



# **Review of the weighted average price control in nbn's special access undertaking**

Expert report of Dr William Taylor

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# 1. Introduction and summary

## 1.1. Instructions

1. NBN Co Limited (**nbn**) is subject to a special access undertaking (**SAU**) which sets out the regulatory framework that governs its prices to retail service providers (**RSPs**). **nbn** is proposing to submit a variation on the SAU to the Australian Competition and Consumer Commission (**ACCC**).
2. I have been engaged by Webb Henderson, counsel to **nbn**, to prepare a report commenting on certain aspects of the SAU variation.
3. The SAU variation includes a new weighted average price control (**WAPC**) on **nbn**'s services and price controls on mass market residential services. At a high-level, a WAPC involves setting a price cap to apply on average across a basket of **nbn** services. The proposed WAPC for **nbn** is subject to some exempt services and some sub price caps on specific services.
4. Broadly, I have been asked to comment on the reasonableness of:
  - a. The overall WAPC framework; and
  - b. Some specific additional design features of the WAPC.
5. The specific questions I have been asked are contained in my letter of instruction from Webb Henderson, which I have included as Appendix B.

## 1.2. Experience and qualifications

6. My name is William Selden Taylor. I am a Director at NERA Economic Consulting, a global firm of expert economists that is head quartered in White Plains, New York. NERA has 25 offices around the world and more than 500 consulting staff.
7. I lead NERA's regulatory and telecommunications work in Australia and New Zealand and have over 14 years' experience as a regulatory and competition economist. I have particular expertise on competition and regulatory issues in the telecommunications sector. More generally, I have extensive experience in the design and operation of regulatory pricing regimes for infrastructure assets. A full copy of my CV is attached as Appendix A.
8. I have an undergraduate degree majoring in economics and finance, completed an honours program in finance for which I was awarded 1st class honours and a PhD in Economics, all from Victoria University of Wellington.
9. I have been provided with a copy of the Expert Evidence Practice Note (GPN-EXPT) issued by the Federal Court of Australia on 25 October 2016. I acknowledge that:
  - a. I have read and complied with the practice note and agree to be bound by it; and
  - b. my opinions are based wholly or substantially on specialised knowledge arising from my training, study and experience.
10. In preparing this report, I have been assisted by my colleagues Kevin Counsell and Cameron Birchall. Notwithstanding this assistance, the opinions in this report are my own.

## 1.3. Summary of opinion

11. In summary, my views on the proposed WAPC approach are as follows:
  - a. **Incentives for efficient pricing:** the WAPC approach incentivises **nbn** to set (second-best) efficient pricing, in the sense **nbn** is incentivised to set prices that recover its fixed costs (and

thus provide for dynamic efficiency) in a way that balances the trade-off with allocative efficiency from prices that reflect marginal costs.

- b. **Incentives for efficient use of nbn's network:** nbn is incentivised under the WAPC framework to use a Ramsey pricing structure which incorporates differing marginal costs within prices. This will promote the efficient use of nbn's network.
- c. **Incentives to maximise demand:** because nbn bears volume risk in the WAPC framework, in the sense that it retains deviations, due to changes in volume, between actual revenue from WAPC services over the regulatory cycle and the revenue from WAPC services that was forecast at the start of the regulatory cycle, it has strong incentives to maximise demand, so as to capture the upside from higher revenue and mitigate the downside from lower revenue (due to forecast error and substitution risk).
- d. **Incentives to innovate:** as nbn benefits under the WAPC framework from growing demand, nbn is incentivised to innovate in ways that grow demand (either in absolute terms or by responding to competition). nbn also benefits from innovations that result in customers upgrading to higher speed products and if it introduces innovative new products.
- e. **Incentives to forecast accurately:** because a WAPC framework places volume risk on the regulated supplier, there can be an incentive to under-forecast volumes. This incentive is mitigated in the present context for the following reasons:
  - i. To the extent nbn's costs are driven by volume, biasing down its volume forecasts would lower its allowable revenue; and
  - ii. The replacement module process allows the ACCC to set an alternative X factor. Thus the ACCC can substitute its own volume forecast if it has concerns about nbn's forecasts. The replacement module process is also a form of 'repeated game', where the ACCC will be able to cross-check actual demand against previous demand forecasts to test nbn's forecasting accuracy.
- f. **Reasonableness of the phased glide path to cost recovery:** the use of a glide path provides certainty and avoids price shocks, but in some circumstances can potentially constrain flexibility to some extent to implement an efficient price structure and promote efficient costs. The proposed approach reasonably balances these considerations by placing more emphasis on regulatory certainty and price shocks in the initial period, when the risks of large increases are greatest (since nbn is under-recovering its Forecast Nominal Core Services Annual Building Block Revenue Requirement (ABBRR) in this period). Once nbn is recovering its ABBRR, the risks of large price shocks are much lower, and thus the balance of this trade off shifts towards ensuring the price structure and levels are efficient.
- g. **Reasonableness of the sub-caps:** sub-caps are a form of side constraint and benefit customers by providing increased certainty. While these constraints limit flexibility to price efficiently, having a higher sub-cap for non-entry level products provides a reasonable balance between certainty and flexibility. The sub-caps also promote affordability by limiting the price increase for entry level products to CPI.

## 1.4. Structure of report

12. In the rest of this report I set out:

- a. my understanding of the relevant background (section 2);
- b. my response to the questions regarding the effect of the WAPC on nbn's incentives (section 3);
- c. my response to the questions regarding nbn's incentive to forecast accurately (section 4);

- d. my response to the questions regarding the phased glidepath to cost recovery (section 5); and
- e. my response to the questions regarding additional design features of the WAPC (section 6).

## 2. Background

### 2.1. The proposed WAPC framework

13. In general, a WAPC involves setting a cap on the weighted average price increase for a basket of services offered by the regulated provider. That is to say, the “cap” is not on the *level* of prices per se, rather it is on the amount by which prices can change year to year (sometimes referred to as the “rate of change”). Because a WAPC does not cap the level of prices and instead caps the rate of change of prices, a WAPC exposes regulated providers to volume risk. This is because, in contrast to a revenue cap, if volume differs from the forecasts used to set the provider’s revenue requirement, then the regulated provider makes more/less money.
14. The regulated provider can adjust the prices of its individual services (subject to any side controls), provided that the average price increase across all services does not exceed the cap. For example, if the price of some services is increased above the average allowed rate of change, then the price of other services may only be increased below the average allowed rate of change (or may decrease) to ensure compliance with the average price cap. The extent of the price increase and decrease for individual services that will comply with the WAPC will depend on the weights given to each product. For example, a price increase for a service with a greater weight has a relatively larger effect on the overall weighted average price (and therefore compliance with the cap).
15. I set out my understanding of the key details of **nbn**’s WAPC proposal in particular in the remainder of this section. This is not intended to be a complete description of all aspects of the WAPC proposal; **nbn**’s own documentation provides this description. For the WAPC proposal, the cap on the average price increase is controlled in two phases:
- a. **The initial glidepath (“CPI”) phase:** during this period, the price cap is equal to the annual percentage change in the CPI (subject to limited adjustment factors, relating to cost pass-through and an excess adjustment mechanism discussed below). That is, all things being equal, **nbn** cannot increase its prices in a year (on average across the basket of services) by more than the increase in CPI. This initial glidepath period is defined to be the period up to and including the year in which **nbn** is forecast to achieve its ABBRR. I am advised that **nbn** expects to reach this point somewhere between the 2030 and 2032 financial years, based on current volume and plan mix forecasts; and
  - b. **After the initial glidepath (“CPI-X”) phase, until June 2032:**<sup>1</sup> in this period, the price cap is equal to the ‘X-factor’ after accounting for the CPI (and again subject to the limited adjustment factors discussed below). The X-factor is the value that sets equal the present value of **nbn**’s forecast revenues with the present value of its **Annual WAPC Revenue Requirement**, over the regulatory cycle (this calculation is described in more detail below). The Annual WAPC Revenue Requirement is made up of the Forecast Nominal Core Services ABBRR (less the annual forecast revenue from Non-WAPC Core Services (outlined below) and the Forecast Annual RBS Amount<sup>2</sup>) and it also includes the Nominal Annual Drawdown of the Initial Cost Recovery Amount (**ICRA**).

