

# Glossary

References to the 'IM determination' or 'IMs' mean the Fibre Input Methodologies (initial value of financial loss asset) Amendment Determination 2020 NZCC 24, 3 November 2020.

References to the 'Act' mean the Telecommunications Act 2001.

Term	Definition
<b>5YP</b>	Our five-year business plan in general terms, or specifically referring to the FY2021-25 business plan.
<b>ABAA</b>	Has the meaning set out in the IM determination as follows: "the accounting-based allocation approach of using cost allocators to allocate operating costs, or asset allocators to allocate asset values".
<b>ABC</b>	Agree, Build, Connect: the standard process followed by most fibre installation companies in rolling out Ultra-Fast Broadband (UFB) to New Zealand. More commonly referred to as 'Scope, Civil/Blow, Tech'. A replacement for the old '1 Man / 1 Job / 1 Day' process.
<b>ABFFP</b>	Air Blown Fibre Flexibility Point. Pit in the ground for our UFB network. It will contain a splitter where optical signals are split to feed each home.
<b>Access</b> (expenditure context)	A sub-category of our Network Capacity capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. Access networks enable end-user connections to the fibre network.
<b>Access seekers</b>	Has the meaning set out in the Act as follows: "(a) means, in relation to a designated service or specified service, the person named or described in Part 2, or Part 3, of Schedule 1 as the access seeker for the designated service or specified service; and (b) means, in relation to a service that is supplied under a registered undertaking, a service provider who seeks access to the service and who complies with any conditions set out in the registered undertaking for eligibility as an access seeker; and (c) means, in section 155ZZD, a person who seeks access to a fibre optic cable that must be provided on an open access basis under that section; and (d) means, in relation to a fibre fixed line access service, a person who seeks access to the service from the regulated fibre service provider".
<b>Access sites</b>	Access sites host equipment used to connect consumers to the network. This is the broadest category of our sites.
<b>Active cabinets</b>	A roadside cabinet that contains cable termination and telecommunications equipment providing voice, data and broadband services to consumers in the area served by that cabinet.
<b>Aerial deployment</b>	Fibre cable deployment type where fibre cables are attached to poles above the ground. The sheath protects the fibres so must be able to withstand wind loadings, span tension, snow loading, and be UV protected.

Term	Definition
<b>Aggregation</b> (expenditure context)	A sub-category of our Network Capacity capex category as set out in the attachments to the Commission’s Information Request dated 18 November 2020. Aggregation networks link access networks to Retail Service Provider (RSP) points of interconnection.
<b>Aggregation model</b>	This model consolidates the outputs of all the underlying opex and capex forecast cost models so that the output presents the underlying forecast data in the required way, e.g. in regulatory expenditure categories and in regulatory (calendar) years. It also calculates the allocated FFLAS values and removes 5YP inflation. This model informs the proposal and regulatory templates.
<b>Aggregation switches</b>	Aggregation switches provide the hardware and software required to deliver network services. In most cases network traffic is received onto our network from a Retail Service Provider (RSP) and then directed to an access network to provide the connection to the relevant end-user.
<b>Agile delivery model</b>	Agile is an iterative and incremental approach for delivery. It is a methodology for developing a product or managing work where solutions evolve through collaboration. This is done together between self-organising and cross functional teams and their customers to focus on delivering the highest value in the shortest time.
<b>Allocated spend</b>	The output of capex and opex expenditure that has had cost allocation applied (in line with IM rules) to generate expenditure related to regulated FFLAS.
<b>AMCL</b>	Asset Management Consulting Limited (AMCL) is an Institute of Asset Management-endorsed assessor. We engaged them to complete an asset management capability assessment and to develop a roadmap to help us move forward.
<b>AMS</b>	Access Management System.
<b>Anchor services</b>	Has the definition from the Act, namely: “means a fibre fixed line access service declared in regulations made under section 227 to be an anchor service”.
<b>ARMC</b>	Audit and Risk Management Committee. Our committee that has oversight of our risk and financial management, accounting, audit and financial reporting.
<b>Asset management</b> (expenditure context)	A sub-category of our Support Opex category as set out in the attachments to the Commission’s Information Request dated 18 November 2020. This sub-category covers activities such as strategic planning, investment management and technology operations for our fibre network and supporting IT systems, and activities such as programme management, contract management, property operations, consent acquisition, network scoping, health, safety and environment, and process optimisation.
<b>ATM</b>	Asynchronous Transfer Mode. A transfer mode in which the information is organised into cells. It is asynchronous in the sense that the recurrence of cells containing information from an individual user is not necessarily periodic.
<b>ATPU</b>	Average Throughput Per User. This is a measure of the average contribution per connection during the network peak.
<b>Augmentation</b> (expenditure context)	A sub-category of our Extending the Network capex category as set out in the attachments to the Commission’s Information Request dated 18 November 2020. This capex sub-category includes two types of work – new address creation within the existing footprint of the network (infill), and extension – work to extend coverage to communities outside the UFB contracts.

