IN THE DISTRICT COURT
AT AUCKLAND

I TE KŌTI-Ā-ROHE
KI TĀMAKI MAKAURAU

CRI-2018-004-003125
[2021] NZDC 7381

COMMERCE COMMISSION
Prosecutor

v

VODAFONE NZ LIMITED
Defendant

Hearing:	2,3,4,5,6,9,10,11,12,13,16 and 17 November 2020
Submissions:	14 and 15 December 2020
Appearances:	N Flanagan, D Taylor and C Fleming for the Prosecutor A Pilditch, A Ferguson and N Foster for the Defendant
Judgment:	23 April 2021

RESERVED DECISION OF JUDGE AA SINCLAIR

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[1] This case involves charges laid by the Commerce Commission (the Commission) against Vodafone NZ Limited (Vodafone) alleging breaches of s 11, or in the alternative, s 13(b) of the Fair Trading Act 1986 (FTA) arising out of Vodafone's rebranding and promotion in the period between October 2016 and March 2018 of its HFC broadband service operated in Wellington, Kapiti and Christchurch[1].

[1] For the purposes of this decision (and unless discussed separately), Christchurch includes Pegasus Town where Vodafone also operated a HFC network.

OVERVIEW

[2] In or about 2009, the New Zealand Government launched its nationwide "Ultra-Fast Broadband Initiative" involving the building of a ultra-fast broadband (UFB) network using only fibre optic cable to deliver ultra-fast broadband to customers' homes. This type of network is known as a "fibre to the home" (FTTH) network.

[3] In 2012, Vodafone purchased TelstraClear including its broadband network operating in Wellington, Kapiti and Christchurch. This network uses fibre optic cable to a street cabinet and coaxial copper cable from there to the home and is referred to as a "hybrid fibre-coaxial" (HFC) network.

[4] In 2015-2016, Vodafone upgraded its HFC network to DOCSIS 3.1.[2] In or about October 2016, following completion of the upgrade, the company rebranded the network as "FibreX" and undertook an advertising campaign in the Wellington, Kapiti and Christchurch regions to promote its new service.

[5] The Commission alleges that:

> by the naming of the service and Vodafone's promotion of it in billboard, radio, in-store, direct marketing and internet advertisements in the [named] region stating "FibreX is here" or "FibreX has arrived" and using travelling beams of light as a background to the (non-radio) advertisements, Vodafone was liable to mislead the public into thinking that its broadband service delivered over its HFC network named "FibreX" is a FTTH broadband service, when it is not.").[3] (s 11, FTA).

[6] In the alternative, the Commission alleges that:

> Vodafone made false and misleading representations in billboard, radio, in-store, direct marketing and internet advertisements in the [named] region that its broadband service delivered over its HFC network named "FibreX", is a FTTH broadband service, when it is not by:
>
> - naming the service FibreX;
> - the statement "FibreX is here" or "FibreX has arrived" (radio advertisement); and

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[2] The signal transmission technology underpinning HFC is a standard known as "Data Over Cable Service Interface Specification" (DOCSIS) that permits the addition of high bandwidth data transmission to existing cable television (coaxial copper) cables.

[3] Particulars detailed on the charging documents for the charges under s 11 of the FTA for each region.

- using travelling beams of light as a background to the advertisement (except for the radio advertisement).[4] (s 13(b)).

LEGAL FRAMEWORK

[7] There are two sets of alternative charges under s 11 and s 13(b) of the FTA. The lead charges are those laid under s 11 of the FTA. If I find these proven, it is not necessary to consider the alternative charges.

[8] The charges (18 in total) are representative charges capturing 6-monthly periods between (i) 26 October 2016 and 26 April 2017; (ii) 27 April 2017 and 27 October 2017; and (iii) 28 October 2017 and 28 March 2018 for each of the three regions (Wellington, Kapiti and Christchurch) in which FibreX was offered. Vodafone has entered not guilty pleas to each of these charges.

Charges under s 11 of the Fair Trading Act 1986

[9] Section 11 of the FTA states:

> **11 Misleading conduct in relation to services**
>
> No person shall, in trade, engage in conduct that is liable to mislead the public as to the nature, characteristics, suitability for a purpose or quantity of services.

[10] In order to prove the charges under this section, the Commission must establish the following elements beyond reasonable doubt:

(a) Vodafone was a person within the meaning of the FTA;

(b) Vodafone was in trade within the meaning of the FTA;

(c) Vodafone's conduct was liable to mislead the public and

(d) That conduct was in relation to the characteristics of its services.[5]

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[4] Particulars detailed on the charging documents for the charges under s 13(b) of the FTA for each region.

[5] As pleaded in the charging documents.

The elements set out in (a) and (b) are not in dispute. The elements which the Commission must prove to the requisite standard are therefore whether Vodafone's conduct was liable to mislead the public; and whether that conduct was in relation to the characteristics of its services.

Conduct Liable to Mislead the Public

[11] Whether conduct is liable to mislead the public is a question of fact for the Court to determine objectively having regard to the particular circumstances of the case.[6]

[12] Section 2(2) of the FTA provides that a reference to "engaging in conduct" shall be read as a reference to doing or refusing to do an act and includes omitting to do an act.

[13] "Liable to mislead" is not defined in the FTA. However, the meaning of the phrase was considered by Anderson J in *Sound Plus Ltd v Commerce Commission.*[7] His Honour noted the deliberate distinctions in the wording used in the offence provisions in ss 9-13 of the FTA. He observed that the word "liable' used in ss 10 and 11 had a comparative and not an analogous quality in relation to the word "likely". He went on to state:

> "Liable" is not defined. Since its ordinary meaning as an active infinitive contemplates a possibility of doing something, a concept importing a potential less than likelihood or probability, I am inclined to the view that the legislature intended that where the public is concerned a lesser tendency for misleading than likelihood shall be proscribed. It is pertinent to note that *The Shorter Oxford English Dictionary* definition conforms to the judicial observation in *Squibb United Kingdom Staff Association v Certification Officer:*
>
> > "The phrase 'liable to' when used otherwise than in relation to legal obligations has an ordinary and well-understood meaning, namely, 'subject to the possibility of.'
>
> Thus, in relation to ss 10 and 11 the question "is the conduct liable to mislead the public?" I would add that the only justification for such tautology is the fact that the employment of different words to explain a particular concept might help to elucidate the concept. "Liable to" may have a synonymous

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[6] *Eagle Corp Ltd v Ellis* [2010] NZSC 20 at [28]; *Godfrey Hirst NZ Ltd v Cavalier Bremworth Ltd* [2014] NZCA 418, 3 NZLR 611 at [14(a)].

[7] *Sound Plus Ltd v Commerce Commission* [1991] 3 NZLR 329.

> exposition as I have suggested. In the result it connotes a potential which is less restricted in scope than likelihood or probability.

[14] The use of the phrase "liable to" also makes it clear there is no need to prove anyone was actually misled. A potential to mislead is sufficient. In *Commerce Commission v Amark Publishing (NZ) Ltd,* the Court stated:[8]

> ...conduct "liable to mislead the public" is conduct which has the capacity to and might possibly mislead the public, although it is not necessary to prove that it actually did so. What is important is it's potential to mislead.

Likewise, there is no requirement on the Commission to prove an intention to mislead; the offence is one of strict liability.[9]

[15] Whether conduct is liable to mislead is determined at the time the conduct in question occurs. In *Optus Mobile Pty Ltd v Telstra Corporation Limited,* the Federal Court of Australia stated:[10]

> The fact that some persons among the relevant class of consumers might eventually learn the true nature of Telstra's mobile service offerings upon visiting a Telstra store, or reading the fine print online, is irrelevant to the question of whether the Telstra Unlimited advertisements are misleading or deceptive. The misleading or deceptive conduct occurs at the time the advertisement is published.