<sup>1</sup> I use the term “CPI-X” as shorthand to reflect the phase after the initial glidepath phase. The cap is expressed as  $(1+CPI)(1-X)$ , along with other potential adjustments, and the X-factor may be positive or negative.

<sup>2</sup> At a high level, the “Forecast Annual RBS Amount” is the forecast net amount that **nbn** will be entitled to receive by way of grant or distribution under the Regional Broadband Scheme.

16. By 1 May of each year, **nbn** will publish a tariff list with its prices for all services covered by the WAPC (along with **nbn** offers and all other charges), to apply from 1 July of that same calendar year through to 30 June of the following calendar year (the proceeding financial year). Any changes in the tariff list prices must comply with the WAPC (and I note that tariff list prices do not take account of discounts that are offered commercially).<sup>3</sup> Compliance with the WAPC effectively requires **nbn** to compare the weighted average price increase across a basket of its services with the price cap, where prices are weighted by actual quantities for the service from the immediately preceding period between 1 April to 31 March (known as **t-1.25 quantities**).
17. As an example, suppose that **nbn** is testing compliance for its proposed tariff prices to apply from 1 July 2025:
  - a. **nbn** will take its *proposed* prices from 1 July 2025 and multiply the respective price for each service by the service's quantity for 1 April 2024 to 31 March 2025, to yield a hypothetical revenue amount **A**;
  - b. **nbn** will then take its (average) prices applying from 1 July 2024 and multiply the respective price for each service by the service's quantity for 1 April 2024 to 31 March 2025, to yield a hypothetical revenue amount **B**; and
  - c. Compliance will then be tested, all things being equal, by calculating and representing in percentage terms, A divided by B and ensuring this is less than or equal to the relevant cap on the average price increase (which in this specific example will likely be the annual percentage change in CPI, as this period will be in the initial glidepath phase).
18. The basket of services against which **nbn** will assess WAPC compliance covers all of **nbn**'s services, with the exception of services defined as **Competitive Services**, comprising Enterprise Ethernet, Business Satellite Services, and Satellite Mobility for Large Commercial Aircraft.
19. Services that are defined as **Non-WAPC Core Service Charges** are also excluded. This includes services provided on a time and materials or quoted basis, build works, new development charges, duct and tower access charges, continuity services,<sup>4</sup> and any other charge in respect of a core regulated service which the ACCC approves. Services provided on a time and materials basis will have individual price caps, based on an hourly labour rate (indexed to the ABS Labour Wage Price Index for Private Sector Construction) plus the cost of materials.
20. The WAPC framework will also be supplemented by individual sub-caps on the pricing of certain services within the basket of services. In particular, the proposal involves the following sub-caps:
  - a. For entry-level<sup>5</sup> TC-4 Fixed Line and Fixed Wireless services: a sub-cap at the annual percentage change in CPI;
  - b. For all other (non entry-level) TC-4 Fixed Line and Fixed Wireless services: a sub-cap at 5% or the annual percentage change in CPI (whichever is greater); and
  - c. For TC-4 Satellite services: a sub-cap at the annual percentage change in CPI for the Access Virtual Circuit (**AVC**) charge and a commitment not to increase the price of the Connectivity Virtual Circuit (**CVC**) charge from its current level of \$15.75.

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<sup>3</sup> Although I note that the WAPC does need to be re-run in certain circumstances. See, e.g. clause 2B.2.3(d)(iii) and (iv) of the proposed SAU.

<sup>4</sup> Continuity services are services provided under licences, which support the continuity of existing services on other networks (i.e., as formerly owned by Telstra) during the transition to **nbn**'s network.

<sup>5</sup> Initially the 25/5 Mbps speed tier, but this may change, provided the entry-level service is the speed tier below the most ordered speed tier offered by **nbn** (ranked by download speed) and has the same maximum downlink and uplink AVC TC-4 data transfer rate on each of the relevant **nbn** networks.

21. Returning to the calculation of the X-factor to be set in the first financial year after the initial glidepath phase ends (and thereafter), this will be set at the start of each Regulatory Cycle as part of the **replacement module** process established under **nbn**'s existing SAU. The replacement module process requires **nbn** to submit its proposed X-factor calculation to the ACCC (including the components of that calculation, such as forecast quantities) as part of a replacement module application. In making its replacement module determination, the ACCC may determine an X-factor that is the same as proposed by **nbn** in that replacement module application, or determine an X-factor that is different to that proposed by **nbn**.
22. In broad terms, the X-factor is calculated by:
- Calculating the present value of **nbn**'s Annual WAPC Revenue Requirement over the Regulatory Cycle (for present purposes I refer to this as  $\alpha$ );
  - Calculating the present value of **nbn**'s forecast revenues over the Regulatory Cycle ( $\beta$ ). In each year of the Regulatory Cycle, **nbn**'s forecast revenue is calculated as the forecast quantity for that year multiplied by the price for the previous year adjusted by a value X (to be determined, as adjusted for CPI and other limited adjustment factors); and
  - Determining the value X such that these present values equate i.e.,  $\alpha = \beta$ . It is important to note that the X-factor may be positive or negative, depending on the result of this calculation.
23. Notably, there is no "starting price adjustment" at the beginning of each regulatory cycle as sometimes occurs in price control regimes. Which is to say that price at the beginning of the regulatory cycle which CPI-X will apply to is the price at the end of the last regulatory cycle – no adjustments are made to the initial price.
24. Other design features of **nbn**'s WAPC proposal are as follows:
- Some lower speed TC-4 Fixed Line and Fixed Wireless services are currently priced with a two-part AVC-CVC price structure. To incorporate this into the WAPC formula, **nbn**'s proposal is to calculate an **Average Combined Charge** which will be an industry-average combined AVC-CVC price. This will only apply in the first Regulatory Cycle, as after that point **nbn** will move to AVC-only pricing for these services;
  - The WAPC approach will not apply to prices set for 1 July 2023; rather, these prices will be set in the SAU itself and subject to ACCC approval;
  - The WAPC will not need to be re-run for any new products introduced within a financial year; rather those products will be incorporated within the WAPC for the next financial year. If a product is withdrawn, **nbn** must identify the expected successor charge component(s), and the WAPC is re-applied such that the price of the withdrawn product is the weighted average price of the expected successor charge component(s);
  - The WAPC approach will include a cost pass-through mechanism, which accounts for particular events that are likely to materially increase **nbn**'s costs.<sup>6</sup> The cost-pass through mechanism is reflected in the price cap (in both phases referred to above) by way of an adjustment factor that increases the cap for the cost-pass through amount; and
  - The WAPC approach will include an **excess adjustment mechanism**. This mechanism provides a way of adjusting for non-compliance with the WAPC. However, it will only apply if **nbn** over-achieves against the WAPC (i.e., its average prices are higher than the cap), and not if it under-achieves. If (looking backwards) **nbn**'s prices in a given year (say, year  $t$ )

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<sup>6</sup> In summary, these events include tax change events, changes in regulatory requirements, a requirement to undertake a particular project or program to achieve government policy, changes in **nbn**'s service standards directed by the ACCC or proposed by **nbn** and approved by the ACCC, and natural disaster and terrorism events. These events will only be relevant to the extent that **nbn** incurs a change in costs that is at least 1% of the Core Services ABBRR, or that the ACCC considers to be material.

turned out to be higher than the WAPC, then the WAPC price cap in year  $t+2$  will be scaled down by a scaling factor that is the ratio of the year  $t$  WAPC price cap to the year  $t$  actual percentage change in **nbn**'s prices.