Term	Definition
<b>Average peak</b>	Sum of peaks divided by the number of connections.
<b>Average speed</b>	Sum of connection speeds divided by number of connections.
<b>B2B</b>	Business to Business.
<b>B4UDIG</b>	Online service which enables anyone undertaking excavation works to obtain information on the location of cables, pipes and other utility assets in and around any proposed dig site, helping to protect themselves and valuable assets during these works.
<b>Backhaul</b>	<p>As a network function, it is the transmission capacity between distributed sites (typically access points) and more centralised points of presence.</p> <p>As a service, this is a telecommunications service used for the transport of data between regional and national data aggregation points. Some backhaul services are within the scope of FFLAS, e.g. ICABS.</p>
<b>Bandwidth</b>	The range of frequencies assigned to a channel or system. The difference expressed in hertz between the highest and lowest frequencies of a band.
<b>Base capex</b>	Has the meaning set out in the IM determination as follows: "Capital expenditure approved by the Commission as part of the base capex allowance and incurred by Chorus in relation to one or more base capex sub-categories".
<b>BBM</b>	Building Blocks Model. BBM is an internationally recognised method of implementing PQ regulation, and has been adopted in the context of Part 6 of the Telecommunications Act 2001. The Commission uses the RAB, along with the regulated provider's other costs, together the building blocks, as a basis for calculating the allowed revenue.
<b>BDD</b>	Buried Direct Distribution System.
<b>Bit error rate</b>	The rate at which errors occur in a transmission system. This can be directly translated into the number of errors that occur in a string of a stated number of bits. The definition of bit error rate can be translated into a simple formula: $BER = \text{Errors} / \text{Total Number of Bits}$ .
<b>Bitstream</b>	A stream of data in binary form. Refers to the situation where a wireline incumbent installs a high-speed access link to the customer's premises and then makes this access link available to third parties.
<b>BMS</b>	Building Management System.
<b>Brownfield</b>	Has the meaning set out in the IM determination as follows: "Existing dwellings or premises".
<b>BST</b>	Base-Step-Trend. Forecasting method which involves the selection of a starting base which is then escalated and adjusted as appropriate to derive a forecast that best reflects the expenditure requirements of the forthcoming period.
<b>Business IT</b> (expenditure context)	A sub-category of our IT and Support capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. This sub-category covers systems and applications across IT domains that support business activities. There are two classes of investment in these systems (customer experience and optimisation; lifecycle and compliance).

<b>Term</b>	<b>Definition</b>
<b>BWoF</b>	Building Warrant of Fitness.
<b>Cabinets</b>	A Chorus owned, leased or licensed structure that is not an exchange and which are often found at the side of the road and house termination equipment, splitters and network electronic devices.
<b>Capex</b>	Capital expenditure. In the context of our proposal, we refer to capital expenditure or capex, interchangeably. Capital expenditure has a meaning in accordance with financial accounting principles (NZ GAAP). It also has a specific definition in the IMs that is applicable to FFLAS.
<b>Capex per connection</b>	Recurring capital expenditure per connection, excluding forecast pass-through costs and lease costs. This presentation provides the best view of costs that are controllable and recurring in nature.
<b>Capital contributions</b>	Has the meaning set out in the IM determination as follows: "means: <ul style="list-style-type: none"> <li>(a) money or the monetary value of other considerations charged to or received in relation to the construction, acquisition or enhancement of a core fibre asset or UFB asset by a regulated provider from 1 or more of the following: <ul style="list-style-type: none"> <li>i. an access seeker;</li> <li>ii. an end-user; or</li> <li>iii. any other party; and</li> </ul> </li> <li>(b) includes the \$20 million fund established by Chorus for financial loss year 2013 in respect of non-standard installations; but</li> <li>(c) does not include any Crown financing".</li> </ul>
<b>CAR</b>	Condition Assessment Report.
<b>CCC</b>	The Chorus Capital Council (CCC) is an executive governance forum where capital requests for investments are taken for approval.
<b>Chorus alternative sites programme</b>	This is a multi-year programme of work to enable reduced dependency on key third-party sites. Works include the upgrade and capacity increase of key power and engineering services.
<b>Chorus X programme</b>	Chorus innovation programme.
<b>CIP</b>	Crown Infrastructure Partners.
<b>CNO</b>	Customer and Network Operations. Chorus functional unit responsible for installations, provisioning and maintenance.
<b>CNSP</b>	Chorus Network Specified Products.
<b>Colocation</b>	Customers' equipment in a Chorus exchange (fibre or copper). Colocation and interconnection services can be FFLAS services.
<b>Commissioned</b>	Has the meaning set out in the IM determination as follows: "Employed by the regulated provider in providing a service (whether or not the asset is also employed in providing other services)".
<b>Complex installations (expenditure context)</b>	A sub-category of our Installations capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. This capex sub-category mainly covers design and build of installations for specific business requirements.

