

28<sup>th</sup> October 2021

The Registrar

Electrical Workers Registration Board

P O Box 10-156

Wellington

Dear Sir

## Submission on Discussion Document “A Stepped Framework”

### Introduction

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Thank you for the opportunity to make a submission on the discussion paper “*A Stepped Framework*”.

The EEA is disappointed that neither MBIE or the EWRB has engaged earlier with EEA and the electricity supply industry (ESI) to outline and discuss the proposed restructure of the electrical worker registration framework. As the peak body for safety and health in the ESI, EEA has not been consulted during the drafting of the document. Some of the changes proposed have significant implications for the ESI but no evidence has been included in the paper setting out why the changes are required; therefore, it is difficult for our membership to understand the relevance of the changes.

Accordingly, our reading of the document raises several issues and questions that need to be addressed with our sector prior to our being able to support some of the proposals that relate to the ESI.

EEA notes that several of the changes reflect issues and recommendations that the EWRB made in its recent five yearly review report to Government. However, we are not aware that those recommendations have been adopted by Government or approved for implementation. EEA believes that, even if approved by Government, all the proposals should have been thoroughly consulted with the whole electrical industry (including the ESI) prior to the writing of the document and a consensus reached to the effect that the proposals are acceptable and, as such, should be implemented as soon as practicable.

There is a concern that, since the document is comprehensive and includes a draft Gazette Notice giving effect to all the proposals, suggestions for amendments that are received in the very short consultation period may be discounted by considering the administrative effort required to make any changes.

## BACKGROUND

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Founded in 1927, the EEA is the national organisation for engineering, technical and health and safety matters within the ESI.

Our members include over 70 Corporate Members (companies) and 450 Individual Members from all engineering disciplines and sectors of the ESI, including generation, electricity networks (transmission and distribution), contractors (operation/maintenance), engineering consultancies and equipment suppliers.

The EEA works collaboratively with industry, government, and other stakeholders to provide expertise, advice, and we hold or contribute to significant bodies of knowledge on engineering/technical and safety issues relating to the ESI in New Zealand. All EEA guides and publications are publicly available.

Our functions include:

- Production and ongoing stewardship of ‘bodies of knowledge’ including safety, engineering, technical, asset management and safety publications (e.g., guides, Standards, industry reports, and links to relevant legislation and international information).
- Representing the New Zealand ESI in national and international Standard development and facilitation of benchmarking in safety and asset management (e.g., IEC, AS/NZS, NZS Standards).
- Providing and supporting safety, engineering and technical professional development forums, training, and competency for ESI engineers.
- Providing a web-based knowledge hub on safety, engineering, asset management, emerging technology and professional development including information services, notifications, newsletters, guidelines and support documents, events, and infrastructure engineering careers information.

## RECOMMENDATIONS

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By way of executive summary, and arising from the comments we have made below in response to the content of the consultation document, we make the following recommendations to MBIE and EWRB to consider:

1. That the EWRB consult with the EEA and ESI representatives with a view to establishing an agreed competency-based training programme for an electrician (electrical fitter) employed within the ESI to carry out PEW on any ESI assets, the registration requirements for which to be based on the attainment of agreed NZQA qualifications and the accumulation of satisfactory skills and experience.
2. That the Board amend the registration requirements for all endorsements to provide that an applicant for an endorsement does not need to satisfy the minimum two years’ experience requirement where the Board is satisfied in its discretion that the applicant has demonstrated that he/she has the adequate knowledge, training, skills, and experience to carry out competently the PEW to which the endorsement relates.
3. That the EWRB amend the limits of work set out in each of its proposed endorsements to carry out high-risk PEW to provide that each endorsement is intended to widen the limits of work for the specified classes who may hold the endorsement by the PEW described in the endorsement and no other PEW.
4. That the EWRB requires any electrical inspector, electrician or electrical engineer who carries out PEW on a HV electrical installation to hold a HV electrical installation endorsement.
5. That the EWRB withdraw its proposal that any registered person must accumulate two years’ experience as a registered person and hold an endorsement permitting that person to supervise before that person may supervise any trainee or another person carrying out PEW.

## PRELIMINARY COMMENTS

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Before providing answers to the questions posed in the document, we wish to make some comments on a few specific points.