## 2.2. The statutory criteria

25. The relevant legislation governing the ACCC's consideration of **nbn**'s SAU is the Competition and Consumer Act 2010 (CCA). Of particular relevance to the assessment I set out in this report, the ACCC must consider whether the terms and conditions of the SAU variation are "reasonable".<sup>7</sup> The CCA sets out that an assessment of reasonableness for terms and conditions relating to a particular service includes consideration of:<sup>8</sup>
- a. Whether the terms and conditions promote the long-term interests of end-users;
  - b. The legitimate business interests of the service provider and their investment in facilities;
  - c. The interests of those who use the service;
  - d. The direct cost of providing access to the service;
  - e. The operational and technical requirements necessary for the safe and reliable operation of a service, network or facility; and
  - f. The economically efficient operation of a service, network or facility.
26. An assessment of whether something promotes the long-term interests of end-users involves having regard to the objectives of:<sup>9</sup>
- a. Promoting competition in markets for carriage services and services supplied by means of carriage services;
  - b. Achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
  - c. Encouraging the economically efficient use of, and the economically efficient investment in, infrastructure.
27. Regarding the promotion of competition, this appears to have two dimensions in the context of the SAU:
- a. Horizontal competition: whether the SAU promotes competition between **nbn** and any alternative networks (e.g., competing fixed line networks and fixed wireless networks); and
  - b. Vertical competition: whether the SAU will promote downstream competition between RSPs.
28. The ACCC has previously noted that in assessing whether particular terms and conditions promote competition, it will consider the relevant (retail and wholesale) markets, and assess whether the terms and conditions set in those markets will "remove obstacles to end-users gaining access to telephony and broadband services".<sup>10</sup>
29. Regarding the any-to-any connectivity criterion, the CCA provides guidance on the interpretation of this criteria. Section 152AB(8) states that any-to-any connectivity is achieved if each end-user is able to communicate with each other end-user, regardless of whether or not they are connected to the same telecommunications network. I note that the ACCC has stated that it has not placed

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<sup>7</sup> CCA, Section 152CBD(2).

<sup>8</sup> CCA, Section 152AH. The text here is paraphrased from the text in the legislation – the reader should refer to the legislation for the precise wording.

<sup>9</sup> CCA, Section 152AB.

<sup>10</sup> ACCC (2020), "Inquiries into NBN access pricing and wholesale service standards", Final report, November, at p.55.



much weight on this criterion when assessing the terms and conditions of a SAU, because for services set out in the SAU which are inputs to an end-to-end service, the achievement of any-to-any connectivity is neither promoted nor hindered.<sup>11</sup>

30. Regarding the last point on economic efficiency, the ACCC has previously noted that this involves an assessment of the three forms of efficiency: allocative; productive; and dynamic efficiency.<sup>12</sup> Allocative and productive efficiency refer to, respectively, the efficiency of resource allocation and internal firm production at a single point in time. Prices drive allocative and productive efficiency, and prices set at short-run marginal costs are allocatively efficient. Short-run marginal costs are the additional costs incurred to produce an increment of output in the short-run. Short-run marginal cost pricing ensures demand from consumers is met by supply for all buyers that value a good at an amount equal to or greater than the marginal cost of producing that good i.e., resources are allocated efficiently (allocative efficiency).
31. However, there is often a trade-off between allocative efficiency and dynamic efficiency. Dynamic efficiency relates to the efficiency of investment and innovation looking forward. In some sense, dynamic efficiency can therefore be characterised as allocative and productive efficiency over time. Because of this, dynamic efficiency is generally considered more important than allocative and productive efficiency, especially in markets where innovation and investment are important. A price that only just covers a firm's short-run marginal cost will not provide it with a sufficient return on its fixed and sunk costs, which are likely to be substantial in an industry such as telecommunications with high fixed costs and low short-run marginal costs (and therefore substantial economies of scale). This point is widely recognised in the economics literature. For example, Joskow (2007, p.1274) states:<sup>13</sup>
- In the presence of scale economies, marginal cost pricing will typically not yield sufficient revenues to cover total cost. Fully efficient pricing is typically not feasible for a private firm that must meet a break-even constraint in the presence of economies of scale...*
- ...
- In order for the firm with increasing returns to break-even it appears that the prices the firm charges for the services it provides will have to exceed marginal cost.*
32. Pricing at short-run marginal cost would therefore undermine the ability of the regulated firm to recover its sunk investments, and this will disincentivise it from further investment and innovation. Moreover, even pricing at long-run marginal cost (where all costs are variable in the long-run)<sup>14</sup> may not encourage efficient investment, if long-run cost is determined on a forward-looking basis and does not provide an opportunity for the recovery of sunk costs. A price above marginal cost may therefore be efficient from a dynamic perspective, even if it is not efficient from an allocative perspective. I return to this issue further later in this report when I assess the effect of the WAPC on **nbn**'s economic incentives to price efficiently.
33. I note also that a key principle underlying any form of economic regulation is to limit the ability of a firm with natural monopoly characteristics to exercise monopoly power, and achieve outcomes consistent with those seen in competitive markets. Indeed, this is captured in the statutory criteria, which seeks to promote the long-term interests of end-users, which involves having regard to the objectives of promoting competition and achieving economic efficiency. However, where regulated firms provide services that are subject to competitive pressures, there

<sup>11</sup> ACCC (2013), "NBN Co Special Access Undertaking", Final Decision, 13 December, at p.47.

<sup>12</sup> See, for example, ACCC (2020), "Inquiries into NBN access pricing and wholesale service standards", Final report, November, at pp.55-56.

<sup>13</sup> Paul L. Joskow (2007), "Regulation of Natural Monopoly", Chapter 16 in A. Mitchell Polinsky and Steven Shavell (eds.), *Handbook of Law and Economics, Volume 2*, Elsevier B.V.

<sup>14</sup> William Baumol (1977), *Economic Theory and Operations Analysis*, Fourth Edition, Prentice Hall, New Jersey, at p.290.

can be a need to soften the regulatory constraints. This is because regulation has costs as well as benefits and there can be other factors relevant to the extent of market power held by the regulated firm (such as the countervailing power of the customer base). The appropriate regulatory response is therefore proportionate to the market power problem, and less stringent regulation may be appropriate if the benefits of competitive markets would be achieved absent regulation. There is therefore a strong rationale for focusing regulation only on core services, and excluding services where the normal pressures of competitive markets create strong incentives for **nbn** to set prices/quality consistent with outcomes in competitive markets.

### 3. Effect of WAPC on nbn's economic incentives

*Having regard to the statutory criteria, what economic incentives are created or affected by the proposed WAPC framework described above, including in relation to pricing efficiently, product innovation, maximising demand and promoting efficient use of nbn's network?*

#### 3.1. Efficient pricing

34. I start by considering the incentives created or affected by the WAPC framework for **efficient pricing** by **nbn**. As discussed earlier, allocative efficiency is achieved by setting prices equal to short-run marginal cost. This is often referred to as “first-best” efficient pricing. However, short-run marginal cost pricing is unlikely to provide a firm with a sufficient return on its fixed and sunk costs, and therefore is unlikely to be dynamically efficient.<sup>15</sup>
35. The question then is whether there is an above-cost pricing structure that is dynamically efficient, but at the same time seeks to best balance the trade-offs between this and allocative and productive efficiency. To put this another way, the question I am considering is what is the least distortionary way of allowing the firm to recover its fixed costs? By “distortionary” I mean a price structure (over **nbn**'s portfolio of services) in which not all prices are set equal to short-run marginal cost,<sup>16</sup> and therefore there is a loss of allocative efficiency. Any such price structure would be a “second-best” efficient pricing structure, but which nonetheless recognises that there are trade-offs between the different components of efficiency and appropriately balances these.
36. The economics literature has established that the second-best efficient pricing approach is to set different prices to different customer segments based on their relative elasticities of demand.<sup>17</sup> This is known as Ramsey pricing. Ramsey pricing involves charging a mark-up on short-run marginal costs in a way that sets a relatively higher price to customers with relatively more inelastic demand (and a relatively lower price to customers with relatively more elastic demand). This allows the firm to service both inelastic and elastic demand customer segments, while allowing the firm a sufficient return on its fixed and sunk costs. As Joskow (2007, p.1276) states:<sup>18</sup>

*The distortion is smaller than for uniform ( $p=AC$  in the single product case) pricing since we are taking advantage of differences in the elasticities of demand for different types of consumers or different products to satisfy the budget constraint yielding a smaller dead-weight loss from departures from marginal cost pricing.*

<sup>15</sup> In addition, in industries with lumpy capacity increments, short-run marginal cost does not provide stable pricing, as it fluctuates between very low prices when there is excess capacity and very high prices when capacity is constrained.