[16] In *Godfrey Hirst NZ Ltd v Cavalier Bremworth Ltd,*[11] the Court of Appeal considered the application of the "marketing web" and held

> ....the question for the Court is whether the advertisement viewed as a whole has a tendency to entice consumers into the "marketing web" by an erroneous belief engendered by the advertiser, even if the consumer may come to appreciate the true position before a transaction is concluded. Enticing consumers into "the marketing web" includes, for example, attracting them into premises selling the advertiser's product. Once a perspective customer has entered, he or she will often be more likely to buy. The misleading advertising would then have contributed to any sale. It must follow that rival traders would also have been prejudiced, although protecting them is not the aim of ss 9 and 13. That consumers could be expected to understand fully the limitations of the warranties by the time they actually purchased a carpet is no answer to the question whether the advertisement was misleading.

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[8] *Commerce Commission v Amark Publishing (NZ) Ltd* (1989) 3 TCLR 567 at p576 (DC)

[9] *Commerce Commission v Vodafone NZ Ltd* DC Auckland 27 September 2011 Judge Kiernan.

[10] *Optus Mobile Pty Ltd v Telstra Corporation Limited* [2018] FCA 745 at [22].

[11] *Godfrey Hirst NZ Ltd v Cavalier Bremworth Ltd* [2014] 3 NZLR 611at [59e]. Following the High Court of Australia in *Australian Competition and Consumer Commission v TPG Internet Pty Ltd* [2013] HCA 54, (2013) 304 ALR186 at [50].

[17] Under the FTA, the phrase "the public" includes:

> ....the astute and the gullible, the intelligent and the not so intelligent, the well-educated as well as the poorly educated, men and women of various ages pursuing a variety of vocations.[12]

Characteristics of Services

[18] Vodafone's conduct is alleged to be in relation to the "characteristics" of its "services".

[19] The definition of "services" in the FTA is very broad and includes:

> ....any rights,... benefits, privileges, or facilities that are to be provided, granted, or conferred and, without limiting the generality of the foregoing, also includes the rights, benefits, privileges or facilities that are or are to be provided, granted or conferred under any of the following classes of contract:
>
> (a) a contract for, or in relation to, –
>
> .....
>
> (iv) to avoid doubt, supply of electricity, gas, telecommunications, or water or the removal of wastewater.

"Supply" in relation to services, includes "provide, grant or confer" [the service in question].

[20] In *Commerce Commission v NZ Nutritionals (2004) Limited*, Venning J considered the ordinary meaning of the phrases "nature" and "characteristics". He stated:[13]

> The definitions of nature and character in this context overlap. "Nature" is relevantly defined in the Oxford online dictionary as the inherent or essential quality or constitution of a thing, the inherent and inseparable combination of properties giving any object its fundamental character. "Characteristics" is relevantly defined as that which serves to identify or to indicate the essential quality or nature of a thing.

[21] By way of example, in *Sound Plus v Commerce Commission,*[14] Anderson J held that price was a characteristic of the goods where the concept had been conveyed

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[12] *Taco Co of Australia Inc v Taco Bell Pty Ltd* (1982) 42 ALR 177 p 202.
[13] *Commerce Commission v NZ Nutritionals (2004) Limited* [2016] NZHC 832 at [53].
[14] *Sound Plus v Commerce Commission* above n 6.

that the goods were duty free. This approach was followed in *Commerce Commission v Telecom NZ Ltd* where Judge Abbott held that the service provided by Telecom to the caller was the connection to a "Infoline" telephone number, and whether that service was free or subject to a charge was a "characteristic" of the service.[15]

Alternative charges under s 13 of the of the Fair Trading Act 1986

[22] Section 13(b) provides:

> **13 False or misleading representations**
>
> No person shall, in trade, in connection with the supply or possible supply of goods or services or with the promotion by any means of the supply or use of goods or services, -
>
> [...]
>
> (b) make a false or misleading representation that services are of a particular kind, standard, quality, or quantity or that they are supplied by any particular person or by any person of a particular trade, qualification, or skill, or by a person who has other particular characteristics ...

[23] For the Commission to prove these charges, it must establish beyond reasonable doubt that:

(a) Vodafone was a person within the meaning of the FTA;

(b) Vodafone was in trade within the meaning of the FTA;

(c) Vodafone made the representations at issue;

(d) The representations were in connection with the supply or possible supply, or the promotion by any means, of services;

(e) The representations were that the services were of a particular kind; and

(f) The representations were false or misleading.

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[15] *Commerce Commission v Telecom NZ Ltd* [2005] DCR 160. See also *ACCC v Turi Foods Pty Ltd (No 4)* [2013] FCA 665 and *ACCC v Snowdale Holdings Pty Ltd* [2016] FCA 541.

Vodafone does not dispute the elements set out in (a)-(d) above. The elements for determination in respect of these charges are therefore whether Vodafone represented that its FibreX service was a FTTH service and whether that representation was false or misleading.

EVIDENCE[16]

The word "Fibre" in the Broadband Context

[24] By way of background, a broadband network consists of two parts, namely the "core network" which provides connectivity between countries and major cities and the "access network" which links customers with the service providers. In New Zealand, the core network is made up entirely of fibre optic cable while there are three main types of wired access networks. These are fibre to the home (FTTH), hybrid fibre coaxial (HFC) and digital subscriber loop (DSL).[17] As each of these networks uses fibre, the main difference between them is the technology used for the last mile.

[25] Expert evidence on the FTTH and HFC networks was given for the Commission by Professor Amapalavanapillai Nirmalathas, Professor at the Department of Electrical and Electronic Engineering at the University of Melbourne; and for Vodafone, by Ms Sharina Nisha, Head of Platforms at Vodafone and Mr Ralph Brown, former Chief Technology Officer of CableLabs based in Colorado, USA.[18] It was common ground between these witnesses that fixed line broadband networks are known by the technology used for the last mile. In FTTH networks, the technology is fibre optic cable and, accordingly, they are referred to as "fibre" networks. In HFC networks, the technology is coaxial copper cable and these networks are referred to as "cable" networks. Mr Peter Wallace, network architecture manager at Chorus New Zealand Limited (Chorus) also confirmed the use of this terminology.

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[16] For the avoidance of doubt, the evidence recorded in this decision is selective and a summary only. In reaching my decision, I have taken into account all the evidence (including documentary evidence) given during the course of the trial.

[17] This is the twisted pair copper cable network running from the home to the nearest exchange of the network provider and are conventional telephone lines.

[18] In this role, Mr Brown was responsible for the company's R&D portfolio in areas including DOCSIS/hybrid fibre coax, fibre optics and wireless technologies.

[26] A further expert for Vodafone, Dr Richard Nelson, Senior Lecturer in the Department of Computer Science at the University of Waikato was asked about network descriptions in New Zealand. He stated:

> Q. Now in all your experience in the Internet in New Zealand, have you ever come across an HFC network described simply as "Fibre"?
> A. No.
> Q. That denotes a fibre to the home network of course in New Zealand?
> A. Well it denotes all sorts of networks, but generally speaking it's fibre to the end point, yes.
> Q. And HFC in New Zealand has been known as that or as "Cable"?
> A. It's... Yes, yeah.

[27] Mr John Greenhough, Chief Technology Officer at Crown Infrastructure Partners Limited, gave evidence as to the rollout of the FTTH network under the Government's Ultra-Fast Broadband Initiative. Crown Fibre Holdings Limited (now Crown Infrastructure Partners) was set up to manage this rollout. Under the first stage, local fibre companies (LFCs) were contracted to implement the rollout of the fibre network in 33 specified areas covering 75% of the New Zealand population. This was done between 2010 and 2019. Chorus was contracted to undertake the rollout in the Wellington and Kapiti regions (along with other regions) and Enable Networks Limited (Enable) was contracted in Christchurch.

[28] Ms Karren Harker, Head of Marketing for Chorus gave evidence as to the marketing and promotion of Chorus' FTTH network. It was her evidence that from the time Chorus began marketing its FTTH network, the company's clear and consistent message was that "UFB", "fibre" or "fibre broadband" meant a FTTH product.

[29] Since the rollout began in 2011, Chorus had spent significant amounts on marketing initiatives and campaigns designed to familiarise consumers with fibre and its benefits. This had involved extensive "above the line" advertising campaigns (for example, TV advertising and billboards and also the Times Square and Gigatown promotions) and targeted local campaigns undertaken in areas when the installation of fibre was due to go ahead. These local campaigns included for example, community newspaper advertisements, bus stop adshels, bus backs, in-store and digital advertising, and community information events.

