



Refrigerant Licensing Trust New Zealand responding to,

The MBIE DISCUSSION DOCUMENT: “Ensuring effective regulation of Health & Safety risks associated with toxic or flammable refrigerant gases.”
dated 3 September – 14 December 2018.

MBIE seek feedback on the Health & Safety impacts associated with refrigerant gases, in particular as toxic and flammable gases become more prevalent under the impending HFC Phasedown. Refrigerant License New Zealand wish to thank MBIE for the opportunity to consult and provide their submission on this critical issue.

About Refrigerant License NZ (RLNZ)

Refrigerant License NZ (RLNZ), are a charitable trust who provide training courses to the HVAC&R Industry.

The Refrigerant License board was established by CCCANZ (Climate Control Companies Association of New Zealand) and IRHACE (Institute of Refrigeration, Heating and Air Conditioning Engineers) with funding provided by refrigerant levy collection. Initially, the intent was to provide filler and handler training and certification for HVAC&R practitioners. Subsequently RLNZ has expanded its activities to provide a wider range of training and professional development for people in the HVAC&R industry.

RLNZ have now been training practitioners in the wider HVAC&R industry for some 9 years. It was formed as the industry responded to the Tamahere disaster, agreeing to take the lead and ensure the industry is responsible for specific fillers and handlers training and to ensure a higher level of compliance.

www.rlnz.org.nz

Executive Summary

We are aware that Institute of Refrigeration, Heating, Air Conditioning & Ventilation Engineers (IRHACE) have consulted directly not only with their members but also with us at RLNZ and our associated industry group, Climate Control Companies Association of NZ (CCCANZ) who share the same aims and views. These two groups offer their own separate submission to you and we enclose our submission from RLNZ, which by and large concurs with the wider HVAC&R Industry as they seek your approval to provide this Credential. Specifically, RLNZ provide answers from a training and compliance perspective, as is our area of expertise.



To date, RLNZ have trained in excess of 4500 industry Technicians, Engineers and Apprentices, in a range of both face to face and online training, following a compliance-based approach over a period of 9 years. These courses, however, have lacked sufficient teeth as there was no mandatory requirement for said training.

After consultation with IRHACE and CCCANZ, RLNZ seek to address the need for a mandatory Credential with this submission.

Globally, National Certification Schemes for Refrigeration and Air Conditioning Service Technicians are commonplace. Many have addressed through these schemes the anticipated uptake of 'alternative refrigerants' but have also entrenched their training in all refrigerants, in order to ensure the best practical methods of verifying the competence of persons handling refrigerants, be they familiar or unfamiliar. New Zealand are late in their implementation of a Certification scheme and are poorer for the lack of competence and compliance of their workforce in this sector.

The below submission, in addition to answering the specific questions as requested in the Discussion Document, places emphasis on the actual Credential, how the industry envisage it will look and how that Credential will be managed. A team representing all 3 entities was formed earlier this year to investigate the requirements surrounding an Industry Credential and subsequently, to develop a high-level roadmap (attached) on the Credential and how it would be enforced/administered.

RLNZ have, over the past 9 or so years, developed an in depth understanding of the industry and trainee needs and can demonstrate a strong commitment to compliance in all they do, as attested in the Approved Filler courses they teach and manage. With the impending change to refrigerants that will become commonplace for use in our industry under the Kigali Amendment to the Montreal Protocol, this represents a meaningful change to the way in which our Technicians have traditionally applied their skills, particularly in regard to Health & Safety. There is an obvious need to significantly lift, consolidate and coordinate our training standards.

To this end, RLNZ are confident they, along with IRHACE and CCCANZ, have the capability to develop the required training format and courses, which will ensure all Technicians and Engineers can demonstrate the competency to co-operate safely and effectively in all aspects of installation, maintenance and service applications in all sectors of the industry. RLNZ also believe they have the capability to establish and manage a Registration/License Board and all that entails. Both are explained in appendices A & B to this document below.