<sup>16</sup> I note that setting prices equal to the theoretical concept of short-run marginal cost may be challenging in concept e.g., due to the inability to measure marginal costs with meaningful accuracy.

<sup>17</sup> William J. Baumol and David F. Bradford (1970), “Optimal Departures from Marginal Cost Pricing”, *American Economic Review*, 60(3), 265-283.

<sup>18</sup> Paul L. Joskow (2007), “Regulation of Natural Monopoly”, Chapter 16 in A. Mitchell Polinsky and Steven Shavell (eds.), *Handbook of Law and Economics, Volume 2*, Elsevier B.V.

37. Under **nbn's** proposed WAPC approach, **nbn** has discretion to set individual prices for each service, provided it satisfies the overall price cap on the basket of services (subject to some individual price caps, which I return to below). The WAPC approach allows **nbn** to keep any increase in revenue it earns above its allowable revenue. This provides **nbn** with an incentive to structure its pricing in a way it expects *ex ante* to maximise its revenue. It can do so by setting prices *ex ante* to earn proportionately more of its revenue from pricing tiers that are less price sensitive. The pricing structure that achieves this is the Ramsey pricing approach referred to earlier. That is, the WAPC approach incentivises **nbn** to set (second-best) efficient pricing – recovering its fixed costs, to provide for dynamic efficiency, in a way that minimises the loss to allocative efficiency from prices that divert from short-run marginal cost.<sup>19</sup> A similar point has been made by the Productivity Commission, where it stated that:<sup>20</sup>

*under a WAPC, network businesses are able to readjust tariffs to increase the revenue they recover...Setting tariffs in these ways (so-called Ramsey pricing) is an efficient way of recovering network costs.*

### 3.2. Efficient use of nbn's network

38. The Ramsey pricing approach involves setting prices by way of a mark-up on marginal costs. A related factor for pricing efficiently, is that where marginal costs differ across different services or customer-types, that these differing marginal costs are reflected in prices. For example, if **nbn's** costs vary by pricing (i.e., quality) tier, an efficient price structure would involve prices that reflect the different incremental/marginal costs across these different tiers. Such cost reflective prices would ensure **the efficient use of nbn's network** as users of the network would purchase the services in question if their willingness to pay for a service exceeds the costs of service.
39. In my view, the proposed WAPC would incentivise **nbn** to promote the efficient use of the network. This is because **nbn** is exposed to volume risk, which means **nbn** is exposed to cost risk related to its variable costs. If **nbn** sets a price structure such that as volume changes its revenues do not track its costs, it exposes itself to cost risk. For example, if higher speed pricing tiers require upgrades to FTTP, **nbn** would incur additional costs in FTTN and FTTC areas when customers upgrade. In this situation the price of higher speed tiers should reflect the costs of constructing fibre lead-ins for FTTP upgrades. In this case, if **nbn** sets prices which did not reflect those higher costs, then **nbn** could be out of pocket if more customers sign up to these plans than **nbn** forecast when it set its price structure. Therefore, **nbn** is incentivised to set a price structure such that if customer willingness to pay for a service exceeds the costs of serving that customer, the service in question will be purchased. This is essentially the criterion of promoting the efficient use of the network.
40. However, I do note that promoting the efficient use of the network could be directly tied to the concept of allocative efficiency i.e., resources are used in the most efficient manner when prices are set to marginal cost and resources are allocated efficiently. As noted above, however, prices at marginal cost are unlikely to provide a firm with sufficient revenue to recover its fixed and sunk costs, and this will harm dynamic efficiency and undermine investment incentives. The optimal response is to use the Ramsey pricing approach to appropriately balance the trade-offs between allocative efficiency and providing the appropriate incentives for investment. In this sense there is some tension between allocative and dynamic efficiency. Accordingly, while the WAPC framework may not provide incentives for “first best” efficient use of **nbn's** network (because **nbn** will be incentivised to place some mark-ups over marginal cost), it will nonetheless

<sup>19</sup> This result is shown theoretically by Laffont and Tirole (2000, pp.170-173) – Jean-Jacques Laffont and Jean Tirole (2000), *Competition in Telecommunications*, MIT Press.

<sup>20</sup> Productivity Commission (2013), “Electricity Networks Regulatory Frameworks: Inquiry Report Volume 2”, 9 April, pp.470-471.<sup>21</sup> *Re Optus Mobile Pty Limited & Optus Networks Pty Limited [2006] ACompT 8* (22 November 2006) at [146].

still provide incentives for efficiency in use within the boundaries of allowing **nbn** to efficiently invest.

41. This approach is consistent with the Australian Competition Tribunal's views in respect of mobile telecommunication networks. In its 2006 decision in respect of the ACCC's decision on Optus' mobile termination access services (DGTAS), the Tribunal stated:<sup>21</sup>

*We consider that it is in the long-term interests of end-users of the DGTAS and in the legitimate business interests of Optus that Optus recover an appropriate mark-up on its incremental costs of supplying the DGTAS to cover the contribution to its FCCs [fixed and common costs]. Consistently with s152AB(2)(e) of the Act, the recovery of such FCCs is likely to result in the encouraging of the economically efficient use of, and the economically efficient investment in, the DGTAS.*

42. In summary, because **nbn** is incentivised to use a Ramsey pricing structure which incorporates differing marginal costs within prices, I consider that the proposed WAPC framework will promote the efficient use of **nbn**'s network.

### 3.3. Incentives to maximise demand

43. The proposed WAPC approach also provides **nbn** with incentives to **maximise demand**. It does so because a WAPC does not set a cap on the revenue that **nbn** can earn, and nor does it cap the level of prices. Rather, a WAPC only caps the rate of change in prices. Therefore, if **nbn** is able to grow revenue by growing demand, it retains this benefit.
44. In the CPI-X phase of the WAPC, **nbn**'s revenue will vary above or below its Annual WAPC Revenue Requirement due to changes in actual volumes above or below the forecasts that are used to set the Annual WAPC Revenue Requirement. That is, **nbn** is exposed to both upside and downside volume risk as a result of forecasting error. It is also exposed to downside volume risk arising from substitution to competitive alternatives, such as fixed wireless services. **nbn** would receive less revenue, relative to the Annual WAPC Revenue Requirement, if actual volumes are 'too low' relative to forecasts, and would be able to grow its revenue by achieving volumes that are higher than the forecasts used to set the Annual WAPC Revenue Requirement. This symmetric risk provides **nbn** with a strong incentive to maximise demand.
45. To better understand **nbn**'s incentive to maximise volumes in the period when an X-factor is set, consider the following highly simplified (one period) example, in a period after the initial glidepath phase (where an X-factor is set):
- Suppose that **nbn**'s allowable revenue for period  $t$  is \$105;
  - Suppose also that **nbn**'s weighted average price in period  $t-1$  is \$10, its forecast volumes (for the purpose of setting the X-factor) for period  $t$  are 10 units, and the relevant percentage change in the CPI is 3%;
  - To equate **nbn**'s forecast revenue with its allowable revenue (ignoring present values for simplicity, as this is a one-period example), an X-factor of approximately -2% would be set. This would allow **nbn** to increase its weighted average period  $t$  price to \$10.50 and earn forecast revenues of \$105 (which are equal to allowable revenues); and
  - However, if **nbn** were to outperform its forecast volumes in setting the X-factor, to say 12 units, it would earn revenue in period  $t$  of \$126 (\$10.50 multiplied by 12 units). On the other hand, underperformance of (say) 9 units would give it revenue of \$94.50. As noted above **nbn** could retain the additional revenue above its allowable revenue, or bear the loss of revenue below its allowable revenue.
46. In the first phase where the ABBRR is not being achieved and an X-factor is not set, **nbn** also has a strong incentive to maximise demand. In this instance the incentives are similar, albeit that

<sup>21</sup> *Re Optus Mobile Pty Limited & Optus Networks Pty Limited [2006] ACompT 8 (22 November 2006) at [146].*

revenue will always be below ABBRR and any growth is beneficial, rather than just growth over and above forecast.

