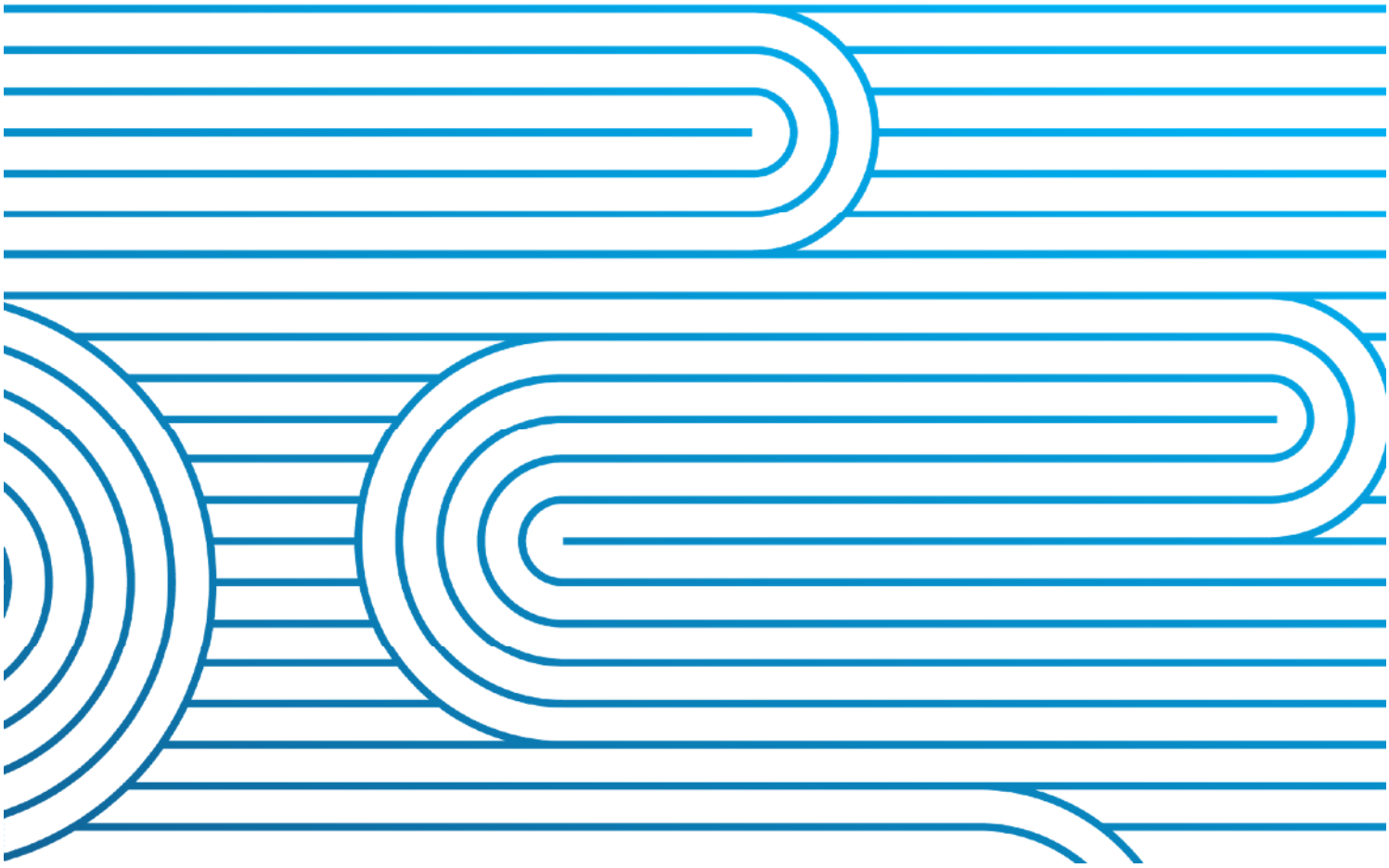
TRANSPOWER

2025 Integrated Transmission Plan

Glossary

September 2025



Acronym	Full Description
AAAC	All Aluminium Alloy Conductor
IONS	Integrated outage notification system - A system which helps schedule, coordinate and track grid outages
AC	Alternating current
ACM	Asbestos containing materials
ACSR	Aluminium Conductor Steel Reinforced
AH	Asset Health
AHI	Asset Health Index
AMP	Asset Management Plan
AMS	Asset Management System
AP	Asset Performance (used in AP1–AP5)
AP1	Asset Performance 1 - HVDC Capacity Availability
AP2	Asset Performance 2 - HVAC Asset Availability
AP3	Asset Performance 3 - Return to Service Time
AP4	Asset Performance 4 - Return to Service Time Communications
AP5	Asset Performance 5 - N-Security Reporting
Asset health and asset health index (AHI)	Asset health is expressed using an asset health index (AHI). AHI is a modelling method that estimates the remaining useful life for assets. It considers a range of factors such as asset condition, failure rate, and environmental factors, depending on the asset class
Automatic under-frequency load shedding (AUFLS)	The automatic disconnection of customers for severe or prolonged under frequency excursion
Availability	The number of hours per year the network or part of the network is in service
BCG	Boston Consulting Group
BESS	Battery Energy Storage System – grid-scale battery installations
BIM	Building Information Modelling

