



**“An upcoming shortage of power technicians
in hydro generation”**

**Is this happening and what do we need to do
about it?**

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Agenda



1. Role of the Power Technician
 2. Research results
 - a. Age profiles
 - b. Key interview findings
 3. Recommendations
 4. Conclusion and discussion points
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What is the role of a power technician in today's industry?

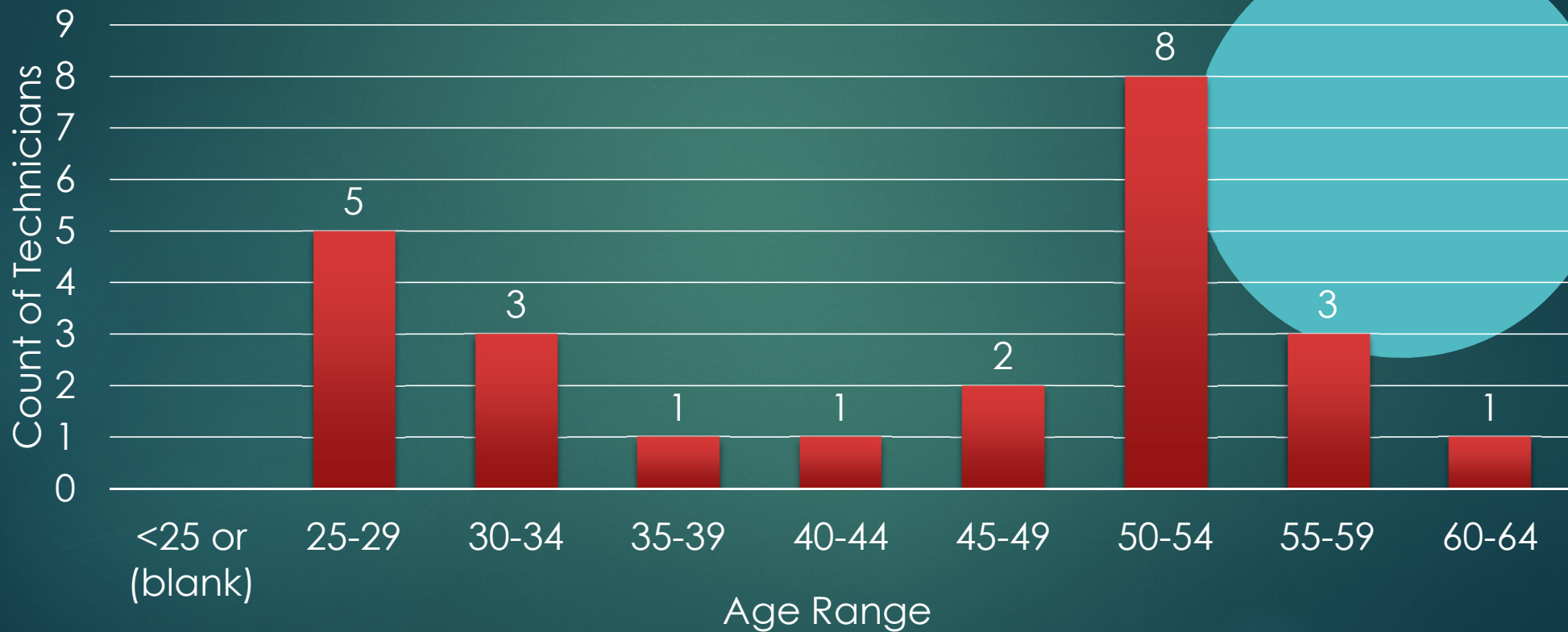
- ▶ Plant maintenance testing
- ▶ Support upgrade and commissioning activities
- ▶ Design team support
- ▶ Fault response and return to service
- ▶ Analysis of faults, trips and events



