COMMERCE COMMISSION NEW ZEALAND
Te Komihana Tauhokohoko

Targeted Information Disclosure Review Tranche 2

Technical Elements Workshop Notes

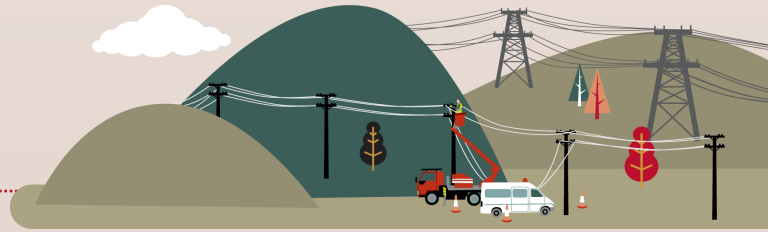
27 March 2023

Workshop Purpose

Important issues were raised by stakeholders in submissions on our Targeted Information Disclosure Review (**TIDR**) Tranche 1. A number of stakeholders requested a workshop to discuss these issues in more detail.

The purpose of the workshop was to inform our approach to developing information disclosure (ID) requirements in the following areas:

- Asset Management Plan (**AMP**) Requirements;
- New Connection Measures;
- Breaking Down SAIDI and SAIFI Values;
- Network Visibility and Information; and
- Vegetation Management.



Workshop

The focus of the workshop was on disclosure requirements for Electricity Distribution Businesses (**EDBs**), allowing for both EDB, consumer, and other stakeholders' examples and experiences to help further the conversation and our understanding.

The information gathered is an important input into our processes and analysis and into our prioritisation of issues for any future ID reviews.

Forty-seven stakeholders from the following organisations attended the workshop:

- Adroit SEI	- Horizon Energy	- PowerNet
- Alpine Energy	- Mainpower	- PwC
- Aurora	- Major Electricity Users' Group	- Solarzero
- Counties Energy	- Marlborough Lines	- The Lines Company
- Electra	- Network Waitaki	- Top Energy
- Electricity Authority	- Northpower	- Unison
- Electricity Engineers' Association	- Orion Group	- Vector
- ENA	- Powerco	- Wellington Electricity
- First Gas		- Westpower

We would like to thank all participants for their openness, engagement and solutions to the issues we raised. We found all the discussion insightful and informative.

Structure of the slides

- In the slide pack, we present the main questions asked, followed by a summary of the main points raised.
- Similar points were raised in a number of areas across all tables. This accounts for some similarities of the notes taken.
- There is also a companion slide pack that includes the slides presented on the day.

Issue 1 – Asset Management Plan Requirements

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Joe O'Sullivan – Senior Analyst

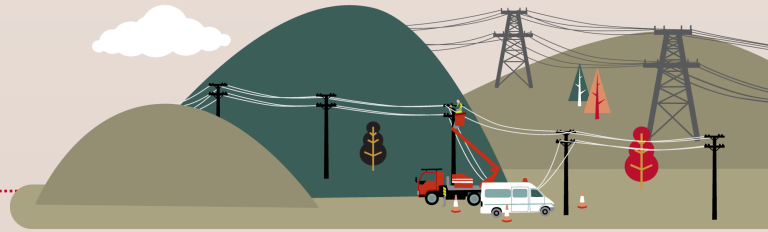
Sean McCready – Principal Advisor, Engineer

AMP Requirements

We were interested in…

- Areas of the AMP that work well and those that are not relevant and why?
- What is missing from AMP requirements that demonstrate good asset management?

The following slides provide a summary of the main points raised during the discussion.



AMP Requirements

Areas of the AMP that work well

- ID schedules work well.
- Asset Health Management section most useful.
- Asset age less useful but still useful for accounting purposes.
- Upfront description of network (the story, and what drives the planning).
  - Though there are differences between EDBs in the level of detail of this background information (e.g., detail into pole maintenance). This could lead to comparability issues.
- AMPs are useful for the business in other areas e.g., budgeting.
- Some long-term business requirements are fulfilled by AMPs.