47. In summary, since **nbn** bears volume risk in the WAPC framework, in the sense that it retains deviations, due to changes in volume, between actual revenue from WAPC services over the regulatory cycle and the revenue from WAPC services that was forecast at the start of the regulatory cycle, it has strong incentives to maximise demand, so as to capture the upside from increased revenue and mitigate the downside for lower revenue.

### 3.4. Incentives to innovate

48. The combination of incentives for efficient pricing and volume maximisation will also provide **nbn** with incentives for **product innovation**. Innovation is incentivised when prices are set in such a way as to recover the costs of, and provide a competitive return on, the investment in innovation. That is, when prices are dynamically efficient, which as discussed above is incentivised under the WAPC framework. Moreover, innovation is likely to stimulate demand, and as also noted above, growing volumes allows **nbn** to earn additional revenue. Such volume growth may occur, for example, through increased network take-up and/or increased use of the existing network. Innovation is also a response to competition from substitutes, such as fixed wireless, which threaten to lower volumes and thereby create downside risk for **nbn**. This further incentivises innovation as a means of mitigating that risk.
49. I have already outlined the general logic for why **nbn** is incentivised to innovate in a way that grows volume (as WAPC exposes **nbn** to volume risk), it is however worth briefly explaining how under a WAPC **nbn** also has the incentive to innovate in a way that results in customers upgrading to higher speed plans. Consider a situation where the price structure is held constant but customers move up the value chain onto higher value products. **nbn**'s weighted average price will change as a result of this, because more customers are on higher priced plans. However, this would not be measured as a price increase under the compliance formula. This is because the WAPC formula specifically focuses on the weighted average increase in revenue *from price changes*. Put another way, the WAPC formula within a given year holds quantities constant, in the sense that it uses t-1.25 quantities to weight both the proposed prices and current prices, and measures the percentage change in revenue solely due to prices changing. The WAPC formula, with the use of t-1.25 quantities, thus does not count changes in plan mix (quantities within the basket) as price changes.<sup>22</sup>
50. The preceding discussion focused on innovating to increase demand for existing products in the WAPC. The proposed WAPC approach for the introduction of new products – referred to as **new WAPC Charge Components** – is also likely to provide **nbn** with incentives for new product innovation. At a general level, **nbn** has an incentive to innovate by introducing a new WAPC Charge Component under a WAPC because it has a similar impact to that described for a change in plan mix, since the compliance uses lagged quantities and current prices. That is, if a higher priced/higher quality WAPC Charge Component is introduced and this expands demand, this is not measured as a “price increase” under the WAPC formula, though it will subsequently rebalance the weights used for calculating whether future *price increases* are compliant with the WAPC.
51. The calculation of the X-factor in the CPI-X period introduces some nuance to this discussion. In the absence of any specific mechanism to treat new products differently, if **nbn** was planning on introducing a new WAPC Charge Component at the start of a regulatory cycle, this would be incorporated into the forecasts used to determine expected revenue and the X-factor. Thus, if a

<sup>22</sup> This does however mean that in subsequent periods, more weight in the WAPC formula will be placed on the higher quality products for assessing compliance in the future, making it harder to raise their price by more than average in the future. This does not however eliminate the financial benefit of improving plan mix and getting customers onto higher value products.

new WAPC Charge Component expanded demand and this increased expected revenue (either by increasing volumes or by customers upgrading), then this would be neutralised by a higher X-factor being set to bring forecast revenue down to allowable revenue. This could work against **nbn**'s otherwise strong incentives to innovate by introducing new WAPC Charge Components (arising from e.g., demand stimulation and competition from substitutes, as noted above).

52. However, the proposed WAPC framework has a specific mechanism which is designed to mitigate this issue. In particular, when setting the X-factor as part of the replacement module process, the new WAPC Charge Component will not be included in forecast quantities for up to two years after it is introduced (or is forecast to be introduced). Thus, **nbn** retains an incentive to innovate from introducing new WAPC Charge Components.
53. On its face, this could present an opportunity for **nbn** to effectively over-innovate by constantly introducing new WAPC Charge Components. However, I understand that, consistent with the current SAU framework, the ACCC will have a reserve power to reset the price of new products within two years of their introduction.
54. Relatedly, the ACCC will also have the power to assess **nbn**'s proposals to withdraw products, including the power to object to **nbn** withdrawing products which have recurring charges (with limited exceptions) and the power to reset the maximum price of new products within two years of introduction (with limited exceptions). I understand one purpose of these components of the SAU is so that **nbn** cannot introduce new products and withdraw old products as a way of increasing prices. Accordingly, **nbn**'s incentives will be to introduce new products that are differentiated from existing products in a way that RSPs and end-users value.

## 4. Incentives for accurate forecasting

*Taking into account the 'replacement module' process and the economic incentives created by **nbn**'s proposed WAPC framework, do you consider that **nbn** has sufficiently strong incentives to set accurate forecasts of quantities and prices when calculating the WAPC X-factor to be proposed in a Replacement Module Application?*

55. One of the concerns often raised with a WAPC approach is that it can give incentives to use relatively conservative demand forecasts in setting the X-factor. That is, **nbn** might have an incentive to underestimate demand in its forecasts, which would lead to lower forecast revenues, and therefore allow relatively higher price increases (through a smaller positive, or negative, X-factor). If actual demand turns out to be higher than forecast, then **nbn** would get more than its allowable revenue, which under the WAPC framework it is able to retain.
56. However, in my view there are two aspects built into **nbn**'s proposed WAPC framework that ensure **nbn** has sufficiently strong incentives to set accurate forecasts. The first is that demand forecasts enter into the calculation of **nbn**'s allowable revenue (ABBRR), to the extent that **nbn** has costs that are driven by volumes. In this instance, a more conservative demand forecast would result in lower total opex and capex allowances, and therefore lower allowable revenue. As a result, any underestimation of demand in respect of the WAPC framework may be counterproductive, as a lower allowable revenue will result in a higher X-factor (to bring forecast revenue down to the allowable revenue). This will strengthen the incentives on **nbn** to set sufficiently accurate forecasts (although I note that this effect is weaker if costs are fixed and not driven by forward-looking volumes).
57. The second factor is the replacement module process. This process requires **nbn** to submit its proposed X-factor calculation to the ACCC as part of its replacement module application, including its demand forecasts that make up the X-factor calculation, and the ACCC may either accept the replacement module application (including the X-factor) or determine a different X-factor. This means that if **nbn** is too conservative in its demand forecasts, there is a greater risk that the ACCC will determine an X-factor that is different to that proposed by **nbn**.

58. In addition, having the knowledge that **nbn** would otherwise have an incentive to set conservative demand forecasts may also mean that the ACCC more carefully scrutinises **nbn**'s forecasts. Indeed, the replacement module process is a form of 'repeated game', where the ACCC will be able to cross-check actual demand against previous demand forecasts to test **nbn**'s forecasting accuracy. If there is a consistent pattern of **nbn** underestimating demand, this might also encourage the ACCC to more heavily scrutinise **nbn**'s forecasts in the replacement module process.