### **Assurance of Competence of Electrical Workers**

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The document commences by stating that the primary functions of the Board are to register and license electrical workers and ensure competency of those workers in order to promote public safety. It is recognised that the Board provides a generic and public facing registration and licencing framework of specific knowledge, skills, and experience.

Ultimately however, it must be the worker’s employer that ensures the competency of the work carried out. Accordingly, any changes in the registration structure should be carefully consulted with not just electrical workers but with their employers as well.

### **Training of the Electrician**

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We note that the EWRB is proposing that, as one route to become a registered electrician, candidates must progress through successive registrations as an electrical service technician and as an electrical installer. This proposal does not appear to be the subject of any consultation question so are we to take it that this progression has been adopted by the Board as firm policy? We are not satisfied that this proposal will suit the ESI for the training of electricians (electrical fitters) to carry out PEW on ESI assets.

The proposals assume the availability at any worksite of ample work that an electrical service technician (low risk PEW only) and an electrical installer (low risk and general PEW only) may do unsupervised. If such work is not available, then we envisage that the electrical service technicians and electrical installers will spend most of their working time progressing to become electricians by carrying out PEW that they are not permitted to do unless being supervised closely or generally as may be appropriate. We are not of the view that the final electrician produced by this process will be any more knowledgeable or competent than electricians produced by current training practice where apprentices are given more and more responsibility for complex work as they gain knowledge and experience on the job.

It is noted that an alternative training path for an electrician exists in the form of a Board approved electrician competency-based programme. This alternate path is likely to be more satisfactory for ESI electrician training, but the ESI would insist that it be based on the attainment of appropriate NZQA qualifications and not satisfying some other arbitrary qualifications set by the Board.

Feedback from industry indicates that the latest qualification requirements for an electrician include NZQA “4204 New Zealand Certificate in Electrical Trade (Level 4) with strands in General Electrical and Electricity Supply Engineering” and this qualification is felt to be very suitable for an ESI electrician.

Accordingly, the EEA wishes to discuss with the EWRB how a competency-based programme (incorporating the above NZQA qualification) may be developed specifically for an electrician who carries out PEW on ESI assets. This would avoid the alternative pathway of successive registrations that the ESI considers would not assist the development of a competent ESI electrician.

The ESI is keen to establish specific career pathways for electrical workers employed by ESI entities as distinct from those workers who carry out other types of PEW in the electrical industry. It is recognised that there will always be an exchange of electrical workers between ESI employers and other electrical industry employers and there is no wish to curtail that exchange; however, it would benefit the ESI if it had in place its own dedicated competency-based programme for an electrician just as it has for substation maintainers, line mechanics and cable jointers.

#### RECOMMENDATION

That the EWRB consult with the EEA and ESI representatives with a view to establishing an agreed competency-based training programme for an electrician (electrical fitter) employed within the ESI to carry out PEW on any ESI assets, the registration requirements for which to be based on the attainment of agreed NZQA qualifications and the accumulation of satisfactory knowledge, skills, and experience.

## PEW Related Endorsements

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The EEA views endorsements as useful tools by which limits of work may be widened for specified classes of electrical workers who acquire knowledge, skills, and experience in particular fields of PEW.

We consider that endorsements should be considered differently from registration classes by stating them to be an increase in the limits of work that may be permitted for specified classes only. The endorsement should then state what that increase in limits is, with an injunction that the work limits increase applies to the description only. The injunctions as to what a holder of an endorsement may not do is unnecessary since each individual class already has those injunctions in place. The endorsement just overrides one of them.

Feedback from our industry queries the necessity for any applicant for an endorsement to have had 2 years’ experience as an electrician, electrical inspector or electrical engineer and considers that any electrical worker in any of those classes should be able to apply for an endorsement once he/she has satisfied the Board as to having the adequate knowledge, skills, and experience to undertake the PEW to which the endorsement relates. For example, if an electrician has been working on PEW in hazardous areas under supervision during his/her apprenticeship or training, it should not be necessary to wait two years before obtaining that endorsement. We feel that argument has merit and that the Board, while defaulting to the 2 years’ experience criterion, should reserve the right to approve earlier applications at its discretion where competency in the endorsement field has been demonstrated.