AMP Requirements

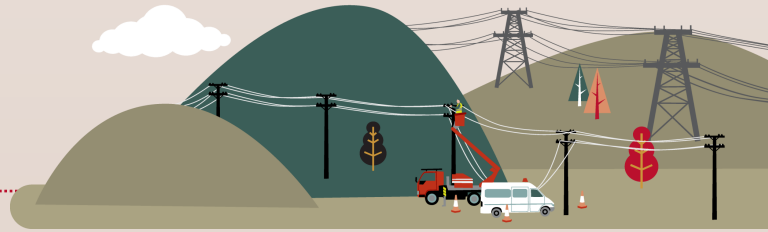
Areas that don't work well

- High cost of compliance.
- Attachment A is too prescriptive in some areas.
- AMP document could be smaller.
  - Could slim down the background information at front of the document by instead referring to other published policies.
  - It would be good to reduce repetition between the AMP document (the front-end) and the ID schedules.
  - We would need to know who all the interested parties are first before removing anything.
- There is general concern around adding more information into the AMPs.
- It would be good if Clause 3.8 (significant assumptions) could be changed to 'material assumptions' to give some more flexibility to EDBs.
- Layout is difficult to get right in that the AMP is trying to be a strategic document, as well as having all of the background detail.
- Strategic portion of the AMP shouldn't be required to be reviewed/disclosed annually (this should only be required where there is a change).
- Only operational information should be required to be reviewed annually.
- The review process for the whole AMP document takes around one year.
- Requirements are not easily understandable. Propose they are written in plain English.
- Should focus on risks and what EDBs are doing about them.
- AMPs can end up repeating the same thing all the time.
- Concern about certainty required with forecasts and having to defend what an EDB thought in a previous year.
- Difficult to find opportunities for distributed generation (**DG**) within an AMP. Not easily visible.

AMP Requirements

Areas that don't work well (continued)

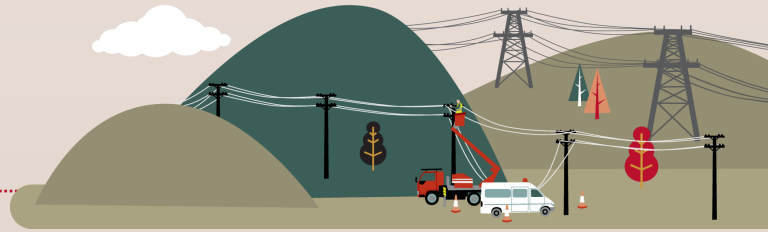
- Review efficiencies of the ID Determination.
- Schedule 13 is subjective. Could improve consistency, use of 'score' may not be helpful for comparison.
- Gaps in:
  - Asset management systems; and
  - Capabilities - EDBs can possibly develop these capabilities or seek technical solutions e.g. SolarZero.
- More clarity is needed from the Commission on who the intended audience is in relation to EDBs' AMPs. Over time, AMPs have become a very important internal planning document for EDBs and are therefore not necessarily constructed and presented in a way that makes it easy for external stakeholders to extract information easily and on a consistent basis. Perhaps the Commission could request a schedule/index of where crucial items are found within the AMP. Ie, vegetation management in pages xx, capacity planning and constraints in pages xx etc. The schedule could also contain a pithy explanation of the EDBs approach to each matter.



AMP Requirements

What is missing from AMP requirements that demonstrate good asset management?

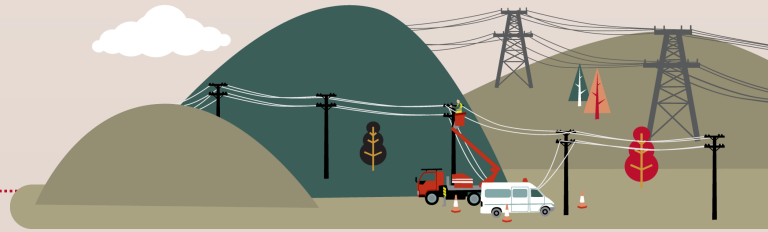
- Include explicit material in the AMP on health and safety to clarify the reporting requirements.
  - Context: Most EDBs' AMPs have reasonably detailed discussion/coverage of health and safety, but it is inconsistently presented across EDBs.
- Resilience – Need for the AMP requirements related to resilience to be strengthened (in the sense of how EDBs respond to major events). One table thought that the AMPs focus is too much on reliability and needs to move to more of a balanced focus which would be achieved by having more reporting on resilience.
  - Suggested that a scoring system for resilience could be introduced.
- Consider how AMPs can have a customer lens.
- Capability development is important when thinking about implementing elements of the International Organization for Standardization (**ISO**) standard.
- Forecasts on SAIDI would be nice to have, but not super useful, especially unplanned.
- The recent change to ID regarding cybersecurity costs was good. But more requirements could be included in the AMP regarding cybersecurity as this is a growing issue and an issue not factored in sufficiently when the AMP requirements were developed. The sensitivity of reporting on cybersecurity issues would have to be taken into account in designing any new reporting requirements in this area.



AMP Requirements

Other comments

- A small point, the Commission should provide a schedule on when a full AMP and an AMP update are required in a 10-year period.
- Regulatory AMP requirement is a subset of a strategic AMP.
- Can EDBs use the ISO-55001 standard instead of the Determination in terms of narrative? e.g., stakeholder, systems and processes (expenditure and growth requirement need to stay separate).
- ISO-55001 differs to the ID Determination – EDBs need alignment.
- It would be helpful to EDBs if the Commission could communicate which areas of the AMP are used by which stakeholders. This will help them understand what needs to be included.
- Can the Commission outline which areas of the ID Determination were originally taken from ISO-55001 and therefore can be used without having to duplicate?



