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To: [Hearings](#)
Cc: CSNDC@ccc.govt.nz
Subject: Notifications Consent Submission: Group 362
Date: Friday, 31 August 2018 8:49:41 a.m.
Attachments: [TP-Submission-CRC190445-CCC-global-stormwater-consent-Final.pdf](#)

Group ID: 362

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Contact by email: Yes

Is a trade competitor: No

Directly affected: Yes

Consent support/hearing details

- CRC190445: neither | WANT to be heard | will NOT consider joint hearing

Reasons comment:

Transpower is concerned, given the nature of the resource consent application, that stormwater discharges could occur in close proximity to its transmission lines and/or support structures. This has the potential to negatively affect the safe and efficient operation of National Grid infrastructure. Transpower's interest in the proposal is to ensure that the operation, maintenance, upgrading and development of existing National Grid infrastructure is not compromised, and that any works around the National Grid is carried out safely and in accordance with the New Zealand Code of Practice for Electrical Safe Distances. Transpower considers that potential adverse effects on its assets can be addressed through appropriate conditions placed on the resource consent; please see conditions sought below.

Consent comment:

If the resource consent application is granted, Transpower NZ Ltd requests that the following conditions of consent are included in the decision; to ensure potential adverse effects on the National Grid are addressed and to ensure compliance with the National Policy Statement on Electricity Transmission, the New Zealand Code of Practice for Electrical Safe Distances and the Electricity Act 1992. Conditions: 1. The consent holder shall ensure that stormwater discharges are designed and managed to ensure Transpower's access to National Grid transmission lines, including support structures, is unaffected.

Advice Note: Transpower NZ Ltd has a right to access its existing assets under s23 of the Electricity Act 1992. Any development must not preclude or obstruct this right of access. It is an offence under s163D of the Electricity Act 1992 to intentionally obstruct any person in the performance of any duty or in doing any work that the person has the lawful authority to do under s23 of the Electricity Act 1992. 2. The consent holder must ensure that changes to the stormwater drainage patterns and runoff characteristics do not result in any adverse effects on the foundations of any National Grid support structure or any substation. 3. All land use activities, including the construction of new stormwater discharge structures, earthworks, fences, any operation of mobile plant and/or persons working near exposed line parts shall comply with the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) or any subsequent revision of the code.

**Submission by Transpower New Zealand Limited on the
Publicly Notified Resource Consent Application (Ref:
CRC190445) by Christchurch City Council**

Comprehensive Stormwater Discharge to Land and Water

29 August 2018

Keeping the energy flowing



Address for Service:

Transpower New Zealand Ltd
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Environmental Planner

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SUBMISSION ON THE PUBLICLY NOTIFIED RESOURCE CONSENT APPLICATION BY CHRISTCHURCH CITY COUNCIL FOR THE COMPREHENSIVE STORMWATER NETWORK DISCHARGE TO LAND AND WATER, COVERING ALL EXISTING AND FUTURE STORMWATER NETWORKS WITHIN CHRISTCHURCH CITY AND THE SETTLEMENTS OF BANKS PENINSULA (REF: CRC190445).

To: Consents Hearings
Environment Canterbury
PO Box 345
Christchurch 8140

Submitter: Transpower New Zealand Limited (Transpower)
PO Box 1021
WELLINGTON 6140

1.0 INTRODUCTION

- 1.1** Transpower New Zealand Limited (Transpower) is the State Owned Enterprise that plans, builds, maintains, and operates New Zealand's high voltage transmission network - the National Grid. The National Grid comprises around 12,000 km of transmission lines and cables, and some 164 substations. It links generators to distribution companies and major industrial users from Kaikohe in the North Island, to Tiwai Point in the South Island. Transpower's principle role is to ensure the reliable supply of electricity throughout the country. Transpower therefore has a significant interest in ensuring that development does not adversely affect the operation, maintenance, upgrading and development of the existing transmission network.
- 1.2** Transpower understands that Christchurch City Council is applying to Environment Canterbury for a Comprehensive Stormwater Network Discharge Consent (CSNDC), with a consent duration of 25 years sought. The application seeks consent to discharge water and contaminants to land and water, including coastal water, from all existing and future stormwater networks within Christchurch City and the settlements of Banks Peninsula.
- 1.3** Transpower notes that this application replaces application CRC160056, with updated supporting information including proposed conditions of consent.
- 1.4** Transpower operates a number of National Grid transmission lines and substations in the Christchurch City area; see the map in Appendix A.
- 1.5** Transpower is concerned, given the nature of the consent application, that stormwater discharges could occur in close proximity to its transmission lines and/or support structures. This has potential to negatively affect the safe and efficient operation of National Grid infrastructure.
- 1.6** Transpower considers that potential adverse effects on its assets can be addressed through appropriate conditions placed on the resource consent; see conditions sought in Appendix B.