Acronym	Full Description
Bus	The common primary conductor of power from a power source to two or more separate circuits
CA	Condition Assessment
Cable	One or more insulated conductors forming a transmission circuit above or below ground
Capacitor bank	A number of capacitors connected together in a series or parallel to form the requisite capacitance and voltage rating for reactive compensation and harmonic filters on the power system
Capex	Capital expenditure
Capex IM	Transpower Capital Expenditure Input Methodologies
CBD	Central Business District
CBRM	Condition Based Risk Management
CCC	Climate Change Commission
Circuit	A set of conductors (usually three) plus associated hardware and insulation on a transmission line, which together form a single electrical connection between two or more stations and which, when faulted, is removed automatically from the system (by circuit breakers) as a single entity
Circuit breaker	A switching device, capable of making, carrying and breaking currents under normal circuit conditions and also making, carrying for a specified time and breaking currents under specified abnormal conditions, such as those of short circuit
CNAIM	Common Network Asset Indices Methodology
Commissioned	The operational state of equipment that has undergone the commissioning process and is brought under the operational control of a service centre/controller
Constraint	A local limitation in the transmission capacity of the grid required to maintain grid security or power quality
Contingency	An event that can occur on the power system. For example, a single contingency could be: in relation to transmission, the unplanned tripping of a single item of equipment
Controlled document	A technical, safety or compliance document registered within the Transpower system. We issue, amend and withdraw a controlled document through a formal quality process system

Acronym	Full Description
Core grid	The main elements of the transmission grid as defined in Schedule 12.3 of the Electricity Industry Participation Code 2010
Criticality	We use an asset criticality framework to estimate the consequences of failure for each asset. This framework approach is new to Transpower and is still under development. We are developing this framework to cover a range of dimensions of consequence. It currently includes service performance and public safety
CS	Customer Service (e.g., CS1, CS2)
DER	Distributed Energy Resources
DGA	Dissolved Gas Analysis
DRAM	Delivery Risk Adjustment Mechanism
DVDC	Digital Visual Data Capture
DY	Disclosure Year
E&D	Enhancement and Development
Earth potential rise (EPR)	The potential (difference) between the local earth and the earth at a remote point due to the flow of electric current from line to earthing system to earth
EC	Economic Consequence
EDB	Electricity distribution business - An asset owner whose assets are predominantly for the distribution of electricity to customers
Electricity Industry Participation Code	A statutory instrument setting out the requirements on the electricity industry pursuant to the Electricity Industry Act 2010
feeder	A circuit that provides a direct connection to a customer
FMEA	Failure Mode and Effects Analysis
FMIS	Financial management information system
Forced outage	The automatic or urgent removal from service of an item of equipment
Frequency	The rate of cyclic changes in value of current and voltage, quantified by the international standard term 'Hertz' (Hz)
FTE	Full-Time Equivalent
GEIP	Good Electricity Industry Practice

Acronym	Full Description
GEIR	Grid Economic Investment Report – evaluates economic justification for grid investments
GIP	Grid Injection Point - A point of connection where electricity may flow into the grid
GIS (gas insulated switchgear)	Metal-enclosed switchgear in which the insulation and arc extinction is obtained by an insulating gas, usually SF_6
GMMS	Grid meter management system - a metering data repository and data management system
GMS	Grid Modelling System
GOM	Grid Operating Model
GP	Grid Performance (used in GP1–GP4)
GP1	Grid Performance 1 - Number of Unplanned Interruptions
GP2	Grid Performance 2 - Average Duration of Unplanned Interruptions
GP4	Grid Performance 3 - Energy Not Supplied (as % of total demand)
GP-M	Grid Performance M - Momentary Unplanned Interruptions
GPS	Global Positioning System
grid	The part of the New Zealand electricity transmission system that is operated by Transpower
GRR	Grid Reliability Report (Service Measures Report) part of Transpower's regulatory reporting
GXP	Grid Exit Points - A point of connection where electricity may flow out of the grid
HILP	High Impact Low Probability
HILP	High-Impact Low-Probability
HMI	Human-Machine Interface
HV	High-voltage - Unless otherwise noted, HV generally means above 66 kV
HV	High Voltage – typically refers to voltages above 33 kV in NZ context
HVAC	High Voltage Alternating Current
HVDC	High Voltage Direct Current