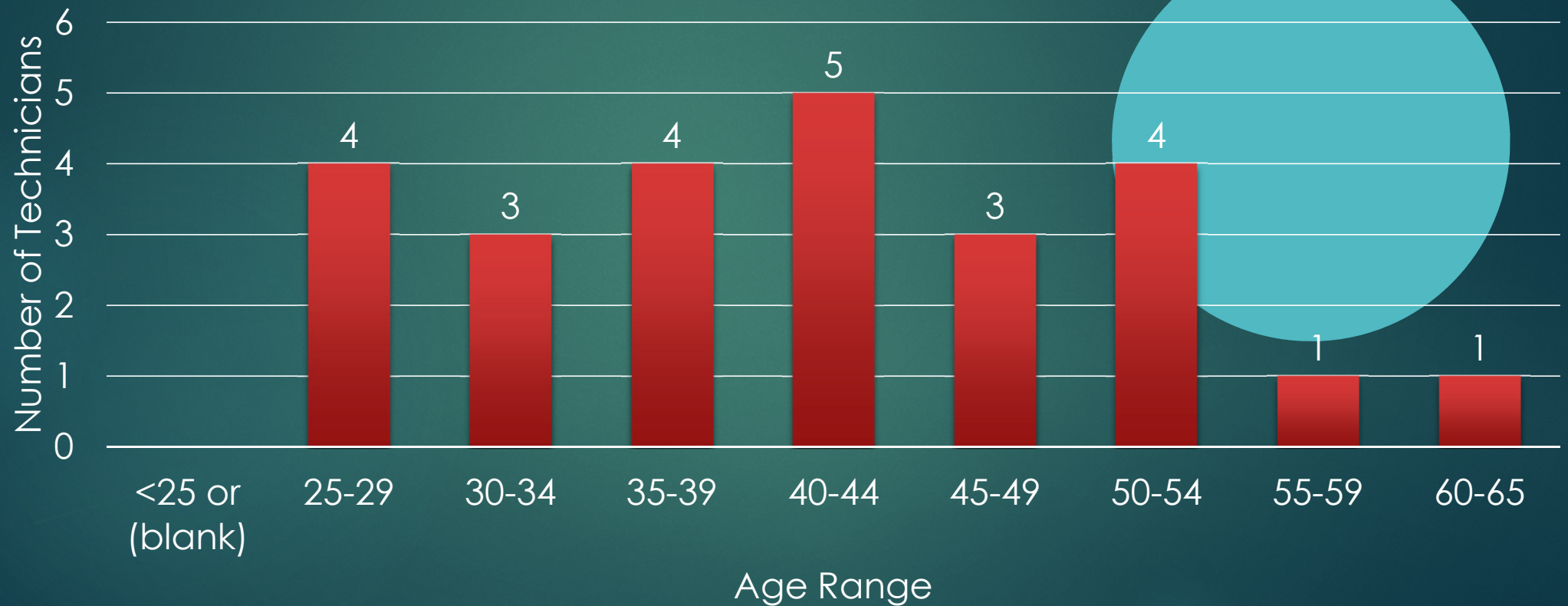
Summary of research



Age profile – South Island Power Technicians with hydro experience



Age profile – North Island Power Technicians with hydro experience



Age Profiles

What is needed?

More younger technicians

Why?

Knowledge and skills transfer before those experienced staff leave the industry

Not for today – for the future...



Power technician survey findings

(1 of 3 slides)

General comments:

- ▶ High level of job enjoyment
- ▶ Training (or lack of it?)
- ▶ Technical expertise is low in areas of governors, excitation, load rejection, efficiency and performance testing.



Power technician survey findings

(2 of 3 slides)

Recruitment challenges:

- ▶ Location
- ▶ Alternative career paths
- ▶ Roles not always available



Power technician survey findings

(3 of 3 slides)

Reasons for leaving the industry:

- ▶ High travel.
- ▶ Salary vs. responsibility.
- ▶ Few promotion opportunities.
- ▶ Promotions are often to non-technician roles.



Recommendations



Recommendation 1: Generation companies need to consider hiring and training power technicians

Why:

- ▶ Inter generational knowledge transfer
- ▶ Large group of highly skilled Power Technicians will leave the industry within 10 years.

Action

Generation companies (why them?)

Risk

The people you train, may not stay to fill the gaps.