Issue 2 – New Connection Measures

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Robert Gordon – Chief Advisor

New Connection Measures

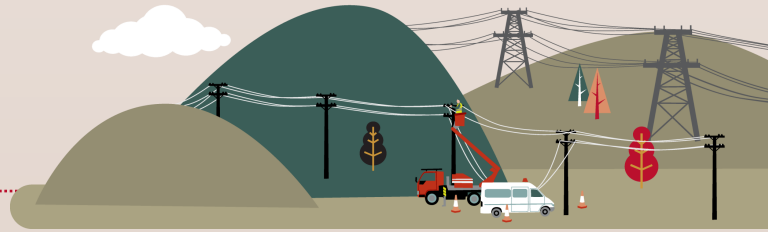
We were interested in…

Ideas for a straightforward disclosure approach to connection times:

- What is the appropriate disaggregation by party responsible? (as with airport delay reporting below)

On-time departure delay The total number of flights affected by on time departure delay and the total duration of the delay during disclosure year by party primarily responsible	Number	Total Duration Hours	 Minutes
Airports			
Airlines/Other			
Undetermined reasons			
Total	–	–	–

- Should the connection type be disaggregated ?
- What type of connections should be reported? New, Standard, Commercial, Distributed?
- What is the best visibility for consumers? Network tasks only or total duration of the customer experience?



New Connection Measures

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What is the appropriate disaggregation by party responsible?

- Could disaggregate timing at each stage of the connection process. Then could measure against the stage(s) that the EDB is responsible for.
  - It was mentioned that EDBs are currently required to disclose this as narrative in the AMP. If this could be disclosed in the ID schedule, this could reduce bulk in body of the AMP document.
- Appropriate disaggregation – different EDBs do things in different ways.
- General feeling that numbers should be reported for standard connections and total connections.
  - Standard should be used as a starting point. EDBs could look at other connections in future.

Should the connection type be disaggregated ?

- Needs to also be disaggregated by different types of customers.
  - Large DGs should be disclosed separately from household connections for example.
  - Also, could separate out temp connections (e.g., those waiting for resource consents).
- Connection type should be disaggregated, otherwise time would be a less meaningful measure.
  - Suggestion to split new connections into complex connections; and non-complex/simple connections.
- One table was of the view that if the Commission was inclined to go down the route of requiring ID disclosure of customer connection times it should only do that for a standard connection. This was because non-standard connections are often very bespoke and have so many factors that affect them because of the different parties and processes involved in establishing them.
- A “standard connection” would need to be defined clearly so that it would be consistently reported on across EDBs.
- One table thought that the fibre ID approach of reporting on connection time appeared reasonable. The table understood that under the fibre regime the “clock started” when the customer and the retailer/EDB (whoever was the counterparty) had an agreed upon timeframe for undertaking the connection. They noted that in addition there was some flexibility to this date if the parties agreed to a change for some reason.

New Connection Measures

What type of connections should be reported?

- Questions on the reason for the 'average connection time' metric – is this for benchmarking purposes?
- Lags in connection times can be for a multitude of reasons, including customer decision timings.
  - A lot of this is unknown at the quoting stage.
- EDBs may not have the Customer Relationship Management (**CRM**) systems (with good audit functions) to have insight into the timing of different stages of a new connection.
- Comment on new connections for large DG customers:
  - With DG increasing, EDBs are ramping up resources in this area.
  - EDBs probably won't be able to maintain a constant 'standard' timeframe as these connections come in, as they need time to build new infrastructure in most cases.
- DG metrics would be useful for stakeholders e.g., number of rejections.
- Limitation on DG access varies by lines company.
- Overall, because of the diverse and idiosyncratic nature of connections especially non-standard connections, one table preferred a less prescriptive approach such as a customer satisfaction score approach. I.e., a sample of parties who went through the connection process would be asked to partake in a short customer satisfaction survey and accompanying score would be developed and reported upon by all EDBs. The approach would have to be consistent across EDBs – including a standardised survey/questionnaire.

New Connection Measures

What type of connections should be reported? (continued)

- Part 6 of the Electricity industry participation code specifies connection timing for distributed generation applications for sizes 10kW or less and above 10kW, however doesn't specify for consumer connections and types.
- Supply chain delays for getting equipment/workforce has a big impact.
- The Commission needs to define/clarify when a 'connection' is made.
- For big connections (re-openers) the Commerce Commission approval can take too long (i.e., 6 – 12 months). This must be factored into lead times.
- EDBs upon defining measures may look to control process more e.g., limiting companies/providers that can be used.
- There are many variables in a new connection. Some connections require unique transport, vegetation, transformer upgrades.
- Definitions get more complicated when counting all connection types.
- A starting point could be a standard connection where network is already available. Could count only when reticulated/feeder connection/no reinforcement required. Could report on biggest customer bucket or those without complications, the most standard.