Also, the EWRB should look at CPD requirements going forward as well as ensuring ‘grandfathering’ of previous requirements continues for existing ESTs and Electrical Engineers qualified under the previous EWRB licencing regimes.

### RECOMMENDATION

That the Board amend the registration requirements for all endorsements to provide that an applicant for an endorsement does not need to satisfy the minimum two years’ experience requirement where the Board is satisfied in its discretion that the applicant has demonstrated that he/she has the adequate knowledge, training, skills, and experience to carry out competently the PEW to which the endorsement relates.

Previously EEA have asked that electrical inspectors be required to hold endorsements to carry out inspection of PEW on HV electrical works, electromedical areas and hazardous areas. This is because electrical inspectors are the final checkers of the compliance of PEW in such areas and therefore need to be competent to carry out inspections in these specific PEW areas. Therefore, we are pleased to see that the proposals for endorsements apply to (all types of) PEW, including inspection.

We consider that the Board should have included in its endorsements an additional one for the carrying out of PEW on HV electrical installations since there are many safety-related issues with such installations that the average electrical worker will not encounter when working on LV installations only. EEA has a publication that sets out the relevant issues and could assist EWRB and other stakeholders in establishing requirements for PEW on HV electrical installations.

### RECOMMENDATION

That the EWRB amend the limits of work set out in each of its proposed endorsements to carry out high-risk PEW to provide that each endorsement is intended to widen the limits of work for the specified classes who may hold the endorsement by the PEW described in the endorsement and no other PEW.

That the EWRB requires any electrical inspector, electrician or electrical engineer who carries out PEW on a HV electrical installation to hold a HV electrical installation endorsement.

## Supervision

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The proposal to require that anyone supervising someone else in the carrying out of PEW to hold an endorsement is noted. Although the Board’s undoubted intent to improve the quality of supervision of apprentices and other trainees is appreciated, we query the practicality of requiring that anyone who may be employed in a supervisory role must hold a further qualification in supervision. Coupled with this is a proposal that a person must be registered for two years (instead of one year) before carrying out any supervision.

It would take a very long time to implement these proposals unless the practical principles of supervision are included in trade training. Supervision is an important aspect of management; it is management’s responsibility, not that of the Board, to ensure that close and general supervision of PEW is carried effectively and appropriately in each set of circumstances.

If the proposals were fully implemented, experienced tradespersons without the endorsement would need to refuse to supervise any PEW on the grounds that they are considered by the Board as incompetent to do so. One can imagine the chaos in any electrical workplace while the experienced workers are sent away in lots for supervisory training. Some small contractors will not be able to comply for a considerable time.

The EEA considers that the proposals relating to supervision will greatly affect the efficient carrying out of PEW within the ESI, let alone the remainder of the electrical industry, and should be withdrawn pending further discussion and the reaching of agreement with all employers in the industry.

### RECOMMENDATION

That the EWRB withdraw and reconsider its proposal that any registered person must accumulate two years’ experience as a registered person and hold an endorsement permitting that person to supervise before that person may supervise any trainee or another person carrying out PEW.



## ANSWERS TO QUESTIONS

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Note that our submission will address the following sections only:

- General Questions
- Implementation Timeframe
- Fit and Proper Person Proposals
- Electrical Service Technician
- Electrical Installer
- Electrical Engineer
- Electrician
- Electrical Inspector
- Distribution Line Mechanic
- Transmission Line Mechanic
- Endorsement for Mains Parallel Generation Systems PEW
- Supervision Endorsement
- Substation Maintainer
- Cable Jointer
- Endorsement for Hazardous Area PEW

## GENERAL QUESTIONS

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**Question 1 . Do you have any general comments or feedback on the proposals that you would like to draw to the Board’s attention?**

See comments made above on competency assurance, the training of an electrician, supervision and PEW related endorsements.

The EEA is concerned that there has been inadequate consultation with the wide electrical industry, including the ESI, in its proposals and its preparation. While the registration restructuring is not large in scale, it omits items that the EEA would have suggested as additions (addressed in this submission) should it have been advised that changes were being considered and then consulted about them prior to the publication of “A Stepped Framework”.

