This will address compliance issues for systems like emergency generators, which need service fuel tanks to be located near engines or other equipment to function.</p>
37.	Requirements for valves on tanks and transfer lines to be considered fire safe	<p>Amend 17.74 and 17.75 so that valves can be considered fire safe if they meet the relevant requirements of the current Australian standard on the handling of combustible liquids.</p> <p>This will prevent unnecessary testing of some types of valve recognised by this standard as inherently fire safe (eg large diameter cast steel valves).</p>
38.	Requirements to separate stores of toxic substances from protected and public places	<p>Amend Sch. 17 tables 1-4 to correct errors in the specified separation requirements for certain toxic substances.</p> <p>This will better align these requirements with the current New Zealand standard for the storage of toxic substances.</p>

	39.	Requirements to separate stores of toxic substances from protected and public places	<p>Amend Sch. 17, tables 1 and 2 to permit the separation distances prescribed in these tables to be reduced by up to 50% between hazardous substance locations and certain on-site protected places, where appropriate risk identification, assessment and control measures are in place.</p> <p>This will better align these requirements with the current New Zealand Standard on best practice for the storage of toxic substances.</p>
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Impact Summary: Ensuring effective regulation of health and safety risks associated with work on commercial and industrial refrigeration, heat pump, and air conditioning systems

General information

Purpose and Background

The Ministry of Business, Innovation and Employment (MBIE) is solely responsible for the analysis and advice set out in this Regulatory Impact Statement (RIS), except as otherwise explicitly indicated.

This RIS contains analysis and advice to inform earlier key decisions that were taken by Cabinet in May 2019. MBIE's Regulatory Impact Review Panel (Panel) has already considered this RIS to support the Cabinet's primary decisions to introduce a licensing regime.

The Panel previously agreed that the RIS met the criteria for Ministers to make informed decisions on the proposals, which included drafting new regulations under the Health and Safety at Work Act 2015. The regulations will place a duty on technicians to only carry out a class of work on a commercial or industrial refrigeration, heat pump, or air conditioning system – which uses a flammable, toxic or very high operating pressure refrigerant – if that person holds a licence for that type of work. Individual technicians must obtain a licence from WorkSafe before being permitted to work on such systems. The licence will be valid for five years from the day of issue.

In May 2019, Cabinet approved the release of a targeted consultation document to affected stakeholders for minor and technical matters to support these main policy decisions.

In consultation with the Treasury, it was agreed that the earlier RIS should be updated with the analysis from the targeted consultation to enable final decisions to be made by Cabinet. This RIS includes impact analysis of the elements from the targeted consultation, including:

- definitions of 'domestic and light commercial systems' (Cabinet decided that domestic and light commercial systems are excluded from the licensing regime)
- defining 'very high operating pressure'
- including a separate class in the licensing regime for transport refrigeration systems
- including on-farm milk vats from the regime
- placing corresponding duties on persons conducting a business or undertaking (PCBUs) to strengthen the regime
- setting licensing fees, renewal of licence fee, and fee for a replacement licence
- a three-month transitional timeframe for compliance with signage requirements for ammonia systems
- offences and penalties, infringement offences, and licensing processes to be set in

accordance with the current framework under HSWA.

The above elements do not have any further effect on businesses or individuals because they fall within the proposals approved by Cabinet for which we have already prepared a RIA. In particular:

- Cabinet has already agreed that 'domestic and light commercial systems' are excluded from the licensing regime. Following consultation with stakeholders, we have confirmed the parameters of a definition with WorkSafe that can be used for drafting purposes. This has no further impact from the previous RIA, and the definitions have been shaped in consultation with WorkSafe.
- The previous RIA stated that 'very high operating pressure' refrigerants would be included in the licensing regime. Following targeted consultation, we have confirmed the parameters of a definition. This has no further impact than outlined in the previous RIA.
- The previous RIA considered the inclusion of transport systems in the regulations, and further targeted consultation took place on whether they should be in a separate class. This has no further impact, as we are not proposing any more or fewer systems are included. Process requirements will be the same.
- Whether on-farm milk vats should be exempted was considered in the previous RIA. Submitters were supportive for including these systems where they are using alternate refrigerants, and we propose that on-farm milk vats are not excluded from the regime. This is no different to previous policy proposals, where on-farm milk vats were included in the regime.
- Previous policy decisions ensured ammonia systems should have to comply with signage requirements in the Hazardous Substances Regulations 2017, and we consulted on a three month transitional timeframe to comply with the requirements. Submitters agreed with this transitional timeframe, and confirmed that this would be of no further impact.
- During targeted consultation, stakeholders confirmed that the approach to offences and penalties, infringement offences, and licensing processes to be set in accordance with the current framework under HSWA and the Australian Model Work Health and Safety Regulations. This has no further impact than what has been previously outlined.

This RIS also refers to additional minor amendments to the Hazardous Substances Regulations being made alongside the refrigerant technician licencing regime. These additional minor amendments address a number of unintended compliance issues arising in these regulations across a range of areas. Given the implementation of the licencing regime requires amendments to the Hazardous Substances Regulations, we are proposing these further minor issues are also addressed. Targeted consultation on these proposed further minor amendments occurred November 2019 – January 2020.

These minor amendments do not introduce any new policy decisions. Instead they aim to correct errors and adjust requirements to achieve the policy intent of the 2017 Hazardous Substances Regulations. In particular, these amendments aim to correct errors and unintended issues introduced during the creation of these 2017 regulations, which involved consolidating fifteen previous sets of regulations, nine transfer notices and approximately 1700 substance approvals into a single set of regulations.

These minor amendments will not have any further impact on individuals or businesses

beyond what has been approved in the implementation of the Hazardous Substances Regulations as:

- The proposals do not introduce any new requirements. Rather they are corrections, clarifications and adjustments to requirements to correct unintended compliance issues that are arising.
- Where adjustments to requirements are needed, these are largely achieved by restoring the requirements in place prior to the 2017 Hazardous Substances Regulations rather than introducing new standards.
- The amendments are aimed at addressing unintended issues causing some previously compliant businesses to be non-compliant. As such, they will not introduce new costs, and may result in significant costs savings for some businesses who will no longer be required to adjust facilities or processes.

Key Limitations or Constraints on Analysis

This RIS provides an analysis of options to:

- reduce the risk of harm to persons and property from incompetent installation, repair, or maintenance work on commercial and industrial refrigeration, heat pump, or air conditioning systems that use flammable, toxic, or very high operating pressure refrigerants by ensuring that only competent persons carry out this work (**Part 1 of this RIS**). It includes minor and technical matters that were consulted on with stakeholders between December 2019 and January 2020.
- reduce the risk of harm to persons and property from leaks or unintended discharges of anhydrous ammonia from commercial or industrial refrigeration systems by ensuring that best industry practice for the safe design, construction, installation, operation, maintenance, and repair is followed (**Part 2 of this RIS**).

The scope of the proposals considered in Part 1 of this RIS are limited to work on commercial and industrial refrigeration, heat pump, or air conditioning systems that use flammable, toxic, or very high operating pressure refrigerants.

Definitions of 'domestic and light commercial systems' and 'very high operating pressure' have been developed following consultation with stakeholders. The definitions have been tested further with WorkSafe to ensure that the definitions provide clarity on the scope of the systems that are excluded.

Some submitters considered that the issues are not limited to flammable and toxic refrigerant use because all refrigerants pose risks that require careful management. MBIE acknowledges that non-hazardous refrigerants do carry a level of risk, although these risks are well managed through the Hazardous Substances Regulations. Also, non-hazardous refrigerant risks are well below the level of risk presented by toxic, flammable, or very high operating pressure refrigerants and a loss of containment from any system that uses a refrigerant with those hazardous properties. The analysis in this RIS is therefore focused on systems that use toxic, flammable, or very high operating pressure refrigerants.

There are some uncertainties around the one-off costs for technicians to complete any additional training that may be required to gain the proposed authorisation. The industry association has estimated that this could be between \$500 and \$2,000 depending on the

current qualifications and experience of each individual.

This RIS does not include options analysis of the further minor amendments to the Hazardous Substances Regulations proposed. As these amendments are minor, solely address unintended issues to ensure regulations operate in accordance with their policy intent, and largely restore requirements previously in place instead of introducing new standards, individual options analysis for each of the changes proposed does not appear necessary.

Responsible Manager (signature and date):

Lisa Collins
Manager Health and Safety Policy
Labour and Immigration Policy
Ministry of Business, Innovation and Employment

Date:

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Part 1: Ensuring only competent persons install, repair, or maintain refrigeration, heat pump, or air conditioning systems

Problem definition and objectives

What is the policy problem or opportunity?

HFCs are widely used in refrigeration heat pump, and air conditioning systems

HFCs are widely used in refrigeration, heat pump, and air conditioning systems because of their favourable thermodynamic properties and low toxicity, reactivity, and flammability. However, HFCs are contributing to climate change worldwide and will become a significant influencer on climate without action to curb their use.

A global phasedown on HFCs has commenced under the Kigali Amendment

The world is moving away from using substances that have a high global warming potential. The Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer puts in place a worldwide phase down on the production and consumption of HFCs.

