Northpower
Electricity Network

Congestion Management Policy - Distributed Generation

NET.NP.00.03 | Network Policy

Document Summary

This congestion management policy outlines Northpower's approach and conditions under which Distributed Generation that is connected to Northpower's network may be curtailed or interrupted from time to time to ensure that Northpower's other connection and operations standards are met.

Document Approval

Version	4
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1.0 Introduction

1.1 Purpose

This congestion management policy outlines Northpower's approach and conditions under which Distributed Generation that is connected to Northpower's network may be curtailed or interrupted from time to time to ensure that Northpower's other connection and operations standards are met.

1.2 Scope

This policy applies to all forms of electricity connections to the network that are capable of exporting (injecting) electricity into the network – this includes distributed generation and other types of technology – for example Electric Vehicles (EV) and battery storage systems – where they are capable of exporting energy into the network.

1.3 Application

This policy applies to all related Network standards and procedures, and shall be implemented across the business.

2.0 References

Internal Reference	Details
Northpower's DG Connection Application process	As detailed in procedure *CST.S.00.02 New LV Service Connections*.
Northpower's Technical Requirements	As detailed in standard *APL.S.01.06 Technical Requirements - Connection of Small Scale Distributed Generation.*
Northpower's Website	www.northpower.com

External Reference	Details
EIPC	The Electricity Industry Participation Code 2010. The connection of distributed generation is detailed in the Code Part 6, Connection of Distributed Generation: http://www.ea.govt.nz/code-and-compliance/the-code/part-6-connection-of-distributed-generation/
Electricity Safety Regulations	Electricity (Safety) Regulations 2010

3.0 Definitions

Terminology	Definition
Distributed Generation ("DG")	Means equipment used, or proposed to be used, for generating electricity that is: • connected, or proposed to be connected, to the Network or to a consumer installation which is connected to the Network; and • is capable of injecting electricity into the Network. This includes Electric Vehicles (EV) or battery storage systems capable of exporting (injecting) electricity into the network.

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4.0 Responsibilities

Role	Responsibility
GM Network	Approving this Policy. Ensuring this Network Policy is implemented and followed.
Asset Investment and Strategy Manager	Preparing and maintaining this document (as Document Owner) to ensure that it meets all relevant regulatory and operational requirements and provides clear policy to the business.
Network Management Team	Ensuring their respective network functions (teams) implement and follow this Network Policy.

5.0 Overview

Network congestion can occur where an over-supply of electricity injected into the network by Distributed Generation causes a network asset (e.g. overhead line or transformer) to operate beyond its rated maximum capacity or causes an unacceptably high voltage level at the point of connection to the network. Where this occurs, this can cause power quality issues and adversely impact other customers.

Operationally, Northpower strives to ensure that the network is safe for both those working on it, and for those with equipment connected to it. We work to help ensure exposure to damage and costly remedial works are avoided where possible.

The *Electricity Industry Participation Code 2010* (the "Code") governs the connection of Distributed Generation to ensure that the operation of New Zealand's electricity grid remains stable and reliable.

Northpower accepts the connection of Distributed Generation to the network, providing all safety, technical and regulatory requirements are met without affecting other customers.

6.0 Congestion Management Policy

The following specifies the circumstances under which Northpower may require the electrical output (i.e. energy injected into our network) to be curtailed or disconnected from the network, to manage the impact of network congestion:

- Electrical output may cause the network to exceed voltage limits set by the *Electricity (Safety) Regulations Clause 28(1)(b).*
- Operation of customer connected installations may present a danger to personnel working on the network. This could be due to the operation of the installation being contrary to industry-wide safe-working practices, or when work is carried out on live LV conductors.
- Connection of the customer installation may exceed the fault or current rating of network equipment.

- Operation of the customer installation may disrupt supply to other customers. The use of DG may, for example, result in power quality issues under certain operational conditions e.g. excessive voltage fluctuations or harmonics.
- In the case of a prevalence or saturation of DG installations on any part of Northpower's Network leading to operational issues including (but not restricted to) excessive voltage or the compromising of protection equipment or settings.

OR:

- If the Customer modifies its Distributed Generation, without obtaining prior authorisation from Northpower, in such a way that the modification (e.g. changes to generation capacity or export capacity) has a material effect on the injection of electricity from the Distributed Generation into the Network; or
- As a consequence of obligations that may be imposed on Northpower which, in Northpower's opinion, could affect the operation of the Distributed Generation for example, obligations imposed by Transpower New Zealand Limited both as owner of the National Grid and as the System Operator, obligations to an electricity retailer, or obligations arising in respect of other distribution network, or imposed by law including the *Electricity Industry Participation Code 2010.*

No compensation will be paid by Northpower should Distributed Generation be curtailed or disconnected under these conditions.

7.0 Congestion Management Areas

Areas which are currently known to be subject to, or are expected to be subject to in the next 12 months, export congestion management are identified on Northpower's website.

8.0 Applications to Connect Distributed Generation

Northpower will review all DG applications for both new connections and amendments to existing connections (e.g. changes to generation capacity, export capacity, or fuel type), and identify situations where the connection of DG may compromise the safety and operational performance of the network.

If, in Northpower's assessment, the connection of the proposed DG will result in network congestion, it will offer guidance to the applicant to help enable them to meet our requirements. If the proposed DG installation is still unable to meet Northpower's requirements to avoid congestion, the application to connect to the network will be declined (with an explanation). Where the application is declined, the applicant may wish to resubmit a revised application addressing the issues in the original application.

Full application process and technical requirements for small scale DG are provided in Northpower's standards:

- *CST.S.00.02 New LV Service Connections*, and
- *APL.S.01.06 Technical Requirements - Connection of Small Scale Distributed Generation*.

9.0 Document Review History

Version Number	Date	Revision Notes (reason for change)
4.0	6 April 2020	Replaces ENS 02.01.064 Congestion Management Policy – Distributed Generation. Migrated to new document template and new reference code.
4.01	15 December 2020	Network Document Controller - Migrated to new QMS template, new ID code and updated references.