Our Responses to the MBIE Discussion Document

Technicians are not required to demonstrate their competency to install, repair and maintain systems that use flammable or toxic refrigerant gases.

- 1. Have we accurately identified the issues associated with the competence of refrigeration Technicians to install, repair and maintain systems that use flammable or toxic refrigerants? Are there other issues associated with this matter?**

YES

You have identified the issues in respect to competence. The problem has been identified correctly, but accuracy as to the reasoning behind this fact is lacking. This is due to the fragmentation that currently exists within our industry, with corresponding stagnation or decline in numbers of trained Technicians, i.e., differentiation between the competency of a heat pump installer and the competency of a refrigeration engineer.

Some sectors traditionally requiring minimal qualifications will need to upgrade their basic refrigeration skills (along with an understanding of the characteristics of different refrigerants) all sectors will, in future be handling the same refrigerants and facing the same risks when handling them. Two examples are:

1. Split System Heat Pump Air Conditioning less than 18Kw
2. Automotive Air Conditioning

The basic skill required to safely handle refrigerants in both sectors is still “Refrigeration”. The current level of skills required is insufficient for the above and many other sectors that handle refrigerant. We believe that the basic skills required in an environment covering all refrigerants, including low GWP refrigerants, need to be consistent and standardised.

We have identified areas where current and future Technicians will be required to upskill beyond the current Trade Certificate, Handlers and Approved Filler Course. Along with that cover, other relevant topics, such as an understanding of HASNO and HAZCHEM, also need to be introduced as part of a standardised curriculum for all Technicians who handle refrigerant.

Due to the likelihood that very high-pressure refrigerants such as CO₂ being introduced for sectors of our industry (e.g. automotive), we therefore strongly recommend that any Technician who may install, repair and maintain refrigeration, heat pump or air conditioning systems have a mandatory requirement to hold a current Credential/License, as part of the Credential being proposed.

In every case, the level of skill attainment must align with a higher level of understanding than is currently the case.

- 2. Do you agree with these objectives? Would you suggest any others?**

YES

We agree with the objectives as stated.



RLNZ share the views stated by IRHACE and CCCANZ in their capacity as membership entities. They suggest additional objectives which we understand will ensure a mandatory Credential for all refrigerants and all Technicians, at all times

Option 1: Introduce an authorisation requirement for individual refrigeration service technicians in regulations under the HSW Act

3. Do you support the introduction of an authorisation requirement for individual refrigeration technicians in regulations under the HSW Act?

YES

The HVAC&R Industry are currently working on a revised and upgraded qualification framework as part of a new industry 'Credential' for their Technicians. The role of RLNZ is to administer the Training and License aspects of the Credential and the HS&W Act is the appropriate legislation to put such a License under.

4. What do you think are the main benefits and costs of this proposal? (Please quantify any impacts identified and express in dollar terms to the extent practical)

The main benefit to the proposal for a mandatory Credential would be to maximise risk mitigation of not only the Technicians, but also their customers and the public.

RLNZ are very clear that the word 'authorisation' in this context equates to Technicians holding a mandatory industry Credential (including a License as defined above).

Clearly, there will be added costs. For many, this will be viewed as a cost of doing business and to improving the quality of safe delivery for our industry. Others may not share that view. Regardless, a mandatory Credential will raise the *quality* and *professionalism* in the industry – both being necessary prerequisites for improving accountability in terms of safety in the use of refrigerants both for the Technicians and the public in general.

Whilst we have a view as to cost implications, we see that the final cost of a Credential is best determined following the finalisation of the government's direction.

IRHACE have done a significant amount of work on how that Credential should look and are confident they can provide a comprehensive framework to ensure those standards are reinforced. Refer Appendix A for more detail.

5. Do you agree that Technicians who only work on automotive air conditioning systems should be excluded from the proposed requirement to hold an authorisation? If no, why?

Definitely **NO**.

This answer is no because of the magnitude of risk to life (their life and others). Whilst we don't have day to day contact with the practices and procedures currently employed in the automotive industry,

the risks are similar. Our industry does and can work in a mix of disciplines and refrigerants and must be trained for the optimum outcome and safety in every scenario.