The Kigali Amendment came into force on 1 January 2019 for those countries that have ratified it. Developed countries are required to phase down consumption of HFCs by 85 per cent by 2036. Developing countries have a slower phase down schedule, beginning in 2024 or 2028 and ending in 2047.

New Zealand ratified the Kigali Amendment on 3 October 2019, and was entered into force for New Zealand on 1 January 2020.

The Kigali Amendment will result in significant reductions in the global supply of HFCs which will have a significant impact on the costs of HFCs and will incentivise many commercial and industrial system owners to retrofit or replace their current systems to use alternative refrigerants.

Non HFC refrigerants typically have hazardous properties

Alternative (non HFC) refrigerants are less harmful to the environment but can present increased risks to health and safety because of their hazardous properties; flammability, toxicity; or very high operating pressures.

Risks associated with work on commercial or industrial systems that use refrigerants are expected to increase over time

Currently the majority of commercial refrigeration systems (e.g. walk-in chillers) and a smaller number of industrial systems (e.g. meat processing plants) use HFCs. HFCs are also widely used in domestic and light commercial appliances (e.g. retail food and beverage display cabinets) and in automotive air conditioning systems. HFCs have low toxicity, reactivity, and flammability. From 2019 onwards, these HFC-based refrigerating systems will increasingly be retrofitted or replaced with systems that use flammable refrigerants (e.g. hydrocarbons), toxic refrigerants (e.g. anhydrous ammonia), or very high operating pressure refrigerants (e.g. carbon dioxide).

These types of systems are installed, repaired, and maintained by technicians working in the heating, ventilation, air conditioning, and refrigeration (HVAC&R) industry. Incompetent installation, repair, and maintenance of such systems will increase the risk of an incident causing significant, and in some cases irreversible harm, to persons and property.

The consequences of an incident involving a larger commercial or industrial system that uses a refrigerant with hazardous properties could be significant, despite the probability of an incident being low. For example, the 2008 Tamahere Cool Store Fire killed one and seriously injured seven firefighters, destroyed \$25 million worth of stored products, and \$2.2 million worth of fire service equipment. It is worth noting that the Tamahere incident involved a contractor working well outside of his competence on a large commercial refrigeration system with a hydrocarbon refrigerant.

Reliance on the training system alone is unlikely to provide adequate assurance that risks are effectively managed

The HVAC&R industry is underpinned by a well-established apprenticeship system. It usually takes apprentices four years to complete their National Certificate.

The National Certificate includes training modules on refrigerants with hazardous properties, electrical wiring risks, and the installation, repair, and maintenance of commercial or industrial systems that use those types of refrigerants. However, while many technicians have completed the National Certificate it is not a compulsory requirement for working on refrigeration, heat pump, or air conditioning systems.

Due to the widespread use of HFC refrigerants currently, many technicians lack sufficient practical experience and theoretical knowledge about: the safe handling of toxic, flammable, or very high operating pressure alternative refrigerants; and the installation, repair, and maintenance of refrigeration, heat pump, or air conditioning systems that use those hazardous refrigerants.

The exception to this is the relatively small number of technicians that work on industrial refrigeration plant that uses ammonia.

Despite courses being offered by training providers to address these gaps, there are limited levers to compel HVAC&R businesses to invest in such training. Approximately 80 per cent of HVAC&R businesses employ less than three technicians and have limited resources to invest in ongoing training and development activities.

Investment in training is also limited by the fact that technicians are not required to demonstrate their competence through an authorisation.

Continued reliance on the training system alone is unlikely to provide adequate assurance that risks associated with the increased use of refrigerants with hazardous properties will be adequately managed.

To date the HVAC&R industry has been unable to regulate itself effectively on a voluntary basis

Previous attempts by the HVAC&R industry to regulate itself, following the 2008 Tamahere Cool Store Fire, have not had sufficient uptake across the industry to be as effective as they could have been because of their voluntary nature and potentially because of the continued widespread use of relatively safe (but environmentally harmful) HFC refrigerants.

The proxy occupational licensing regime that has been put in place by the Institute of Refrigeration Heating & Air Conditioning Engineers (IRHACE), the Climate Control Companies Association New Zealand (CCCANZ), and the Refrigerant License Trust Board (RLTB) relies on the approved filler certification requirements under the *Health and Safety at Work (Hazardous Substances) Regulations 2017* (the Hazardous Substances Regulations) in combination with a voluntary agreement amongst key refrigerant wholesalers to restrict sales to refrigeration technicians who have evidence of competence to safely handle refrigerant, i.e. approved filler certification.

There are a number of weaknesses with this proxy regime, including:

- approved filler training is a generic one day training course that is not specific to the needs of HVAC&R technicians;
- only half of the estimated 7,000 technicians working in the industry have completed approved filler training; and
- a number of suppliers, have not adopted the voluntary sales restriction agreement and sell refrigerants without restriction to persons with limited training or competency to safely handle those hazardous substances.

Current regulatory settings

The risks associated with hazardous refrigerants, and associated plant and equipment, are currently managed by a range of regulatory requirements made under the Health and Safety at Work Act (the HSW Act), the Electricity Act, and the Building Act. The current requirements place controls on: the use, handling, and storage of hazardous refrigerants; refrigeration plant and equipment; the management of electrical hazards, and emergency procedures. Generic, high-level training and supervision requirements that apply to all workers also exist but there are no specific controls to prevent a technician from working on a refrigeration, heat pump, or air conditioning system beyond their level of skills, qualifications, and experience.

There is no requirement to prevent technicians from working on refrigeration, heat pump, or air conditioning systems outside of their competence

Under current regulatory settings, there is no specific control to prevent an HVAC&R technician from working on a refrigeration, heat pump, or air conditioning system that uses flammable, toxic, or very high operating pressure refrigerants beyond their level of skills, qualifications, and experience.

This has not been a significant concern up until now given the widespread use of non-toxic, and non-flammable HFC refrigerants. However, the global phase down of HFCs from 2019 is expected overtime to incentivise many commercial and industrial system owners in New Zealand to either retrofit or replace their current systems with new systems that use flammable, toxic, or high pressure operating alternative refrigerants.

Incompetent installation, repair, and maintenance of such systems will increase the risk of an incident causing significant, and in some cases irreversible harm, to persons and property. If no further action is taken, then the likelihood of incidents involving toxic, flammable, or very high operating pressure refrigerants causing harm to persons and property is expected to increase over time because of:

- the increasing use of flammable, toxic, and high pressure alternative refrigerants as a result of the global phase down on HFCs;
- the insufficient level of HVAC&R technicians with adequate knowledge and experience of working with flammable, toxic, and very high operating pressure refrigerants and associated systems; and
- the absence of an incentive to compel, particularly the smaller, HVAC&R businesses to invest in ongoing training and development for their technicians.

There was general agreement from submitters that the issues have been accurately identified.

A case was made to exempt on-farm milk vat refrigeration systems from the policy on the basis that there could be reduced access and potentially greater cost to access refrigeration technicians in remote, rural areas and such systems are factory built to standardised designs and located in well ventilated semi-detached or detached buildings therefore presenting a

lower level of risk. There are an estimated 11,500 of these systems around the country.¹

Further targeted consultation was undertaken between November 2019 and January 2020 on whether on-farm milk vats should be excluded from the regime. Based on the submissions, MBIE considers that on-farm milk vats should not be excluded from the regime, because the risk involved with these systems will increase as HFCs are phased down.

Taking into account the feedback received from submitters, MBIE considers that the policy should apply to work carried out on all commercial and industrial refrigeration, heat pump, or air conditioning systems that use flammable, toxic, or very high operating pressure refrigerants.

In May 2019, Cabinet decided that domestic and light commercial systems are excluded from the licensing regime. Following further targeted consultation in late 2019/early 2020, we have confirmed the parameters of a definition of 'domestic and light commercial systems' in consultation with WorkSafe. The parameters are that these systems typically contain a factory-assembled, hermetically sealed, vapour-compression refrigeration system with a small refrigerant charge.

MBIE has also undertaken further targeted consultation to determine the application of the policy to transport refrigeration systems that use flammable, toxic, or very high operating pressure refrigerants (i.e. refrigeration units used in trucks, trailers, and transportable containers). Consultation with industry has identified that a very small number of technicians work specifically on transport systems. One submitter indicated that there are approximately 40 of these individuals in New Zealand.

Who is affected and how?

This policy will affect HVAC&R technicians and businesses that work on commercial and industrial refrigeration, heat pump, or air conditioning systems that use flammable, toxic, or very high operating pressure refrigerants. There is widespread support for this policy from HVAC&R technicians and businesses.

This policy could also have a marginal increase on the cost of purchasing HVAC&R services for owners of refrigeration, heat pump, or air conditioning systems, because HVAC&R technicians and businesses may increase their charges to recover costs associated with training and authorisation fees. However, system owners expect these costs to be outweighed by the benefits as it could provide them with improved assurance that the technicians working on their systems are competent and it could also reduce system operating costs associated with running an inefficient system through better skilled installation, servicing, and maintenance. There is widespread support for this policy from owners of large commercial and industrial refrigeration systems.

Are there any constraints on the scope for decision making?