2.0 THE APPLICATION THAT TRANSPOWER'S SUBMISSION RELATES TO:

- 2.1** Given the nature of the CSNDC application, it is uncertain where future stormwater network discharges will take place within Christchurch and Banks Peninsula. There is no mention of Transpower or its National Grid assets within the CSNDC application.
- 2.2** Transpower's interest with consent CRC190445 relates to any stormwater network discharge activities in the vicinity of its transmission lines, support structures and substations. Details of Transpower's assets within the Christchurch City area are included in Appendix A.
- 2.3** It is important that stormwater network discharges do not adversely impact the safe and efficient operation of the National Grid. The diversion of water can physically undermine the stability of transmission towers and poles and can restrict access to Transpower's transmission lines and support structures.
- 2.4** In addition, it is important that any future works carried out in close proximity to National Grid transmission assets are compliant with relevant requirements and safe separation distances.

3.0 STATUTORY CONTEXT

- 3.1** The National Grid is recognised as a significant physical resource that must be sustainably managed in accordance with the Resource Management Act 1991 (RMA). Any adverse effects on the National Grid must be avoided, remedied or mitigated.
- 3.2** Section 104(1)(b)(iii) of the RMA states that consent authorities must have regard to any relevant provisions of a national policy statement when considering applications for a resource consent.

The National Policy Statement on Electricity Transmission 2008 (NPSET)

- 3.3** *The National Policy Statement on Electricity Transmission 2008 (NPSET)* confirms the need to operate, maintain, develop and upgrade the electricity transmission network as a matter of national significance, and the need to appropriately manage both the transmission network and activities and development under, and in close proximity, to it.
- 3.4** The single objective of the NPSET is:

To recognise the national significance of the electricity transmission network by facilitating the operation, maintenance and upgrade of the existing transmission network and the establishment of new transmission resources to meet the needs of present and future generations, while:

- *Managing the adverse environmental effects of the network; and*
- *Managing the adverse effects of other activities on the network.*

- 3.5** Policy 2 of the NPSET specifically requires decision-makers to recognise and provide for the effective operation, maintenance, upgrading and development of the electricity transmission network.
- 3.6** Policy 10 of the NPSET is of particular relevance and specifically guides the management of activities undertaken by other parties and the associated potential adverse effects on the transmission network.

- 3.7** Policy 10 of the NPSET requires all decision-makers (including on resource consent applications) “to the extent reasonably possible manage activities to avoid reverse sensitivity effects on the electricity transmission network and to ensure that operation, maintenance, upgrading, and development of the electricity transmission network is not compromised.” It is important to ensure that any development within Christchurch City does not compromise the on-going operation and maintenance of the National Grid.

The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34: 2001)

- 3.8** *The New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34: 2001)* (NZECP) specifies minimum safe separation distances for structures, earthworks, mobile plant and people from transmission lines and support structures. These minimum safe distances have been set primarily to protect persons, property, vehicles and mobile plant from harm or damage from electrical hazards. It is important to note that NZECP is a regulation under the Electricity Act 1992 and compliance with its provisions is mandatory.
- 3.9** New development of the stormwater network must comply with the requirements of NZECP. At a minimum, all structures must comply with the safe separation distances set out in NZECP.

Electricity Act 1992

- 3.10** Under Section 23 of the *Electricity Act 1992*, Transpower NZ Ltd has a right to access its existing assets. Any development must not preclude or obstruct this right of access. It is an offence under s163(f) Electricity Act to intentionally obstruct any person in the performance of any duty or in doing any work that the person has the lawful authority to do under s23 of the Electricity Act.