6. Do you agree that Technicians should not be required to hold an authorisation for any work on a refrigeration system, heat pump or air conditioning system that uses non-toxic or non-inflammable refrigerants? If no, why?

NO, we DO NOT AGREE with your statement.

Every Technician should be required to hold an authorisation (Credential) independently. No-one should be exempt. Otherwise, there is the risk of loopholes being found. To introduce a Credential for Technicians yet leave a 'loop-hole' to circumvent the safe use of any refrigerant, would be contrary to the HS&W Act in a regulated governance structure advocated in our opinion.

7. Should the proposed authorisation requirement apply (or not apply) to Technicians who work on refrigeration or air conditioning systems in aircraft, vessels, transportable containers and mobile (truck or van) refrigeration units? Why?

YES, it must apply.

The key is the *refrigerant* type – not the system type, size or industry sector.

Accordingly, our opinion is that the proposed authorisation should, indeed, apply to all Technicians working with any refrigerant.

Regardless, this must apply to:

- all refrigerants,
- all categories,
- all Technicians/Engineers

8. Do you agree with the proposed categories for the refrigeration technician authorisation? If no, why?

NO, as explained in our answers to items 5 through to 7 above

Regardless of the situation, this must apply to;

- all refrigerants,
- all categories,
- all Technicians/Engineers

9. Do you agree with the proposed high-level criteria to be met before a Technician authorisation will be issued?

YES, we do agree.

There cannot be any exceptions. *Any* Technician working with *any* refrigerant should be trained and acknowledged via authorisation (i.e., Credential), as outlined in Appendix A.

10. Are there any other high-level criteria that should be met before a refrigeration Technician authorisation will be issued?

YES

We believe there are shortcomings and that our industry can introduce a better training regime, refer Appendix A.

Option 2: Introduce an authorisation requirement for refrigeration service businesses in regulations under the HSW Act.

11. Do you support the introduction of an authorisation requirement for refrigeration service businesses in regulations under the HSW Act? If no, why?

NO.

Our preference remains for **Option 1**, as outlined above, because it is the closest control point for mitigating the risk.

By taking Option 1, and training the individual Technician, the PCBU will be a stronger business by employing the satisfactorily trained and qualified staff; in turn, lifting the value of that business.

Questions 12 thru 19

Not applicable

Option 3: Build on the current approach to industry self-regulation supported by WorkSafe effort to improve awareness, understanding, and compliance with current regulatory requirements.

20. Do you support building on the current approach to industry self-regulation supported by WorkSafe improving awareness, understanding and compliance with current regulatory requirements? If no, why?

NO

Due to the fact that current training and regulatory regimes have not worked, we do not advocate for embellishing the status quo. We see the only option to be a mandatory Credential for all workers and are of the view that the current regulatory framework, such as Pressure Vessels and HSW Act, have to date not adequately protected the practitioners or the public. There needs to be a change.

RLNZ, as mentioned in Appendices A & B, have identified how to mitigate that risk from a training and compliance perspective and again, support **Option 1** only.

21. What do you think are the main benefits and costs of this proposal? (Please quantify any impacts identified and express in dollar terms to the extent practical)

There are no benefits to this proposal. There is only the inherent risk of our industry standing still, which is the option offered here.

No large or small amount of money spent on training would have any value under this option. As mentioned previously, with low GWP refrigerants, the risk of injury to an untrained workforce would escalate.

Compliance with the joint Australian/New Zealand Standard for commercial refrigeration systems is not mandatory for systems using anhydrous ammonia

22. Have we accurately identified the gaps in the current regulatory requirements for ammonia refrigeration systems? Are there any other issues associated with this matter?

YES

The basic skill required to safely handle all refrigerants (including anhydrous ammonia, which is being utilised more and more as A1 refrigerants become less available) is still “Refrigeration”. The safe handling of anhydrous ammonia needs to align with the current qualification framework. Anhydrous ammonia is simply another refrigerant and has its own particular dangerous characteristics, in relation to safe handling.

