

Supply Chain For the Electricity Industry

Mike Whaley



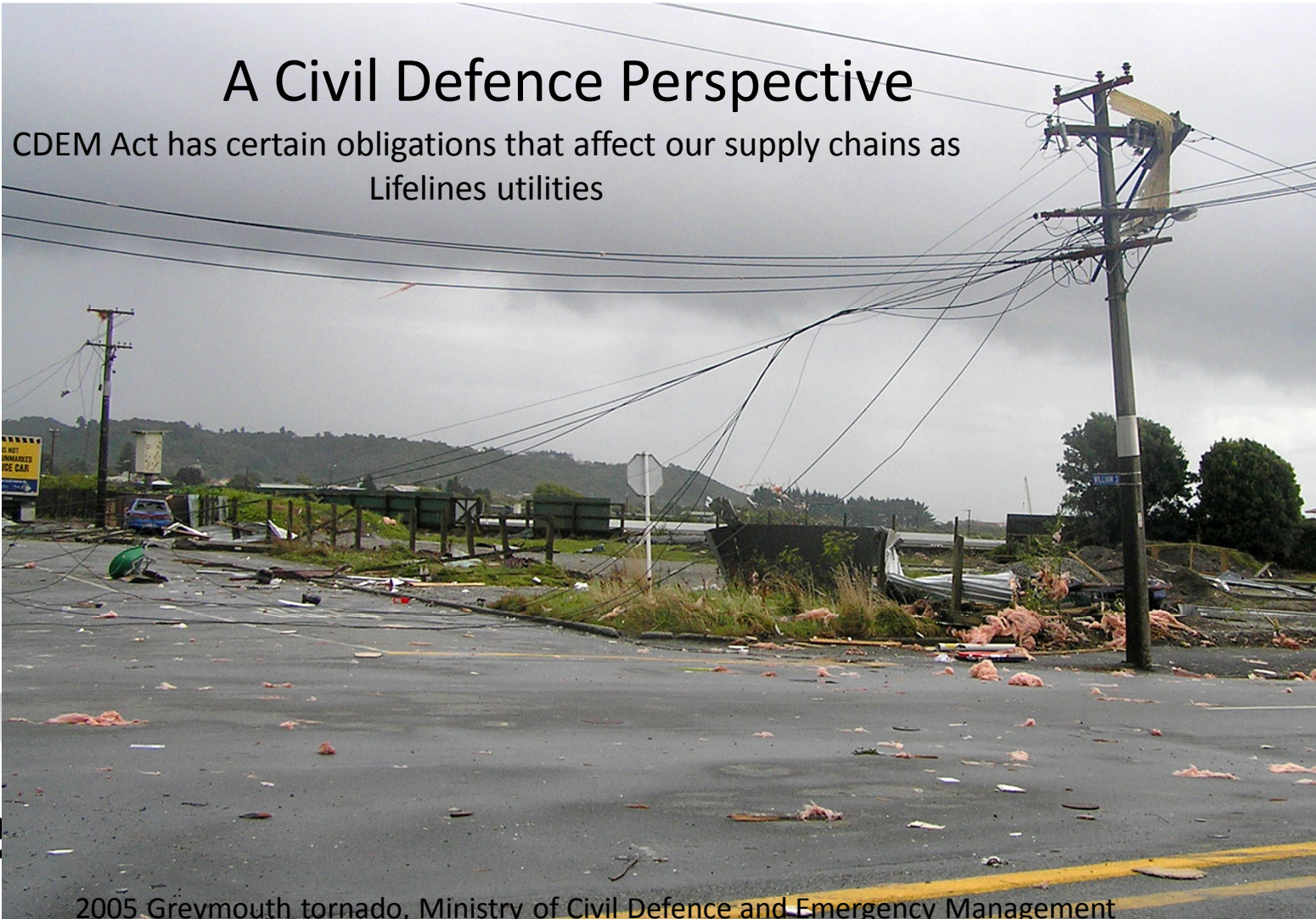
A Marketing Perspective

Marketing theory holds the supply chain as one of the main ways for developing a deeper relationship with customers.



A Civil Defence Perspective

CDEM Act has certain obligations that affect our supply chains as Lifelines utilities



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2005 Greymouth tornado, Ministry of Civil Defence and Emergency Management



Ebola?