New Connection Measures

What is the best visibility for consumers?

- Importance to consumers:
  - Time and price are important quality indicators. Suggestion that time metrics are less important for EDBs compared to Fibre.
  - Overall timeliness may not be a customers' biggest concern. However, customers are interested in the time taken internally by an EDB and there is value internally in reporting on this time.
  - Concern that complaints in this area (33 over 5 years) may not be a sufficient driver to add further requirements. EDBs need to better understand the nature of these complaints.
  - Feeling that the scope of the problem definition needs more work.
  - New connections aren't allowed in certain areas due to restrictions on land access.
  - Some delays can't be controlled.
  - Complexity arises when non-standard connections are required.
  - Proposal that start/stop points are aligned with the requirement in the Resource Management Act.
- One table queried why the Commission was focussing on customer concerns about new connection practices including the time to connect given the low number of acknowledged complaints about this issue. Thought that this would remain the case even if the decarbonisation of the economy led to increased electricity uptake, which in turn led to more electricity connections and upgrades to existing connections.
- One table noted that one source of angst amongst consumers was the different capital contribution policies across EDBs.

New Connection Measures

What is the best visibility for consumers? (continued)

- Given the number of complaints referred to on the slides (i.e., 33 over the last 5 years) is there in fact a problem at all as this appears to be a very low number i.e., only 6 per year on average.
- The benefits of collecting the data needs to be communicated to EDBs. It is very costly to administer. There is a big difference between a single connection to an existing LV network versus a larger generation connection.
- The EDBs think that the driver for the new requirements needs to be communicated.
- There are a lot of 'tyre kickers' who enquire about connections – this can cost a lot of time. It's possible that up to 95% of prospective connections do not go ahead.
- When working with customers developing optimal solutions can result in unfavourable results i.e., EDBs may ask customers to reapply to 'shorten' the application timeframe.
- There is an economic benefit from connection revenue for EDBs to connect customers so there should be no driver for EDBs to delay re-connections.

Issue 3 – Breaking Down SAIDI / SAIFI Values

Tim Hewitt – Principal Advisor

Ananya Shamihoke – Senior Analyst

Breaking Down SAIDI / SAIFI Values

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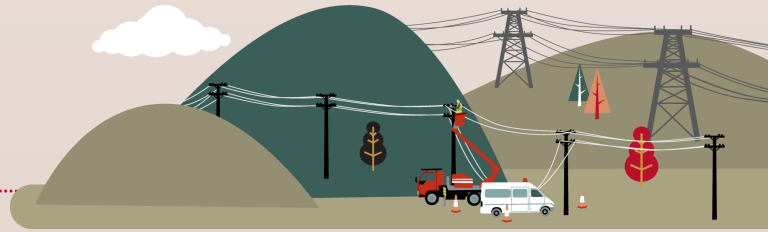
We were interested in…

- How do you use any breakdowns of interruption data in your decision making? *E.g., identifying priorities for asset replacement/repair/worse performing feeders.*
- How would you establish a consistent and comparable way (across EDBs) of breaking down interruption data?
- How else would you improve transparency about the difference in quality outcomes between groups of consumers?
- What do you understand are the differences in expectations of quality outcomes for different consumers? How do you separate consumers, rural, urban, commercial?



Breaking Down SAIDI / SAIFI Values

How do you use any breakdowns of interruption data in your decision making?

- SAIDI data is starting to be used for investment decisions (investing to improve SAIDI performance). From customer surveys EDBs are finding that customers are happy with the level of quality performance and are not willing to pay more to improve.
- Every network does feeder analysis.
- Most EDBs do break down reliability by feeder but not customer type. Feeder reliability information feeds into decision-making regarding investment including prioritisation (e.g., worst performing SAIDI/SAIFI feeders often led to a focus on improving these through investment in repair and replacement or increased vegetation management along that feeder).
- There was one EDB at the table who had invested in an Advanced Distribution Management System, and has outage data at the installation control point (**ICP**) level. For its internal reporting on outages, this EDB reported to the feeder level.
- Geographic areas. Use information about worst performing feeders.
  - Feeder information must be looked at over a time series, rather than just one year.
  - Meaningful for customers. Some EDBs have received enquiries about this information.
- Looking at faults on a macro level. Aggregated up – need to understand feeder details from the start.
- Currently EDBs are using their own definitions (per their AMP) for the breakdown.

Breaking Down SAIDI / SAIFI Values

How would you establish a consistent and comparable way (across EDBs) of breaking down interruption data?