This policy will provide support to New Zealand's commitments under the Kigali Amendment that was entered into force for New Zealand on 1 January 2020 by providing for a safe transition away from HFC refrigerants.

¹ This estimate is based on the total number of dairy herds in New Zealand according to the *New Zealand Dairy Statistics 2017-18* published by Dairy NZ.

Options identification

What options have been considered?

Objectives

The primary objective of the policy is to reduce the risk of harm to persons and property from incompetent installation, repair, or maintenance work on commercial and industrial refrigeration, heat pump, or air conditioning systems that use flammable, toxic, or very high operating pressure refrigerants.

In achieving this objective, it is also desirable to:

- avoid placing a disproportionate cost, relative to the risk of harm on individual HVAC&R technicians or businesses and minimise the administrative burden and cost to government; and
- be simple for HVAC&R technicians or businesses to comply with and for government to administer.

There was almost unanimous support for these objectives from submitters.

Criteria

The following criteria was used to assess each option against the policy objectives:

- **Effectiveness** – the option reduces the risk of HVAC&R technicians carrying out installation, repair, or maintenance work on commercial and industrial refrigeration, heat pump, or air conditioning systems outside their competence
- **Cost impacts** – the option minimises compliance, transitional, and administrative costs
- **Simplicity and consistency** – the option is simple for government to administer and for HVAC&R technicians and/or businesses to understand and comply with
- **Proportionality** – the degree of regulation is commensurate with risk.

Criteria 1 (effectiveness) is the primary criteria, as meeting this criteria is required to achieve the policy objectives. The other criteria are secondary considerations and have accordingly been given lesser weighting.

Options analysis

The options analysis considered the impacts of retaining the status quo and not implementing any authorisation requirement but instead building on the current HVAC&R industry approach to self-regulation combined with increased WorkSafe education and enforcement effort (Option 1). It has also considered two options for introducing an authorisation requirement – an authorisation for individual HVAC&R technicians (Option 2) or an authorisation for HVAC&R businesses (Option 3). The options are mutually exclusive.

Retaining the status quo (option 1) would mean that HVAC&R technicians would still be able to carry out installation, repair, or maintenance work on refrigeration, heat pump, or air conditioning systems beyond their level of competence. There would be no mandatory requirement to demonstrate they have obtained a recognised qualification and/or have equivalent experience in the HVAC&R field. This option was unanimously rejected by submitters.

Placing an authorisation on HVAC&R businesses (option 3) would adequately reduce the risk created by technicians carrying out work on commercial and industrial refrigeration, heat pump, or air conditioning systems outside their competence. However, this option is likely to be more difficult for businesses to implement and for government to administer.

Consequently, MBIE recommends placing an authorisation on individual technicians (option 2). This option would adequately reduce the risk created by technicians carrying out work on commercial refrigeration, heat pump, or air conditioning systems outside their competence. It would provide technicians with a transferrable, marketable competence and provide asset owners with improved assurance and improved system safety and energy efficiency.

Which of these options is the proposed approach?

MBIE considers option 2 (an authorisation for individual HVAC&R technicians) to be the best option.

Under this option, a duty would be placed on a person to not carry out a class of work on a commercial or industrial refrigeration, heat pump, or air conditioning system — which uses a flammable, toxic, or very high operating pressure refrigerant — unless the person holds a licence for that class of work. This would ensure that technicians do not work on systems beyond their level of skills, qualifications, and experience.

There was almost unanimous support for this option from submitters – both large asset owners and HVAC&R businesses and technicians. Comments were largely directed at the details of this proposed option. Only two submitters out of 288 submissions, a large installer of domestic heat pumps and an industry association representing automotive technicians, did not support this option.

Individual technicians would be required to obtain an authorisation from WorkSafe before being permitted to work on commercial or industrial refrigeration, heat pump, or air conditioning systems that use flammable, toxic, or very high operating pressure refrigerants. The authorisation would be valid for five years from the date of issue, consistent with other authorisation regimes administered by WorkSafe and consistent with the high-risk work licensing regime in Australia. Some submitters suggested that the proposed authorisation should have a two year renewal cycle. MBIE considers that there is not a strong enough case for imposing a two year renewal cycle and that it would impose unnecessary costs on authorisation holders.

WorkSafe would also be required to establish and maintain a register of the individuals who have been issued an authorisation.

In order to qualify for an authorisation, individual applicants would have to demonstrate to WorkSafe that they: have knowledge of the installation, commissioning, servicing, and maintenance of refrigeration, and/or heat pump, and/or air conditioning plant and equipment relevant to the class of work for which the applicant seeks an authorisation; have knowledge of the hazardous properties for the classes of refrigerants they are likely to use; and have had suitable training and experience. There was wide support from submitters for these general competency requirements.

The general competency requirements to be met by applicants would be set in regulations and the more specific competency requirements would be set in a Safe Work Instrument. The more specific requirements would include the details of any relevant trade qualifications and any additional unit standards that may be required for each authorisation class. Safe Work Instruments are disallowable instruments that are made by the Minister for Workplace

Relations and Safety and notified in the Gazette.

Different authorisation classes would ensure that technicians do not work on systems that use flammable, toxic, or very high operating pressure refrigerant gases outside of their competence. The classes have been shaped by the feedback that we received from industry and recognise the different skillsets that are required for work on different applications. The proposed classes are as follows:

- the heating and air conditioning authorisation would enable the holder to work on any commercial or industrial heat pump or air conditioning system;
- the refrigeration, heating, and air conditioning authorisation (excluding ammonia) would enable the holder to work on any commercial or industrial refrigeration, heat pump, or air conditioning system, including transport refrigeration systems but excluding systems using ammonia refrigerant;
- the refrigeration, heating, and air conditioning authorisation (including ammonia) would enable the holder to work on any commercial or industrial refrigeration, heat pump, or air conditioning system, including transport refrigeration systems and including systems using ammonia refrigerant; and
- the transport refrigeration systems authorisation. This class in the regime would be specific to those technicians who work exclusively on transport refrigeration systems mounted in trucks or trailers and shipping containers. The class would only cover the servicing and repair of the refrigeration unit itself, not the engine that powers the refrigeration unit or any off-engine powered refrigeration units. We anticipate that this class will cover approximately 40 technicians. The risk profile for this category is different to the other classes as the systems are smaller and lower risk, and therefore the competencies to service these systems are different. It would be disproportionate to the risk posed by these systems for this small number of technicians to have to obtain a licence to work on other commercial and industrial systems. Training for these technicians can be on the job, or through manufacturers and asset owners. WorkSafe will develop the specific competencies needed for this transport class which will be contained in a Safe Work Instrument, and these competencies will have to be met in order for a licence to be issued.

Individuals that carry out this type of work are not subject to any restrictions that prevent them from working on systems outside of their competence and are not subject to an associated licensing regime in the same way as individuals who work on marine or aviation refrigeration systems.

Given the scope of this proposal, we expect that this option will impact approximately 4,000 of the estimated 7,000 technicians and engineers that work in the HVAC&R industry.

It is also proposed that a consequential change would need to be made to the Hazardous Substances Regulations to remove duplication by ensuring that an individual who holds this authorisation would not need to hold an approved fillers certificate under those regulations.

This option would enable the primary criteria (effectiveness) to be adequately met. An authorisation on individual technicians would allow only suitably qualified and/or experienced technicians to carry out work on commercial and industrial refrigeration, heat pump, or air conditioning systems that use flammable, toxic, or very high operating pressure refrigerants, reducing the risk of harm to persons and property from incompetent installation, repair, or maintenance work.

The renewal process for an authorisation on individual technicians would compel them (and

their employers) to invest in ongoing training and development activities in order to keep up to date with changing industry practices.

Impact Analysis (Proposed approach)

Summary table of costs and benefits

Affected parties (identify)	Comment: nature of cost or benefit (eg ongoing, one-off), evidence and assumption (eg compliance rates), risks	Impact <i>\$m present value, for monetised impacts; high, medium or low for non-monetised impacts</i>
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Additional costs of proposed approach, compared to taking no action

Regulated parties	<p>We anticipate that the one-off costs for technicians to complete any additional training that may be required to gain an authorisation could be between \$500 and \$2,000 depending on their current qualifications and experience. For those that already hold a level 4 trade certificate in refrigeration and air conditioning, or have equivalent qualifications or experience, the amount of additional training required and associated costs are expected to be small.</p> <p>Prior to carrying out the consultation process, WorkSafe advised that the administrative fees for an authorisation regime would likely need to be in the order of \$250 in order for WorkSafe to recover their costs. However, subsequent work on administrative fees post consultation has increased the estimate of fees for this regime to be in the order of \$680 (if the full costs of processing applications and ongoing competency assurance of technicians is recovered) or \$430 (if the costs associated with the processing of applications only are recovered). These were the figures that were consulted on in targeted consultation. Subsequently, we have been advised that this fee needs to increase to \$720. Individuals would be able to spread these costs over the proposed five year duration of the licence, which would reduce the impact to \$144 or \$86 each year. MBIE notes that the estimated fees are similar to the fees for asbestos removal licences (\$490). MBIE also notes that the</p>	Low – Medium
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estimated fees are similar to or lower than the licensing fees paid by electrical workers and lower than the fees paid by plumbers. An electrical worker pays \$350 for registration (one off cost) and then \$250 every two years for a practising licence; which equates to \$625 over five years. A plumber pays \$375 for registration (one off cost) and then \$375 each year for a practising licence; which equates to \$1,875 over five years. MBIE anticipates that licence holders, or employers of licence holders, are likely to recover these additional costs by increasing their service charges to clients.