For those in essential supply utilities, two main recommendations:

1. Further develop:
 - Acuity (capability to understand event risks and recognise how they affect the business)
 - Navigation (capability to make good decisions when events occur)
 - Agility (capability to make changes when needed)
 - Resilience (capability to respond to shocks caused by events)
2. Lifelines utilities should pursue relationships with central and local government.

Lessons From the West African Ebola
Outbreak in Relation to
New Zealand's Supply Chain Resilience

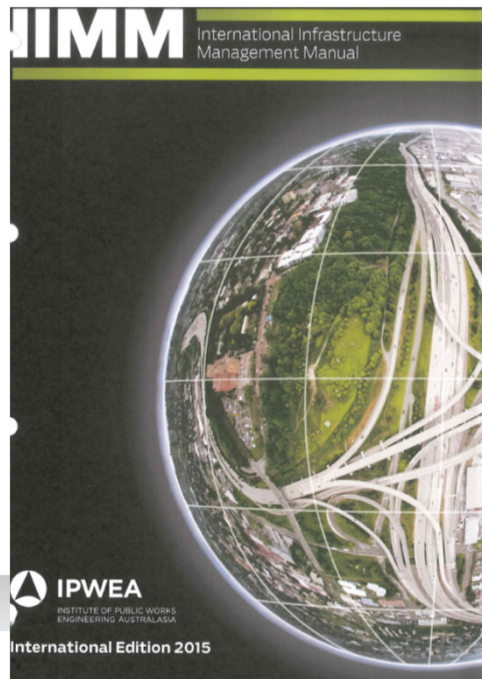


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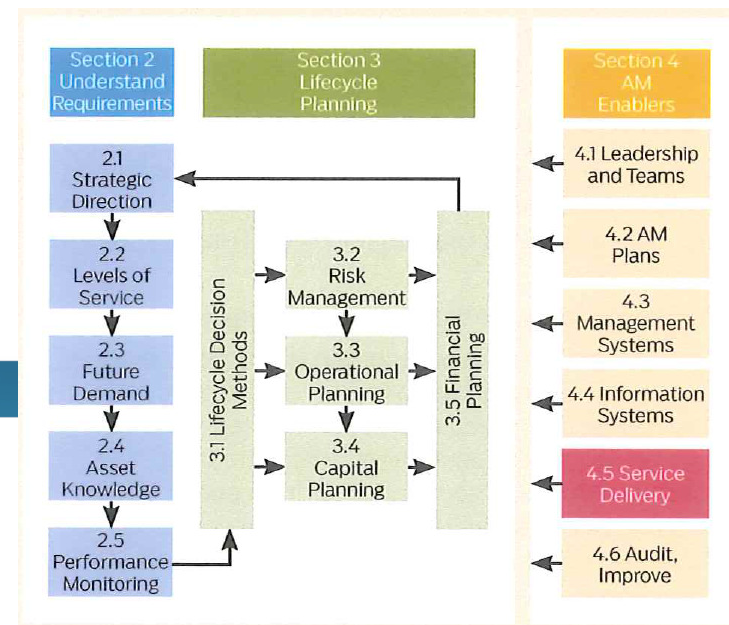
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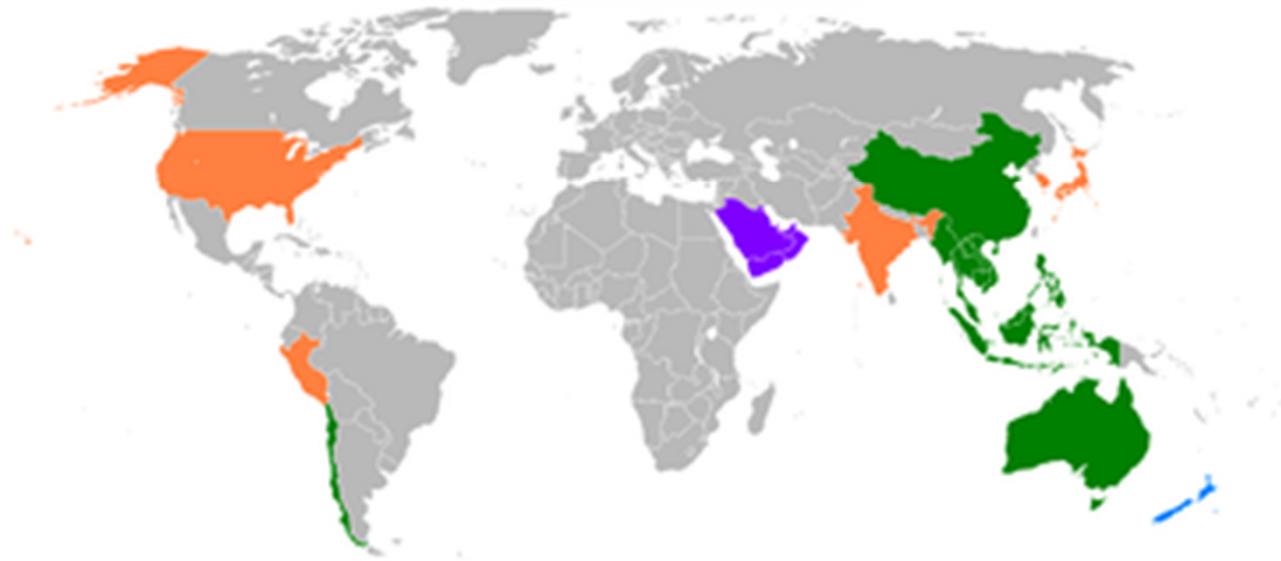
IIMM Perspective