23. Do you agree that there is a case for requiring operators of ammonia systems to comply with the joint Australian/New Zealand Standard for commercial refrigeration systems?

YES

However, this answer is reserved for anyone operating Plants employing ammonia refrigerant; it does not change our belief regarding Technicians and their qualifications, which need to have a wider focus encompassing all Kigali refrigerants. The need for more trained Technicians will increase as high GWP refrigerants become more costly and scarce.

We believe that anyone handling anhydrous ammonia should have a similar level of standardised training and regulation as anyone handling any refrigerants. As mentioned in our answer to question 1 above, as the level of use of ammonia increases, additional trained Technicians will be required, even if they eventually operate a single plant (i.e., become a Plant Operator).

24. Do you agree with the proposed change to regulation 10.10 of the Hazardous Substance Regulations? If no, why?

YES

We agree, noting that this is a standard applicable to each site using anhydrous ammonia. It should not be confused with our clear advice in this submission that the industry Credential should also include the necessary knowledge to handle ammonia and the HASNO (storage and handling



regulations) and HAZCHEM (signage) that are fundamentally applicable to the associated level of risk.

25. Do you agree with the proposed transitional arrangements? If no, why?

YES

26. What do you think are the main benefits and costs of this proposal? (Please quantify any impacts identified and express in dollar terms to the extent practical)

The main benefit of the proposal is to establish a common basis of understanding between Plant Owners, Plant Operators and external service providers (i.e., Technicians).

Costs will be similar to those mentioned in item 4; however, some specialised training would come at additional cost. These are unlikely to be greater than the costs incurred for current additional plant operator training.

The Credential – for all Technicians including Plant Operators, will also assist in “defragmenting” training, providing additional career paths for Technicians towards becoming a Plant Operator.

Industry Capability to Deliver on a Credential

Training Development

As mentioned in the Executive Summary, RLNZ, IRHACE and CCCANZ are confident they have the governance, structure and knowledge and can build on their current resources to develop a suitable industry training framework. Known as the trade training body for the industry, members of the wider HVAC&R industry see RLNZ as the ideal vehicle to spearhead the Credential.

RLNZ currently deliver their courses both online and face to face, theory and practical, and plan to expand on that. A prior arrangement with Moodle, Learning Works and a sophisticated CRM, means the foundations have been laid and the infrastructure already developed. We envisage that growing the current model is very doable. A Continuous Professional Development (CPD) programme whilst in its infancy with our entities, is seen as another lever to manage compliance especially as the Credential progresses.

Through a longstanding relationship, Competenz have operated as the industry ITO and worked with this sector for apprentice training and the wider NZQA relationship. This would continue, and we would see Competenz to be an integral partner in this process.

Licencing Body

Similarly, the entities have investigated the requirements for a governing licencing body to manage compliance for the mandatory Credential. This could be through a number of vehicles be it an existing Registration Board, such as REA (Engineering Associates Registration Board), with whom some of our membership is currently registered, or through our entities developing and administering their own. RLNZ have investigated and are prepared to do this.



Leadership

Board members from each of the entities have strong CVs in their own right and have the capability to provide robust support to the management body who will administer both the training and the licensing body. Many of the board members have a longstanding heritage with the industry and understand the current workings of our organisations in detail.

Why a mandatory Credential?

The HVAC&R industry has attempted to comply with the current passive arrangements and despite the HSW Act and the Pressure Vessels regulations providing a framework for compliance, Technicians and Engineers have failed to become a compliant and qualified workforce. As more volatile low GWP refrigerants predominate, the need becomes greater.

With the Approved Filler courses, the qualification gained was designed to not only ensure appropriate training, but also to limit the purchase of refrigerants. This has not been strictly enforced and a mandatory product stewardship scheme, such as that mooted by Refrigerant Recovery NZ, will provide an added level of regulation and compliance.