4.0 TRANSPOWER’S CONCERNS

- 4.1** In accordance with Policies 2 and 10 of the NPSET and NZECP, Transpower’s interest in the proposal is to ensure that the operation, maintenance, upgrading and development of existing National Grid infrastructure is not compromised, and that any works around the National Grid is carried out safely.
- 4.2** Transpower has reviewed the updated application CRC190445, including the proposed conditions of consent. Transpower is concerned that the proposal may allow for stormwater discharges to occur in close proximity to the National Grid, in a manner that could undermine both its infrastructure and access to this infrastructure.
- 4.3** In addition, Transpower is concerned that this consent may facilitate stormwater structures that may not be consistent with NZECP and may therefore result in risks to its transmission lines, the health and safety of contractors, and the public.
- 4.4** Transpower is not satisfied that appropriate conditions have been included in the CSNDC application to ensure adequate protection of its assets and compliance with NZECP in the Christchurch City area.

Access to the National Grid is maintained

- 4.5** Transpower has a legal right to access its transmission lines and support structures (e.g. for maintenance, inspections and upgrading) under the Electricity Act 1992, however this does not guarantee that physical access is available. Transpower’s requirements for vehicle access to any

lines and support structures need to be considered in the design of future stormwater discharges if in close proximity to National Grid infrastructure; so as not to compromise Transpower's ability to access and maintain the existing National Grid assets. It is also important that during any construction works, ongoing access to the transmission lines and support structures is maintained.

- 4.6** The National Grid has operational requirements and engineering constraints that both dictate and constrain the way it is managed. Maintaining the National Grid is a core part of Transpower's business and it is important that appropriate access to the National Grid is retained in order to allow maintenance activities to take place. Most of Transpower's maintenance work occurs on private land, and depending on the work required, may involve the use of lifting machinery, stringing equipment, hurdles or temporary support structures, earth moving machinery, elevated work platforms or helicopters. As a minimum, Transpower requires 4WD and trailer access to be maintained to each of its support structures. Clear working space and good access is required particularly around the base of the support structures, and in some cases under conductors.
- 4.7** The diversion of water has the potential to render access tracks unfit for purpose, by creating physical barriers and accelerating soil erosion. Given the nature of the CSNDC application, it is uncertain where future stormwater network discharges will take place. A condition of consent is therefore requested requiring that stormwater discharges are designed and managed to ensure Transpower's access to the National Grid is unaffected.

NZEC34:2001 Safe Separation Distances

- 4.8** As mentioned above, all activities and structures must comply with the safe separation distances set out in NZEC. As the application includes future discharge of stormwater to land and water, it is recognised that this will involve construction of further stormwater infrastructure in the area.
- 4.9** All construction activities in the vicinity of Transpower's assets must comply with the safe separation distances set out in NZEC34.

Mobile plant/machinery and people

Mobile plant and machinery, such as excavators, hi-abs and cranes, have the potential to reach up to, or above, the height of the conductors. In Transpower's experience, mobile plant and other vehicles working under transmission lines pose a real risk. It is essential that the use and location of this machinery is carefully considered to avoid contact with the conductors. Coming into close proximity to a live conductor and causing a flashover (i.e. the flashover will occur prior to contact) can:

- Compromise the safety of the machinery operators, workers, or members of the public in or near the machinery and result in electric shock;
- Damage the machinery or the line itself; and
- Affect the operation of the National Grid and the security of supply.

In accordance with section 5 of NZEC, all machinery and mobile plant must remain a minimum clearance distance of 4m from the transmission lines at all times. It is Transpower's preference, and industry best practice, to plan for 6m clearance.

Earthworks

In Transpower's experience, stop banks, bunds and stockpiling of materials can result in a breach of the minimum safe clearance distances required by NZEC. It is important to ensure that any

earthworks (in particular, any increase to ground level) maintain the correct and safe clearance distances from transmission lines.

Excavations too close to support structures can destabilise them, potentially putting the whole line at risk. Section 2 of NZECP specifies the maximum depth of excavations near support structures.

It is also important that earthworks are managed appropriately to avoid the discharge of dust or any other material potentially able to cause damage to, or accumulate on, the transmission lines or support structures. Dust from earthworks can build up on the insulators and conductors of the line, which can cause flashovers and compromise the operation of transmission lines. It can also cause the infrastructure to degrade at a faster rate.