Confidential advice to Government



Cost increases are unlikely to have an adverse impact on the supply of HVAC&R services in the market. The cost of an authorisation would make up a small proportion of the overall costs of being an HVAC&R technician.

These costs are expected to be outweighed by the benefits of introducing an authorisation requirement.

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Regulators	<p>There would be one off establishment costs for WorkSafe to implement the proposed authorisation regime associated with developing the register, developing the business processes, developing guidance, awareness raising activities, and recruiting new licensing staff (potentially 2 FTE).</p> <p>Ongoing operating costs, including the resourcing of a programme of competency assurance checks by a suitably qualified/experienced individual/s, would be recovered through the proposed administrative fees.</p>	Low
Wider government	Not applicable	Not applicable
Other parties	<p>The proposed authorisation regime may place some small cost increases on system owners because HVAC&R technicians and businesses may increase their pricing to recover the costs associated with any additional training and authorisation fees.</p> <p>The regime will have an impact on the Working Safer Levy, which will fund some of the establishment costs and depreciation. This is because there is a large public benefit to this regime, as it is protecting people from incidents like the Tamahere cool store fire which resulted in the death of a firefighter and millions of dollars' worth of damage. The development of this regime is also driven by New Zealand's ratification of the Kigali Amendment and the commitment to having less environmental impacts. It would undermine the purpose of the regime to have technicians absorb the full costs of establishing the regime when one of the main beneficiaries is the public. These full costs are outlined in the Cost Recovery Impact Statement attached.</p>	Low
Total Monetised Cost		
Non-monetised costs		Low

Expected benefits of proposed approach, compared to taking no action		
Regulated parties	An authorisation on individual technicians	Medium

	<p>would reduce the risk of harm to persons and property from incompetent installation, repair, or maintenance work.</p> <p>The renewal process for an authorisation would compel technicians (and their employers) to invest in ongoing training and development activities in order to keep up to date with changing industry practices.</p> <p>HVAC&R technicians would gain a transferrable, marketable competence.</p> <p>HVAC&R businesses would have a means of quickly assessing whether a potential employee has the required skills and ability to perform their job duties.</p> <p>Avoided costs associated with a major incident, which could include costs associated with investigations and legal costs.</p> <p>By adding a specific class to those technicians who work exclusively on transport systems, it potentially avoids the unnecessary compliance costs for transportation technicians where they would otherwise need to prove their competence for other systems that they will not be working on.</p>	
Regulators	<p>Avoided costs associated with a major incident, which could include costs associated with investigations and legal costs.</p>	Medium
Wider government	<p>Avoided costs associated with a major incident, which could include: treatment and compensation costs associated with fatalities and serious injuries; costs associated with emergency response; and costs associated with investigations and legal costs.</p>	Medium
Other parties	<p>System owners would have a means of quickly assessing whether the technicians they engage have the required skills and abilities to do the work and continue to have up-to-date knowledge and skills (improved assurance).</p> <p>System owners would potentially reduce operating costs associated with running inefficient plant through better skilled installation, servicing, and maintenance of plant (improved energy efficiency)</p> <p>Avoided costs associated with a major incident, which could include: costs associated with investigations and legal costs; lost production costs; capital costs</p>	Medium

	needed to recommence operations.	
Total Monetised Benefit		
Non-monetised benefits		Medium

What other impacts is this approach likely to have?

This option is more likely than option 3 (an authorisation on HVAC&R businesses) to be simple for technicians to comply with and for government to administer. Imposing an authorisation on the individual technician rather than the business would be more familiar to both individuals and businesses in the HVAC&R industry. An authorisation on individual technicians is more akin to the existing electrical service technician licence that many HVAC&R technicians are already required to hold in order to carry out limited electrical work associated with the installation of commercial and industrial refrigeration, heat pump, or air conditioning systems. The proposed approach under this option is also more consistent with the way in which other trades are regulated.

An individual authorisation regime would provide a more consistent approach to ensuring that only competent persons work on systems, because WorkSafe would be responsible for checking whether an applicant meets the required qualifications and experience before being issued an authorisation. Under option 3, the responsibility for assessing the competence of a technician falls to the PCBU that employs them. Consequently, there is likely to be a higher degree of variation.

MBIE considers that this option strikes an appropriate balance between workability of rules and the need to reduce the risk of harm to persons and property from incompetent installation, repair, or maintenance work on commercial and industrial refrigeration, heat pump, or air conditioning systems that use flammable, toxic, or very high operating pressure refrigerants.

A small number of submitters were of the view that this option could be further strengthened by also placing an authorisation on the HVAC&R business that employs the technician. This would ensure that accountability is more fairly apportioned between the employer and employee and could help to avoid situations where the technician may be pressured by their employer to carry out non-compliant work. MBIE considers that placing an authorisation on both the individual and business is unlikely to provide additional benefits (to an individual authorisation) relative to the additional costs that would be imposed on businesses.

Stakeholder views

What do stakeholders think about the problem and the proposed solution?

Phase 1 consultation – primary decisions for the licensing regime (November 2018)

A public consultation process, targeting HVAC&R technicians and businesses and owners of commercial and industrial refrigeration, heat pump, or air conditioning systems, was carried out from early September to mid December 2018. Feedback from the consultation process is discussed under each proposal.

MBIE received 288 submissions from industry associations representing commercial and industrial refrigeration plant owners (Meat Industry Association of New Zealand, NZ Cold Storage Association, United Fresh New Zealand); industry associations representing individual HVAC&R technicians (IRHACE); industry associations representing HVAC&R businesses (CCCANZ); unions (NZCTU, e Tu, Meat Workers Union); training organisations for the HVAC&R sector (Competenz and the RLTB); large manufacturers/importers and suppliers; large companies that own multiple commercial and industrial refrigeration assets (Fonterra); Fire and Emergency New Zealand; and an academic/research body (NZ Committee of the International Institute of Refrigeration).

A large number of submissions (236) were from individual technicians or HVAC&R businesses based on a summarised version of the submission prepared by their respective industry associations.

The following government agencies were involved in the development of or consulted on the proposals: Ministry for the Environment; Ministry of Primary Industries; Ministry of Transport; New Zealand Transport Agency; Maritime New Zealand; Civil Aviation Authority; WorkSafe New Zealand; Fire and Emergency New Zealand; and The Treasury.

Phase 2 consultation – Minor and technical matters (November 2019 – January 2020)

Targeted consultation on residual minor and technical matters was carried out between December 2019 and January 2020. A further 140 submissions were received throughout the consultation process on:

- a. The definition of 'light commercial and domestic' received feedback from every submission,
- b. The definition of 'very high operating pressure'
- c. Whether on-farm milk vats are included was also of particular interest
- d. Whether there should be a separate licensing class for technicians who work exclusively on transport systems.

Definition of domestic and light commercial

In consultation with WorkSafe the definitions of domestic and light commercial have been developed based on feedback from stakeholders. It is a technical translation of the original policy decisions made in May 2019 to provide guidance and certainty for technicians, the industry and WorkSafe.

Defining very high operating pressure

Stakeholders agreed that the definition of very high operating pressure should apply only to HFC alternatives because HFCs are excluded from the licensing regime.

On-farm vats

Submitters and WorkSafe were supportive of including on-farm milk vats systems where they are using alternate refrigerants. This is because the risks involved with these systems will

increase as HFCs are phased down and alternative refrigerants are used in their place. These systems were already included in the regime, so there is no further impact.

Transportation systems

Stakeholder feedback was that risks involved with transport refrigeration systems are different and less severe than some other commercial and industrial systems which are already included in the current classes. This is because they have a smaller refrigerant charge. Including this class has no additional impact on stakeholders when compared with the current licensing regime, because no additional systems are added and the process requirements remain the same.

PCBU duties to strengthen the licensing regime

Submitters were widely in support of the proposals that require a PCBU to ensure that a licence holder provides direct supervision to a trainee or apprentice, and to sign written evidence that the worker has the relevant licence.

Licensing fees

A large majority of submitters agreed with the proposed fees, although some suggested that the fees be set lower. Details of the fee costings are in the Cost Recovery Impact Statement.

Transitional timeframe for ammonia systems

A three-month transitional timeframe for compliance with signage requirements for ammonia systems received wide support from submitters.

Offences and penalties, infringement offences, and licensing processes

During targeted consultation, stakeholders confirmed that the proposed approach to offences and penalties and infringement offences was appropriate. Submitters also confirmed that the licensing processes were practical and applicable to this licensing regime.

Further minor amendments to Hazardous Substances Regulations

A separate targeted consultation was also carried out from November 2019 to January 2020 on 39 proposed further minor amendments to the Hazardous Substances Regulations. These amendments aimed to correct a number of unintended compliance issues arising in these regulations, across a range of subject areas. Submissions were strongly supportive of these proposed changes.