In particular, the EEA has for considerable time wished to see a requirement for electrical inspectors who inspect HV electrical installations, hazardous areas and electro-medical installations to hold endorsements that attest their knowledge and experience in these installations to better ensure the safety of workers and the general public.

It is noted that the proposals include a requirement for endorsements to carry out PEW on mains parallel generation systems, medical cardiac protected electrical areas, hazardous areas, and supervision. We do not have a problem with electrical workers being required to hold endorsements in these areas (but wish to add an endorsement for PEW carried out on HV installations) as evidence of their competence in these areas.

## IMPLEMENTATION TIMEFRAME

**Question 2. Do you think that these timeframes are reasonable? Why or why not?**

The proposed timeframes are too short. Safe implementation requires a realistic timeframe to ensure the wide electrical industry is fully informed and engaged on the changes and given time to make amendments to the training of electrical workers. This will necessitate early consultation and may require ongoing reviews to enable amendments where the document proposals are not able to meet safe outcomes and are found to be impracticable.

**Question 3. Do you agree with the proposed timeframes for implementation of the proposed changes? Why or why not?**

See answer to Q2, which is industry feedback on the effect on electrical workers in the ESI. The EEA is not empowered to agree to the proposed timelines on behalf of the ESI.

## **FIT AND PROPER PERSON PROPOSALS**

### ***Question 4. Do you support the proposed condition on practising licences? Why or why not?***

In principle, all persons registered by the EWRB need to be “fit and proper” in terms of their abilities to behave properly in society and especially when carrying out PEW or associated activities on private property. In such situations, there must be a strong element of trust between a client and a contractor carrying out work within a private residence.

It is debateable as to whether a conviction for any offence should automatically result in the immediate cancellation of a practising licence and there would need to be judgement applied in each individual case as to whether the nature of the offence removes the “fit and proper person” designation of the licence holder. However, where the circumstances are clear that a person cannot be trusted to carry out PEW in certain situations without being tempted to reoffend, cancellation of a practising licence should not be a difficult decision.

While it is proposed that the fit and proper person test be applied to new registrants only, in equity it should be applied across all practising licence holders – most efficiently at the time of licence renewal.

## **ELECTRICAL APPLIANCE SERVICEPERSON**

No comments.

## **ELECTRICAL SERVICE TECHNICIAN**

### ***Question 9. Do you support the proposed changes to the limits of work? Why or why not?***

There is an inherent proposal in the document that an electrician in gaining their registration should, from some specified later date, in the course or training, be required to progress through registrations as an electrical service technician and electrical installer. There is no question asking whether this is a good idea or is supported so it might be assumed that this future progression has been settled.

There is some superficial logic in the proposed progression in that an electrician during his his/her training will perform simple tasks at first under close and then general supervision and progress to more complex tasks under supervision as they acquires knowledge, skills and experience, either on the job or during trade training at polytechnic courses. This is desirable and, by and large, produces competent electricians after 4-5 years. The registrations along the way of electrical service technician and electrical installer would enable the holder to issue certificates of compliance (CoCs) and electrical safety certificates (ESCs) for PEW that is carried out in accordance with the appropriate limits of work.

However, it also envisages that, on any site on which PEW is carried out, there is ample low risk PEW for an electrical service technician to do and ample low risk and general PEW for an electrical installer to do. If this is not the case, then they are likely to be employed to do higher risk PEW than they are nominally entitled to do, but necessarily under the appropriate degree of supervision, a situation that probably exists on most sites. The difference appears to be that any electrical apprenticeship will be completed once registration as an electrical service technician is gained; from thereon, progression through the registration classes is expected, more or less annually, as the person fulfils the requirements for the next level of registration.

One consequence that needs to be considered in citing limits of work in terms of low-risk, general and high-risk PEW is that the electrical industry will need to develop a good understanding of what PEW sits comfortably in each definition and what PEW might be regarded as being marginal. This is important as electrical service technicians and electrical installers will need to know the PEW for which they are permitted to issue CoCs and ESCs, as distinct from the PEW that is performed under supervision that the supervisor must test and sign off.

The proposed limits of work for Electrical Service Technician need to make it clear that the “low-risk PEW” is as defined in ESR 6A(1) of the ESRs and excludes any PEW on works. “Low-risk PEW” needs to be well defined in the Gazette Notice that promulgates the changes in registration requirements.