[30] Examples of Chorus' 2012 promotional materials were produced. Ms Harker explained that as the rollout commenced, an initial flyer was put into residents' letterboxes to advise them that the installation of fibre was underway in their area. One example produced used headings and subheadings such as "*Ultra-fast broadband in your neighbourhood*"; "*Welcome to your fibre future*" and "*Bringing fibre to your street*". It contained detailed information about the fibre rollout and steps required in "*Getting fibre connected to your home*". A second flyer was put into mail boxes one week out from commencement of the work advising of work dates. In addition, street posters were put up, for example, advising residents that "*We have nearly finished our work bringing fibre to your area*".

[31] Chorus redesigned its promotional materials in 2014. By way of example, the 2014 initial flyer used the heading "*Your street's ahead. Ultra-fast broadband is coming your way*". The work to be done is noted as including "*Installing fibre*". Notices advising of the commencement of work stated: "*Please leave the street clear so we can start bringing fibre to your neighbourhood*" and "*We're about to start work in your street installing fibre optic cables for our ultra-fast broadband network*".

[32] Ms Harker told the Court that in the early years, the terms "ultra-fast broadband" and "fibre broadband" were being established together and were used interchangeably. As the brand "fibre" established itself more in the market as FTTH technology, the focus moved from marketing ultra-fast broadband to marketing fibre. Ms Harker thought this transition had occurred by the time the Gigatown promotion had ended in early 2015.

[33] Chorus' promotional materials were redesigned again in 2016 and Ms Harker confirmed that these were in circulation in 2017.[19] By way of example, in a flyer advising residents of the build, the heading used was "*Fibre is coming*" and "*We are building ultra-fast fibre in your street*". In a further flyer from 2017, the heading was "*Better is here*" and asked the question "*Why fibre?*" In providing details about the network, the references throughout were to "fibre". Ms Harker told the Court that this

[19] Chorus promotional materials were renewed in subsequent periods outside the charge periods.

flyer was sent out on the back of a campaign that had TV, radio and digital advertising encouraging consumers to ask for better broadband.

[34] Mr Steven Fuller, Chief Executive Officer of Enable and Enable Services Limited gave evidence as to the rollout and marketing of FTTH in the Christchurch region. He stated that from 2011, there had been quite wide coverage of the FTTH rollout at a national level noting the heavy investment in advertising which had been made by Chorus. Enable had also invested large sums over the years educating consumers about fibre broadband and promoting its fibre broadband service in Christchurch. Extensive marketing was undertaken including direct mail, billboards, radio, digital online, bus backs and newspaper advertising. Localised advertising was implemented as the fibre network was rolled out through the suburbs including the delivery of flyers to residents at the commencement and completion of the installation work.

[35] Mr Fuller told the Court that customers struggled to understand the actual difference in the technology between networks so Enable maintained simple messaging in its promotional materials emphasising "fibre to the door".

[36] Mr Fuller also produced examples of these materials.[20] One such example related to a campaign in 2014 featuring a Weet-Bix box. Following completion of the work in the street, a small Weet-Bix box was delivered to the householder. The title on the wrapper was "*Fibre to your door*". Other messages included: "*Fibre broadband is now available at your place*"; "*Don't get left behind... Order your fibre today*" "*Why choose fibre*?" and "*Fibre broadband will change your online experience, order your fibre today*". Written information emphasised the speed, quality and reliability of fibre broadband. Another example was a flyer from 2016 sent to householders following construction headed: "*Your building is now fibre ready*".

[20] As with Chorus, these materials were redesigned over the years. Those in circulation at the time of the FibreX launch were from 2014.They were updated again at the end of 2016 and this new material was in circulation from 2017.

Branding and Promotion of FibreX

Vodafone's Advertising Materials

[37] Evidence was given by Mr Zebulin Walker, Senior Investigator for the Commission, detailing the FibreX investigation. Having completed its upgrade of its HFC network to DOCSIS 3.1, Vodafone launched its rebranded service as "FibreX" with an extensive marketing campaign in Christchurch, Wellington and Kapiti. The advertising appeared in various media including radio, billboards, adshels, flyers, online newspaper banners, instore and on Vodafone's website.

[38] Representative examples of the print and online advertising materials are annexed to this decision as follows:

(a) Billboard and adshel advertisements "FibreX has arrived".[21]
(b) Flyer headed: "FibreX is here (right on your street)".[22]
(c) Flyer headed: "FibreX is here." (FibreX 200 plan).[23]
(d) Flyer headed: "FibreX is here." (FibreX Max plan).[24]
(e) Vodafone website advertising.[25]
(f) Geotargeted advertising on the Stuff.co.nz website (NZ Herald, Dominion Post and the Press) as online banners.[26]
(g) Instore advertising December 2016.[27]

Launch of FibreX

[39] Ms Antonia Horton, lead counsel at Vodafone, gave evidence as to the launch and promotion of FibreX. She told the Court that on the launch (as is often the case), there was "an overwhelming amount of information to communicate to consumers": "We were communicating the arrival of new services. We were trying to communicate

[21] Annexure A(i) and (ii).
[22] Annexure B. This flyer is double sided.
[23] Annexure C. The examples for both plans are from the Christchurch region. The same flyers were also used in the other regions.
[24] Annexure D. See Annexure C above.
[25] Annexure E.
[26] Annexure F.
[27] Annexure G

achieve speeds. We were trying to communicate the 3 day install or a $100 credit offer, and already you have almost buried the customer in detail". As a result, it was necessary "to try to find the optimal balance of the right amount of information to provide the customer in the customer facing collateral and then there is usually a lot more information on Vodafone's website".

[40] Ms Horton took the Court through the information contained on Vodafone's website relating to FibreX. This information included Offer Summaries for the particular plans. Ms Horton stated that these Summaries follow a template provided by the Telecommunications Carriers' Forum (TCF) Broadband Product Disclosure Code and include information as to the 'Access Type'. Under this heading, FibreX is described as a "hybrid fibre coaxial network that uses fibre cabling to the local area and coaxial cabling to the home."

[41] It was Ms Horton's evidence that with the overwhelming amount of information that needed to be communicated at the launch, disclosure of this information in the Offer Summaries was appropriate. As to whether this was too late for consumers, Ms Horton said:

> Q. But the answer to my question is we all agree – the answer to my question is yes, we all agree that it is important that consumers know what network they are getting the service on?
> A. I think it's important that the information is there for them should they want to know.
> Q. So, you don't think that the brand name should disclose that?
> A. Obviously not.
> Q. You don't think that as a matter of practice it is too late to tell consumers the true position once they get to say Vodafone's website?
> A. I don't accept that, no.

[42] Vodafone issued a press release in November 2015 announcing the network upgrade and two further press releases in October 2016 following the rebranding to FibreX. Ms Horton gave evidence that one or other of the October 2016 press releases were picked up by nine different media outlets. Three of these articles were produced in evidence. On 20 October 2016, NBR published an article with the headline "Vodafone rebrands TelestraClear HFC network as FibreX, offers a $100 credit for late installs". On the same day, Stuff published an article with the headline "Vodafone offers gigabit cable broadband in Wellington and Christchurch" which stated,

"Vodafone acquired its cable broadband networks - which it has rebranded FibreX - through its 2012 purchase of TelestraClear".

[43] On 21 October 2016, Scoop News published an article with the headline "Vodafone gigabit FibreX promises faster installs, lower cost". The article went on to state "FibreX is the new name of Vodafone HFC (hybrid-fibre coaxial) network that services parts of Wellington, the Kapiti Coast and Christchurch".

[44] Advertising was geotargeted to the Wellington, Kapiti and Christchurch regions. The words "FibreX is here" were used where the network was passing under the street so that a house could be connected to the network and "FibreX has arrived" in the wider area.

[45] Ms Horton gave evidence that Vodafone did not want consumers to think that FibreX was an FTTH product and information was provided to its frontline agents to make this clear to consumers. In an instruction sheet to staff from October 2016, it was stated:

> FibreX is **NOT** Fibre (aka the government backed UFB roll out), and we should not confuse customers that it is.
>
> (a) FibreX network uses world leading DOCSIS 3.1 technology.
>
> (b) We should not use the word cable when describing FibreX but instead use the technical description ie Hybrid Fibre Coaxial (HFC) – Fibre to the node and then coaxial cable to the home. Fibre uses Fibre all the way to the home".