Supply Chain management features indirectly from different angles in the IIMM.



- Managing Risk – Critical Assets, Resilience
- Operational Planning – Operational Structures, Logistics
- Service Delivery - Procuring and Managing Outsourcing Activities





Nationalism and Populism



Field Worker Resources



www.northpower.co.nz

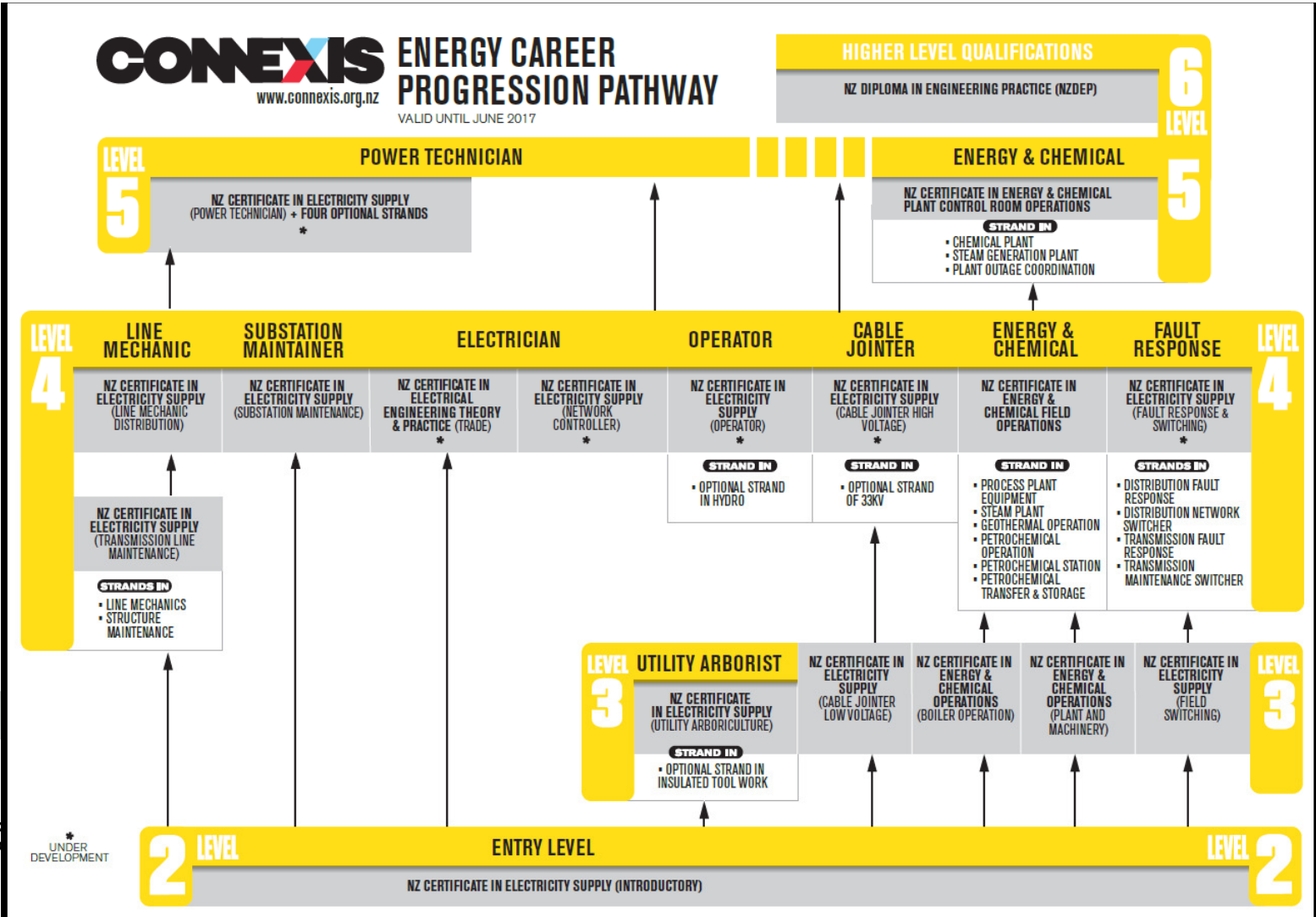


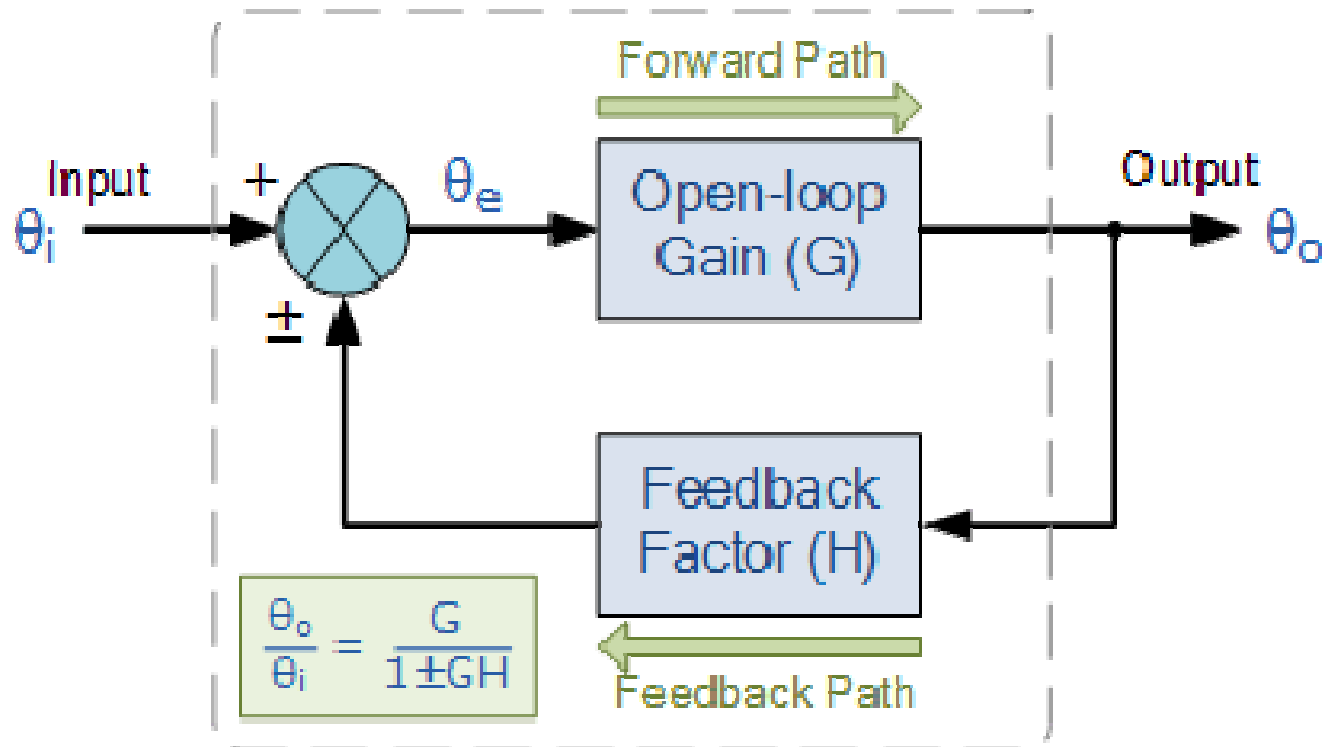
www.electrix.co.nz

www.connetics.co.nz



CONNEXIS ENERGY CAREER PROGRESSION PATHWAY
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Training: A Control Theory Perspective

Our open loop time constant is between 6 and 10 years post registration to train effective field staff.