Term	Definition
<b>Connection capex</b>	<p>Has the meaning set out in the IM determination as follows:  “means capital expenditure approved by the Commerce Commission as part of the connection capex baseline allowance or the connection capex variable adjustment and directly incurred by Chorus in relation to connecting new end-user premises, building or other access points where the communal fibre network already exists or will exist at the time of connection, and includes:</p> <ul style="list-style-type: none"> <li>(a) UFB initiative brownfield connection expenditure;</li> <li>(b) UFB initiative greenfield and infill connection expenditure; and</li> <li>(c) Chorus initiated migration from copper fixed line access services to PQ FFLAS”.</li> </ul>
<b>Connection capex mechanism</b>	<p>This is the term we use to refer to the connection capex variable adjustment, which has the meaning set out in the IM determination as follows:  “means the amount determined by the Commission in accordance with clause 3.7.21”.</p>
<b>Constant price</b>	<p>Constant prices are obtained by expressing values in terms of a fixed price for a specified base period. They allow comparisons excluding any nominal changes, such as Consumer Price Index (CPI) and Real Price Effects (RPE).</p>
<b>Consumer</b>	<p>We use the term ‘consumer’ or ‘end-user’ interchangeably to refer to the businesses, homes and other organisations (such as schools, hospitals etc.) who ultimately use our services. See also ‘end-user’ for IM definition. In contrast, we use the term ‘customer’ to refer to our Retail Service Providers (RSPs) in the proposal.</p>
<b>Controller cards</b>	<p>Controller cards are installed into chassis/shelf slots in an exchange, they determine what functions can be supported.</p>
<b>Core sites</b>	<p>Core sites concentrate traffic from multiple mesh sites. They house the large-capacity switches and the equipment for national transport. They can serve up to 250,000 customers.</p>
<b>Corporate</b> (expenditure context)	<p>A sub-category of our IT and support capex category as set out in the attachments to the Commission’s Information Request dated 18 November 2020. This sub-category covers sundry business investment, plus our Chorus X innovation programme.</p> <p>It is also a sub-category of our Support Opex category as set out in the attachments to the Commission’s Information Request dated 18 November 2020. It covers corporate functional units, accommodation and items such as office expenses, insurance and professional services.</p>
<b>Cost Allocation</b>	<p>Has the meaning set out in the IM determination as follows:  “Allocation of FFLAS for regulated fibre service providers subject to both information disclosure regulation and price-quality regulation”.</p>
<b>CPI</b>	<p>Consumer Price Index. The Act specifically defines this as the CPI published by Statistics New Zealand.</p>
<b>CPPP</b>	<p>Cost Per Premise Passed.</p>
<b>CTO</b>	<p>Chief Technology Office. A Chorus functional unit responsible for defining, planning and executing our technology strategy, planning and ensuring network capacity and coverage, deploying new network technologies, delivering IT change and operating our technology.</p>

Term	Definition
<b>Customer Opex</b>	One of our expenditure categories as set out in the attachments to the Commission’s Information Request dated 18 November 2020. Customer opex includes our customer-facing people in operational roles, and in roles focussed on promoting fibre access, evolving our product suite and managing our commercial relationships with RSPs. It also includes associated external costs, including marketing spend.
<b>Customer incentive</b>	Targeted incentives to drive new fibre connections and upgrades to higher speed connections.
<b>Customer operations</b> (expenditure context)	A sub-category of our Customer Opex category as set out in the attachments to the Commission’s Information Request dated 18 November 2020. Customer operations includes a mix of higher volume demand driven activity (such as our call centre), lower volume demand driven activity (such as coordinating complex installations and multi-unit extensions) and project work (such as our managed migrations programme).
<b>CY</b>	Calendar Year, e.g. CY2020 is the 12-month period from 1 January 2020 to 31 December 2020. We refer interchangeably to calendar year (CY) and regulatory year (RY) in our proposal as they mean the same thing.
<b>DC</b>	Direct current.
<b>DFA</b>	Delegated Financial Authority.
<b>DFAS</b>	Direct Fibre Access Service. Chorus has a DFAS product offering which is a dark fibre service suitable for the delivery of complex business grade applications requiring point-to-point fibre access. DFAS will also be a regulated FFLAS service that has not yet been set in regulation.
<b>Direct buried underground deployment</b>	Fibre cable deployment type where fibre cables are ploughed, trenched or drilled directly into the ground at the correct depth.
<b>Directly attributable</b>	Has the meaning set out in the IM determination as follows: “means - in relation to operating costs, where a cost is wholly and solely incurred in the provision of a particular service; and in relation to asset values, where an asset is wholly and solely employed by a regulated provider in the provision of a particular service”.
<b>DPs</b>	Decision Packets. A grouping of capital expenditure with a similar outcome. These sit behind a category level of Chorus expenditure.
<b>DSL</b>	Digital Subscriber Line. It is a family of communication technologies allowing high-speed data over existing copper-based access networks in the local loop. Globally, DSL copper-based access networks are being replaced by ultra-fast fibre-based access networks in the form of Fibre to the Node (FTTN) and Fibre to the Home (FTTH).
<b>Ducted underground deployment</b>	Fibre cable deployment type where fibre cables are pulled, air blown or inserted through a duct laid in the ground. This method allows relatively easy replacement or augmentation. The outer sheath does not need to be as strong as direct buried cable as the duct provides additional protection.
<b>Easement</b>	Has the meaning set out in the IM determination as follows: “means a right to use but not possess land belonging to another person or a right to prevent certain uses of another person’s land”.

Term	Definition
<b>Element Management Platforms</b>	Used to manage the flow of information and user interaction with the network elements.
<b>End-user</b>	Has the same meaning as defined in section 5 of the Telecommunications Act 2001, namely: "in relation to a telecommunications service, means a person who is the ultimate recipient of that service or of another service whose provision is dependent on that service". We use this term interchangeably with 'consumer' within our proposal.
<b>ESA</b>	Exchange Service Area.
<b>ETP</b>	External Termination Point.
<b>Exchange</b>	An exchange has the meaning from the Act as follows: "Chorus' local telephone exchange means a local telephone exchange (or equivalent facility) where Chorus' local loop network terminates, whether the local telephone exchanges is owned and operated by Chorus or by any other person".  It has a general meaning of a Chorus owned or leased building, or leased or licensed area within a building, with a floor area of at least 15 square metres and a main distribution frame terminating copper or fibre network connected to end-user premises.
<b>Extending the Network (expenditure context)</b>	One of our capital expenditure categories as set out in the attachments to the Commission's Information Request dated 18 November 2020. Extending the network covers work to extend communal infrastructure to new streets or developments, and to infill the network to accommodate address growth.
<b>FAP</b>	Fibre Access Point. A point on the consumer premises boundary where the fibre lead-in connects to the distribution network.
<b>FAR</b>	Fixed Asset Register.
<b>FAT</b>	Fibre Access Terminals. Generally, a pit in the ground providing access and breakout of Chorus' cables to feed homes and businesses.
<b>Fault</b>	Has the meaning set out in the IM determination as follows: "For the purposes of Part 2 [Information Disclosure FFLAS]: (i) an unplanned outage in ID FFLAS; or (ii) a reduction in the performance of ID FFLAS below any levels specified in an ID determination; and For the purpose of Part 3 [PQ FFLAS]: (i) an unplanned outage in PQ FFLAS; or (ii) a reduction in the performance of PQ FFLAS below any levels specified in a PQ determination".
<b>FDS</b>	First Data Switch. The first ethernet aggregation switch after the access node. This is the first handover point a service provider can connect to the Chorus network.
<b>FFLAS</b>	Fibre Fixed Line Access Services. This is defined in section 5 of the Telecommunications Act 2001 as: "means a telecommunications service that enables access to, and interconnection with, a regulated fibre service provider's fibre network [subject to specified exclusions]."
<b>FFP</b>	Fibre Flexibility Points. A roadside cabinet where the feeder fibre from the central office is connected or patched to the distribution fibre to the end-user premises.