As to why the word 'cable' should not be used, Ms Horton went on tell the Court that "this was because we have done market testing to suggest that customers associated the word cable with slow outdated and aging technology".

[46] It was Ms Horton's evidence that the FibreX brand name was designed to differentiate the product from fibre to the home with the addition of the "X". When asked what it was about the "X" that told people it was not fibre, Ms Horton referred to her letter to the Commission dated 22 March 2017 where she stated:

> The rebranding of the hybrid **fibre** coa**X**ial network as "FibreX" suggests to consumers that the network includes Fibre and something else (**X** being

> coa**X**ial). The addition of the "X" puts consumers on notice that the service is not pure fibre (unlike Vodafone's fibre network). The use of the word "Fibre" helps to inform the customers that the service they will receive is of a particular quality, namely in relation to speed and reliability. Vodafone expected consumers would take out that FibreX is a 'fibre- like' network that uses new technology that delivers a superfast, reliable broadband service, but that is not pure fibre (as it has the addition of "X" to the name).

[47] It was Ms Horton's evidence that the image of the beams of light used as a background was a stock photo showing the night sky filled with shooting stars. The image had been chosen to depict speed.

[48] Ms Horton stated that in August 2017 Vodafone began to make changes to its promotional materials to include reference to the network. It was Ms Horton's evidence that she was certain that these changes had been implemented by October 2017. However, Vodafone did not have good records of the advertising actually in use in this period. The only two examples were a flyer from March 2018 where the small print was extremely difficult to read and a digital advertisement from February/March 2018. This advertisement included the statement: "FibreX is Vodafone's HFC cable network". However, Ms Horton was not able to tell the Court whether this wording had been used in any other advertisements prior to this time.

Expert Evidence

[49] Expert evidence was given on behalf of the Commission by Professor Phillip Gendall, Senior Research Fellow in the Department of Marketing at the University of Otago. It was Professor Gendall's opinion that the publicity surrounding the Government's announcement of the Ultra-Fast Broadband Initiative to be delivered by fibre optic cable meant that people from the start, were accustomed to the notion that this broadband was going to be delivered through the mechanism of fibre optic cable.

[50] The task of promotion was then taken over by the LSPs. Professor Gendall reviewed the Enable and Chorus promotional materials and was of the opinion that, consumers, from these materials, would have understood fibre to mean "fibre to the home or to their business". Professor Gendall discussed some of the examples put into evidence. It was his view that the emphasis in the materials used by both LSPs

was on fibre being the delivery mechanism for this ultra-fast broadband and that this would be delivered right to the home or business.

[51] Professor Gendall went on to give his expert opinion on Vodafone's advertisements. With reference to the two advertisements headed "*FibreX has arrived*" Professor Gendall considered that consumers would assume from this headline that something new had arrived. The use of the suffix "X" connoted something better or superior so consumers would conclude that FibreX was some superior form of fibre which was being delivered as part of the Government rollout. With regard to the background image, Professor Gendall considered that this showed beams of shooting light which he viewed as "reminiscent of the fibre optic cable and created or at least reinforced the impression of speed and fibre optics".

[52] A further advertisement in similar form had as the heading "*FibreX is here (right on your street)*". Professor Gendall referred to the two-stage delivery process[28] adopted by Chorus (and Enable) and considered that "many consumers would have looked at this [advertisement] and thought well FibreX is here, this is the superior form of fibre that has been delivered to the street cabinet or wherever, and now has to be connected to our house".

[53] Referring to research on the topic, Professor Gendall commented on how he considered that consumers would see the addition of the "X". He stated:

> First of all, as I say, they apply just what you might call a normal common sense to a term. So, if you see a term like Fibre they will assume that it is Fibre without overthinking what that may mean. Secondly, they will apply the strategy which is that claims, or implied claims would not be allowed to be made because some agency, the Government or someone like the Commission, would prevent that from being done. So, they believe the claim simply they assume that it wouldn't be allowed to be made. So, I think in this case that's why I say I think they would look at FibreX, and think well Fibre that suggests Fibre, so they wouldn't be allowed to call it Fibre if it wasn't, and they would look at the X and think well it is Fibre, X means exceptional or the X factor, so it is probably Fibre with some enhancement.

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[28] The first stage being delivery of the fibre to the street and the second stage being delivery of the fibre to the home or business.

[54] In addition, Professor Gendall stated that it is common for broadband providers to brand their FTTH service using "fibre" and a suffix for example, Fibre 100, Fibre 200, FibrePro and FibreMax. Since those suffixes were all associated with speed, Professor Gendall concluded that consumers would be likely to think that the "X" in FibreX "had something to do with speed or capacity, rather than the difference in the delivery mechanism.

[55] With regard to the background imagery, Professor Gendall maintained under cross-examination that he did not accept that a consumer would see a night sky with a horizon. He observed that in his view, it was a clever use of a graphic.

[56] Professor Gendall was also referred to the media articles appearing in Stuff and Scoop. With regard to the Stuff article, Professor Gendall noted this appeared in the business section which he considered was "not exactly prime reading" for most of the general public. On re-examination, Professor Gendall stated that if he had seen the articles at the time he prepared his brief, his conclusion would have been that these could have had an effect but "probably not a great effect in terms of the general public".

ANALYSIS

Relevant Consumer Group?

[57] In *Godfrey Hirst NZ Limited v Cavalier Bremworth Limited,* the Court of Appeal discussed who was the consumer and held:[29]

> Where… headliners and qualifiers in advertising target a large group of consumers," the consumer" comprises all the consumers in the class targeted except the outliers. The "outliers" encompass consumers who are unusually stupid or ill equipped, or those whose reactions are extreme or fanciful.

The Court went on to say:

> If you take all the "average" or "ordinary" or "reasonable" (or, as we prefer, all the typical) members of the public generally, or of any targeted class of the public you will end up with all the consumers in the class targeted except the outliers.[30]

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[29] *Godfrey Hirst NZ Limited v Cavalier Bremworth Limited* 3 NZLR 2014 611 at [20] and [47]-[50].
[30] At [48].

[58] As Vodafone's HFC network operates only in Wellington, Kapiti and Christchurch, the target consumer group was limited to those regions. Vodafone's advertisements stated that FibreX was not available everywhere and were plainly directed to those able to turn on or be connected to the FibreX network. By way of example, the three day install offer was at "eligible addresses only" being those in a FibreX area with a pre-cabled house.

[59] It was Ms Nisha's evidence that in the charge periods there were 250,000 "households passed" on Vodafone's HFC network meaning that those households were within distance of running a coaxial cable to connect the home.[31] Ms Nisha was not sure of the split of these households between regions.

[60] I am satisfied on the evidence to the requisite standard that the relevant consumer group in this case consisted of the 250,000 "households passed".

Meaning of the word "Fibre"?

[61] In *DB Breweries Ltd v Lion Nathan Limited,* Harrison J observed: "In my judgment a descriptive or generic name does not indicate the source but only the nature of the goods".[32] In the present case, the Commission says that in the context of broadband, the word "fibre" is a generic description of the service "fibre to the home". Further, the Commission says that this was the meaning established in the minds of some consumers in Wellington, Kapiti and Christchurch by the time of the launch of FibreX in October 2016.

Analysis

[62] It was plain on the evidence of the experts and Mr Wallace that fixed line broadband networks are identified in the telecommunications market by the technology used for the last mile to the home/premise. In the case of the Government's UFB network, the last mile is fibre optic cable and it is therefore known by that technology as "fibre".

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[31] In 2016-2017 there were approximately 60-70,000 customers connected to the network.
[32] *DB Breweries Ltd v Lion Nathan Limited* (2007) 12 TCR 25.