A mandatory certification scheme supported by regulations, such as the one we recommend below in Appendices A&B, has the advantage of providing a strong incentive for technicians and businesses to comply and verify the competence of the practitioners handling equipment and refrigerants. This will ensure best practice and prevent leakage of refrigerants.

In Conclusion

We trust that you will see from our responses and the attached Appendices that RLNZ and the wider HVAC&R industry are committed to ensuring the highest standards of Health & Safety. They see the current regulatory framework to be deficient and are advocating for a new mandatory Credential for all Technicians/Engineers that are required to utilise refrigerants in their chosen field of endeavour, all using, exclusively, their refrigeration skills.

To introduce a framework where all Technicians can demonstrate suitable qualifications in the use of all refrigerants without exception, will ensure the industry meets their Health & Safety obligations and reduce risk to workers and the public, as the more flammable, higher pressure and toxic refrigerants become more prevalent.

Please refer to the attached appendices for a high-level view of the Credential and Registration body. Please also feel free to contact the undersigned, should you require more information or wish to discuss our submission further.



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Appendix A – Industry Credential

These appendices provide a high-level outline of the requirements identified by our HVAC&R Industry team to initiate and operate a mandatory industry Credential at Technician or Engineer level.

RLNZ are committed to ensuring all Technicians and Engineers can demonstrate the competency to operate safely and effectively in all they do, encompassing every aspect of refrigeration installation and maintenance/service applications throughout New Zealand, including (but not limited to:

- a simple heat pump installation
- a significant commercial refrigeration installation (e.g. Supermarket employing either a simple single refrigerant system *or* either trans/sub-critical system designs with multiple refrigerants)
- a mechanical service fit out
- a large ammonia cool-store complex
- a motor vehicle air conditioning system
- a marine refrigeration system or an aircraft air conditioning system.

A team of industry veterans has been gathered from IRHACE, CCCANZ and RLNZ to investigate needs and develop the **Credential** proper. We share with you a high-level view of how we see that Credential looking.

The team have also investigated options around a **Registration** body to authorise Technicians and Engineers and ensure compliance.

More about both initiatives below.

How will a mandatory Credential look for all Technicians and Practitioners?

The Credential includes a tiered Certificate of Competence structure, with increasing grades of eligibility within, to cater for safe handling of all refrigerants. That is, all Technicians must sit a practical and theoretical examination and be graded according to competency level.

This applies equally to every Technician wishing to handle or purchase any refrigerant.

The basic skill required to safely handle refrigerants in both sectors is still “Refrigeration”. The current level of skills required is insufficient for the above and many other sectors that handle refrigerant. We believe that the basic skills required in an environment covering all refrigerants, including low GWP refrigerants, need to be consistent and standardised.

To do this, Technicians will need to align with the current qualification framework, namely, Trade Certificate and the Approved Filler course. Other relevant topics, such as an understanding of Hazardous Substances (HASNO) and how to handle spills of Hazardous Substances (HAZCHEM), also need to be introduced as part of a standardised curriculum for all Technicians who handle refrigerant.

Certain *very high-pressure* refrigerants, such as CO₂ are being considered for some of the sectors of our industry (e.g., automotive). We therefore strongly recommend that any Technician who may install, repair and maintain refrigeration, heat pump or air-conditioning systems using high pressure refrigerants that might be considered, have a mandatory requirement to hold a current Certification /License as part of the Credential being proposed. The level of skill attainment must align with a higher level of understanding than is currently the case.