Are we too slow seeing if there is a problem? Are our feedback transfer function delays too long?



New Plymouth factory jobs axed as production shifts to Vietnam (stuff.co.nz)



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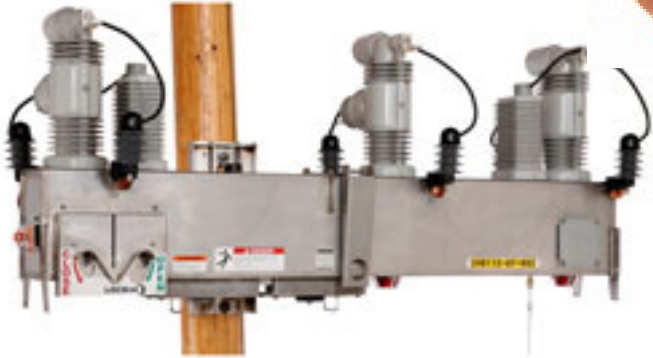
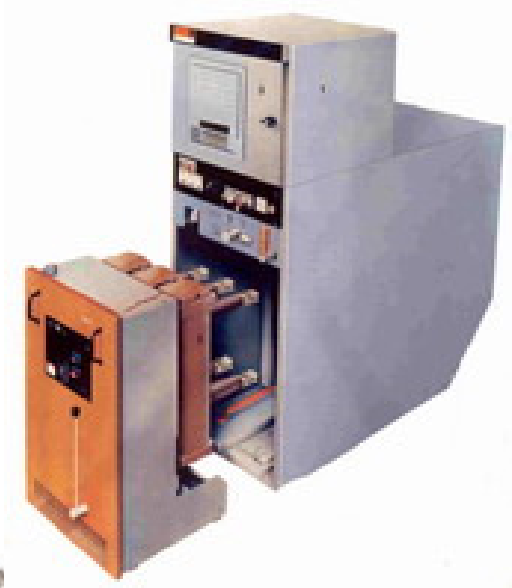
170 jobs go in General Cable factory closure stuff.co.nz



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European vs American vs Chinese



Vs Australian vs NZ



Chris van der Werff, New Zealand Insulators



Environmental Sustainability

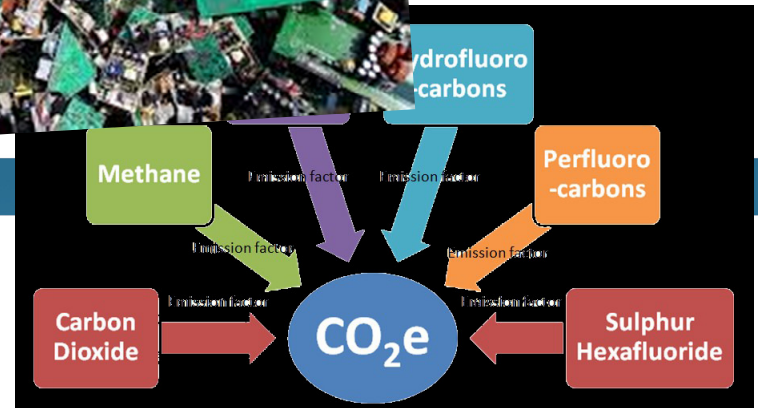
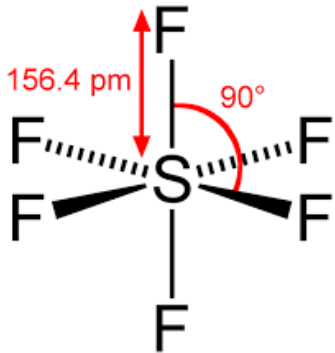


Cross arms:

- quality?
- rainforest sustainability certification?