[63] The evidence showed that both Chorus and Enable invested millions of dollars in the promotion of fibre broadband and in establishing in consumers' minds that "fibre" meant fibre to the home. I accept Ms Harker's evidence that from the time Chorus began marketing its FTTH network its clear and consistent message was that "UFB", "Fibre" or "Fibre Broadband" meant a FTTH product. As the brand "fibre" became more established in the market as FTTH technology, the focus moved from marketing ultra-fast broadband to marketing fibre. While Ms Harker could not provide any precise date, she considered that this had occurred by the time the Gigatown promotion had ended in early 2015. I am satisfied that this change had occurred by October 2016 and in this regard, I take into account that the redesigned promotional materials produced by Chorus in 2016 focused specifically on "fibre". Nevertheless, prior to this change in focus, the promotional materials still clearly emphasised "fibre" as an FTTH product as is evident from the examples produced.

[64] With regard to Enable, I also accept Mr Fuller's evidence and find that from the commencement of the rollout in Christchurch, Enable highlighted "fibre" in its promotional materials "fibre" as being a FTTH product. This was achieved by using simple messaging focused on the word "fibre" such as "*Fibre to your door*".

[65] Professor Gendall gave expert evidence that he believed consumers viewing the Chorus and Enable promotional materials, would have understood "fibre" to mean fibre to the home or to their business. I note that some of the specific examples discussed by Professor Gendall post-dated the launch of FibreX and the charge periods. However, it was evident that Professor Gendall had reviewed all the materials in reaching his opinion (commenting that he did not want to bore the Court with too many examples). He also referred to specific examples from earlier years for both Enable and Chorus and I am satisfied that Professor Gendall's opinion related to promotional materials in circulation in the three regions prior to October 2016. No contrary expert evidence was produced.

[66] Ms Nisha gave evidence that at the time Vodafone launched FibreX in October 2016, 54% of the households in Kapiti where HFC was available, had the FTTH network available, in Wellington it was 51 to 56% while in Christchurch it was 72-

77%.[33] These figures were not contested by the Commission. Vodafone submits that as the promotional materials produced by Chorus and Enable were tied to the construction of the network in a particular area, it was unclear what information about the fibre network would have been available in the areas where FTTH had yet to be installed.

[67] This submission assumes that the only promotional materials people were exposed to, were the flyers through the letter boxes. However, the evidence was clear that there was other advertising at a local level when construction was to be undertaken for example, on bus backs, billboards and posters. In addition, it was the evidence of both Ms Harker and Mr Fuller that advertising was also being undertaken on a national basis. I am satisfied that it can be properly inferred to the requisite standard that a sizable number of consumers in the relevant consumer group within each of these regions would have seen some promotional material and understood "fibre" to be a FTTH product even if fibre had not yet been installed in their street.

[68] Vodafone's figures show that the rollout was well advanced in Christchurch in October 2016 so that on this analysis, up to 77% of the households in the HFC area had received the Enable flyers and had contractors in the street installing fibre. Similarly, over 50% of the households in both Kapiti and Wellington had been reached by October 2016. On these figures, and also taking the above group into account, it is reasonable to infer that overall, a significant number of consumers in the relevant consumer group in each region, would have seen some of the flyers and other promotional materials and understood "fibre" to mean a FTTH product. I observe that those numbers could be expected to have increased as the rollout continued, and Vodafone pursued its marketing campaign.

Conclusion

[69] I am satisfied to the requisite standard on the evidence before the Court that fixed line broadband networks are identified by the technology used for the last mile

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[33] In the period May 2017 to October 2017, those percentages had increased to 66% in Kapiti, Wellington 66% and Christchurch 88%. The percentages further increased in the October 2017 to March 2018 charge period to 74% in Kapiti, 64-75 % in Wellington and 96-99% in Christchurch.

to the home/premise. Accordingly, for the Government's UFB network, the last mile is fibre optic cable and it is therefore known by that technology as "fibre".

[70] I have no difficulty on the evidence in being satisfied to the requisite standard that consumers viewing the promotional materials produced by either Chorus or Enable would have understood "fibre" to mean "fibre to the home". It was the clear and intended message of both LFCs in their promotional materials that "fibre" meant fibre to the home. In addition, and importantly, it was the meaning that Professor Gendall as marketing expert, considered would have been taken by consumers from these materials and I accept his opinion.

[71] I am further satisfied to the requisite standard that by the time Vodafone launched its FibreX network in October 2016 a significant number of consumers in the relevant consumer group in each of the three regions would have seen promotional materials produced by Chorus or Enable and would have understood "fibre" to mean a FTTH product.

Conduct Liable to Mislead?

[72] Vodafone relies on the addition of the letter "X" to differentiate its HFC service from a FTTH service. It was Ms Horton's evidence that the rebranding of the HFC network as "FibreX" suggested to customers that the network included fibre and something else – the X being coaXial. Vodafone expected consumers would take out that FibreX was a "fibre like" network that used newer technology that delivered a superfast, reliable broadband service but was not pure fibre (as it had the addition of X in the name).

[73] No expert evidence was produced by Vodafone supporting its contention that the addition of the letter X was enough to alert consumers to the fact that they were not getting a service of the type commonly identified by the word "fibre".

[74] The only expert evidence was from Professor Gendall who was of the opinion that the suffix X means exceptional or the X factor, so consumers would think that FibreX was probably fibre with some enhancement. He did not believe that the name

FibreX would suggest to consumers that there was an additional component in the delivery of the service. In addition, Professor Gendall noted the common usage of the word "fibre" and a suffix (for example, Fibre100) by broadband providers to brand their FTTH service. It was his view that since these suffixes were all associated with speed, consumers would be likely to think that the "X" in FibreX was related to speed or capacity rather than the difference in the delivery mechanism. I accept Professor Gendall's evidence.

[75] Some of the advertisements include the statement "FibreX is here". Ms Horton stated that this expression had been used in prior advertising campaigns by Vodafone. However, the wording used in the FibreX advertisements included the additional line *"(right on your street)"*. I also accept Professor Gendall's evidence that the two-stage form of advertising adopted by Vodafone ("FibreX has arrived" and "FibreX is here") followed the approach used by Enable and Chorus (delivery to the street and connection to the house).

[76] As to the background image, Professor Gendall did not consider that consumers would have seen it as a night sky with a horizon. I note that the photographic image used by Vodafone was not put to Professor Gendall nor were other images of fibre optic cable used by Vodafone. I accept Professor Gendall's evidence and am satisfied to the requisite standard that the image used reinforced in the advertisements and to consumers the impression of speed and fibre optics.

[77] Evidence was given of Vodafone's press releases on the launch of the network. Ms Horton stated that these were available on Vodafone's website. I do not accept it can reasonably be contended that consumers would have seen these. It was Ms Horton's evidence that articles were subsequently published in nine media outlets. Three of these articles were produced. There is no evidence as to how widely these articles were circulated. Professor Gendall was shown two of the articles and noted that one had been published in the business section. (The third article was published in NBR and would no doubt have also been met with the same comment from Professor Gendall). In Professor Gendall's opinion, these articles would not have had a great effect in terms of the general public. I accept his evidence. In the circumstances, the Court cannot be satisfied that consumers in Wellington, Kapiti and

Christchurch would have seen these articles when they were published and/or that they would have made any difference as to consumers' understanding of the FibreX service when they subsequently viewed Vodafone's advertising.

[78] Ms Horton gave evidence that Vodafone was concerned not to confuse consumers that FibreX was a FTTH product and referred to the instructions given to the frontline staff. Notably, staff were instructed to make clear that FibreX was not a FTTH product. While this may have been the instruction, there is no evidence that consumers were provided with this information by staff members.

[79] Vodafone contends that consumers exercising reasonable care would not have rested on the advertisements (and in particular the brand name) but would have made further enquiry before entering into any service plan. Vodafone places weight on the fact that disclosure of the network was made in the Offer Summaries published on its website. Ms Horton did not accept that including this information in the offer summary was too late in the process to provide this information to consumers. I do not agree.

[80] In the present case, I am satisfied to the requisite standard on the basis of Professor Gendall's evidence and indeed, as a matter of common sense,[34] that consumers viewing Vodafone's advertisements would not have taken the addition of the letter X as meaning that FibreX was not a FTTH product. Rather, I am satisfied to the requisite standard that consumers viewing Vodafone's advertisements would be liable to have been misled by the branding and promotion of FibreX into believing that Fibre X was indeed a FTTH product.