- 4.10** A condition of consent is therefore requested requiring compliance with NZECP for any stormwater network construction works in close proximity to the National Grid.

Stormwater Discharges do not undermine National Grid Infrastructure

- 4.11** Changes to stormwater drainage and runoff characteristics in close proximity to National Grid can negatively affect operations. In accordance with Policies 2 and 10 of the NPSET, it is important to ensure that stormwater network discharges do not compromise the on-going operation of the National Grid.
- 4.12** Stormwater discharges close to support structures can accelerate erosion, potentially undermining National Grid support structure foundations and destabilising transmission lines.
- 4.13** Transpower's substations must also be protected from flooding, to ensure the safety of personnel working within live switchyards.
- 4.14** Given that the location of future stormwater network discharges under the CSNDC application are unspecified, a condition of consent is requested to ensure discharges do not result in any adverse effects on the foundations of any National Grid support structure or substation.

5.0 DECISION / RELIEF SOUGHT:

- 5.1** Should the application be granted, Transpower requests the conditions attached as **Appendix B** to this submission are imposed on the consent to ensure that the operation, maintenance, upgrade and development of the National Grid is not compromised by the proposed development, and that the NPSET is given effect to.

6.0 TRANSPOWER WISHES TO BE HEARD IN SUPPORT OF THIS SUBMISSION.

7.0 TRANSPOWER COULD NOT GAIN AN ADVANTAGE IN TRADE COMPETITION THROUGH THIS SUBMISSION.

8.0 TRANSPOWER IS DIRECTLY AFFECTED BY AN EFFECT OF THE SUBJECT MATTER OF THE SUBMISSION THAT—

- a) adversely affects the environment; and**
- b) does not relate to trade competition or the effects of trade competition.**

9.0 IF OTHERS MAKE A SIMILAR SUBMISSION TRANSPOWER WOULD NOT CONSIDER PRESENTING A JOINT CASE WITH THEM AT ANY HEARING.

Lastly, Transpower would appreciate being informed of Environment Canterbury's decision on the consent application once this is available. If you have any further questions or require any clarification on any matters raised in this submission, please do not hesitate to contact me on 021 020 29670 or via email: sarah.shand@transpower.co.nz

Dated at Wellington 29th of August 2018.



Sarah Shand
Environmental Planner
TRANSPOWER NZ LTD

(Authorised to sign on behalf of TRANSPOWER NZ LTD)