A table illustrating the Credential tiers is below

| Heat Pumps/ Automotive/ Air conditioning < 18KW | Commercial Refrigeration <10kg | Commercial Refrigeration >10kg | Ammonia |
|---|---|---|---|
| <p>*Alternative specialised courses incl CO₂ (New Courses)</p> <p>Fillers Course (upgraded)</p> <p>Flammables Course (upgraded)</p> <p>**EST</p> | <p>*Trade Cert (upgraded)</p> <p>Fillers Course (upgraded)</p> <p>Flammables Course (upgraded)</p> <p>EST</p> <p>Pressure (new course)</p> <p>Brazing (new course based on Unit2116)</p> | <p>Trade Cert (upgraded)</p> <p>Fillers Course (upgraded)</p> <p>Flammables Course (upgraded)</p> <p>EST</p> <p>Pressure (new course)</p> <p>Brazing (new course based on Unit 2116)</p> <p>HSNO (new course)</p> <p>*GRWM Regs 2016 (new course)</p> | <p><u>Plant Operators</u></p> <p>Industrial Ammonia Plant Operators Course + HOURS</p> <hr/> <p><u>Design, Build, Service</u></p> <p>Trade Cert (upgraded)</p> <p>Ammonia Service Technician</p> <p>Required Unit Standards</p> |
| <p>*Specialised courses for each sector</p> <p>** Automotive Servicing will not require EST</p> | <p>*impending update to current Trade Cert due in 2019</p> | <p>*General Risk and Workplace Management (GRWM)</p> | |

Consideration has also been given to additional aspects of the Credential and these are explained in the brief below (*please note they are by no means all encompassing, and have been listed for ease of referral*):

- Enhancement of existing Trade Certificate qualifications.
- Additional training for existing Technicians.
- A form of grandparenting of all existing Technicians at the outset.
- A method of Capstone and/or Prior Recognition of Learning for some in the industry, be they older Technicians, or those looking to immigrate.
- Use of Continuous Professional Development (CPD) to incentivise upskilling on an ongoing basis
- As refrigerants are likely to change markedly in future years, there is a need to regularly revisit the Technician knowledge and training.



- Any changes to the regulatory framework introduced now must be suitably robust enough to accommodate knowledge where increased pressure, flammability, or toxicity of refrigerants becomes more prevalent, the norm even.
- Requiring the individual to demonstrate competency when installing, repairing, or maintaining these systems will provide a much higher level of certainty than other options available.
- Training would need to be both theoretical and practical as it is the only feasible method to transfer and verify the practitioner's knowledge and skills.
- The training would need to be tailored to different target groups and to ensure it is easily facilitated. In that manner, we would offer face to face or online training, or a mix of both.
- We envisage the training would also be an extension of the existing courses offered for the Refrigeration Sector. Most are evaluated by Competenz in line with NZQA requirements, unit standards, etc., and we see that would continue.

The Credential will include training under Pressure Hazards, HASCHEM and HASNO, and in brief below:

1. A practical test to demonstrate understanding for the grade they wish to practice,
2. A test to demonstrate knowledge of related legislation, such as HASNO & HAZCHEM signage and clean-up procedures,
3. Training to understand refrigerant Safety Standard 5149,
4. Along with training to ensure competency in differing levels and sectors of the industry who handle these refrigerants,
5. An upgraded and consistently revised training regime with Trade Certificate in Refrigeration and Air conditioning (Level 4) being the initial qualification under NZQA, followed by increasingly proportionate advanced steps up the NZQA ladder, plus
6. A renewable "License to Operate":
 - a. Licenses will be issued following the passing of both a practical and theoretical examination, as verified by an *Approved Industry Assessor* (a newly created function for a person possessing sufficient qualifications and industry experience and who maintains a current understanding of the latest curriculum, as updated by the Industry Provider, such as Competenz),
 - b. Licenses will expire every 2 years and require reassessment,
 - c. RLNZ will be the issuer of Licenses and maintain a register of Licensees,
 - d. Provision will be made for holders of current Trade Certificates to partially upskill to the new qualification standard at a local training provider (e.g., MIT) and then sit the two License examination mentioned under item 2a above,
 - e. A Technician, having passed the above qualification (item 1) AND who holds a current License (item 2a), will be eligible to purchase and use any refrigerant approved under current NZ Government mandate.

RLNZ currently operate courses covering Approved Filler, Flammable Awareness and other relevant industry focused courses. Other relevant industry courses are in development for release in 2019. These are being developed to reflect the changing refrigerants and industry needs for training to support such. This will continue as additional requirements are identified.