[81] Having already formed this view on the basis of Vodafone's advertisements, it is unlikely that any consumer would have considered it necessary to make further enquiry about the network access type by going to Vodafone's website. Furthermore, the fact that a consumer may subsequently find out on a careful reading of the offer summary on Vodafone's website that the access network was Vodafone's HFC network does not overcome these misleading advertisements. As the Court of Appeal stated in

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[34] *Sound Plus Ltd v Commerce Commission* Above n 7.

Godfrey Hirst NZ Limited v Cavalier Bremworth Limited,[35] where a consumer is enticed into the "marketing web" by an advertisement on an erroneous belief, this will be misleading even if the consumer may learn of the true nature of the service before the transaction is concluded. This is because the initial misleading advertising is seen as contributing to any subsequent sale.

[82] There are no qualifying statements in the print and online advertising materials used by Vodafone.[36] I note the example of an in-store advertisement promoting plans available from December 2016 included the statement that "FibreX is being rolled out on Vodafone's HFC network and is only available in selected parts of Wellington, Kapiti and Christchurch". This reference is in very small print at the bottom of the page. I find that it is unlikely that consumers would have noted this information and in any event, it does not counter the overall impact of the advertisement with the focus on the FibreX brand.

[83] Vodafone submits that consumers in Wellington, Kapiti and Christchurch would have been more knowledgeable than normal about the network because the HFC network had been available there since 1999. On the evidence, the most that Vodafone is able to say is that there may have been some in the relevant consumer group who had that knowledge although it is unclear on the evidence why those consumers would conclude that it was the HFC network (as opposed to fibre) that was being used in 2016. Furthermore, it does not lessen the impact of the advertising on other consumers in the relevant consumer group.

[84] In this regard, I have already found that by October 2016 a significant number of consumers in the relevant consumer group in each of the three regions would have understood "fibre" to mean a FTTH product. I am further satisfied to the requisite standard that a substantial number of those particular consumers on viewing the Vodafone advertisements, would have been liable to be misled into believing that "FibreX" was such a product.

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[35] Above n 28.

[36] I note that Professor Gendall did not consider that consumers would see the use of the word "pre-cabled" used in the flyers promoting the FibreX200 and FibreXMax plans as referring to some different type of technology (other than fibre).

Charge period: October 2017 – March 2018

[85] Ms Horton told the Court that changes to the promotional materials to include reference to the HFC network began to be made in August 2017 and were in place by October 2017. An example of a digital advertisement from February/March 2018 did include the statement "FibreX is Vodafone's HFC cable network" in a prominent position and in legible font size. However, the final charging period finished on 28 March 2018 and there is no evidence that this form of advertising was being used in the market prior to this time (or indeed, how widely it was being used even in February/March 2018). In the absence of evidence to this effect, I cannot be satisfied when advertisements containing references to the HFC network started to be used by Vodafone and whether the changes made were sufficient to enable consumers to identify the network.

Conclusion

[86] I am satisfied to the requisite standard that the naming by Vodafone of its service as FibreX and the promotion of the service in print and online advertisements stating "FibreX is here" or "FibreX has arrived" together with a background of shooting beams of light in the print advertising was liable to mislead a substantial number of consumers in the relevant consumer group in each of the three regions and in each of the charge periods, into believing that Vodafone's broadband service "FibreX" was a FTTH service.

[87] Accordingly, I find that this element of the offence under section 11 of the FTA has been proven by the Commission beyond reasonable doubt.

Conduct in relation to Characteristics of Service?

Submissions

[88] The Commission alleges that Vodafone's conduct was in relation to the "characteristics" of its HFC service, 'FibreX". It asserts that the particular characteristic was the medium by which broadband was delivered to the consumers and more specifically, the last mile technology.

[89] In *Commerce Commission v NZ Nutritionals [2004] Limited,* Venning J stated that "characteristics" is relevantly defined as that which serves to identify an essential quality or nature of a thing.[37] In this case, the Commission says that it is the last mile technology that gives the FibreX network its essential quality.

[90] With reference to the definition of "services", Vodafone contends that the service offered by it was "the provision of rights of access to the internet for the transfer of electronic data to and from the consumer". It says that unlike electricity and gas which are also a "good" (being personal property of a tangible or intangible kind), telecommunications are not defined as "goods" in the FTA. Vodafone submits that "this suggests that telecommunications, and therefore access to the internet as a form of telecommunication, is confined to a right of access to or provision of the ability to transmit information".

[91] On this analysis, Vodafone submits that the physical makeup of the cables, hardware and software are not characteristic of the internet service and is no more part of the" service" than the wires and pipes that deliver electricity to consumers. Rather, how the data or power gets to or from the home is the method of delivery. Put another way: "Electricity is electricity whether it is generated by hydro, wind or coal. Data transmission is data transmission whether it is transmitted by FTTH, HFC, wireless radio waves or twisted copper."

[92] In relation to an internet service, Vodafone contends that characteristics of that service include for example, download and upload speeds, and the amount of data a consumer is permitted to transmit as part of the plan they purchase.

[93] Adopting the approach in *Commerce Commission v NZ Nutritionals [2004] Limited*, Vodafone submits that it is the ability to, and experience of, access to the internet at the levels offered by the supplier of the service that is the "essential quality or nature of a thing" not the technical details of how the "thing" got there in the first place.

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[37] *Commerce Commission v NZ Nutritionals (2004) Limited* above n 13.

[94] The Commission disagrees with Vodafone's submissions. With regard to the electricity analogy, the Commission says that many consumers do care about the source of their electricity for example, whether it is from a renewable source of energy, delivered by battery or over the mains. They also care about voltage. On this basis, the Commission says that it is wrong to suggest that the method of delivery is not a characteristic even if the service (namely the supply of electricity) is identical.

[95] In the present case, the Commission submits that it is well established on the evidence that broadband in New Zealand is identified by the method of delivery for the last mile. Moreover, the evidence shows that consumers care about the method of delivery.

[96] In addition, the Commission asserts that Vodafone's contention that what it was selling was access to the internet, falls down when Vodafone's advertisements are considered.

Analysis

[97] Having reviewed the definition sections, Vodafone submits that 'telecommunications' is confined to a right of access to or provision of the ability to transmit information. I do not agree with this submission. The fact that telecommunications are not defined as a "good" does not determine the issue. In my view, the means of transmission namely, the particular network over which the information is transmitted is an integral part of any telecommunication service.

[98] In any event, I do not agree with Vodafone's further submission that the characteristics of its service (as Vodafone contends it to be) are limited to how the consumer experiences the right of access including download and upload speeds and amounts of data. In my view, for the reasons set out below, the medium of delivery is clearly a characteristic of that service.

[99] Moreover, while Vodafone contends that its service was limited to the provision of rights of access to the internet, that position is not reflected in its advertising. Vodafone's advertising refers specifically to the network with references

to: "superfast gigabit network", "FibreX our fantastic upgraded broadband network". and "our gigabit network". In my view, access to the network (the medium of delivery) was clearly part of the services being provided to consumers by Vodafone.

[100] In the present case, it is well established on the evidence before the Court that the architecture of a network or more particularly of the last mile to the home/premise, is a determinative feature of a wired access broadband service. On this basis, I agree with the Commission that it is the last mile technology that gives the FibreX (HFC) network its essential quality and is clearly a characteristic of the service.

[101] In addition, this technology is important to consumers. The evidence of Ms Nisha and Ms Horton was to the effect that consumers cared about the medium of delivery of their broadband service and in particular, whether it was by cable or by fibre. This was because cable was seen by consumers as being slow, outdated and aging technology.

Conclusion

[102] I am satisfied to the requisite standard that the network (and particularly the architecture in the last mile) is a characteristic of Vodafone's broadband service. I am further satisfied to the requisite standard that Vodafone's conduct in the branding and promotion of its service as FibreX was in relation to this characteristic.

[103] Accordingly, I find that this further element has also been proven by the Commission beyond reasonable doubt.

OTHER FACTORS

FibreX: An Inferior Service?

[104] While not an element of the offence under s 11, the Commission contends that FibreX has inherent limitations stemming from the coaxial cable being the part of the HFC network that differentiates it from a FTTH network. These inherent limitations relate to variability; likelihood of congestion on the network; speed; latency; reliability; and upgrade pathways.