Feedback from the industry has drawn attention to the current ability of ESTs to carry out limited PEW on switchboards and mains, like the endorsed DLM carrying out PEW to restore supply. It would make sense for any EST employed by an ESI company to be able to perform the same work as is permitted to the endorsed DLM and we request the Board to amend the EST limits of work accordingly.

***Question 10. What impacts do you think these changes will have on apprentices as they train to obtain their registration?***

It appears that electrical apprenticeships would be shortened by ending once the apprentice has gained registration as an electrical service technician and, as such, has become a tradesperson. However, it is important that training, both on the job and at polytechnic courses, continues until the upward articulation through the trade designations to electrician is completed.

**Question 11. Do you support the proposed changes to the registration requirements? Why or why not?**

The EEA would reserve its approval until satisfied that training and instruction will not be reduced by the proposed changes and the knowledge, skills and experience of the electrician end-product will not be decreased.

It is noted that the registration requirements are presented in the document as two options, the second being a Board approved EST competency-based training programme. We should be concerned if such a programme were not clearly linked to suitable NZQA qualifications.

**ELECTRICAL INSTALLER**

**Question 12. Do you support the proposed changes to the limits of work? Why or why not?**

Paragraph (2)(a) of the limits of work (not permitted to do) for an electrical installer should be amended to add "on electrical installations". The lists of low-risk PEW, high-risk PEW and general PEW in ESR 6A all exclude any PEW on works. Otherwise, the proposed limits of work are satisfactory. But also see the answer above to Q9.

**Question 13. What impacts do you think these changes will have on apprentices as they train to obtain their registration?**

From the proposal that an electrician must progress through the registrations of electrical service technician and electrical installer, it appears that apprenticeships will terminate once the trainee becomes first registered. However, it is important that persons holding either of these registrations who wish to articulate upward to electrician do not cease their on-the-job training or polytechnic courses designed to provide them with the required knowledge and skills of an electrician.

**Q14. Do you support the proposed changes to the registration requirements? Why or why not?**

See answer to Q11.

## ELECTRICAL ENGINEER

### ***Question 15. Do you support the proposed changes to the limits of work? Why or why not?***

It is noted that the limits of work proposed for an electrical engineer are as for an electrician. They therefore rely very much on (2)(d) as a limiter since it is likely that an electrician over 4 – 5 years training will accumulate more experience and knowledge of PEW than a graduate who qualifies for registration by reason of academic qualifications.

Some time ago, the EEA supported limits of work for a registered electrical engineer that were based on his/her accumulated practical experience. We note that the proposed limits are compatible with the previous support, provided the electrical engineer complies with (2)(d) as regards not doing any PEW beyond his/her competency and experience.

### ***Question 16 . Do you support the proposed changes to the registration criteria? Why or why not?***

Bearing in mind the equivalency proposed with the electrician for limits of work, the EEA considers the change to require two years of practical experience is significant and requires justification. We consider that it is very unlikely that any 4-year graduate engineer will be provided with the opportunity to accumulate two years of practical experience acceptable to the EWRB.

The previous support for one year’s experience was based on an engineering graduate being able to offer as practical experience the degree requirements of knowledge and experience that undergraduates are required to carry out between academic years, coupled with initial on-site practical experience that new graduates may be provided with as initial graduate training. This was the basis for our suggestion that the limits of work be confined to the type of work experienced during the practical work accumulated and should not be extended without further training and experience.

With engineering degrees now requiring a minimum of 6 months of practical work, many electrical engineering graduates may now have difficulty in accumulating 24 months practical work. The extended requirement for two years’ practical experience is likely to significantly limit the granting of the electrical engineering registration to persons who are already registered as electricians but have then decided to undertake an engineering degree.

There may be scope for some 3-year electrical graduate engineers or holders of the National Diploma in Engineering to become registered as electrical engineers where their post-study employment work includes significant practical work.

The EEA would appreciate feedback on the safety issues that have instigated this change and the reasoning and logic in the practical work increase proposal. EEA believes the impact will be that the applications to become registered as electrical engineers will be far fewer.,

## **ELECTRICIAN**

### ***Question 17.: Do you support the proposed changes to the limits of work? Why or why not?***

The EEA is happy with the proposed limits of work for electricians as they are changed in format only.