Term	Definition
<b>Fibre in a Day</b>	Fibre installation in a single appointment.
<b>Field sustain</b> (expenditure context)	A sub-category of our Network Sustain and Enhance capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. Field sustain covers ongoing investment in physical network assets outside of network sites, such as poles, fibre, and terminators.
<b>FIST</b>	Fibre Infrastructure System Technology. A type of fibre closure.
<b>FOSC</b>	Fibre Optic Splice Closure. A device used to provide space and protection for fibre optic cables spliced together. The fibre optic splice closure connects and stores optical fibres safely either in the outside plant (cabinets) or indoor buildings.
<b>Frame delay</b>	Has the meaning set out in the IM determination as follows: "means the time taken for a data frame to transit a fibre network between points of ingress and egress".
<b>FRS</b>	Fibre Route Survey. A proactive programme that aims to identify potential faults on core fibre routes.
<b>FSA</b>	Field Services Agreement. The contractual agreement between Chorus and our outsourced field service providers.
<b>FSP</b>	Field Service Provider. Outsourced field services companies used for our build and maintenance activities. Also referred to as service companies (sercos) or partners.
<b>FTTH</b>	Fibre to the Home. An all-fibre local access network architecture with fibre from the local exchange to the end-user premise. The network architecture used during the UFB build.
<b>FTTN</b>	Fibre to the Node. A local access network architecture with fibre from the local exchange to the roadside cabinet and a copper connection from the roadside cabinet to the end-user premise.
<b>Fulfilment</b>	The term used for our provisioning processes and channels (e.g. new product ordering, add/remove product, change of address, prequalification, feasibility etc.).
<b>FY</b>	Financial Year. Our financial year is a 12-month period that runs from July to June. E.g. FY2020 means the year starting on 1 July 2019 and ending on 30 June 2020.
<b>GAAP</b>	Generally Accepted Accounting Principles.
<b>Gigabits per second</b>	Gigabits per second (Gbps) is a data transfer speed measured in billions of bits per second.
<b>GPON</b>	Gigabyte Passive Optical Network. This is a fibre standard that supports point-to-multipoint delivery of fibre to multiple premises. All Chorus' UFB fibre circuits connect to GPON nodes at Chorus exchanges.
<b>Greenfields</b>	Has the meaning set out in the IM determination as follows: "means the establishment of new dwellings or premises on previously undeveloped land".
<b>Handover link</b>	A handover link is built between a handover point in Chorus' network and the service provider's interface in their equipment in their premises. Handover links are designed for unbundled services.

Term	Definition
<b>Handovers</b>	These are in buildings where we hand over data traffic to RSPs. A handover function always occurs in a building with a mesh or core function.
<b>HCP111</b>	Chorus hazard control plan.
<b>Hyperfibre</b>	Hyperfibre is a service delivered over XGS-PON technology. It is next generation technology that supports speeds of up to 10 gigabit per second (Gbps) downstream and upstream, deployed over our existing nationwide fibre infrastructure.
<b>IAM</b>	Institute of Asset Management.
<b>ICABS</b>	Intra-Candidate Area Backhaul Service. Service that can be used to extend the fibre access connection to equipment in another exchange or to connect footprints in two exchanges within the same candidate area. ICABS is within the scope of FFLAS, as part of the FFLAS transport service.
<b>ICMS</b>	Integrated Customer Management System. Order, inventory, workorder, and billing management system.
<b>ID</b>	Information Disclosure. This sets out the requirements for disclosure of financial and other network-related information by regulated suppliers. See also: ID FFLAS
<b>ID FFLAS</b>	Has the meaning set out in the IM determination as follows: "means, in respect of a regulated provider, all FFLAS provided by that regulated provider that is subject to information disclosure regulation in regulations made under s 226 of the Act".
<b>IDC</b>	Interest During Construction.
<b>IFP</b>	Integrated Fibre Plan, which has the meaning set out in the IM determination as follows: "means a collection of documents as set out in clause 3.7.7, that provides the Commission with an overview of Chorus' capital expenditure related to the management of its fibre network and the provision of PQ FFLAS".  Our IFP include the proposal documents 'Our Fibre Assets' and 'Our Fibre Plans'. When referencing 'IFP' documents (e.g. IFP Delivery), we mean the relevant chapter within the 'Our Fibre Plans' document.
<b>IM</b>	Input Methodology, which has the meaning set out in the IM determination as follows: "has the same meaning, as the case may require, as defined in s 164 of the Telecommunications Act 2001 or s 52C of the Commerce Act 1986".  Per the Act s 164: "means a description of any methodology, process, rule, or matter that includes any of the matters listed in section 176 and that is published by the Commission under section 180".  Per Commerce Act s 52C: "means a description of any methodology, process, rule, or matter that includes any of the matters listed in section 52T and that is published by the Commission under section 52W; and, in relation to particular goods or services, means any input methodology, or all input methodologies, that relate to the supply, or to suppliers, of those goods or services".