[105] Vodafone submits that the Commission has relied on the material properties of the different networks as the key differentiator without linking these differences to any material differences in performance of the services for customers. Much of Vodafone's submissions were focused on this issue. However, the Commission says that Vodafone misconceives its case which is:

(a) there are an inherent differences between 'HFC' and 'FTTH' that lead directly to differences in performance; and

(b) those types of differences are ones all consumers might care about (and some certainly will).

[106] The Court heard expert evidence from Professor Nirmalathas, Ms Nisha, Mr Brown and Dr Nelson, Mr Greenborough, Mr Wallace and Mr Fuller. The highly technical evidence covered the architecture of the two networks, their operation, performance data and future upgrades. In the event, it is not necessary for me to refer to this evidence in particular detail having regard to the approach adopted by the Commission and importantly, to concessions made by Vodafone's witnesses.

FibreX inherently more variable?

[107] Professor Nirmalathas explained to the Court that variability flows from the topology of an HFC network and in particular, from the fact that many customers share data transmitted along the same coaxial cable. Each customer receives the signal at a different point in its journey through the network and, because the signal can change along the journey, each customer's experience is potentially different. As a signal travels along a cable (whether fibre optic or coaxial cable) it weakens or attenuates. In the HFC network, amplifiers are used to mitigate the signal loss. In addition, the signal will also pass through multiple splitters and taps before reaching a customer's home.

[108] Because the signal on a coaxial cable is electrical, it is susceptible to electromagnetic interference or "noise". The shielding on the cable mitigates the risk of electromagnetic fields outside the cable interfering with the signal within the cable

but does not eliminate that risk. In particular, there is a potential for electromagnetic ingress at every junction or break in the cable so that every connection (every amplifier, splitter, tap and port) is a potential point of ingress for interference.

[109] Evidence was given by Vodafone's witnesses about features designed to mitigate this variability and in particular about Proactive Network Management (PNM) and Profile Management Application (PMA). The Commission contends that while these functions mitigate or "iron out" some of the inherent variability they do so within limits and neither of these systems totally eliminate the risk of variable performance and risk on customer experience from the FibreX network. This was acknowledged by Vodafone's witnesses. Mr Brown stated:

> Q. You don't think copper has an inherent – well HFC has an inherent variability in it that fibre is missing?
> A. Well when you say "variability", what are you referring to specifically?
> Q. Well I mean the point of all the software is to manage that variability, isn't it?
> A. Oh, I see what you are thinking. Yes, okay.
> Q. And the software manages that within certain limits I think was your evidence?
> A. Within certain limits. Again, you're going to have to be more specific.
> Q. Well the software can't account for every variation in the performance of the copper cable the signal's travelling over?
> A. So if there are impairments in the coaxial cable that exceed normal operating parameters, then yes, it's possible that that variance reduces capacity.
> Q. Yeah, which obviously has an impact on the consumer?
> A. Correct.

[110] Vodafone produced testing of the performance of its HFC network compared to its FTTH network and relied upon WAND reports from 2017 and 2020. The Commission took the position that the difficulty and complexity of reliably measuring broadband performance meant that it had not approached the case by producing evidence of the differences in performance. With regard to variability, the WAND test results demonstrated that there was variability across the HFC probes which was not present in the FTTH network. However, I note that while this was the result seen in the probes tested, the numbers of probes involved were not statistically significant and cannot be said to be representative of the network's performance.

[111] In any event, I am satisfied to the requisite standard on the evidence that the HFC network is inherently more variable in its performance. This variability can be ameliorated but not eliminated by the DOCSIS 3.1 software.

[112] Ms Nisha gave evidence that some customers would want to understand the technology of the two networks and to know and understand the differences between them. I accept that it may be inferred that this is a matter which some consumers would want to know about.

FibreX has a greater likelihood of congestion?

[113] Both FibreX and FTTH networks share a certain amount of bandwidth among multiple users. On FibreX, that bandwidth is lower and the number of users sharing the bandwidth is much higher.[38] The Commission contends that as a result, the risk of congestion and poor peak time performance is materially higher for FibreX customers.

[114] Congestion does not follow as a matter of course from a certain number of users sharing a certain amount of capacity, but rather occurs when more people use more capacity than expected at any given time. The Commission contends that for that reason, congestion is best assessed for present purposes by the likelihood that it will occur. The Commission says that the probability that congestion will occur is in part a factor of capacity. It was the evidence of Professor Nirmalathas that congestion was "probably more than 60% having the capacity and then having a framework for dynamically managing it would be the rest of the 40%". The evidence of Mr Fuller and Mr Brown was that management was very important but so was capacity.

[115] Notably, Mr Brown acknowledged that Vodafone's HFC network had less capacity than FTTH in New Zealand.

[116] The Commission says that on the evidence before the Court, congestion is more likely on the HFC network. Evidence was given by the Vodafone witnesses that it would require only two users on the same node to use the full speed of the connections to cause congestion on the FibreX network. By contrast, the likelihood of congestion on a FTTH network is far lower since there is more bandwidth to begin with and fewer customers sharing it. The number of customers potentially impacted

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[38] FibreX currently has a maximum bandwidth per cable of 1.9 Gbps downstream and 280 Mbps upstream in Wellington or 400 Mbps upstream in Christchurch. This bandwidth is shared between an average of 177 users and up to 785 users. The FTTH work has a bandwidth of 2.5 Gbps downstream and 1.25 Gbps upstream shared between a maximum of 24 users.

by the congestion on a particular network segment is also much higher on a HFC network.

[117] The Commission contends that Vodafone's witnesses accepted that users do in fact use their plans at full speed. As such, the Commission says that the situation that would cause congestion was not merely theoretical.

[118] It is impossible to say what is the precise probability of any one consumer experiencing congestion on either network. However, I am satisfied to the requisite standard that congestion is more likely on Vodafone's HFC network then on a FTTH network and it may be inferred that some consumers would want to know this.

Same speeds not offered

[119] The Commission contends that HFC did not offer the speeds of FTTH during the charge periods. In particular, the upload speeds available on the network were a fraction of those offered on FTTH. The Commission submits that upload speeds increasingly matter as consumers take greater advantage of video conferencing and upload video content on social media.

[120] This was not disputed by Vodafone. However, Vodafone says that in making the submission, the Commission confuses the network and the service purchased by the customer. Each service tier offers particular upload and download speeds so that a customer who purchased FibreX 200/20 with a 20 Mbps upload, would expect to receive upload speeds above 20 Mbps, regardless of whether higher uploads were possible on the network.

[121] The Commission in making its submission, was plainly focused on the network not service tiers. I am satisfied to the requisite standard that during the charge periods, the speeds offered on the FTTH network were greater than those on FibreX and it may be inferred that this is a matter that some consumers would want to know about.

FibreX is inherently less reliable?

[122] The Commission contends that an HFC network is inherently more vulnerable to failure than a FTTH network because there are more components that can fail. Notably, Mr Brown acknowledged in his evidence that: "Fibre, all things being equal, is just inherently more reliable … than copper".

[123] In the FibreX network there are several separate devices between the OLT and the user, each one essential to the network's performance. In any given link, there is a DCMTS[39], which is powered by at least one splitter, at least one tap and between one and five powered amplifiers in each direction. The Commission says that each of these is a potential point of failure. The reliance on power in the amplifiers and DCMTS creates an extra point of vulnerability. By contrast, the FTTH network has only one or two passive[40] optical splitters between the OLT[41] and the user so that the potential for failure is significantly less.

[124] It was acknowledged by Vodafone's witnesses that there are more potential points of failure on the FibreX network than on a FTTH network. However, Vodafone contends that its PNM tool addresses this inherent vulnerability by raising an alarm if any issues are detected in the network. The Commission accepts while this tool identifies any issues, any component failure still has to be fixed which takes time during which the customer experience may be impacted.

[125] Vodafone contends that the Commission has failed to establish to any standard that these differences have any material impact on the service provided to consumers. The Commission says that it has not attempted to prove actual failure rates as again, failure is a question of probability. Rather it contends that the fact that HFC was more likely to suffer a failure is all that would matter for many consumers.