Implementation and operation

How will the new arrangements be given effect?

An authorisation on individual HVAC&R technicians would be put in place by making new regulations under the HSW Act.

Implementing the authorisation regime would be led by WorkSafe, as the administering agency. Publicity of the new authorisation regime would be required, specifically targeting the HVAC&R industry and owners of commercial and industrial systems.

Guidance on the application process and the detailed criteria that would need to be met by applicants would need to be developed by WorkSafe and made available before the authorisation regime is introduced.

A three year transitional period is proposed, to provide technicians with sufficient time to complete any additional training that may be required for their authorisation class. This timeframe would also provide WorkSafe with sufficient time to design, build, and implement the systems and processes that will be required to administer the authorisation regime. On

completion of the three year transitional period, technicians would be able to apply to WorkSafe for their authorisation but the requirement to have an authorisation would not commence until the fourth year.

Compliance monitoring and enforcement

Compliance monitoring of authorised technicians would be carried out through a programme of competency assurance checks carried out by persons competent to do so. This could be resourced by either staff recruited by WorkSafe or outsourced under contract to a suitably qualified person or persons.

Implementation risks

The risk of HVAC&R technicians carrying out work on commercial or industrial refrigeration, heat pump, or air conditioning systems outside their competence will still be present during the three year transitional period. MBIE considers that this risk would be reduced through WorkSafe and IRHACE awareness raising activities and through technicians undertaking additional training, where it is deemed necessary. Further, the expected level of retrofitting or replacement of HFC based systems during this transitional period is not expected to be significant.

There is a risk that some training providers may use the transitional period as an opportunity to make fast money through offering sub-standard training courses to those technicians that need to complete additional training. MBIE considers that this risk would be mitigated by ensuring that WorkSafe, IRHACE, and the RLTB work with Competenz (the ITO for the HVAC&R sector) and NZQA to ensure the relevance and quality of any new training courses that may be needed. These organisations will also need to ensure that any necessary adjustments are made to existing qualifications and training programmes for the sector.

Once the proposed authorisation regime commences, there is a risk that a small number of technicians and their employers may continue to carry out work on systems outside their competence despite the authorisation regime being in place. MBIE considers that this risk would be reduced through: WorkSafe and IRHACE awareness raising activities that target HVAC&R technicians/businesses and their clients (owners of commercial or industrial refrigeration, heat pump, or air conditioning systems); and publicising any WorkSafe enforcement action against persons carrying out unauthorised work.

Monitoring, evaluation and review

How will the impact of the new arrangements be monitored?

We will monitor the authorisation regime and its effectiveness through the collection of information from a range of sources, including:

- findings from WorkSafe licensing, compliance monitoring, or enforcement activities concerning HVAC&R technicians/businesses or commercial/industrial refrigeration, heat pump, or air conditioning systems;
- the number of notifiable events (serious injuries, fatalities, and loss of containment incidents) reported to WorkSafe involving HVAC&R technicians/businesses or commercial/industrial refrigeration, heat pump, or air conditioning systems;
- regular communication with industry associations to check-in on the implementation of the authorisation regime and consider any issues being raised by HVAC&R technicians/businesses or owners of commercial or industrial refrigeration, heat pump, or air conditioning systems.

When and how will the new arrangements be reviewed?

A post-implementation review of this policy should be carried out no less than five years after the authorisation regime has commenced.

PROACTIVELY RELEASED

Part 2: Ensuring owners of ammonia refrigeration systems meet best industry practice for design, construction, installation, operation, maintenance, and repair

Problem definition and objectives

What is the policy problem or opportunity?

Anhydrous ammonia is a refrigerant with toxic, corrosive, and flammable properties

Anhydrous ammonia is commonly used as a refrigerant in large commercial and industrial refrigeration plants. We estimate there to be some 200 commercial and industrial refrigeration systems across New Zealand that currently use anhydrous ammonia. A further 20 – 40 systems, which currently use HFCs, could be replaced with or retrofitted to use ammonia as the supply of HFCs is phased down.

Anhydrous ammonia is acutely toxic, corrosive, and flammable when mixed with air.

Unprotected exposure to ammonia at a high enough concentration can be fatal. Lower-level exposures can cause temporary blindness and eye damage, as well as irritation to the skin, mouth, throat, lungs, and mucous membranes.

An ammonia leak can also contaminate the food items that the refrigeration system was designed to protect.

Ammonia has a strong and unpleasant smell at low concentrations. The strong smell however can also provide an advantage over other refrigerants in that it can enable small leakages in a refrigeration system to be discovered quickly and corrected.

Ammonia is liquefied under pressure. Because of this pressure, it will rapidly release into the air. Typically, the ammonia will rise, however in the presence of moisture (such as high relative humidity), the liquefied ammonia gas forms vapours that are heavier than air. These vapours may spread along the ground or into low-lying areas with poor airflow where people may become exposed.

Mixtures of ammonia and air are flammable at certain concentrations (between 15% and 28%). While an ammonia deflagration does not have the destructive power of hydrocarbons, it is capable of causing burns and minor structural damage. In order to ignite ammonia the minimum energy needed is considerably higher than other flammable substances.

In other jurisdictions, explosions have been attributed to releases of ammonia contaminated with lubricating oil.

Incidents involving anhydrous ammonia

Between 1996 and 2016, 403 workplace incidents involving anhydrous ammonia were recorded. Of those incidents, eight involved serious injury to workers that required hospital admission or medical treatment.

In terms of more recent incidents, in 2017 a total of 17 workplace incidents involving anhydrous ammonia were recorded. In 2018 we had 11 incidents, one of which left three

people needing hospital treatment after being exposed to the toxic gas and required the plant to be evacuated.

It should be noted that these are recorded incident and injury rates but that actual rates are likely to be higher.

Current regulatory settings

Under the HSW Act, a person conducting a business or undertaking's (PCBU's) primary duty is to ensure so far as reasonably practicable the health and safety of its workers while at work for the PCBU and any workers whose activities in carrying out work are influenced or directed by the PCBU while carrying out the work. The term "worker" includes employees, contractors, subcontractors, outworkers, apprentices and volunteers.

In carrying out the primary duty, the PCBU must ensure so far as practicable the provision and maintenance of a work environment which is without risks to health and safety and the provision and maintenance of safe plant (i.e. commercial or industrial ammonia refrigeration plant).

In addition to the primary duty of care, a further duty is placed on a PCBU who manages or controls plant at a workplace to ensure, so far as is reasonably practicable, that the plant is without risks to the health and safety of any person.

Under the *Health and Safety in Employment (Pressure Equipment, Cranes, and Passenger Ropeway) Regulations 1999* (the PECPR Regulations), owners of ammonia refrigeration plant are required to ensure that the pressure equipment is safe, is operated safely, is operated within the limits that it was designed to operate within, and is maintained in a safe condition. The pressure equipment must have a current certificate of inspection before it can be operated.

Under the Hazardous Substances Regulations, a PCBU with management or control of a refrigeration system that uses a flammable refrigerant must ensure that the system complies with the joint AS/NZ Standard for commercial refrigeration systems (AS/NZS 5149:2016). AS/NZS 5149:2016 specifies requirements for the design, construction, and installation of refrigeration systems. It also specifies requirements for testing, commissioning, marking, and documentation. It applies to new refrigeration systems, extensions or modifications of existing systems, the conversion of a system to another refrigerant, and for used systems, being transferred to and operated on another site.

This requirement was introduced through the reassessment of the HSNO approval for LPG, butane, propane, and isobutane, in order to manage the risks associated with flammable hydrocarbon refrigerants following the 2008 Tamahere Cool Store Fire. The Fire Service Report into the Tamahere incident indicated that the loss of life may have been prevented if the cool store had been designed to meet the requirements of best industry practice; that is to comply with the joint AS/NZ Standard for commercial refrigeration systems.

This requirement was subsequently extended to all flammable refrigerants when it was transferred from the HSNO legislation into the Hazardous Substances Regulations under the HSW Act. However, ammonia was still outside the scope of this revised requirement, despite it having flammable properties, because the controls on flammable gases under the Hazardous Substances Regulations do not apply to ammonia. This exemption is a historical carry over from the former Dangerous Goods legislation, which acknowledged that the risks associated with ammonia refrigeration systems were at that time managed under the (now repealed) Factories and Commercial Premises legislation.

Owners of ammonia refrigeration systems are currently exempt from the requirement to comply with the joint AS/NZ Standard for commercial refrigeration systems

Under the Hazardous Substances Regulations, owners of ammonia refrigeration systems are

exempt from the requirement to meet best industry practice for the safe design, construction, installation, operation, maintenance, and repair of those systems; that is there is no requirement to comply with the joint AS/NZ Standard for commercial refrigeration systems.

Owners of ammonia based refrigeration systems are also exempt from a basic requirement to display signage, which displays the hazard pictogram and statement for the hazardous substances contained in the building, at the entrance to the building and the entrance to the land on which the building is located. This information is essential for firefighters when responding to an incident.