Term	Definition
<b>Independent verification report</b>	Has the meaning set out in the IM determination as follows: "means a report prepared by an independent verifier to verify the information provided with a capex proposal according to the verification requirements for that capex category". For RP1 the independent verification is voluntary.
<b>Infill</b>	Has the meaning set out in the IM determination as follows: "the establishment of new dwellings or premises within an existing suburb or developed area".
<b>Installations</b> (expenditure context)	One of our capital expenditure categories as set out in the attachments to the Commission's Information Request dated 18 November 2020. Installations covers work to establish a physical link between the communal network and an Optical Network Terminal (ONT) at an end point. It includes associated provisioning and incentive costs.
<b>Intact connections</b>	When a consumer requests a connection at a premise where a fibre lead-in has already been installed, they are called intact connections.
<b>Internal deployment</b>	Fibre cable deployment type where fibre cables are installed in equipment rooms within network buildings or consumer premises. In network buildings, specialised trunking is used to manage the large volume of internal cables. In end-user buildings, internal fibre is installed in risers and ceiling spaces.
<b>Internet of things</b>	Network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators, and network connectivity which enables these objects to connect and exchange data. Each thing is uniquely identifiable through its embedded computing system but is able to inter-operate within the existing internet infrastructure.
<b>ISAM</b>	Intelligent Service Access Manager. Alcatel DSL equipment. Can be cabinet or exchange mounted.
<b>IT and Support</b> (expenditure context)	One of our capital expenditure categories as set out in the attachments to the Commission's Information Request dated 18 November 2020. IT and Support covers investment in our information technology systems, plus corporate capex. Corporate capex includes our Chorus X innovation programme.
<b>iTools</b>	System used to manage large scale projects or complex product builds (e.g. p2p fibre products). Cloud based workflow tool used to track and manage national wide rollout of fibre.
<b>IV</b>	Independent Verifier, which has the meaning set out in the IM determination as follows: "means a person who (a) is independent; and (b) has been engaged to verify part or all of Chorus' capex proposal".
<b>Late adopters</b>	Consumers who need more convincing around the benefits of fibre and why they should migrate from the copper network to the fibre network.
<b>Latency</b>	The time it takes for a data packet to transit from end to end. Latency is one of the service performance indicators we investigate regularly.

Term	Definition
<b>Layer one</b>	<p>Has the meaning from the Act, namely: "layer 1 means layer 1 of the OSI Model, which is normally associated with passive fibre optic network infrastructure" and where the OSI model "means the 7 layer model of network architecture known as the Open Systems Interconnection Model".</p> <p>A layer one service provides wholesale access to the physical/passive layer of a digital communications network, based on the Open Systems Interconnection (OSI) model of computer networking.</p>
<b>Layer two</b>	<p>Has the meaning from the Act, namely: "layer 2 means layer 2 of the OSI Model, which is normally associated with active fibre optic network infrastructure" and where the OSI model "means the 7 layer model of network architecture known as the Open Systems Interconnection Model".</p> <p>A layer two service provides wholesale access to the data link layer of the OSI model of computer networking. The service includes unbundled bitstream access and Ultra-Fast Broadband (UFB) bitstream services.</p>
<b>Lead-ins</b>	<p>Fibre cable that extends from the FTTH (fibre to the home) infrastructure and terminates in a premise. In residential areas they usually have eight or less fibre strands but will have a higher fibre count if they terminate in a large building with multiple drop off points.</p>
<b>LFC</b>	<p>Local Fibre Companies. Has the meaning set out in the Act, namely: "LFC or local fibre company means a company through which the investment of the Crown and a UFB partner in relation to a fibre optic communications network is effected, including (a) a company in which the Crown and the UFB partner hold shares; and (b) a company in which the Crown holds a financial interest pursuant to the selection of that company as a UFB partner".</p>
<b>Line-card</b>	<p>Electronic interface that connects the access network to inside plant equipment.</p>
<b>Loose tube</b>	<p>Type of fibre cable construction where several fibre strands are housed inside a support tube. One or more tubes make up a cable.</p>
<b>Maintenance</b> (expenditure context)	<p>A sub-category of our Network Opex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. Network maintenance covers reactive (work to address an issue identified through a fault, alarm or inspection); recoverable (work for which we can recover all or part of the cost from another party); and preventative (routine inspection works, including testing and survey).</p>
<b>Managed migrations</b>	<p>Managed migrations is a programme to encourage migration to fibre from copper.</p>
<b>MAR</b>	<p>Maximum Allowable Revenue, which has the meaning from the IM main final decisions reasons paper 13 October 2020: "when applied under PQ regulation, the maximum allowable revenue based on, among other things, the PQ RAB [regulated asset base], will apply an overall limit on certain prices that end-users are charged and will thereby facilitate the reflection of the cost of those assets in the prices set".</p>
<b>MBIE</b>	<p>Ministry of Business, Innovation and Employment.</p>
<b>MDU</b>	<p>Multi, or Multiple Dwelling Unit. It is a building with multiple dwellings, business or residential. Includes semi-detached apartments, town houses, gated communities and assisted-living facilities that share a common property boundary.</p>