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[39] Distributed cable modem termination system.
[40] Passive meaning unpowered.
[41] Optical line terminal. A device that serves as the service provider endpoint of a passive optical network.

[126] I am satisfied to the requisite standard that the HFC network by virtue of its architecture, is inherently less reliable than the FTTH network and I am satisfied that it can be inferred this is a matter that some consumers would want to know about.

Fibre has inherently worse latency?

[127] Latency is the time it takes for a packet of information to make it across the network from the sender to the receiver, and for a response to come back.

[128] It is common ground that latency is worse (that is, higher) on FibreX than on FTTH by at least 8 milliseconds on average. Vodafone contends that the additional latency on FibreX is immaterial. Specifically, Vodafone says that humans will not perceive the difference in latency between FibreX and FTTH and/or it does not affect real world performance therefore it is of no consequence.

[129] Dr Nelson gave evidence that there was little research on the perceptibility of low levels of latency. The research which he had seen suggested a "threshold of human perceptibility to latency differences in the range of 11 to 13 milliseconds."

[130] Mr Brown told the Court that 20 to 40 milliseconds latency would be considered "not unusual" for online games that require fast reflexes. Professor Nirmalathas gave similar evidence that, while 20-40 milliseconds latency is recommended for online gaming, lower latency may impact some applications even if they are not normally perceptible to humans. This proposition was accepted by Ms Nisha.

[131] It was common ground that if latency reached 100 milliseconds it would interfere with consumers' enjoyment of real time applications, particularly online games.

[132] The Commission submits that latency is something that at least some consumers care about, whether or not they can perceive it. Dr Nelson agreed that consumers care about latency, and in particular, they care about the worst performance they will ever get. Mr Wallace's evidence was that "consumers are particularly

sensitive to latency in gaming applications", that latency would be the "main concern" and "the most sensitive factor to end users in that case".

[133] The WAND data showed a medium latency of 9 to 10 milliseconds was recorded against all HFC probes in 2018, compared to just 2 to 3 milliseconds on the FTTH probes. The 95th percentile on HFC probes ranged from 15 to 95 milliseconds while on FTTH, it ranged from 3 to 6 milliseconds.

[134] Ms Nisha agreed that consumers would care about the 90th to 95th percentile latency performance measured by the WAND probes on the FibreX network and particularly the "big jump" in latency recorded in September 2018.[42] In summary, the worse 5% of measurements on FTTH were easily below the lowest threshold of perceptibility for users and were only 3 milliseconds higher than the medium. For FibreX, the worst 5% of measurements were within the perceptible range and would likely have impacted the enjoyment of real time applications.

[135] Moreover, Dr Nelson accepted that the extra latency of HFC might make the difference between perceptibility and imperceptibility for certain customers. (he noted one example of this in his own data).

[136] I am satisfied to the requisite standard that latency is worse on the HFC network then on the FTTH network and it may be inferred that this is a matter which some consumers would want to know about.

Future upgrade pathways?

[137] The Commission contends that the most pronounced differences between FTTH and HFC are the potential upgrade pathways. The future pathways for FibreX are limited by the physical properties of the coaxial cable. FTTH faces no such physical limits. Rather, it is restricted only by the electronics at either end of the fibre optic cable which are much easier to replace.

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[42] Across the 6 HFC 200/20 probes, latency between the 90th and 95th percentiles increased from 15.6 to 95.9 milliseconds. In the same period, the 6 FTTH 200/20 probes recorded a jump of only 5.4 to 5.8 milliseconds between the 90th and 95th percentiles.

[138] Evidence was given by Mr Brown and Ms Nisha as to a number of upgrades planned for HFC none of these are currently ready to be implemented. Evidence was given of the upgrades underway for FTTH. Because the limitation on FTTH is the electronics not the cable, the process of upgrading the network is straightforward and involves swapping out the cards in the OLT for cards that support higher PON[43] standards and if necessary, replacing the customer's ONT[44]. Ms Nisha gave evidence that any upgrades to the HFC network would be considerably more complex.

[139] Vodafone submits that upgradability is not relevant to the issue that the Court must decide because:

(a) The issue that the Court must determine is whether the consumers who purchase broadband services during the charging periods may have received an inferior service over the HFC network than what they would have received over an FTTH network. The services purchased by consumers were the service levels available at the time, not service levels that could hypothetically be available in the future.

(b) The charging period is between 26 October 2016 and 28 March 2018. Even if a customer who signed up for the longest possible contract on the last day of the charging period would be out of contract by 28 March 2020 at which time services above 1Gbps were not available nationwide.

(c) There is currently no demand for services above 1Gbps and such demand is not forecast to be required for several years.

(d) The Commission's reliance on FTTH offering service levels above 1Gbps as a matter of superiority is at odds with Professor Nirmalathas's evidence that poor performance of FTTH 1Gbps

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[43] Passive optical network. A network architecture of fibre optical cables where there are no active components in the network requiring any electrical power.

[44] Optical network terminal. A device at the customer end of an optical connection that converts optical to electrical and electrical to optical signals, allowing subscribers to exchange information over a passive optical network.

service tiers may be because the rest of the network was not anticipating these types of services as yet.

[140] I do not agree with Vodafone's submission that this issue is not relevant. Customers can be expected to care whether they will need to change service to get better performance in the future and I am satisfied to the requisite standard that this is a matter that some consumers would want to know about.

[141] I am further satisfied to the requisite standard first, that because of the physical constraints of HFC, the ability to upgrade that network is considerably more difficult than for the FTTH; and second, that FTTH is considerably more advanced in providing upgrades for this network than for HFC.

Ability of consumers to switch providers?

[142] The only provider that has an HFC network in New Zealand is Vodafone. As a consequence, the Commission contends that a consumer who wants to move from HFC to FTTH faces disruption and delay while fibre optic cabling is run from the street to inside the property compared to the relative ease of switching providers on FTTH. The supply of broadband is a competitive marketplace and consumers are routinely looking to change retailers. In 2017, the average number of days to connect to the FTTH network was 35. While not related to the architecture of the networks, the Commission submits that consumers may care that HFC is not FTTH for this reason also.

[143] Vodafone accepts that consumers would face this inconvenience but says that consumers would have had to get connected to the FTTH network in any case. In addition, consumers in the future may elect to move to wireless technology.

[144] While that may be the case, I do not consider that Vodafone's response answers this issue. Arguably, a consumer may have already had the inconvenience of connecting to the HFC network where their house was not pre-cabled and for a second time, would face disruption and delay in having to be connected to the FTTH network. I am satisfied to the requisite standard the fact that FibreX is the only HFC network in

New Zealand is a limitation compared to the FTTH network where changing providers can be easily achieved and this is a matter which it may be inferred that consumers would want to know about.

Conclusion

[145] I am satisfied to the requisite standard on the analysis above that there are a number of inherent limitations in the HFC network (variability, likelihood of congestion on the network, speed, reliability, latency, upgrade pathways and ability to change provider) which are not present in a FTTH network. I am further satisfied that each of these limitations are matters which some consumers would want to know about.

Vodafone's Conduct Harmed Consumers?

[146] The Commission contends that the branding and promotion of Vodafone's HFC service as "FibreX" caused harm to consumers in that:

(a) it deprived consumers of the ability to make an informed choice as to its broadband service;

(b) consumers received an interior service than what they believed they were purchasing;

(c) this distorted competition in an important market.

In the absence of any factual findings against the company, Vodafone did not reply to the Commission's submissions in relation to this allegation. In any event, I am of the view that this is an issue better addressed at the penalty hearing when full submissions can be made by both parties taking my findings into account.

DECISION

[147] In reaching my decision on each charge, I record that I have given separate consideration to the relevant evidence in relation to each region (Wellington, Kapiti

and Christchurch) and for each charge period (26 October 2016 to 26 April 2017; 27 April 2017 to 27 October 2017; and 28 October 2017 to 28 March 2018).

[148] For the reasons set out above, I am satisfied that each of the nine charges laid under s 11 of the FTA has been proven by the Commission beyond reasonable doubt. Accordingly, I find Vodafone guilty on each of these charges. The alternative charges laid under s 13(b) are dismissed accordingly.

AA Sinclair
District Court Judge