- Most EDBs do break down reliability by feeder but not customer type.
- Potential option would be to disclose outage information for the three worst performing feeders.
  - We can then understand the spread (worst performing to average performance).
  - EDBs could also include information on what they are doing to improve performance in these areas.
  - Worst performing feeders can be useful but depends on the reasons, for example, vegetation related may or may not be good predictor of future faults.
- Potential issues with feeder analysis
  - There could be problems providing an accurate breakdown if for example feeders change from rural to residential. Sometimes this information is not captured in the system and some feeders have a mix of rural and residential.
  - Different EDBs classify/define their feeders in different ways.
- Disaggregate interruption data by rural vs urban lines.
  - Would help justify pricing differences for consumers.
  - Issue of distinguishing rural and urban lines. Other EDBs said that post office or census data can be used.
  - Create a definition for rural connections? If so, it should take into account the distance from townships for it to be meaningful.
- Disclose information about the top x worst performing transformers. Powerco already does this.
- Providers with subnetworks do break down SAIDI but others don't seem to.
- If SAIDI was broken down then additional metadata at low levels would be required.

Breaking Down SAIDI / SAIFI Values

How would you establish a consistent and comparable way (across EDBs) of breaking down interruption data? (continued)

- One potential disaggregation would be less than 20,000 ICPs.
- Fault rate per km (and causes) could be more useful for providers.
- Number of detailed investigations may be better measures.
- Too broad currently – results for non-contiguous networks are currently lumped together into one measure, and only reporting class B and C outages.
- Any decision on disaggregation should be 'customer-up' rather than 'network-down'.
- Need a minimum disaggregation level for it to be useful.
- Classification becomes even more important if decarbonisation drives further growth.
- Issues with possible disaggregation
  - Disclosure would be ok as long as its not regulated, as this would be difficult to do with a level of accuracy.
  - If the disclosure was needed to be audited or signed off by Directors that would be costly and exhaustive.
  - Not all EDBs have the ability (funding-wise) if Price-Quality (**PQ**) regulated, to be making the system investments required to disaggregate outage data.
  - The PQ regime is already complex – we should be considering cost/benefit when requiring further break-down.
    - Would separating (to urban/rural for example) actually be helpful for those customers (relative to the cost to upgrade systems).

Breaking Down SAIDI / SAIFI Values

How else would you improve transparency about the difference in quality outcomes between groups of consumers?

- It is possible for EDBs to break down by proxy for customer type (e.g., by analysis/algorithms using feeders and transformers related information) – some EDBs do this.
- However, the table questioned the net benefits of breaking down and reporting on SAIDI/SAIFI at customer levels. The concerns were:
  - The cost of doing this;
  - The benefit that would be gained given that EDBs were increasingly noticing a convergence across customer types for high levels of reliability i.e. rural, urban, and commercial customers were increasingly converging in their desire to have reliable electricity services. Gone are the days that rural customers expected significantly worse reliability (suggested that this was due to fact that many lifestyle rural dwellers were former city dwellers who enjoyed high levels of reliability and reliable telecommunications services were so important for all classes of customers and these were increasingly interdependent with reliable electricity supply); and
  - that customer classes differed over time geospatially.
- If the Commission were inclined to go down the route of breaking down reliability more granularly into customer classes, they should at least wait until smart meter data became more accessible and cost effective. Smart meter data would make this an easier and more cost-effective proposition.
  - the table also noted that it is often hard to break down commercial customers from residential customers because so many small business (which are commercial) operate on the same supply configuration arrangements as residential (i.e., same main fuse size and same metering type).
- If the Commission requires a classifications registry, this will be a massive task given the number of customer groups.
- Chart of number of customers by number of outages could be possible but may not be useful.
- Some customers have reliability agreements.

Breaking Down SAIDI / SAIFI Values

What do you understand are the differences in expectations of quality outcomes for different consumers? How do you separate consumers, rural, urban, commercial?

- Average measures don't help individual customers. Suggested that the investigations into the SAIDI numbers themselves to find the causes is more useful to EDBs and customers.
- Customers have different levels of resilience, on one end rural customers are more tolerant or can cope better and at the other end industrial customers have a very low tolerance.
- General feeling that there is not necessarily a difference in expectations between rural and urban customers.
  - It was also noted that customers are generally not interested in paying more/less for better/worse quality.
- Historically, rural consumers are less concerned about power quality. This is changing over time as more people shift out of the city centres.
  - Different customers with different expectations. Ultimately comes down to whether they are willing to pay more.

Issue 4 – Network Visibility and Information

Tim Hewitt – Principal Advisor

Rhys Williams – Analyst

Network Visibility and Information

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We were interested in…

- What are the challenges EDBs face with improving network monitoring due to the design of their networks?