Term	Definition
<b>Mesh sites</b>	Mesh sites concentrate traffic from several access sites. They can serve up to 50,000 access customers.
<b>MRP</b>	Materials Replenishment Process.
<b>MTBF</b>	Mean Time Between Failures.
<b>Narrative categories</b>	In the Investment Summary of Our Fibre Plans, we introduce narrative categories that we use to explain how we have built up our forecasts. These narrative categories are the same as the expenditure categories set out in the attachments to the Commission's Information Request dated 18 November 2020.
<b>NBS IL3</b>	New Building Standard Importance Level 3. NBS is the rating given to a building as a whole to indicate its seismic standard.
<b>NBV</b>	Net Book Value.
<b>NCGC</b>	Nominations and Corporate Governance Committee. Our committee that promotes continuous improvement of corporate governance.
<b>NetMap</b>	Network management of assets and plant. NetMAP is a Geographic Information System (GIS) based on GE Smallworld's Physical Network Inventory (PNI) product. It is used to plan, design, record, analyse and provision our network. It contains a complete topological model of Chorus' fibre, copper and duct network.
<b>Network Opex</b>	One of our expenditure categories as set out in the attachments to the Commission's Information Request dated 18 November 2020. Network Opex covers outsourced physical network maintenance activities, physical network operating costs (such as power and leases) and outsourced costs of our network and security operating centres.
<b>Network and customer IT</b> (expenditure context)	A sub-category of our IT and Support capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. This sub-category covers systems and platforms across IT domains that support network or customer activities. There are three classes of investment (product development; customer experience and optimisation; lifecycle and compliance).
<b>Network Capacity</b> (expenditure context)	One of our capital expenditure categories as set out in the attachments to the Commission's Information Request dated 18 November 2020. Network Capacity covers ongoing investment in network electronics and associated systems to optimise for capacity growth and lifecycle requirements.
<b>Network electronic assets</b>	Assets used to decode and aggregate data and provide a network connection from consumers to a handover point in network buildings.
<b>Network operations</b> (expenditure context)	A sub-category of our Network Opex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. This expenditure sub-category includes our outsourced network operations centre (NOC) and associated support resources. The NOC manages network electronics alarms, provides technical support and configuration services, and provides network electronics equipment repair and return.
<b>Network Sustain and Enhance</b> (expenditure context)	One of our capital expenditure categories as set out in the attachments to the Commission's Information Request dated 18 November 2020. Network Sustain and Enhance covers investment in our physical network assets. We reinvest in the physical assets as needed to cost-effectively sustain or enhance their performance, manage risk or satisfy compliance requirements.

Term	Definition
<b>New property developments</b> (expenditure context)	A sub-category of our Extending the Network capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. New property development covers work with developers to build communal fibre into new developments, such as residential subdivisions and office parks.
<b>NIPA</b>	Network Infrastructure Project Agreement, the contract for the UFB build with parties Chorus Limited and Crown Fibre Holdings Limited (now Crown Infrastructure Partners).
<b>NMRE</b>	Network Maintenance Routine Engineering. Routine maintenance work for network engineering services.
<b>NMS</b>	Network Management System. A network management system is a combination of hardware and software used to monitor and administer a network.
<b>NOC</b>	Network Operating Centre. The outsourced NOC provides support and workforce management.
<b>Nominal Cost</b>	Cost including historical or forecast rates of inflation. This includes both CPI and Real Price Effects (RPE).
<b>NZ GAAP</b>	New Zealand Generally Accepted Accounting Principles.
<b>NZIER</b>	New Zealand Institute of Economic Research.
<b>NZ IFRS 15</b>	New Zealand International Financial Reporting Standard 15 covering revenue from contracts with customers (for profit entities).
<b>NZ IFRS 16</b>	New Zealand International Financial Reporting Standard 16 covering leases (for profit entities).
<b>NZTA</b>	New Zealand Transport Agency.
<b>NZX</b>	New Zealand Stock Exchange.
<b>OFDF</b>	Optical Fibre Distribution Frame. It presents individual fibre strands for joining or connecting. They provide the connection point between the outside underground/aerial fibre cables and the internal fibre cables that connect to network electronic devices.
<b>OHUG</b>	Overhead to Underground. A programme of work to remove our network from a pole and install a fibre network underground when lines companies remove their poles and underground the power network.
<b>OLT</b>	Optical Line Terminal. A GPON access node that provides for the delivery of UFB services.
<b>ONT</b>	Optical Network Terminal (or Termination). General term for a specialised piece of network equipment that terminates a single fibre and is located at the consumer premises.
<b>Operating costs</b> (expenditure context)	A sub-category of our Network Opex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. It includes leases, electricity, security operations and fire protection and building compliance costs.  Operating costs also has the general meaning of operating expenditure or opex.