### ***Question 18. What impacts do you think these changes will have on apprentices as they train to obtain their registration?***

See answer to Q9 for commentary on proposed progression through preparatory registration classes.

### ***Question 19. Do you support the proposed changes to the registration criteria? Why or why not?***

The EEA considers that the proposed changes should not impact negatively on the skills, knowledge and experience of a resulting electrician, provided there is pragmatism in implementing the proposed progression.

It is noted that, as for the Electrical Service Technician and Electrical Installer, registration requirements for an Electrician are presented in the document as two options, the second being a Board approved EST competency-based training programme. For electricians employed in the ESI, we consider the alternative competency-based programme with suitable NZQA qualifications will be a preferable training pathway.

## **ELECTRICAL INSPECTOR**

### ***Question 20. Do you support the proposed changes to the limits of work? Why or why not?***

The EEA was very unhappy that electrical inspectors should be permitted to undertake the inspection of PEW carried out in HV electrical installations, electro-medical installation and installations in hazardous areas without holding endorsements to carry out and inspect such PEW. The EEA has pointed out for many years that many if not most registered electrical inspectors do not have the necessary knowledge, skills or experience to competently inspect HV electrical installations but nevertheless are permitted by EWRB to do so.

Hence, we welcome the proposals to require an endorsement for PEW carried out on mains parallel generation systems, electro-medical systems and hazardous areas since this will include the associated inspections. However, we consider that PEW on HV installations should be added to the list of required endorsements.

The EEA notes that an inspector may not supervise any person to carry out an inspection and is silent as to whether this still applies if holding a supervision endorsement. The question must then be asked as to how an electrical inspector becomes trained to inspect PEW, other than from his/her experience in inspecting his/her own work (currently proposed to be prohibited for all other registration classes!) There must be situations where there may be differing interpretations as to what a regulation or a sub-clause in a Standard requires and it appears that such situations must be handled by off-the-job discussions rather than by any on-the-job supervision. Electrical inspectors appear to be considered by EWRB to be above any guidance on-the-job. One must ask why!

**Question 21. Do you support the proposed changes to the registration criteria? Why or why not?**

With the need to hold an endorsement to carry out inspections on specified high-risk PEW, we are happy with the proposals.

**ASSOCIATED TRADESPERSON**

No comment

**DISTRIBUTION LINE MECHANIC**

**Question 24. Do you support the proposed merger of the Distribution Line Mechanic and Distribution Line Mechanic (Endorsed) classes? Why or why not?**

The EEA supports the proposed merger between the distribution line mechanic and the DLM (endorsed) on the grounds that DLMs will be permitted to carry out such PEW on consumers’ premises that is necessary to restore the electricity supply to the premises.

However, this may cause a problem if the Board includes restoration of supply related work in its DLM registration requirements. ESI companies are likely to pick, choose and then train those DLMs whom they consider are better able to do such work, which may be on consumers’ electrical installations. Not all DLMs will wish to undertake or be trained for such work.

The prohibition on not carrying out PEW that is beyond the competence of the person should avoid any ESI employee from carrying out any PEW that a DLM is not trained to do and ESI companies should be happy with that. They should train their DLMs to carry out such restoration PEW safely and competently and prevent untrained DLMs from doing such work.



**Question 25. Do you support the proposed changes? Why or why not?**

Yes, for the reasons given in the answer to Q24.

**Question 26. What impacts do you think these changes will have on apprentices as they train to obtain their registration?**

As a matter of course, the training to become a DLM should include the safe and efficient carrying out of restoration related PEW and thereby increase the competency of DLMs. There may be individual DLMs whom ESI companies choose not to train for the restoration work, but they will have control on whom they employ on such work.

**Question 27. Do you support the proposed changes to the limits of work? Why or why not?**

Yes, for the reasons given in the answer to Q24.

**TRANSMISSION LINE MECHANIC**

**Question 28. Do you support the proposed changes to the limits of work? Why or why not?**

There appear to be no substantive changes to the limits of work other than the addition of what a TLM is not permitted to do. As such, the changes are supported.