- Medium voltage (**MV**) networks:
  - What practices are EDBs undertaking to improve the visibility of their networks and how successful/promising are they?
  - What would help consumers and other stakeholders get an understanding of the current situation and future plans for these networks?

- Low voltage (**LV**) networks:
  - What practices are EDBs undertaking to improve the visibility of their networks and how successful/promising are they?
  - What would help consumers and other stakeholders get an understanding of the current situation and future plans for these networks?

Network Visibility and Information

Challenges EDBs face with improving network monitoring

- One table thought that the major challenge to achieve better network visibility especially at the LV network level was cost effective access to smart meter data. Specifically, cost effective, quick, and frequent access to consumption data, voltage and frequency information that smart meter data could provide.
- Smart meters provide a "last gasp" which provides EDBs with knowledge that the network has gone out. To provide clear visibility of outages EDBs would need access to Smart meters' "last gasp" signal. Chorus has been providing this to some EDBs based on information it gets from Fibre Optical Network Terminals (**ONT**s).
- Challenges getting access to smart meter data. It was noted that it makes a real positive difference to network management when smart meter data is available.
  - Most issues raised at the workshop can be solved with access to this data.
  - Requires a relationship with the meter owner (retailer). EDBs don't always know who owns the meter.
  - Prices for the data are high (and this is not funded in the PQ regime).
  - Cost of data should be appropriate for the value it provides. Value needs to be first determined.
- Once you have smart meter data, the process to actually analyse the data is large.
  - Need a means to store the data.
  - There are questions around how much of the data is actually useful (most EDBs would need a data scientist to complete the required analysis).
- A lot of EDBs are currently getting by using data at the feeder level (rather than putting in effort to duplicate smart meter infrastructure).
  - Cost to duplicate smart meter infrastructure would be high (with what benefit to the consumer?).
  - It was noted that data at the feeder level is generally used to 'prove a problem' that the EDB has been made aware of, rather than being used for true network monitoring.

Network Visibility and Information

Challenges EDBs face with improving network monitoring (continued)

- Lack of standards/regulation around LV networks makes a case for investing in this area more difficult. Any investment needs to be future-proofed.
- Constraints with monitoring of rural networks.
- One table recognised that the timeliness of network data influenced it use. Timely network data could be used on an operational basis to manage the network. However, non-timely network data while not useful on an operational basis could be used for network planning and investment purposes.
- One table perceived that the Part 4 regime emplaced a bias towards capital expenditure (**capex**) over operating expenditure (**opex**) in relation to technologies that would provide more network visibility. The example was given of opex to engage an expert third party who could use their in-house technologies to provide network transparency verses the EDB itself purchasing capital equipment to obtain the information to provide the necessary visibility. The table thought the regime favoured the EDB taking the latter capex approach to gain the necessary network visibility.

MV networks

- One table agreed that network constraint maps could be done and published now for the MV network component of EDBs network but not the LV network component.
  - Some EDBs e.g., Vector were already working on developing and publishing constraint maps for the MV part of their network.
  - The table agreed that in principle there would be merit in having these constraint maps presented in a similar form by each EDB so that they would be more easily understood and be able to be easily interrogated by third parties including third party providers of non-traditional line services.
- Could publish heatmaps at substation level.
- It would be good to be able to disclose information around issues with customers 'booking up' future network space (e.g., for windfarms) – information on future constraints.
  - It could be difficult to disclose this sort of information on a heatmap though.

Network Visibility and Information

LV networks

- No visibility for LV. Issues include data, expertise, time required.
- Busy doing other things like DG, no capacity.
- Comments that LV network management is lagging/reactive.
- General feeling that Electric Vehicle (**EV**) chargers are not necessarily a material issue (though EDBs don't currently have visibility of this).

What practices are EDBs undertaking to improve the visibility of their networks and how successful/promising are they?

- One table noted that many EDBs do not have sufficient information on LV network connectivity. Having smart meter data would enable them to obtain a much better understanding of their LV network connectivity.
- Some EDBs have access to smart meter data.
  - They get a lot of data. Difficult to determine how it should be used.
  - Value in interrogating against other datasets.
- Use of loggers installed in various places around the network.

What would help consumers and other stakeholders get an understanding of the current situation and future plans for these networks?

- Congestion map for LV not possible to do currently and definitions are difficult.
- Could publish path to improving monitoring and getting data, this could help other providers
- It was noted that while big industrial customers would be interested in this information at the LV network level, new house builds would probably not be too concerned.
  - Big customers won't be worried about LV capacity because they have their own transformers for EV chargers and DG connections. Individual customers and rural customers only focused on 11kW (LV) supply.