Term	Definition
<b>Opex</b>	Operating expenditure. In the context of our proposal, we refer to operating expenditure or opex, interchangeably. Operating expenditure has a meaning in accordance with financial accounting principles (NZ GAAP). It also has a specific definition in the IMs that is applicable to FFLAS.
<b>Opex per connection</b>	Operating expenditure per connection, excluding forecast pass-through costs, but including lease costs. This presentation provides the best view of costs that are controllable and annual in nature.
<b>OSI</b>	Relates to the OSI model, which is defined in the Act as “the 7 layer model of network architecture known as the Open Systems Interconnection Model”.
<b>P2P</b>	Point to Point. Usually the consumers’ modem (point a) to the RSPs equipment (point b).
<b>P90</b>	In the context of distributions of data, P stands for percentile, so the 90th percentile.
<b>PAMPs</b>	Portfolio Asset Management Plans. They describe our physical assets, population and condition, risks and investment plans.
<b>Passive cabinets</b>	Cabinets that are not powered.
<b>Pass-through cost</b>	Has the meaning set out in the IM determination, clause 3.1.2, including local authority rates, telecommunications levies, dispute resolution scheme membership fees.
<b>PBTs</b>	Proactive Batch Tests.
<b>PCBU</b>	Person Conducting a Business or Undertaking as defined in s 17 Health and Safety at Work Act 2015, namely: “a person conducting a business or undertaking, whether the person conducts a business or undertaking alone or with others; and whether or not the business or undertaking is conducted for profit or gain” [with some exclusions].
<b>POI</b>	Points of Interconnect. A centralised point within a UFB candidate area (generally the most central / largest exchange) where RSPs can place equipment and accept UFB handover services aggregating individual customer connections.
<b>Port</b>	A point of access to a device or network.
<b>PPCC</b>	People, Performance and Culture Committee, our Board committee that oversees people, culture and related policies and strategies.
<b>PQ FFLAS</b>	As defined in the IMs: “means, in respect of a regulated provider, all FFLAS provided by that regulated provider that is subject to price-quality regulation in regulations made under section 226 of the Act”.
<b>PQP1</b>	As per the information request from the Commission dated 20 November 2020: “PQP1 has the meaning of ‘first regulatory period’ in the IM Determination”. We use this term interchangeably with ‘RP1’.
<b>Premises passed</b>	When premises have been passed with communal infrastructure (and, where the context requires, includes layer two communal infrastructure) and is capable of connection from the nearest point to the private boundary (if underground) or nearest pole (if aerial).

Term	Definition
<b>Price-quality (PQ) determination</b>	As defined in the IMs: "means a price-quality determination made under s 170 of the Act in respect of a regulatory period".
<b>Provisioning</b>	Has the meaning set out in the IM determination as follows: "means: for the purpose of Part 2, the process by which a regulated provider installs, activates, changes (including bulk migrations from one type of ID FFLAS to another) and disconnects ID FFLAS; and for the purpose of Part 3, the process by which a regulated provider installs, activates, changes (including bulk migrations from one type of PQ FFLAS to another) and disconnects PQ FFLAS".
<b>PSM</b>	Product, Sales and Marketing. Chorus functional unit responsible for innovation and marketing.  It is also a sub-category of our Customer Opex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. It is directed at attracting and retaining end-users and managing RSP relationships.
<b>PSTN</b>	Public Switched Telephone Network. A nationwide dial-up telephone network used or intended for use, in whole or in part, by the public for the purposes of providing telecommunications between telephone devices.
<b>RAB</b>	Regulated Asset Base. It has the meaning set out in the IM determination as follows: "means, in respect of a regulated provider, all fibre assets that are employed by that regulated provider in the provision of [ID/PQ/ ID-only] FFLAS".  The IM main final decisions reasons paper 13 October 2020 also states: "Under the BBM, we calculate the value of the network (the collection of assets) that is used to supply the regulated services; this forms the regulated provider's regulatory asset base [RAB]".
<b>RBI</b>	Rural Broadband Initiative. The Government led initiative to deliver access to faster broadband to rural areas of New Zealand.
<b>Real prices</b>	Costs that have been adjusted to exclude historical and forecast rates of CPI inflation, enabling comparison of prices across time periods.
<b>Regulatory template RT01</b>	Regulatory template for forecast expenditure with specifications as set out in the attachments to the Commission's Information Request dated 18 November 2020. Also calculates the breakdown of total capex into connection and base capex amounts for each year.
<b>Regulatory template RT02</b>	Regulatory template for cost escalation with specifications as set out in the attachments to the Commission's Information Request dated 18 November 2020. This template steps through foreign exchange, inflation and other real price effects.
<b>Regulatory template RT03</b>	Regulatory template for cost allocations with specifications as set out in the attachments to the Commission's Information Request dated 18 November 2020. This template shows cost allocators and allocation rates.
<b>Regulatory template RT04</b>	Regulatory template for connections capex and adjustment with specifications as set out in the attachments to the Commission's Information Request dated 18 November 2020. It sets out forecast connection volumes and unit costs by year for each year of RP1 and for each connection cost group.

Term	Definition
<b>Relocations</b> (expenditure context)	A sub-category of our Network Sustain and Enhance capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. Relocation of network assets arising from roading authority work programmes; undergrounding (over-head to under-ground (OHUG) programmes) and third-party requests.
<b>Resilience</b> (expenditure context)	A sub-category of our Network Sustain and Enhance capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. Resilience is our ability to keep the network running through adverse events (diversity, robustness or contingency).
<b>RoW</b>	Right of Way.
<b>RP1</b>	Regulatory Period 1. The first regulatory period has the meaning set out in the IM determination as follows: "the regulatory period that starts on the implementation date [1 January 2022] and lasts for a period of 3 years". It is the equivalent of what the Commission refer to as 'PQP1' in their information request dated 18 November 2020.
<b>RP2</b>	Regulatory Period 2. It has the meaning set out in the IM determination as follows: "means the regulatory period that starts on 1 January 2025, where the duration of this regulatory period must be determined by the Commission".
<b>RPE</b>	Real Price Effects.
<b>RSP</b>	Retail Service Provider. A business/organisation that has applied to become an RSP (reseller of fibre products) with at least one LFC.
<b>Rural connectivity group</b>	The rural connectivity group is an independent entity. In August 2017 the rural connectivity group was appointed by the government to be the infrastructure provider to bring 4G mobile and wireless broadband coverage to rural New Zealand under the Rural Broadband Initiative 2 and the Mobile Black Spot fund.
<b>RV</b>	Rateable Value.
<b>RY</b>	Regulatory Year. Has the meaning set out in the IM determination as follows: "means a 12-month period ending on 31 December, where if the term "regulatory year" is combined with a year, the 12-month period ending on 31 December of that year (for example, "regulatory year 2022" [or RY2022] means the 12-month period ending on 31 December 2022". We refer to RY and Calendar year, CY interchangeably.
<b>SaaS</b>	Software As A Service.
<b>SFA</b>	Specified Fibre Area. It has the definition from the Act, namely: "an area that has been declared by the Commission, under section 69AB, to be a specified fibre area".
<b>SDPs</b>	Site Development Plans.
<b>SDU</b>	Single Dwelling Unit. A premise containing within its boundaries only one residential or commercial tenancy.
<b>SFP</b>	A small form-factor pluggable plug in a fibre optics unit.
<b>Site sustain</b> (expenditure context)	A sub-category of our Network Sustain and Enhance capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. This capex sub-category of expenditure covers ongoing investment in our network buildings and their power, cooling and management services.