Recommendation 2: Improve technician training and industry knowledge.

Why:

- ▶ Highly technical roles, advancing technology
- ▶ Generally poor training at present

Who:

Everyone

Specifics:

- ▶ Qualifications
- ▶ On-the-job training, e.g.
 - ▶ Buddying up for learning opportunities
 - ▶ Challenge opportunities (being thrown in the deep end)
- ▶ Specialist class room training – e.g. governor systems



Recommendation 3: Monitor the industry – so we know if things are getting better or worse

Why:

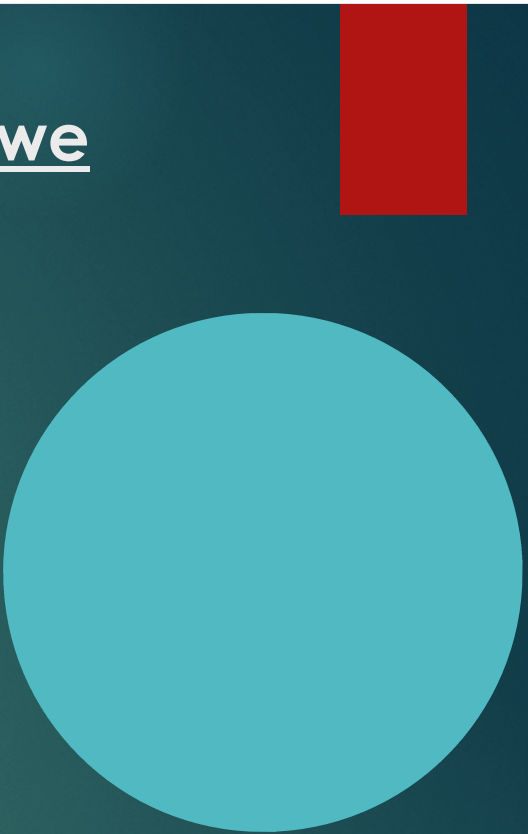
- ▶ Monitor the industry?
- ▶ Foresee any future challenges

Who:

EEA Asset Management Group (proposed action)

Specifics:

- ▶ Record the demographic data
- ▶ Annual Census survey
- ▶ Analysis and future forecasting



Is this
valuable?

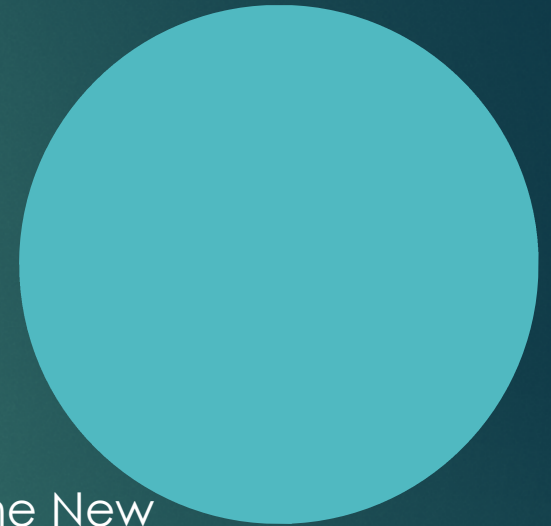
Recommendation 4. Promote the Power Technician Role within the Generation Industry – Long term Solution

What's a Power Technician?

If we promote the role, do we have jobs for people?

Risk

Very few students will complete the generation strands of the New Zealand Certificate in Electricity Supply



Conclusion

- ▶ An aging population.
- ▶ Training needs to be improved.
- ▶ Not confined to generation technicians?
- ▶ Training should be improved
- ▶ The big question is how do we deal with this issue?

How can you support this initiative?



Some thoughts for discussion?

- ▶ What does the industry need technicians for – is it just the testing of electrical plant, or is it specific high level expertise in areas such as governors, AVR's and load rejection testing?
- ▶ Does the local market need generalist technicians?
 - Can the industry rely on a few specific experts in target areas?
 - Can we rely on suppliers technicians that are remote?
- ▶ Do you see this as a problem that needs solving?