Acronym	Full Description
Hypoxic air fire suppression	An active fire protection technique based on a permanent reduction of the oxygen concentration in the protected rooms (also known as oxygen reduction system)
IaaS	Infrastructure-as-a-Service
ICON	Intelligent Conductor Management Programme
ICT	Information and Communications Technology
IED	Intelligent electronic device - A device that performs electrical protection functions, advanced local control intelligence, has the ability to monitor processes and can communicate directly to a SCADA system
IFRS	International Financial Reporting Standards
IPP	Individual Price-Quality Path
ISO 55000	A publicly available international standard for asset management developed and published by the International Organisation for Standardisation
ITP	Integrated Transmission Plan (consists of the Transmission Planning Report, Asset Management Plan and Grid Outputs Report)
IWP	Integrated Works Plan - Our workplan which includes capex and opex work
kV	Kilovolts
kW	Kilowatt
Live line work	Work performed on or near normally energised transmission circuit components, without using isolating and earthing procedures, and at distances closer than the minimum approach distances specified in SR-EI Rule 703
LVAC	Low Voltage Alternating Current
MAD	Minimum Approach Distance
Maximo	Our core asset management information system for all grid asses which holds our operational asset register and is our maintenance management tool
MBIE	Ministry of Business, Innovation and Employment
MCP	Major Capex Project
MV	Medium-voltage - Unless otherwise noted, medium-voltage generally means below 66 kV

Acronym	Full Description
MVA	Megavolt-Ampere – a unit of apparent power in an electrical system
MW	Megawatt – a unit of power equal to one million watts
N, N-1	Refers to the planning standard that Transpower generally plans the grid to. The N-1 security level provides supply security to the connected loads under a single credible contingency with all the assets that can reasonably be expected in service. An N security level means that the outage of one or more assets will interrupt load. It is often found in smaller supply areas, where just one transmission circuit or supply transformer provides supply
NCTD	Neutral Current Transducer
NER	Neutral Earthing Resistor
Network studies	Simulation of the actual power system using computer models, to analyse the effects of changes to inputs (like demand, supply, and asset ratings), and identify constraints or other issues that might affect security of supply to a region
NGOC	Our two National Grid Operating Centres in Auckland and Christchurch
NR	Not Reported (previous label for GP4)
ODID	The conversion of our outdoor 33 kV switchyards to indoor installations is known as our “outdoor to indoor” (ODID) programme
ODJB	Outdoor Junction Box
Opex	Operating Expenditure
Outage	The state of an item of equipment when it is not available to perform its intended function. An outage may or may not cause an interruption of supply to customers
PaaS	Platform-as-a-Service
PAS 55	A publicly available specification (PAS), published by the British Standards Institute that specifies the requirements for organisations seeking to demonstrate good asset management practices. This specification has subsequently been superseded by the ISO 55000 asset management standard
Planned outage	A deliberate outage scheduled for maintenance purposes
PMP	Portfolio Management Plan

Acronym	Full Description
PoF	Probability of Failure
PoS	Point-of-service - A normally contiguous electrical busbar at a particular voltage at which we have agreed to provide services to one or more transmission customers
Power transformer	A transformer that primarily changes voltage and current for the efficient conveyance of electricity over the circuits connected to it
Primary assets	Power system equipment operating at a high voltage that forms part of the grid. Examples of primary assets are circuit breakers and transformers
PV	Photovoltaic – typically refers to solar power generation
R&R	Replacement and refurbishment
RCP	Regulatory Control Period (5-years)
RCP2 and RCP3	The five-year regulatory control periods. RCP2 runs from 1 July 2015 to 30 June 2020; RCP3 begins on 1 July 2020 and ends on 30 June 2025.
Reactive power	Energy that flows in the power system between alternators, capacitors, SVCs, etc, and inductive and capacitive equipment such as transmission lines and low power factor loads. It is the product of the voltage and out-of-phase components of the alternating current and is measured in vars
Relay	A device designed to produce predetermined changes in one or more electrical output circuits, when certain conditions are fulfilled in the electrical input circuits controlling the device
RIM	Reliability Informed Maintenance
RIT	Regulated Investment Test
RTU	Remote Terminal Unit
SA	Secondary assets
SA	Surge Arrester
SaaS	Software-as-a-Service
SAMP	Strategic Asset Management Plan
SCADA	Supervisory control and data acquisition system
SF6	Sulphur Hexafluoride
SMP	Substation Management Platform

Acronym	Full Description
SMR	Service Measures Report
SMS	Substation Management System
STATCOM	Static Synchronous Compensator – a device used for voltage control and reactive power support
SVC	Static VAR Compensator
Switchgear	A collective term for switches of all types and their associated equipment, including circuit breakers, disconnectors and earthing switches
Synchronous condenser	A synchronous machine running without mechanical load and supply or adsorbing reactive power to regulate local voltage
TEES	Transpower Enterprise Estimation System, a cost estimation software
TL	Transmission Lines
TPM	Transmission Pricing Methodology
TPR	Transmission Planning Report – Transpower's annual report on grid planning
TPS	Transmission Pricing System
Transformer	A static electric device consisting of a winding or two or more coupled windings which transfer power between circuits of the same frequency, usually with changed values of voltage and current
VoLL	Value of Lost Load
WACC	Weighted Average Cost of Capital
WORP	Work Order Risk Prioritisation
WUNIVM	Waikato and Upper North Island Voltage Management
XaaS	Anything-as-a-Service
XLPE	Cross linked polyethylene

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