Network Visibility and Information

Comments on network visibility generally (LV or MV not specified)

- The EDBs could easily publish vague information i.e., “a lot of capacity” or “not a lot” but this would be of little use to the Commission.
- Any increased visibility would require access to data which would come at a cost and therefore funding would be sought from the Commission.
- Heatmaps
  - An automated heatmap or dynamic system would be expensive to implement.
  - The heatmap is data is useful from a general perspective but the importance of having good detail was stressed.
    - There were concerns a heatmap would not be granular enough for customers to have any meaningful discussions about their network.
    - Would heatmaps be classified the same for across different EDBs?

Network Visibility and Information

Other comments

- Capacity
  - Capacity is complex and anything published will be out of date immediately.
  - Definition for 'capacity' needs to be defined, as capacity has a different number of different technical meanings, such as thermal capacity, fault level capacity and these are technical parameter than need modelling and engineering to determine the constraint.
  - Another use of the term 'capacity' is generation load.
  - Capacity is different to capacity with contingency.
- National systems
  - A separate system could be created to register things like EV sales and new loads (such as when gas is converted to power). Perhaps this could be administered by the Ministry of Business, Innovation and Employment (**MBIE**) so that EDBs have visibility on this type of increase in demand.
  - Support for a national centralised data management system.
- Data
  - Data costs are high, and even with data, it has taken years to develop in Australia.
  - Agreed standards would need to be implemented regarding the data.
  - Be clear about whether the collection of data is regulated, or if it is the information that comes out of that data.
  - Industry needs to continue building data capability.
- Are EDBs the correct party to resolve this? A lot of parties looking at this issue.
- There are issues around commercial sensitivity i.e., what EDBs can disclose is limited. The example given was if a supermarket applies and they don't want a competitor to know they're planning to open a store at that location.

Issue 5 – Vegetation Management

COMMERCE COMMISSION NEW ZEALAND
Te Komihana Tauhokohoko

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Vegetation Management

COMMERCE COMMISSION NEW ZEALAND
Te Komihana Tauhokohoko

We were interested in…

- How do EDBs currently assess vegetation risk around overhead lines?
- How do EDBs currently measure vegetation management performance?
  - Measures that demonstrate to consumers that vegetation is being managed well?
- What is the current split of ‘proactive’ vs ‘reactive’ vegetation management costs?
  - Do EDBs record these costs separately?
- What is the current split of vegetation caused interruptions between in-zone and out-of-zone trees?
  - How do EDBs currently measure interruptions caused by out-of-zone trees?
- Regarding Aurora’s proposed change to the definition of 'overhead circuit requiring vegetation management’ (slide 31)
  - Does this seem like a reasonable approach to amending the definition?
  - If not, any further suggestions for improving the definition to make it more workable for EDBs?

Vegetation Management

How do EDBs currently assess vegetation risk around overhead lines?

- Vegetation management is generally completely outsourced (tendered). While completing the circuit, it's expected that the arborists would flag high-risk/out-of-zone trees, and eventually add these back into the scope.
- Some EDBs manage vegetation proactively, by doing cuts throughout the whole network on a rolling basis, (rather than first cuts). Some EDBs see this approach as being more cost effective that actively monitoring.
- Most EDBs would look to outage information to assess whether enough work is being done.
- EDBs would consider the risk of vegetation considering health and safety, fire, and network performance and us this to develop a strategy for management. It is important to understand the 'whole of network' vegetation risk and be aware the risk may change over time.
- It can be difficult to predict fall risk as it varies a lot, for example if vegetation is on a hill.
  - EDBs could potentially identify fall risk by land use.
- EDBs use several practices to survey/measure and manage vegetation in proximity to their lines (e.g., Lidar, ground-based network surveys, a risk-based approach).
  - Another option is via programme of work, ie, undertake vegetation management on feeders on a scheduled basis. Sometimes some higher priority feeders are scheduled to have vegetation managed more frequently.
- EDBs tend to focus on 'in zone' trees as defined under the Hazards from Trees Regulations. This is because the legislation confers them with powers to deal with vegetation encroaching on the growth limit zone.
- EDBs use a risk management approach to deal with vegetation management. Where trees in question sit outside of zone, per the regulations, effective management is reliant on negotiations with tree owners.
- There was a question on whether there was an option to use satellite information in the risk assessment process.

How do EDBs currently measure vegetation management performance?

- Some EDBs noted they currently do no internal reporting covering performance for vegetation management.
- It was noted that management can be difficult when trees out of zone can cause problems.

Vegetation Management

What is the current split of 'proactive' vs 'reactive' vegetation management costs?

Do EDBs record these costs separately?