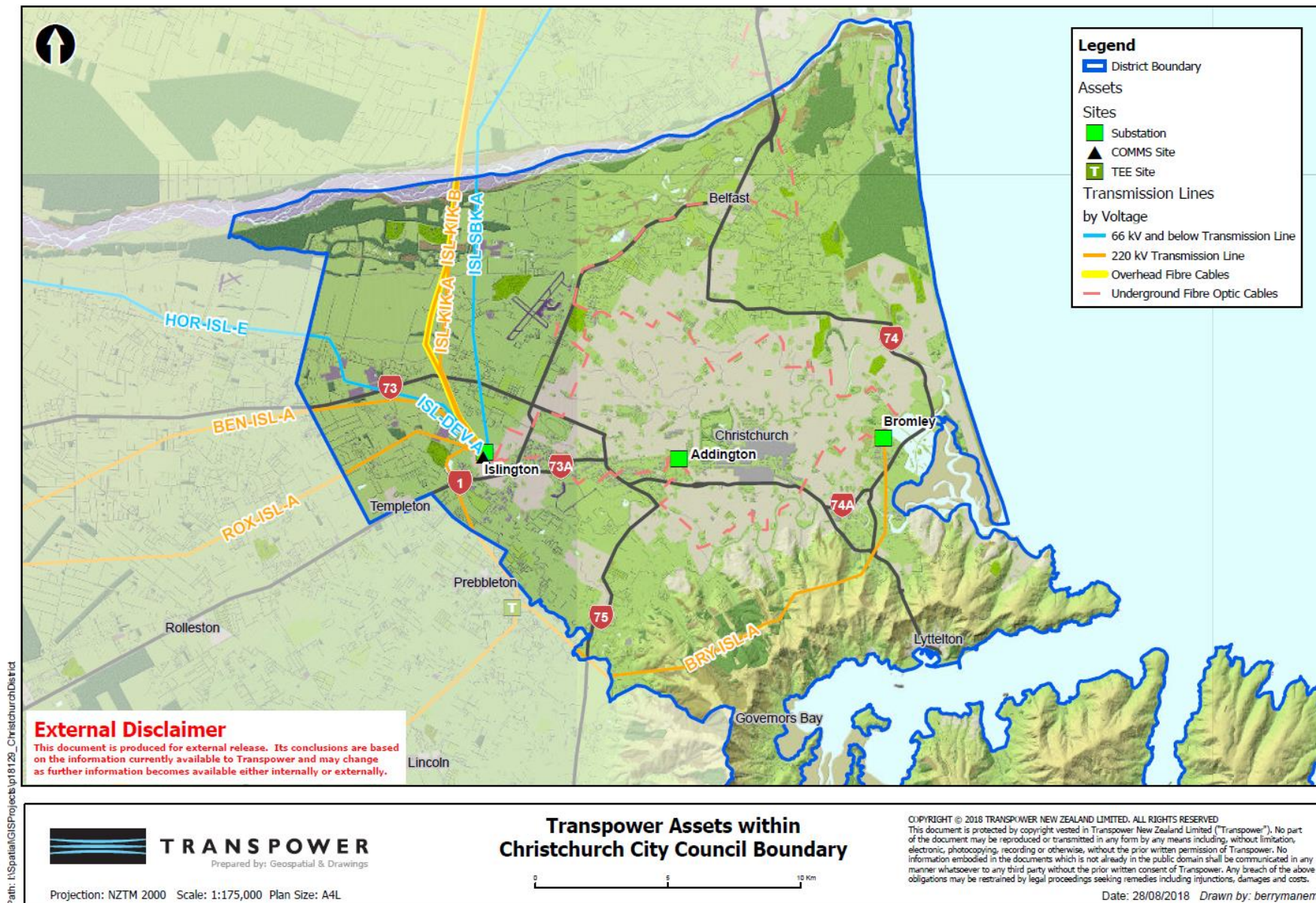
Attachments: Map of Transpower assets in Christchurch City
Requested Conditions of Consent

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Appendix A

Aerial Map and list of Transpower's assets in Christchurch City



Appendix A

Aerial Map and list of Transpower's assets in Christchurch City

Transpower's Assets within Christchurch City

- *Benmore-Islington A (BEN-ISL-A) 220kV single circuit transmission line on steel towers*
- *Bromley-Islington A (BRY-ISL-A) 220kV double circuit transmission line on steel towers*
- *Hororata-Islington E (HOR-ISL-E) 66kV double circuit transmission line on single poles*
- *Islington-Deviation A (ISL-DEV-A) 66kV double circuit transmission line on steel towers*
- *Islington-Kikiwa A (ISL-KIK-A) 220kV single circuit transmission line on steel towers*
- *Islington-Kikiwa B (ISL-KIK-B) 220kV double circuit transmission line on steel towers*
- *Islington-Southbrook A (ISL-SBK-A) 66kV double circuit transmission line on steel towers*
- *Roxburgh-Islington A (ROX-ISL-A) 220kV single circuit transmission line on steel towers*
- *Addington Substation*
- *Bromley Substation*
- *Islington Substation*
- *South Island System Control Communications Site*
- *Southern Data Centre*

Appendix B

Requested Conditions of Consent

Access to the National Grid

Proposed condition: *The consent holder shall ensure that stormwater discharges are designed and managed to ensure Transpower's access to National Grid transmission lines, including support structures, is unaffected.*

Advice Note: *Transpower NZ Ltd has a right to access its existing assets under s23 of the Electricity Act 1992. Any development must not preclude or obstruct this right of access. It is an offence under s163D of the Electricity Act 1992 to intentionally obstruct any person in the performance of any duty or in doing any work that the person has the lawful authority to do under s23 of the Electricity Act 1992.*

Stormwater Discharges

Proposed Condition: *The consent holder must ensure that changes to the stormwater drainage patterns and runoff characteristics do not result in any adverse effects on the foundations of any National Grid support structure or any substation.*

NZECF Compliance

Proposed Condition: *All land use activities, including the construction of new stormwater discharge structures, earthworks, fences, any operation of mobile plant and/or persons working near exposed line parts shall comply with the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECF 34:2001) or any subsequent revision of the code.*