Environmental Footprint





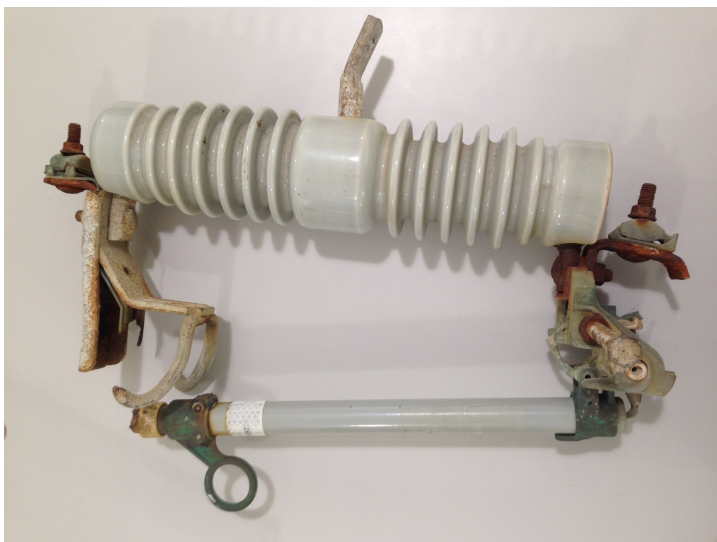
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Taken from the web, farbeyondcreative

Environmental exposure



Quality control



- Do suppliers have the same control over quality in their supply chain?
- Are basic materials compatibility concepts being forgotten?
- Are we too focussed on price?
- Do we give our suppliers enough feedback about our quality expectations?



NZ Concrete Pole supply



Humes Hamilton & Greymouth



Busck Whangarei,
Hamilton, Palmerston
North, Christchurch,
Invercargill



Stahlton Christchurch,
Auckland



NZ Transformer Supply



ETEL Avondale



ABB New Plymouth

Comfortable manufacturing duopoly no longer exists?




NZ Cable Supply



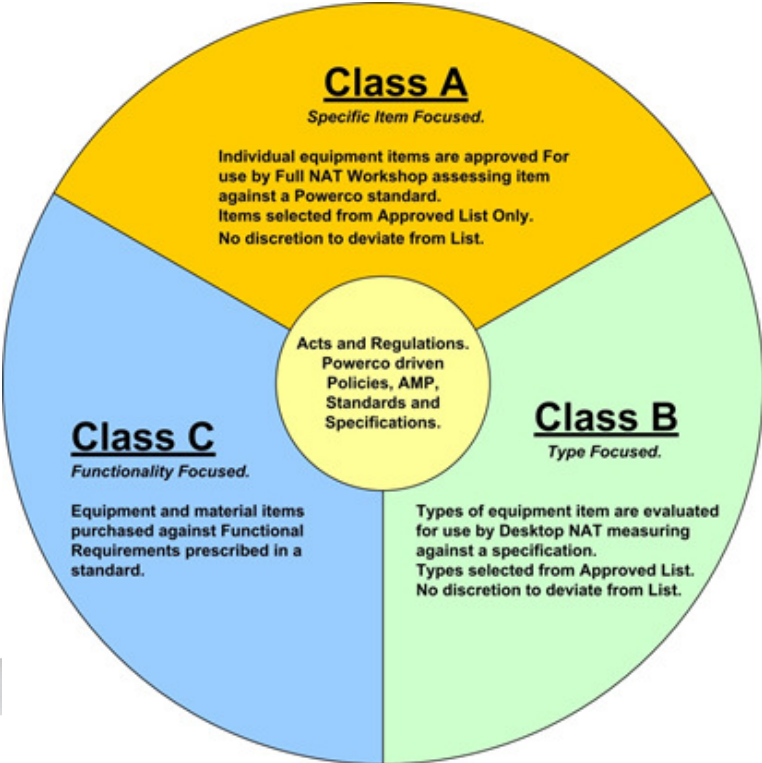
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Equipment Procurement Evaluation



Conclusions

- There are multiple perspectives for considering the wellbeing of our supply chains.
- The New Zealand manufacturing base appears to be becoming less diverse with notable recent plant closures.
- It will be interesting to see whether international manufacturers can serve our local industry as NZ manufacturers have.
- Evaluating the quality of procured materials is essential.
- Adequacy of personnel training provision is now becoming critical. Improving the numbers of trainees and quality of education will only be solvable with proper funding and wilful leadership.



Discussion Questions (to be reviewed)

In what areas do you see our existing supply chains facing stress?
To what degree do we (or should we) support locally manufactured equipment?

What would happen if the equipment we use is not manufactured in New Zealand?

How can the problems associated with having well trained personnel be addressed effectively?