## 5. Phased glidepath approach

*Do you consider it is reasonable, having regard to the statutory criteria, for the New Variation to provide for nbn's basket of prices to increase at different rates across two phases (at the rate of CPI during the initial glidepath period and at CPI-X following the initial glidepath period)? If so, do you consider the rates of increase proposed for each of those two periods is reasonable?*

59. The proposed glidepath approach splits the WAPC framework into two phases. The distinction in the phases arises because **nbn** is currently not recovering its allowable revenue as set through the ABBRR, nor is it forecast to in the next few years. This is the result of **nbn** building out its underlying network at the same time as it has been supplying services, and it has been unable to recover the full cost of its investment from allowable revenues. As such, **nbn** has accumulated regulatory losses in a loss account known as the ICRA.
60. First, I consider the reasonableness of using a glidepath *per se*. If **nbn** were to transition immediately to using a CPI-X price path, then at current prices and quantities, there would likely need to be a large negative X-factor to ensure that allowable revenues are equal to forecast revenues, or a large one-off starting price adjustment. That is, **nbn** would need to increase its prices by a material amount to ensure that it recovers its allowable revenue. This creates the risk of substantial price rises and bill shocks in the near future.
61. The proposed glidepath is a way of addressing this situation. Up to (and including) the year in which **nbn** is forecast to achieve its Forecast Nominal Core Services ABBRR, the WAPC approach does not involve the setting of an X-factor. Over this time period, the weighted average price on **nbn**'s overall basket of services is capped to the annual percentage change in the CPI. This avoids the need to increase prices by an amount over and above the CPI to start to recover its allowable revenue. **nbn** can still get to the point where it is recovering its allowable revenue over time (albeit more slowly by using CPI only than by using an X-factor). **nbn** can also increase its revenues to recover allowable revenues by:
- a. Increasing its connection volumes;
  - b. Improving the share of connection on higher speed tiers; and/or
  - c. Achieving efficiency gains in its operating and/or capital costs, such that these costs increase by less than CPI.
62. The use of a glidepath promotes regulatory certainty. If **nbn** were not to use a glidepath approach but were to instead transition immediately to setting an X-factor, then the likely large price increases would be disruptive to the investment plans of RSPs and lead to price shocks for end users. Instead, having a sufficient time period to allow for adjustment promotes certainty and avoids sudden changes in prices. It is well known that regulatory certainty is an important condition for efficient investment incentives.<sup>23</sup> Accordingly, the glidepath approach is consistent with the statutory criteria of encouraging the economically efficient investment in infrastructure.

<sup>23</sup> The ACCC has noted that a regulatory framework that provides more certainty over RSPs costs will strengthen incentives for investment in infrastructure and product offerings – see ACCC (2021), "NBN Co Special Access Undertaking: Summary of industry working group outcomes", December, p.7. For the economics literature on regulatory uncertainty and investment incentives see, for example, Elizabeth Olmsted Teisberg (1993), "Capital Investment Strategies under

63. The need to protect end users from price shocks has been identified as an important outcome of the regulatory framework for **nbn**, through industry working groups conducted by the ACCC. The consensus reached from these working groups was that:<sup>24</sup>

*A suitable regulatory framework would protect end-users of NBN services from price shocks and from prices that track higher than needed in later years. This would involve recovery of future capital investments over the economic life of assets and minimal deferral of cost recovery to avoid significant price increases in the future.*

64. While the above passage refers to the need to avoid significant price shocks in later years, the same concern could be inferred from price shocks that might occur in earlier years, which would likely be the case if there was no glidepath i.e., if the WAPC framework were to incorporate an X-factor from when it is first introduced (or had a starting price adjustment).
65. I note, however, that the use of a glidepath involves a trade-off. On the one hand, as discussed above it can provide for a more consistent price path, avoiding sudden price shocks and thereby enhancing regulatory certainty. On the other hand, it can be desirable to allow a regulated firm to move quickly towards an efficient pricing structure, as doing so provides for a faster realisation of the welfare gains that come from efficient pricing.
66. The glidepath approach provides a mechanism for transitioning to price levels which recover efficient costs. In any event, the WAPC approach more generally also provides **nbn** with some ability to move towards an efficient pricing structure. This is because the approach involves a cap on the overall weighted average price across its services in general, and this maintains **nbn**'s flexibility to alter its price structure on individual services within that cap (subject to some individual price caps, which are discussed elsewhere in this report).
67. Therefore, since the costs of any constraints on efficient pricing are mitigated to some extent, the benefits of the regulatory certainty from a glidepath are likely to outweigh the costs of any constraints on efficient pricing. I consider that the balance has been appropriately struck, and accordingly the use of a glidepath is reasonable.
68. Second, I briefly consider the reasonableness of the point at which the initial glidepath phase ends. The initial glidepath phase ends the year immediately following the year in which **nbn** is forecast to achieve its Forecast Nominal Core Services ABBRR. That following year is the year in which the WAPC approach moves to a CPI-X calculation. After **nbn** is forecast to achieve its Forecast Nominal Cores Services ABBRR, the risk of material price shocks (e.g., to ensure that forecast revenue equals allowable revenue) is lowered, and therefore so too are the costs from harm to regulatory certainty (and investment incentives) from such price shocks. This shifts the balance more towards ensuring that **nbn** has sufficient flexibility to set efficient prices, which the CPI-X framework provides (compared to a CPI-only framework).
69. Accordingly, because the balance shifts towards providing flexibility to set efficient prices (which is consistent with the statutory criteria, as discussed earlier), I consider it reasonable for the WAPC framework to move to a CPI-X phase following the point at which **nbn** is forecast to achieve its Forecast Nominal Core Services ABBRR.
70. Third, the last part of the question is whether the rates proposed for the two glidepath periods are reasonable: CPI for the initial glidepath phase; and CPI-X for the period following this. I have already discussed why it is reasonable from a regulatory certainty perspective to have a glidepath *per se*. However, this says nothing about whether CPI is an appropriate cap for this phase. For example, **nbn** could still avoid the potential for price shocks by using an X-factor by setting a

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Uncertain Regulation”, *RAND Journal of Economics*, 24, 591-604; and Kira R. Fabrizio (2013), “The effect of regulatory uncertainty on investment: evidence from renewable energy generation”, *Journal of Law, Economics, and Organization*, 29(4), 765-798.

<sup>24</sup> ACCC (2021), “NBN Co Special Access Undertaking: Summary of industry working group outcomes”, December, p.6.



fixed value for the weighted average price cap in the initial glidepath phase, say, 5%. The downside with such an approach is that if the fixed value is set too low, there is a greater risk that **nbn**'s prices would not be able to keep pace with inflation, undermining **nbn**'s ability to recover its efficient costs (and therefore undermining **nbn**'s incentives to invest). Alternatively, if the fixed value is set too high, there is a greater risk that end users will be subject to real price increases, over and above what is necessary to recover efficient costs. Furthermore, setting a very high cap that does not bind year-to-year may introduce uncertainty for RSPs. For these reasons, I think it is reasonable to use the CPI as the price cap for the initial glidepath phase.

71. The use of CPI-X as the price cap in the phase after the initial glidepath phase allows **nbn** to achieve cost recovery (in *ex ante* present value terms), provided that **nbn** at least achieves its volume forecasts. This is because the X-factor is set so as to equate the present value of **nbn**'s forecast revenues with the present value of its allowable revenues, where the latter are determined through the building blocks approach reflecting **nbn**'s efficient costs. Cost recovery is an important consideration because it incentivises efficient investment, and is therefore consistent with the statutory criteria. For this reason, I consider that it is reasonable to use CPI-X as the price cap for the period following the initial glidepath phase.

## 6. Sub-caps within the WAPC

*Please consider whether you consider it is reasonable, having regard to the statutory criteria, for the proposed WAPC framework to include the proposed sub-caps, including:*

- i. the proposal to supplement the WAPC with sub-caps on mass market residential services (but not other services covered by the WAPC); and*
- ii. the proposed sub-caps that will apply to those services;*

72. The sub-caps are a form of side constraint, which are often implemented in WAPC frameworks as a means of capping the price changes for individual services. Side constraints reduce the extent to which there are significant fluctuations in prices for individual products, as they mitigate the ability for the regulated firm to increase prices of some products above the average cap while decreasing others below the average cap. Such fluctuations may create uncertainty in pricing, while price increases may lead to bill shock for customers. The proposed sub-caps apply to **nbn**'s TC-4 services, which I understand make up the majority of services covered by the WAPC, and therefore there is increased pricing certainty across a material proportion of **nbn**'s services.
73. We note also that the sub-caps can also mitigate against large price changes (for the products that they relate to) in the CPI-X period in the event that the X-factor is negative, and **nbn** can increase prices by above the rate of inflation. Which is to say that sub-caps may have a greater role in providing certainty in the CPI-X period than the initial period.
74. I note that there is a trade-off in setting side constraints, as doing so undermines the pricing flexibility that the WAPC approach provides the regulated firm, and the ability to set efficient prices. The appropriate approach is likely to involve providing some balance between these competing considerations. By having a less stringent sub-cap on non-entry level products, the proposed sub-caps appropriately balance certainty and flexibility.
75. For entry-level TC-4 services, the proposed sub-cap can help promote affordability. This is consistent with the approach the ACCC takes to assessing whether particular terms and conditions promote competition, particularly insofar as promoting affordability is likely to "remove obstacles to end-users gaining access to telephony and broadband services".<sup>25</sup> In the ACCC's summary of the industry working groups related to **nbn**'s SAU, it was stated that:<sup>26</sup>

<sup>25</sup> ACCC (2020), "Inquiries into **nbn** access pricing and wholesale service standards", Final report, November, at p.55.