- EDBs probably know the costs of proactive expenditure
- EDB's are limited in their ability to be proactive because:
  - They already spend a lot of money on vegetation management and their budgets are insufficient to enable them to take a more proactive approach. One table noted that vegetation management costs had increased markedly in recent years because of specialist personnel shortages (i.e., arborists) and other associated costs rises e.g., traffic management.
  - A proactive approach is expensive – e.g., dealing with individual landowners in relation to the management of out of zone trees has high transaction costs.
- EDBs want more clarity on where reactive vegetation costs should be recorded in ID.
- For some EDBs, proactive vs reactive cost split is not recorded currently due to capacity constraints.
- EDBs do not have rights of access to land owned by others. Often there are costs which are difficult to account for such as cones on roads. Therefore the 18% of network opex being spent on vegetation as quoted by the Commission at the workshop could be materially understated.
- It was noted by some EDBs that there is just a standard annual budget allocated to vegetation management (a $ figure has been rolled forward each year, and the work is tendered out).

Vegetation Management

What is the current split of vegetation caused interruptions between in-zone and out-of-zone trees?

How do EDBs currently measure interruptions caused by out-of-zone trees?

- There can be issues getting accurate information regarding outages caused by storms/adverse weather, and outages due to vegetation (it was noted that vegetation outages during a storm would often end up being recorded as an adverse weather event).
- Some EDBs don't measure if within or out of notice zone when tree causes outage.
- One EDB noted that the split of vegetation-caused interruptions between in-zone and out-of-zone trees is approximately 20/80.
  - Large number of interruptions caused by fall zone trees.
  - Around 80% of the power outages that arose through cyclone Gabrielle were caused by vegetation emanating out of zone.
- For another EDB, currently it's 50/50 in zone/out of zone (in respect to negotiations with tree owners) but this can change when the wind increases. The ENA and EEA guidance provides good content regarding when trees can be cut.
- Some EDBs are measuring and reporting on 'tree contact' and 'tree fall'.
- It was noted that many unknown outages will be due to vegetation.
- There was support for disaggregating vegetation outages into more categories – ie, in zone, fall zone, wind caused, third party etc.
  - However, it was noted that this should not be done until the Tree Regulations had been reviewed in case some of the regulatory requirements changed.

Vegetation Management

Comments on Aurora's proposed change to the definition of 'overhead circuit requiring vegetation management'.

- Some EDBs felt that the definition could still be tighter (it could include trees encroaching on feeders).
  - It was noted that the proposed definition addresses some forestry risk.
- The intention of Aurora's suggested amended proposal was good. However, there were concerns about measuring/monitoring, and the cost of complying.
- There needs to be a timeframe associated with the definition.
- Most EDBs supported extending the growth limited zone out to notice zone and notifying people of hazards.

Vegetation Management

Other comments

Current ID requirements

- Questions as to whether this metric (km/% of overhead circuit requiring vegetation management) is helpful.
  - It was noted that EDBs will probably never be comparable across this metric.
- Regarding capex around known line issues with vegetation management - a provision could be added to disclose this information.
- The Commission should consider changing the definitions of debris versus tree branches as in many instances when a branch causes a power issue it is coded as 'something else'.
- All are affected by vegetation management so there were questions on reporting circuit numbers for vegetation separately.
- The Commerce Commission should clarify what it wants in terms of each feeder, ie, 100% or 98% etc, and outline how each percentage would affect the information collected by the Commission. There needs to be consistency between EDBs in relation to the percentage.

General points on vegetation management

- There are opex trade-offs for EDBs when considering how to manage vegetation.
- Cost of carbon is becoming an issue.
- NZ does not have easements as other countries do, making it difficult for EDBs to manage vegetation.
- If there is a change in rules (MBIE Tree Regulations) that result in EDBs needing to pay for additional tree cutting costs, then more funding will be required.
- Issue is about continuity of service vs public safety.
- Post-cut audit of cut, challenge with outer zone.
- If EDBs cut before the inner-zone, then there is a larger arborist labour pool.
- Cost of fixing when vegetation is touching lines is much higher than if you cut earlier (and cost to customer could be lower).

Vegetation Management

MBIE Tree Regulations

- EDBs spend a lot of time on MBIE tree regulations.
  - Focus on collating the right data for MBIE.
  - Currently a gap exists between what the regulations require and what consumers want to see.
- Effective liability should be an important consideration for determining responsibility of vegetation management.
  - Should influence proactive vs reactive veg management. Economic cost isn't considered.
  - Risk and responsibility on EDBs yet land-owners get the benefit.
- Tree Regulations need to be changed so that EDBs had more power to manage vegetation that is out of zone i.e. manage further away from the lines than EDBs currently have a right to manage.
  - Their preferred approach was two vegetation free corridors on either side of lines at least as wide as the fall zone of the trees in question.
- The Commerce Commission should wait (to update vegetation management ID requirements) until after MBIE have completed their work.
- Suggestion that the Commerce Commission shouldn't rely on a definition from MBIE work on tree regulations.
- This topic appears to require inter-departmental communication between the Commerce Commission and MBIE to align properly.