Term	Definition
<b>SLA</b>	Service Level Agreement. A feature of contractual arrangements.
<b>Slotted core</b>	Type of fibre cable construction. These are the older cables that have a central strength member and a support form with cavities or slots that carry a group of fibres.
<b>Smart Locations</b>	Installations to non-buildings. Smart locations include traffic lights, CCTV, cell sites and electronic billboards.
<b>SMS</b>	Spares Management System.
<b>SOC</b>	Security Operations Centre. We outsource the security and fire services for our network buildings.
<b>Splitters</b>	<p>An integrated waveguide optical power distribution device that can split an incident light beam into two or more light beams, and vice versa, containing multiple input and output ends.</p> <p>We use splitters to take the optical signal from an Optical Line Terminal (OLT) and turn the signal into multiple paths (split the optical signal) and extend it to an end-user.</p>
<b>SPM assets</b>	An industry standard asset database.
<b>Standard installations</b> (expenditure context)	A sub-category of our Installations capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. Standard installations covers most install work, and associated investment in incentives.
<b>Submarine deployment</b>	Fibre cable deployment type where fibre cables are laid underwater on the seabed. The cable must have a strong outer sheath to protect the fibres.
<b>Sum of connection speeds</b>	Theoretical demand on the network if every connection downloaded at its maximum plan speed at the same time.
<b>Sum of peaks</b>	Theoretical network demand if each connection's peak throughput for the day had occurred at the same time.
<b>Support Opex</b>	One of our expenditure categories as set out in the attachments to the Commission's Information Request dated 18 November 2020. Support opex covers expenditure on asset management and corporate functions, and operating costs for IT systems.
<b>System peak</b>	Actual peak throughput observed on the network for the day.
<b>TCF</b>	New Zealand Telecommunications Forum. It is a member organisation representing the majority of telecommunications providers in New Zealand.
<b>Tbps</b>	Terabits Per Second.
<b>Technology</b> (expenditure context)	A sub-category of our Support Opex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. This sub-category covers the non-capitalised costs of operating our business IT and network and customer IT systems – including licenses, support and maintenance.
<b>TES</b>	Tail Extension Service. Extends the service attributes of the tail from the POI to a remote handover point.
<b>TIA-942 standard</b>	Standard from Telecommunications Industry Association.

Term	Definition
<b>Tier 1 systems</b>	Systems considered critical in the delivery of our core services. These systems have higher risk levels and require investment so that the technology in place is sufficiently robust and reliable.
<b>Totex</b>	Total expenditure. We use this term to refer to all expenditure, both capex and opex.
<b>Transport</b> (expenditure context)	It is a sub-category of our Network Capacity capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. The optical transport network transports large amounts of data over medium to long distances.
<b>Transport assets</b>	Transport assets are shelves or racks where cards are placed to build transmission links for core, transport and access cables. These links are used to provide capacity using traffic cards. The transmission link is usually built with spare channels which remain available to provide additional capacity as needed.
<b>Truckroll</b>	The dispatch of a technician to construct or repair the network.
<b>TUANZ</b>	Telecommunications Users Association of New Zealand. An industry body with telecommunications users as members (ISP's, RSP's, education institutes and some business/organisations) who aim to steer industry engagement and regulation etc.
<b>UFB</b>	Ultra-Fast Broadband. The ultra-fast broadband rolled out under the UFB Initiative with Crown investment funding. Includes the extension to that programme known as UFB2 and 2+.
<b>UFB2/2+</b>	Extension to the original UFB contract.
<b>UFB communal</b> (expenditure context)	A sub-category of our Extending the Network capex category as set out in the attachments to the Commission's Information Request dated 18 November 2020. UFB communal covers our contracted commitments with the government under the ultra-fast broadband programme.
<b>UFB communal network</b>	Our UFB build commitment is to install fibre network infrastructure past a defined number of properties as outlined in our agreement with CIP. The UFB build involves establishing FTTH network architecture. This involves laying fibre between optical fibre distribution frames in exchange sites to fibre access terminals near consumer's premises.
<b>Unallocated spend</b>	Total capital or operating expenditure. This includes both FFLAS and non-FFLAS. Sometimes also referred to as 'gross' spend.
<b>UPS</b>	Uninterruptible Power Supplies.
<b>VCA</b>	Value of Commissioned Assets. The cost as of the commissioning date incurred by Chorus under GAAP in constructing or acquiring an asset.
<b>WIP</b>	Work In Progress.
<b>WMS</b>	Work Management System. This system is used for logging of network faults and managing preventative maintenance outlines.
<b>XGS-PON</b>	XGS-PON is an updated standard for Passive Optical Networks (PON) that can support up to 10 Gbps symmetrical data transfer.