<sup>26</sup> ACCC (2021), "NBN Co Special Access Undertaking: Summary of industry working group outcomes", December, p.15.

*An appropriately price-controlled entry-level broadband product can also be regarded as a component in delivering affordable NBN services to low income (and other) customers.*

76. Overall, the sub-caps are likely to provide increased price certainty for the products that they relate to, while still maintain flexibility to refine the overall price structure over time. As discussed earlier, increased certainty is an important condition for efficient investment incentives, and therefore the sub-caps are consistent with the statutory criteria of encouraging the economically efficient investment in infrastructure. For these reasons, my view is that the proposed sub-caps appropriately provide for price certainty, and therefore are reasonable.

# Appendix A. Curriculum Vitae

## Dr William Taylor

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## Overview

Dr William Taylor is a Director in NERA's Antitrust & Competition and Energy, Environment, Communications & Infrastructure practices. He leads NERA's energy, telecommunications and regulatory work in New Zealand and Australia. His unique blend of both competition and regulatory economics is particularly valued by clients. The 2022 "GCR/Who's Who Legal: Competition" recognised him as a Future Leader for Competition Economics and in 2020 he was awarded the Lexology "client choice" award for competition economists.

He has extensive experience in communications and media markets, having been involved in regulatory proceedings for mobile termination, backhaul, local loop unbundling and the design of the new building blocks regime for fibre in New Zealand. He has also advised on the competition implications of mergers, access pricing and wholesale contracts in the telecommunications and pay TV markets. In addition, he has advised on auction strategy for spectrum auctions and the competition implications of spectrum acquisition. He is co-author of a [report](#) for Google on the how the Internet is helping small businesses compete and had published articles on the competition implications of 5G and policy options for improving coverage in mobile markets.

In the regulatory sphere, he has extensive experience on the design and operation of regulatory regimes in gas and electricity networks, airports, ports, water and dairy. This includes advising regulators and regulated businesses on innovation, incentive mechanisms, financeability, expenditure forecasting, uncertainty mechanisms, productivity assessment, and stranding risk for gas networks.

In the field of competition economics, he has extensive experience advising clients on mergers and acquisitions, contracting issues, access issues and allegations of anticompetitive practices. His recent case experience has involved analysis of the antitrust implications of technological disruption in the payments, pay TV, insurance, broadband and news/media markets. He has published and given seminars on the antitrust implications of fintech innovation on payments markets and 5G on telecommunications markets. His broader experience spans industries including health care, manufacturing, forestry, retail, agriculture, transport, electricity generation/distribution, and waste.

## Education

- 2011**                      **Victoria University of Wellington**  
PhD in Economics
- 2005**                      **Victoria University of Wellington**  
BCA (with Honours) in Money and Finance (1<sup>st</sup> Class)
- 2004**                      **Victoria University of Wellington**  
BCA in Economics, Money and Finance

## Honours and Professional Activities

- 2006**                      NZ Institute for the Study of Competition and Regulation Masters  
Scholarship  
VUW School of Economics and Finance Postgraduate Scholarship
- 2005**                      VUW School of Economics and Finance Graduate Award
- 2001**                      Wellington College Advanced Studies Award

## Professional Experience

- 2023-present**                      **NERA Economic Consulting**  
*Director, Auckland*
- 2019-2022**                      *Associate Director, Auckland*
- 2015-2018**                      *Senior Consultant, Auckland*
- 2010-2015**                      *Consultant, Auckland*
- 2008-2010**                      *Analyst, Auckland*
- 
- 2006-2008**                      **New Zealand Institute for the Study of Competition and Regulation  
(ISCR)**  
Research Assistant, Wellington
- 2005-2008**                      **Victoria University of Wellington**  
Research Assistant to Professor Lew Evans
- 2005-2008**                      **Victoria University of Wellington**  
Economics Tutor (Econ 328 (Industrial Organisation), 130 & 140)

## Telecommunications

- **Connexa** in respect of the proposed acquisition of the tower assets of 2degrees (2022);
- **Celcom** and **Digi** in respect of the proposed merger of their Malaysian businesses (2021);
- **Chorus** on regulatory and competition issues. This has included advice on range of matters, including but not limited to (2015-present):
  - Regulatory incentives for innovation, network expansion and environmental objectives;
  - implementation and design of the new building blocks regime for fibre;
  - non-discrimination/equivalence obligations;
  - stranding risk as a result of 5G FWA;
  - market definition;
  - cost of capital;
  - the role of incentive payments in a building blocks model; and
  - access pricing issues.
- **A confidential infrastructure fund:** regulatory due diligence of a New Zealand fibre operator (2020);
- **Spark New Zealand Limited:** review the New Zealand Commerce Commission’s analysis of mobile customer billing data in the context of an investigation into issues surrounding customer inertia in the New Zealand mobile market (2020);
- **Spark New Zealand Limited** on the social benefits of connectivity in light of the COVID-19 pandemic (2020);
- **Spark New Zealand Limited** on the social benefits of earlier 5G roll out in light of a proposal to defer release of 5G spectrum in light of the COVID-19 pandemic (2020);
- **Axiata** and **Telenor** in respect of the proposed merger of their Asian businesses, with a particular focus on Malaysia (2019);
- **Vodafone Hutchinson Australia (VHA)** in respect of its proposed merger with TPG (2019);
- **Vodafone Hutchison Australia (VHA):** preparation of an expert report on competition in SMS text messaging markets and the constraint of over the top (OTT) messaging service in the context of the ACCC’s MTAS declaration inquiry (2018);
- **The UK Department for Digital, Culture, Media & Sport:** as an input into the Future Telecoms Infrastructure Review, NERA conducted an international comparison of the deployment of ultrafast telecommunications infrastructure in Australia, France, Germany, New Zealand, Spain and Sweden (2018);
- **Telecom New Zealand** in respect of its proposed acquisition of 700MHz spectrum for 4G mobile services (2014).
- **Telecom** on market definition, competition, the mandatory wholesaling regime, unbundling of the local loop and subloop, mobile termination rates and the TSO, including providing expert evidence before the Commerce Commission (2001-2010);

## Regulated Infrastructure and Access pricing

- **Ingeo Infrastructure Partners:** regulatory due diligence regarding their acquisition of the Eastland Networks (2022);