Both of these exemptions are inconsistent with the approach that was taken for the regulation of commercial refrigeration systems using flammable refrigerants following the 2008 Tamahere incident.

As more systems transition to ammonia in the future as the supply of HFCs is phased down, the current approach is expected to increase the likelihood of leaks or unintended discharges of ammonia causing significant, and in some cases irreversible harm, to persons and property.

Who is affected and how?

This policy will affect businesses that intend to build new ammonia refrigeration systems or extend or modify an existing ammonia refrigeration system. There was wide support for this option from submitters.

This policy is expected to have minimal cost impacts for new ammonia refrigeration systems, because compliance with AS/NZS 5149:2016 will be met during the design phase. It is expected to impose additional costs on extensions or modifications of existing systems but this impact is hard to quantify and will largely depend on the current condition of the system.

Are there any constraints on the scope for decision making?

This policy will also provide support to the Kigali Amendment which was entered into force for New Zealand on 1 January 2020, by providing for a safe transition away from HFC refrigerants.

Options identification

What options have been considered?

Objectives

The primary objective of the policy is to reduce the risk of harm to persons and property from leaks or unintended discharges of ammonia by ensuring that best industry practice for the safe design, construction, installation, operation, maintenance, and repair of ammonia refrigeration systems is followed.

In achieving this objective, it is also desirable to:

- avoid placing a disproportionate cost, relative to the risk of harm on owners and operators of ammonia refrigeration systems; and

- be simple for owners, operators, and others (designers, suppliers, and installers,) to comply with.

Criteria

The following criteria was used to assess each option against the policy objectives:

- Effectiveness – the option reduces the risk of harm to persons and property from leaks or unintended discharges of ammonia from commercial refrigeration systems;
- Cost impacts – the option minimises compliance and transitional costs;
- Simplicity and consistency – the option is simple for owners, operators, and others (designers, suppliers, and installers) to understand and comply with;
- Proportionality – the degree of regulation is commensurate with risk.

Criteria 1 (effectiveness) is the primary criteria, as meeting this criteria is required to achieve the policy objectives. The other criteria are secondary considerations and have accordingly been given lesser weighting.

Options analysis

The options analysis considered the impacts of retaining the status quo against an option that would require a PCBU with management or control of a new or modified ammonia refrigeration system to comply with the joint AS/NZ Standard for commercial refrigeration systems.

As more (potentially 20 – 40) large-scale commercial and industrial systems transition to ammonia in the future as the supply of HFCs is phased down, the status quo is expected to increase the likelihood of leaks or unintended discharges of ammonia causing significant, and in some cases irreversible harm, to persons and property.

Retaining the status quo (option 1) would mean that there is no requirement for owners of new or modified ammonia refrigeration systems to meet best industry practice for the design, construction, operation, and maintenance of their systems. This would be inconsistent with the approach taken to the regulation of commercial or industrial refrigeration systems using other flammable refrigerants. This option was widely rejected by submitters; the exception to this being owners of large cold storage operations represented by the New Zealand Cold Storage Association driven by concerns about the feasibility of upgrading older systems to meet the requirements in AS/NZS 5149:2016. MBIE considers that these concerns can be easily managed by clarifying in regulations that the scope of the Standard is limited to new refrigeration systems, extensions or modifications of existing systems, and the conversion of a system for another refrigerant.

Consequently, MBIE recommends (option 2) making amendments to the Hazardous Substances Regulations to ensure that a PCBU with management or control of a new or modified commercial or industrial refrigeration system that uses anhydrous ammonia complies with AS/NZS 5149:2016. Amendments would also be made to ensure the PCBU places signage displaying the correct hazard pictogram and statement for ammonia at the entrance to the building and the entrance to the land on which the building is located.

Option 2 would ensure consistent application of the Standard for commercial refrigeration systems across all commercial refrigeration systems that use refrigerants with flammable properties – including ammonia. This will help to establish a common understanding of requirements for the design, construction, installation, operation, maintenance, and repair of ammonia refrigeration systems between system owners, operators responsible for the day-to-day operation of the system, and refrigeration contractors used to carry out the maintenance and repair tasks.

Option 2 would also ensure consistent application of current signage requirements across all commercial refrigeration systems that use refrigerants with flammable properties – including ammonia.

Which of these options is the proposed approach?

MBIE considers option 2 to be the best option.

Under this option amendments to the Hazardous Substances Regulations would be made to ensure that:

- a business with management or control of a commercial or industrial refrigeration system that uses anhydrous ammonia as a refrigerant complies with the joint AS/NZ Standard for commercial refrigeration systems (AS/NZS 5149:2016); and
- a business with management or control of ammonia commercial or industrial refrigeration system, in which more than 100kg of anhydrous ammonia is used as a refrigerant, places signage displaying the correct hazard pictogram and statement for ammonia at the entrance to the building and the entrance to the land on which the building is located.

This change would ensure consistent application of AS/NZS 5149:2016 across all commercial refrigeration systems that use refrigerants with flammable properties – including ammonia.

There was wide support for this option from submitters. However, two key stakeholders (one representing cold storage operators and one representing academics in the refrigeration field) were opposed to the proposal.

The first stakeholder was concerned about the feasibility of upgrading older ammonia systems to meet the requirements in AS/NZS 5149:2016. MBIE considers that this concern can be addressed by clarifying the application of the Standard in the regulations. The scope of AS/NZS 5149:2016 is limited to new refrigeration systems, extensions or modifications of existing systems, and the conversion of a system for another refrigerant. Making this explicit in the regulations will remove concerns that older systems must comply with the Standard.

Owners of older ammonia refrigeration systems would of course still need to ensure that they manage their systems in accordance with the more general duties of the HSW Act, and the more specific requirements to manage pressure equipment risks under the PECPR Regulations.

The second stakeholder was of the view that the main risks associated with ammonia systems are in theory already managed sufficiently under the PECPR Regulations. However, this submitter did concede that in practice pressure piping and associated safety equipment is often ignored by equipment inspectors carrying out periodic checks under the PECPR Regulations and that these persons often have limited familiarity with refrigeration and the particular risks of the process. MBIE considers that the PECPR Regulations alone are not sufficient to manage all risks associated with ammonia refrigeration systems.

This change would also ensure consistent application of current signage requirements across all commercial and industrial refrigeration systems that use refrigerants with flammable properties – including ammonia.

Following further targeted consultation between November 2019 and January 2020, it is proposed that a three-month transitional timeframe is introduced for owners of ammonia-

based refrigeration systems to have sufficient time to be in compliance with those signage requirements. We expect this to have a beneficial impact on owners of ammonia-based refrigeration systems. It received wide support from submitters during consultation.

This option would enable the primary criteria (effectiveness) to be adequately met. It would help to establish a common understanding of requirements for the design, construction, installation, operation, maintenance, and repair of ammonia refrigeration systems between system owners, operators responsible for the day-to-day operation of the system, and refrigeration contractors used to carry out the maintenance and repair tasks.

Impact Analysis (Proposed approach)

Summary table of costs and benefits

Affected parties (identify)	Comment: nature of cost or benefit (eg ongoing, one-off), evidence and assumption (eg compliance rates), risks	Impact <i>\$m present value, for monetised impacts; high, medium or low for non-monetised impacts</i>
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Additional costs of proposed approach, compared to taking no action

Regulated parties	<p>Cost impacts are expected to be minimal for new ammonia refrigeration systems as compliance with AS/NZS 5149:2016 will be met during the design phase.</p> <p>Cost impacts may be higher for extensions or modifications of existing systems but this impact is hard to quantify and will largely depend on the current condition of the system and the scope of the extension or modification.</p> <p>Cost impacts associated with the proposed requirement to place signage displaying the correct hazard pictogram and statement for ammonia at the entrance to the building is expected to be minimal as most sites already comply with this basic requirement as it is good industry practice.</p>	Low - Medium
Regulators	WorkSafe is currently carrying out operational work to improve ammonia refrigeration plant owner awareness, understanding, and compliance with current regulatory requirements. This work is being carried out from within existing baselines.	Low
Wider government	Not applicable	Not applicable
Other parties	Not applicable	Not applicable
Total Monetised Cost		Not applicable
Non-monetised costs		Low

Expected benefits of proposed approach, compared to taking no action		
Regulated parties	<p>This change, by ensuring compliance with the Standard, would reduce the risk of harm to persons and property from leaks or unintended discharges of ammonia from commercial refrigeration systems.</p> <p>It would help to establish a common understanding of requirements for the design, construction, installation, operation, maintenance, and repair of ammonia refrigeration systems between system owners, operators responsible for the day-to-day operation of the system, and refrigeration contractors used to carry out the maintenance and repair tasks.</p> <p>The second part of this change, by ensuring compliance with signage requirements, would ensure that emergency responders are aware of the refrigerant being used on site, which in turn helps to inform the tactics and equipment used when responding to an incident.</p>	Medium
Regulators	Avoided costs associated with a major loss or containment incident involving ammonia, which could include costs associated with investigations and legal costs.	Medium
Wider government	Avoided costs associated with a major incident, which could include: treatment and compensation costs associated with fatalities and/or serious injuries; costs associated with emergency response; and costs associated with investigations and legal costs.	Medium
Other parties	Not applicable	Not applicable
Total Monetised Benefit		
Non-monetised benefits		Medium

What other impacts is this approach likely to have?