Costs associated with a mandatory Credential

RLNZ have a view as to cost implications, we see that the final cost of a Credential is best determined following the finalisation of the government's direction. In order to provide guidance in response to MBIE's question regarding costs we make the following points:

- The goal is to upgrade the existing level 3 Trade Certificate to include required training around low-GWP refrigerants. It is paramount to ensure that we do not devalue the Trade Certificate and what apprentices have achieved. The content, however, must be revised to reflect the changing refrigerants and to ensure Health & Safety implications are understood for all refrigerants.
- We point out that there is already a cost to qualify for a Trade Certificate (currently borne as part of the Apprenticeship scheme) and this is unlikely to change substantially
- We envisage that meeting this revised criterion will require a small amount of additional training for all who have already graduated with Trade Cert; however, There are some current Technicians and Engineers who currently hold many of the additional qualifications required, others potentially none (or few,) therefore some will be able to comply faster than others and therefore at less cost.
- You will note in the RLNZ submission (Appendix A), that we also make distinction between the qualification required to comply as solely a Heat Pump or Automotive Air Conditioning Technician and the qualification required to meet the standard as a Refrigeration Technician working on equipment over 18kg, or an Ammonia Plant Operator.
- Making this distinction between these qualifications ensures that Technicians cannot seamlessly transfer between levels and would understand that to do so would require additional training (this is currently not the case).
- For some Technicians or their employers, they will see the costs associated as a cost of doing business. Most businesses in a modern word expect a cost to train and upskill their staff. Costs to train should have minimal effect on product costs, as they should be a necessary expense already.

There would be a cost to train, there is no doubt. Long term, most costs would be included in an apprenticeship. While Technicians and Engineers are upskilling and training to meet the Health & Safety expectations demanded by this Credential, there would be costs. As mentioned above, for some this would be negligible and others more so.

A rule of thumb would be between \$500 and \$2,000 over a 2-year period and would vary based on whether the courses were face to face or online, practical or theory, there are many variables.

We would welcome the opportunity to consult with you further about this when the final scope is established and agreed.

Appendix B – Registration/Licensing Body

An industry Licensing or Registration model is also proposed to further reinforce that process and assessment procedure. It is envisaged that, for practicality's sake, a managed register would align to other similar registers within the construction industry and wider built environment, however, would be managed jointly by a body common to our industry associations, which is already the designated function at RLNZ.

We envisage invoking a grandparenting clause as the Credential is established. In a similar way to the Australian model, grandparenting would be for up to 2 years to ensure all Technicians can be accommodated, based on their level of prior learning.

In line with the above, we believe that a 2-yearly renewal period will ensure ongoing compliance and any necessary upskilling, in particular over the next 10 years, when we envisage massive change to said refrigerants. By utilising CPD (continuous professional development), registrants will be able to demonstrate their compliance and any upskilling to the registration body and their employer alike.

The initial development and costs to establish the body would not be insubstantial but the benefit of an online system in line with existing technology we currently employ for CPD and membership could allow us to expedite that further.

A Registration body and relevant subcommittees, such as for Complaints or Validation, could easily be established from a wide industry base.

Costs associated with Registration

We have investigated the costs of Registration or Certification for similar entities in the wider built environment. Internationally, the costs vary widely, locally, less so. A tiered Registration fee corresponding to the above tiered Credential is workable and viable. Where Capstone or the requirement for Recognition of Prior Learning is needed, the costs would be higher.

The Discussion Document, on page 27, asks whether the proposed fees of \$90.00 for a certificate of competence is viable. **It is not.**

Other entities in the built environment have higher charges, though not exorbitant, and we see our body benchmarked with them.

As you mention, we welcome the opportunity to consult with you further about this when the final scope is established and agreed upon.



Transitional Period

As noted above, we believe there will be a need to grandparent all Technicians and Engineers.

We envisage this transitional period to be 2 years. This was workable in Australia in the lead up to their HFC Phasedown with minimal issue. We see any upskilling on the part of Technicians to be viable over a 2 year timeframe.