**TRACTION LINE MECHANIC**

No comment

**SUBSTATION MAINTAINER**

**Question 30. Do you support the proposed changes to the limits of work? Why or why not?**

There appear to no substantive changes to the limits of work for a substation maintainer, other than the addition of what a SM is not permitted to do. As such, the changes are supported. However, the phrase "core operating functions" is open to interpretation.

Does the permitted PEW content include the installation and maintenance of all substation plant and equipment together with the associated control, protection, alarm and indication cabling and wiring in outdoor junction boxes and indoor control panels? It does not appear to specifically exclude the building electrical installation wiring for lighting, heating, supplies to socket outlets, etc. although the intent may be to exclude such PEW and reserve it as an electrician's PEW.

In (1)(a), change "an substation" to be "a substation".

## CABLE JOINTER

### **Question 31. Do you support the proposed changes to the limits of work? Why or why not?**

There appear to be no substantive changes to the limits of work for a cable jointer other than the addition of what a CJ is not permitted to do. As such, the changes are supported.

## MAINS PARALLEL GENERATION SYSTEMS ENDORSEMENT

### **Question 32. Do you agree with the creation of the proposed Mains Parallel Generation Endorsement? Why or why not?**

As it requires knowledge, skills and experience that is additional to the training of an electrician, the carrying out of PEW on mains parallel generation systems may be termed high-risk PEW and for that reason, the introduction of an endorsement requiring additional training and study before attempting such PEW is supported.

It is noted that the endorsement relates solely to the carrying out of PEW on such systems and may be held by an electrical inspector, electrician, or electrical engineer only, which is also supported.

### **Question 33. Do you agree with the proposed limits of work for this endorsement? Why or why not?**

The EEA supports the inclusion of the endorsement on the grounds that it relates to high-risk PEW and requires specialist knowledge to achieve safe outcomes.

However, the proposed registration requirements under 2 should be amended to read as follows:

- (i) the appropriate design of mains parallel generation systems, including their control, protection, indication and wiring systems; and
- (ii) installation, testing and commissioning requirements of energy systems, including inverter systems for injection of electricity from an installation to a network; and
- (iii) the performance of safety functions required for mains parallel generation systems; and
- (iv) risk management in relation to the operation and maintenance of mains parallel generation systems.

### **Question 34. What impacts do you think these changes will have on EWs as they progress in their career?**

The establishment of endorsements for specified high-risk PEW can be expected to provide targets of achievement for the registration classes that may hold them after the necessary additional knowledge skills and experience have been gained.

**Question 35. Do you support the proposed registration criteria? Why or why not?**

With the amendments proposed above in place, the EEA supports the concept of endorsements for the carrying out of this high-risk PEW.

**MINING ENDORSEMENT**

No comment

**SUPERVISION ENDORSEMENT**

**Question 39. Do you agree with the creation of the proposed Supervision Endorsement? Why or why not?**

Close and general supervision requires the exercise of knowledge, skills and experience additional to those required to carry out or inspect PEW so we appreciate the Board's wish to see electrical workers better trained in supervision skills so they may carry out supervision more effectively. However, supervision is a management function for which the Board has only a tenuous responsibility and the Board may not realise the highly likely disruption to electrical workplaces that may be caused by not permitting supervision of PEW to be carried out without the proposed endorsement.

To obtain the endorsement, further training and study will be required and the forced release of experienced workers to undertake a course in supervision will hardly be welcomed by the employers in the industry, including ESI companies. We believe this proposal needs further consideration and alignment with supervision requirements of the HSW Act and the EEA guide to Supervision.

Accordingly, we do not support the proposed endorsement and considers that it should be withdrawn for further consideration.

**Question 40. Do you agree with the proposed limits of work for this endorsement? Why or why not?**

As a general comment, limits of work are a misnomer when applied to any endorsement since an endorsement permits the holder to extend the limits of work applicable to his/her registration class. It would make more sense to state under "Limits of work" that the holder is entitled to extend the limits of work applicable to his/her registration class to include the specified work to which the endorsement relates but no other.