Option 2 will improve simplicity and consistency for ammonia system designers, owners, operators, and service technicians by clarifying requirements through AS/NZS 5149:2016. However, consistent with the status quo there will be a lack of clarity and consistency of specifications and requirements in relation to older systems, as only performance-based requirements will apply.

MBIE considers that this option strikes an appropriate balance between workability of rules and the need to reduce the risk of harm to persons and property from leaks or unintended discharges of ammonia by ensuring that best industry practice for the safe design, construction, installation, operation, maintenance, and repair of ammonia refrigeration systems is followed.

Some unions (E Tu and the Meat Workers Union) were of the view that this option could be further strengthened by requiring a higher standard of worker participation where an ammonia refrigeration systems is unable to comply with AS/NZS 5149:2016.

MBIE considers that existing requirements for worker participation are sufficient but that improved monitoring of the implementation of these requirements should be carried out as part of WorkSafe inspections of workplaces where these types of systems are used, such as meat processing plants.

WorkSafe considers a PCBU's worker engagement, participation, and representation practices when inspectors visit a workplace. WorkSafe inspectors ask questions to understand the arrangements in practice, provide relevant information, and require the PCBU to make improvements (where necessary). Enforcement action is undertaken where the PCBU has deliberately not implemented ways to engage with workers or support worker participation, and where worker participation is not working effectively.

Stakeholder views

What do stakeholders think about the problem and the proposed solution?

Refer to stakeholder views section in Part 1 of this Impact Summary.

Implementation and operation

How will the new arrangements be given effect?

Regulation changes – signage

Regulation 2.5(3) of the Hazardous Substances Regulations would need to be deleted to ensure that a business with management or control of a commercial or industrial refrigeration system, in which more than 100kg of anhydrous ammonia is used as a refrigerant, places signage displaying the correct hazard pictogram and statement for ammonia at the entrance to the building and the entrance to the land on which the building is located.

Regulation changes – requiring compliance with the joint AS/NZ Standard for commercial refrigeration systems

Regulation 1.13(2) of the Hazardous Substances Regulations clarifies that these regulations (other than signage requirements at regulations 2.5 and 2.6) do not apply to a

refrigeration system to which regulation 10.10 applies.

Regulation 10.10 of the Hazardous Substances Regulations provides that a business with management or control of a commercial or industrial refrigeration system that contains a flammable gas refrigerant must ensure that the quantity and the means of containing the refrigerant comply with the joint AS/NZ Standard for commercial refrigeration systems.

Regulation 10.2 of the Hazardous Substances Regulations clarifies that Part 10 of the regulations does not apply to anhydrous ammonia that is contained in plant in which anhydrous ammonia is used as a refrigerant.

Consequently, deleting regulation 10.2 would ensure that regulation 10.10 also applied to anhydrous ammonia, given the flammable properties of the substance.

Regulation 10.10 would also be amended to clarify that this regulation only applies to new refrigeration systems, extensions or modifications of existing systems, and the conversion of a system for another refrigerant.

Implementation

Publicity of the changes would be required, specifically targeting the HVAC&R industry and owners of commercial and industrial ammonia refrigeration assets. This could be done as part of the work that is currently being carried out by WorkSafe to improve ammonia refrigeration plant owner awareness, understanding, and compliance with current regulatory requirements.

Compliance monitoring and enforcement

WorkSafe (as per normal processes) will target its enforcement activities to prevent most serious risk of harm, and this includes when monitoring compliance with notices. Notices would be issued when there is a significant risk, or when it is a compliance based matter. If compliance with the notice is in doubt, then the duty holder will be closely monitored. Failing to comply with an improvement or prohibition notice would normally lead to a prosecution.

Implementation risks

We anticipate that there will be some risks around duty holders lack of awareness of the requirements of the joint AS/NZ Standard for commercial refrigeration systems. This could be mitigated by awareness raising activities targeting the industry groups (e.g. the meat processing industry) that use commercial and industrial ammonia refrigeration systems.

Similar awareness raising activities will be needed to reach designers, fabricators, and installers of such systems.

Monitoring, evaluation and review

How will the impact of the new arrangements be monitored?

We will monitor the effect of the proposed changes through the collection of information from a range of sources, including:

- the number of notifiable events (serious injuries, fatalities, and loss of containment incidents) reported to WorkSafe involving ammonia refrigeration plant;
- any notifications of concern about unsafe conditions reported to WorkSafe involving ammonia refrigeration plant;
- communication between WorkSafe and: inspection bodies that periodically check the pressure equipment associated with ammonia refrigeration plant; HVAC&R contractors that specialise in ammonia based work; industry associations that represent owners of ammonia refrigeration plant (e.g. Meat Industry Association); and relevant unions (e.g. Meat Workers Union); and
- ongoing and completed investigations conducted by WorkSafe.

When and how will the new arrangements be reviewed?

A post-implementation review of this policy should be carried out no less than five years after these changes have commenced.

PROACTIVELY RELEASED

Cost Recovery Impact Statement

A Licensing Regime for Refrigeration, Heating and Air Conditioning Technicians.

Agency Disclosure Statement

This Cost Recovery Impact Statement has been prepared by the Ministry of Business, Innovation and Employment (MBIE).

It provides an analysis of options to introduce licencing fees, including fees for the renewal of a licence, and for a replacement licence.

The costing analysis is based on a breakdown of the outputs and processes associated with the proposed licensing regime, and allocating and apportioning costs to the processing of licensing documents.

There are no major gaps in the research that underpins this analysis.

Key assumptions in this Disclosure Statement are:

- FTE requirements and complexity profile that are used in the calculation of the proposed licence fee, renewal and replacement fees
- the proposed licensing regime will affect approximately 4,800 technicians in the heating, ventilation, air conditioning, and refrigeration industry
- licensing regime will stay as enacted for 15 years (modelling is based)
- a need for ongoing assurance that the system works as intended.

A potential dependency is that there will be a fit-for-purpose qualification regime in place.

The technicians need to submit evidence that they have met the qualification/unit standards to confirm the competencies.

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Executive summary

The Minister for Workplace Relations and Safety recommends that the Cabinet Economic Development Committee specifies that the new licensing fees are \$720 (including GST) to cover a licence application for five years, \$720 to renew a licence, and \$120 for a replacement licence.

The licensing fees proposal is based on current costs in line with the guidelines for public sector fee setting: the Auditor-General's 2008 Charging fees for public sector goods and services, and the Treasury's 2017 Guidelines for Setting Charges in the Public Sector.

It is standard practice for government to charge fees for licensing, as licensed persons receive the benefit (ie beneficiaries) of providing a chargeable service. The proposed fees also provide for the ongoing competency assurance of refrigeration and air conditioning technicians.

Targeted consultation with stakeholders took place between December 2019 and January 2020. Most submitters were supportive of the proposed fees.

The principles that guide the cost recovery for processing licences include WorkSafe having the authority to charge a licence fee, improving the effectiveness of the licensing system, and setting the proposed licence fees based on stakeholder feedback.

A plan for implementing the proposed licensing regime is being developed. Information for monitoring and evaluating the licensing regime will be obtained from several sources.

Status quo

Currently, there are no charges in place to recover the costs associated with the new licensing regime for specified refrigeration and air conditioning technicians.

The proposed fees will cover applications for licences, renewal of licences, and replacement of licences. The fee will also cover the provision of ongoing competency assurance. Currently there is no party external to WorkSafe accredited to provide competency assurance for refrigeration technicians, so competency assurance will need to be provided and/or resourced by WorkSafe.

These activities require the contributions from identified staff members (advisor and senior support officer) who are involved in the licensing process, with staffing hours quantified based on experience of similar processes and using average pay rates. The costings incorporate some allowance for managers' time, and overheads. The proposed fees also provide for the ongoing competency assurance of refrigeration and air conditioning technicians.

Regulations will need to be made under the Health and Safety at Work Act 2015 that prescribe fees for the administration of licences to cover applications for licences, renewal of licences, and replacement of licences. These regulations are currently being drafted by PCO.

Cost Recovery Principles and Objectives

The relevant principles to guide and apply the cost recovery proposal are as follows:

- Authority - Section 211(1) of the Health and Safety at Work Act 2015 (HSWA) provides for regulations to be made prescribing fees or charges for doing any act or providing any service for the purposes of HSWA and regulations made under the

Act. The regulations will set out the authority for WorkSafe to charge a licence fee for processing licensing applications

- Effectiveness - resources are allocated in a way that contributes to the outcomes being sought by the activity.
- Consultation – targeted consultation has taken place with stakeholders about the proposed fees, which provided an opportunity for submitters to contribute to the policy discussion.

Consistent with Treasury guidance, the objective of the current proposal to introduce an administrative fee is to ensure that:

- the licensing regime is administered to an appropriate quality and standard (consistent with the resources that are funded by the fee)
- there is accountability for the efficient administration of the licensing regime
- The fee is set at a level that supports WorkSafe to (proportionately) carry out its functions, and to manage health and safety risks associated with alternative refrigerants
- Under the equity principle, liability for paying the fee is on the appropriate persons, in most cases the risk exacerbator (who is also the main beneficiary) and the general public on account of the public good elements of the regime (Kigali Amendment and public safety).

Policy Rationale: Why a user charge? And what type is most appropriate?

The policy rationale is consistent with WorkSafe's cost recovery principles, including but not limited to:

- Authority - there is clear legal authority to recover costs
- Shared responsibility and clear accountability - cost recovery assists in holding duty holders to account for their responsibilities
- Outcome focused - constructive and purposeful in the choice of actions, including cost recovery
- Consistent - decisions on cost recovery are consistent and specific to context
- Transparent - duty holders know what to expect from us. We tell them why costs will be recovered, when they will be sought, and how they will be recovered
- Public interest - WorkSafe considers public interest when seeking cost recovery.

Cost recovery is appropriate for this licensing regime because the licensing services that need to be funded are required for the effective operation of the scheme.

The services that are funded from the fee are beneficial for the licensee (technicians who need to be licensed), and potentially the PCBU, because they reduce the risk of harm from carrying out unlicensed work on commercial or industrial refrigeration, heat pump or air conditioning systems that use flammable, toxic or very high operating pressure refrigerants.

The outputs of the activity (the characteristics of the service) are 'club goods', where people can be excluded from its benefits at a low cost but its use by one person does not detract from its use by another. In economic terms, the good is 'excludable' which means that people can be prevented from using it.

It is proposed that the licensing fee be set at \$720 for a five year period (including GST), as well as \$720 for a renewal of a licence, and \$120 for a replacement licence. This is a full cost recovery model, whereby the full direct and indirect costs of processing applications and competency assurance of technicians are recovered.

The fee will be paid by technicians and engineers, who install, repair or maintain refrigeration, heating or air conditioning systems. The rationale for selecting a fee-based charge is because it is intended to be imposed on individuals for a regulated service directly provided to and benefiting the licensee.

We estimate that the licensing fee will be paid by up to 4,800 technicians and engineers who install, repair or maintain refrigeration, heating or air conditioning systems

The proposed fees are similar to or lower than the licensing fees paid by electrical workers and lower than the fees paid by plumbers. In comparison, electrical workers pay \$350 one off registration and \$250 every two years for a practising certificate.

The level of the proposed fee and its cost components (cost recovery model)

The main cost drivers for this service (processing licencing applications) are project establishment costs, direct costs (salaries of relevant staff, competency assurance travel costs, additional assurance travel costs) and depreciation.

Cost modelling was carried out based on projected volumes of application complexity, which affected the length of time (and cost) required to process different application types, eg licences to work on certain refrigerant classes will take longer to process. The cost modelling was also based on 4800 applicants (over a five year licence period) over the five year operating period of the licence.

Key cost information about the licencing regime to support the proposed fees to be recovered through third party sources and the working safer levy are as follows:

	Confidential advice to Government							
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]

Confidential advice to Government

- [Redacted]
- [Redacted]
- [Redacted]

The calculation of the fee is based on the following assumptions:

- 4800 applicants as stated in the budget bid
- A portion of the up-front establishment costs and depreciation costs for this regime will be met by the Working Safer Levy, and a portion will be met by third parties. This is because the IT system will be set up to support other licencing schemes in the future (for example hazardous substances), and therefore part of the establishment costs and depreciation should be funded from the levy.
- There is also a strong public good element to the licensing regime driven by New Zealand's inclusion in the Kigali Amendment and to the public safety benefits arising from safer licensing systems

- [Redacted]
- [Redacted]
- [Redacted]

- A review of the level of the fee takes place four years after the requirement to be licenced comes into force.

The proposed apportionment of costs for the licensing regime is set out as follows:

Confidential advice to Government	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]
[Redacted]	[Redacted]	[Redacted]

We propose that a fee of \$720 be established for the licensing regime. This is \$40 more than the \$680 that we consulted on with stakeholders in early 2020. It covers a licence application for five years.

Proposed licensing fee	\$720
Number of applicants	4800
Confidential advice to Government	

Impact analysis

The fees are expected to impact on those technicians and engineers that are likely to be subject to the licencing regime or their employers. Usually, increased costs are passed on by the technicians to their clients, ie the owners and operators of the refrigeration, heating or air conditioning systems.

It will also have an impact of the Working Safer Levy for a portion of the establishment costs and depreciation charges. This is driven by New Zealand's inclusion in the Kigali Amendment and to the public safety benefits arising from safer licensing systems.

The licensing fees will be new ongoing costs (once every five years) in addition to the one-off costs for technicians to complete any training that may be required to gain a licence. We anticipate that these costs may be between \$500 and \$2,000 depending on the current qualifications and experience of the individual.

For those that already hold a trade certificate in refrigeration and air conditioning, or have equivalent qualifications or experience, the amount of additional training required and associated costs are expected to be small.

We anticipate that the licensing regime will apply to approximately 4,800 technicians in the heating, ventilation, air conditioning, and refrigeration industries.

We consider that the fees are appropriate for government services provided directly to specific individuals or organisations who derive a benefit from those services. It is standard for government to charge fees for licensing, as licensed persons receive the benefit of providing a chargeable service.

The fees reflect the estimated time and cost involved in individual applications.

The fees proposed are reasonable and moderate. They are within general fee levels for licensing. They are comparable to the fees for asbestos removal licences, and are similar to or lower than the licensing fees paid by electrical workers and lower than the fees paid by plumbers.

Consultation

A targeted consultation process was carried out before the licensing regime was finalised to ensure that the licensing regime will apply as intended. This took place between December 2019 and January 2020. MBIE received 140 submissions through an online consultation process.

Submitters engaged more with some matters than others. Key matters that submitters engaged with were:

- The definition of 'light commercial and domestic' received feedback from every submission
- The definition of 'very high operating pressure'
- Whether on-farm milk vats are included in needing a licence was also of particular interest
- Whether there should be a separate licensing class for technicians who work exclusively on transport systems.

Most of the online submissions agreed with the licensing fees of \$680. Most submitters confirmed that the proposed licensing processes (upon which the license fee costing is calculated) were practical and applicable to this licensing regime.

Treasury and WorkSafe have been consulted on the revised fee calculation of \$720. As a result, full cost recovery from the fees alone is not being sought (there are political and policy grounds for not increasing the fee significantly beyond the \$680) although a marginal \$40 increase on the \$680 fee is proposed.

Conclusions and recommendations

The fees have been set to recover the full costs of WorkSafe's services, including the recovery of the full direct and overhead costs associated with WorkSafe's processing of the licensing applications, and ongoing competency assurance of technicians.

The fees cover applications for licences, renewal of licences, and replacement of licences. All involve time by the most appropriate staff member, with hours quantified based on experience of similar processes, and using average pay rates. The costings incorporate some allowance for managers' time, and overheads. The proposed fees also provide for the ongoing competency assurance of refrigeration and air conditioning technicians.

MBIE notes that the proposed fees are similar to or lower than the licensing fees paid by electrical workers and lower than the fees paid by plumbers. An electrical worker pays \$350 for registration (one-off cost) and then \$250 every two years for a practising licence; which equates to \$625 over five years.

The Minister for Workplace Relations and Safety recommends that the Cabinet Economic Development Committee specifies that the new licensing fees are \$720 (including GST) to cover a licence application for five years, \$720 to renew a licence, and \$120 for a replacement licence. This recommendation is consistent with the Treasury and Auditor-General guidelines for charging in the public sector.

Implementation plan

The fees are straightforward to recover. The basis for the costings is clear and included in the consultation process.

A project delivery lead has been appointed to develop the detailed project plan and governance structure to support the implementation arrangements and project rollout, including development of the processes and QA assurance.

Associated planning work has commenced within WorkSafe. Project-related risks and mitigations will be identified in the project plan, along with a schedule plan and dependencies.

An efficient costing model has been established with a reasonable level of overheads incorporated into the model. The model conforms with the Treasury and OAG guidelines.

Infringement offences and fees for the proposed licensing scheme will be identified and set in accordance with the approach for identifying infringement offences which was agreed by Cabinet in September 2015.

Monitoring and evaluation

As the regulator of work health and safety, WorkSafe has a critical role in monitoring and implementing the regulatory framework under HSWA.

Performance information will be collected and monitored by WorkSafe from several sources. This includes monitoring the results of the quality assurance function within the licensing regime, and the reports based on site visits and desk top reviews of the licensing performance information.

WorkSafe will also monitor the number of suspensions and cancellation of licences, and the number of notifiable events (serious injuries, fatalities, and loss of containment incidents) reported to WorkSafe involving HVAC&R technicians/businesses or commercial/industrial refrigeration, heat pump, or air conditioning systems.

Regular communication/networking with industry associations will take place to check-on the implementation of the regime.

WorkSafe will develop performance metrics as part of its measurement framework to monitor system progress in reducing work related harm. One possible metric is percentage of applications for licences with high complexity to be completed within x working days.

Review

It is assumed that the regulations for licensing will not need to be amended in the first 15 years of operation. However the cost drivers, direct and indirect costs and/or process may need to be reviewed in the first four years consistent with Treasury guidelines.