It is noted that supervision of defined types of PEW in the Schedule to the Electricity (Safety) Regulations 2010 (ESRs) is itself defined as PEW so we understand the intent of the Board to improve the quality of supervision of those defined PEW types and hence the quality of the PEW itself. However, supervision demands a set of knowledge, skills and experience that is quite different from the carrying out of PEW and it may also be said that some people will be more capable than others to supervise; some, in fact, may be very poor at supervision.

Supervision is also an essential management function and there is plenty of scope for argument as to whether the Board is wise to attempt to impose supervision limits on a registered person who is also an employee in the electrical industry. We consider that the proposal to require that the performance of supervision as defined in the Schedule to the ESRs should only be carried out by those holding a supervision endorsement should be withdrawn until it is thoroughly discussed by the wider industry and a way forward agreed.

**Question 41. What impacts do you think this endorsement will have on your business?**

The need for a supervision endorsement for any electrical worker (requiring two-year's experience as a registered person) to carry out any supervision of another electrical worker or a layperson will have a huge impact on the electrical industry. Very few electrical workers will have undertaken supervisory related courses and the opportunity to undertake such courses will be extremely limited in normal electrical workplaces. It would be necessary to allow a long transition period to bring in such a requirement for all supervisors, desirable though such supervisory skills may be. Essentially, it would be necessary to add supervisory knowledge and skills to all electrical worker training on the grounds that it will be difficult for them to gain these later.

**Question 42. Do you support the proposed registration criteria? Why or why not?**

Although appreciating the desirability that persons carrying out the supervision of the work of others should have supervisory knowledge and skills to supervise effectively, the EEA would be most reluctant to see the EWRB impose that requirement on the electrical industry, including the ESI.

*Supervision is essentially a management function and needs to be addressed by the management of each company in the electrical industry as it considers appropriate.*

**MEDICAL CARDIAC PROTECTED AREAS ENDORSEMENT**

No comment

## HAZARDOUS AREA ENDORSEMENT

**Question 47. Do you agree with the creation of the proposed Hazardous Area Endorsement? Why or why not?**

As for other high-risk PEW, the EEA considers that PEW carried out in hazardous areas is high-risk PEW and warrants a requirement to hold an endorsement to carry it out. It is essential that PEW in such areas is carried out correctly in compliance with the applicable standards and that persons doing such PEW have the necessary additional knowledge, skills and experience to ensure that it is safe and will present very low levels of risk to employees working in or near hazardous areas or members of the public in the vicinity of such areas. Any endorsement should be linked into NZQA unit standards framework and the maintain the endorsement recipients should provide the EWRB with documentation of CPD and proof that they are still practicing in the field.

**Question 48. Do you agree with the proposed limits of work for this endorsement? Why or why not?**

See other comments relating to endorsements to carry out PEW in high-risk situations where specialist knowledge is required to ensure safe outcomes.

**Question 49. What impacts do you think this endorsement will have on your business?**

Entities in the ESI have hazardous areas and will be impacted to some extent by the requirement to hold an endorsement to carry out PEW in such areas or to inspect such PEW. However, the entities are likely to be acceptive of the requirement as it should lower the risks associated with the existence, operation and maintenance of their hazardous areas.

**Question 50. Do you support the proposed registration criteria for this endorsement? Why or why not?**

The EEA supports the endorsement proposal for reasons expressed above.

Note that c(iii) of the registration requirements should read "*The performance of safety functions required*  
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## CONCLUSION

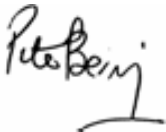
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The carrying out of PEW is an essential function for all ESI generation, transmission and distribution companies and, accordingly, so we view early consultation with them and the EEA on any registration or licensing change proposals as being essential. As in the past, we would be happy to provide comment to the EWRB on any of its proposals but would appreciate early advice of these and well before proposals are written in stone with little opportunity to change.

Please note that we have assumed that the proposed content of the Gazette Notice wholly reflects the content in the first half of the document. We have not examined the draft GN itself since the time permitted for a response to the questions in the document is limited, considering the need for industry consultation.

The EEA trusts that MBIE/EWRB will consider the comments in this submission and makes the recommended changes / deletions throughout the whole document, including the draft Gazette notice. Please feel free to contact the EEA for any further comment or clarification on any of the issues. We remain conscious of the need for the ESI to have a registration and licensing framework that is practical and effective.

Yours sincerely



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