- **Electricity Networks Association:** expert report on the justification for and options for implementing a financeability test for electricity distributors in New Zealand (2022);
- **Electricity Networks Association:** advice on options for reforming the allowance setting and risk allocation frameworks for regulated electricity distribution networks in New Zealand, including expenditure forecasting, uncertainty mechanisms, incentive mechanisms and reopeners (2022);
- **Vector, Orion, Powerco, Wellington Electricity, Unison and Aurora:** Expert report for the “big 6” electricity distributors on potential barriers to innovation in the NZ regulatory framework and potential mechanisms to address those barriers (2022);
- **Vector, Orion, Powerco, Wellington Electricity, Unison and Aurora:** Expert report for the “big 6” electricity distributors on the NZCC’s approach to measuring productivity (2022);
- **Energy Networks Australia:** advice on the Australian Energy Regulator’s proposals to reform the capital expenditure sharing scheme (CESS) (2022);
- **Essential Services Commission of South Australia:** advice on appropriate asset valuation methodologies for the Tarcoola to Darwin railway line (2022);
- **Airways New Zealand:** advice on Airways pricing framework and assistance with the 2022 pricing rest consultation, including advice on the appropriate weighted average cost of capital (2021-22);
- **Ministry of Business, Innovation and Employment:** Peer review of departmental advice on new economic regulatory regime for three waters infrastructure in New Zealand (2022);
- **United Energy, CitiPower and Powercor:** Review of the AER’s proposals for firm-specific CESS incentive rates, and response to Discussion Paper (2022);
- **United Energy, CitiPower and Powercor:** Review of international approaches to incentivising non-network solutions and contrast to the Australian approach (2022);
- **Powerco:** assistance responding to the New Zealand Commerce Commission’s 2022 review of the Input Methodologies, being the upfront rules that determine how incentive regulation is applied to energy networks (2022);
- **Jemena:** expert report on stranding risks for gas networks, covering the conceptual basis for stranding risk, the tools for addressing it and international precedent (2021);
- **Australian Energy Market Commission:** Review of current arrangements for access to smart meter data and consideration of options for reform (2021);
- **Energy Networks Australia:** expert report on the role of financeability in the promoting the long term interest of end users (2020);
- **United Energy:** expert report reviewing the AER’s use MPFP modelling to benchmark DNSPs (2020)
- **Port of Melbourne:** Expert report filed with the Essential Services Commission (ESC) on global regulatory approaches to estimating the market risk premium (MRP), with a focus on the use or otherwise of the “Wright” method (2020);
- **Powerco:** Regulatory tools to deal with stranding risk (2019-2020);
- **The Queensland Treasury** in respect of the Treasurer’s review of, and decisions relating to, the Queensland Competition Authority’s declaration recommendations (Dalrymple Bay Coal Terminal, Queensland Rail and Aurizon) (2019-2020);
- **Australian Department of Environment and Energy:** Review of international gas pipeline regulation and consideration of potential reforms in Australia (2019);

- **Australian Department of Environment and Energy:** Assistance with Drafting of the Regulatory Impact Statement (RIS) with respect to reforms to gas pipeline regulation in Australia (2019);
- **Electricity Networks Association (ENA):** Two expert reports on forecasting the opex partial productivity factor in the context of the mechanistic price control for electricity distribution networks used in New Zealand (2019);
- **Energy Networks Australia (ENA) and AER Consumer Reference Group (CRG):** preparation of an independent expert report on the link between the allowed rate of return and RAB growth, as input into the ENA and CRG's submissions to the AER's 2018 Rate of Return Guideline process (2018);
- **Citipower, Powercor, United Energy and South Australia Power Networks:** preparation of an expert report on the approach to forecasting the productivity growth in the context of the AER's approach to forecasting opex (2018);
- **Citipower, Powercor, United Energy and South Australia Power Networks:** preparation of an expert report on the approach to forecasting output growth in the context of the AER's approach to forecasting opex (2018);
- **Pacific National:** preparation of an expert report on bargaining frameworks and asset valuation in the context of the Australian Rail Track Corporation's (ARTC) access undertaking (2018);
- **Aurizon Network** on regulatory issues (2018);
- **Fonterra** on asset beta framework issues in the context of the NZCC's review of the regulated milk price calculation (2018);
- **Endeavour Energy:** Provision of an expert report reviewing international benchmarking methods in the context of upcoming consultation on benchmarking analysis to be conducted by the Australian Energy Regulator (2017);
- **Vector,** on the efficient allocation of risk between electricity network owners and consumers. In particular the efficiency implications of imposing a duty of care on DNSPs (2017);
- **Orion** relating to who should cover the costs of the Canterbury earthquakes as part of its CPP application to the Commerce Commission for its electricity distribution network (2013);
- The **Gas Industry Company** on gas pipeline capacity allocation and investment issues (2012);
- **Wellington Electricity** on regulatory issues relating to electricity distribution (2009);
- **Auckland Airport:** Advice on the cost of capital in the context of Auckland Airport's price setting consultation and regulatory pricing review for PSE3 (2017-2018);
- **Auckland Airport** on regulatory issues and price setting issues (2009-2017);
- **Eastland Port** in respect of access pricing issues (2014);
- **Aurizon** on conceptual issues relating to the cost of capital during the Queensland Competition Authority's (QCA) consultation on its new cost of capital guidelines (2013);
- A **port** in respect of pricing for access by a competitor (2011);
- **New Zealand Post** on regulatory issues (2007-2010);

## **Competition Project Experience**

### *Mergers and Acquisitions and Joint Ventures*

- **Connexa** in respect of the proposed acquisition of the tower assets of 2degrees (2022);

- **Southern Cross and Central Healthcare** in respect of a restructuring of private hospital ownership in Palmerston North (2022);
- **Celcom and Digi** in respect of the proposed merger of their Malaysian businesses (2021);
- **Central Group** in respect of its proposed acquisition of Tesco's Thailand grocery business (2020);
- **Axiata and Telenor** in respect of the proposed merger of their Asian businesses, with a particular focus on Malaysia (2019);
- **Vodafone Hutchinson Australia (VHA)** in respect of its proposed merger with TPG (2019);
- **ASB, ANZ, BNZ and Westpac** in respect of Ingenico's proposed acquisition of Paymark (2018);
- **Sky TV and Vodafone** in respect of their proposed merger (2016-17);
- **Suncorp** in respect of its proposed acquisition of Tower (2017);
- **Fairfax and NZME** in respect of their proposed merger (2015-2016);
- **Z Energy** in respect of its proposed acquisition of Chevron New Zealand (2015-2016);
- **Staples** in respect of its proposed acquisition of OfficeMax (2015);
- **Telecom New Zealand** in respect of its proposed acquisition of 700MHz spectrum for 4G mobile services (2014).
- **Cavalier Wool Holdings** in respect of its proposed acquisition (via Authorisation) of New Zealand Wool Services International (2014-2016);
- The **Commerce Commission** in respect of its investigation into Wilson Parking's acquisition of parking leases and management agreements from Tournament Parking, including econometric analysis of car parking data (2014);
- **Austron and Evolution** in respect of their proposed acquisition (and privatisation) of Acurity, a transaction relating to the private hospital market in Wellington (2014);
- **IAG** in respect of its proposed acquisition of Lumley from Wesfarmers (2014);
- **Bluescope/New Zealand Steel** in respect of its proposed acquisition of Pacific Steel from Fletcher Building (2013-2014);
- The **Commerce Commission** in respect of Vector's acquisition of Contact's gas metering assets (2013);
- **Hirepool** in respect of its proposed acquisition of Hirequip (2012);
- **Pact Group** in respect of its proposed acquisition of the plastic pails business of Viscount Plastics (2011-2012);
- **Cavalier Wool Holdings** in respect of its proposed acquisition (via Authorisation) of the wool scouring assets of Wool Services International (2011)
- **Fonterra and Silver Fern Farms** in respect of the proposal to create **Kotahi Logistics**, a vehicle to coordinate export and import container transport services.(2011);
- **Tegel** in respect of its proposed acquisition of Brinks (2008); and
- **Southern Cross Health Trust** in respect of its proposed Palmerston North private surgical hospital joint venture with Aorangi for the 2008 Clearance application and 2011 Authorisation application;



### *Market studies/inquiries*

- **Carter Holt Harvey** in respect of the Commerce Commission’s market study into the New Zealand building supplies sector (2022);
- **Woolworths** in respect of the Commerce Commission’s market study into the New Zealand grocery market (2020);
- **Z Energy** in respect of the Commerce Commission’s market study into the New Zealand retail fuel market (2019);
- **Fonterra** in respect of the NZ Ministry for Primary Industries’ review of the Dairy Industry Restructuring Act 2001 (DIRA) and its impact on the dairy industry.
- **Spark** in respect of the New Zealand Commerce Commission’s Market study of the mobile sector (2017- present)
- **Z Energy** on the Ministry of Business, Innovation and Employment (MBIE) New Zealand fuel market financial performance study (2017);
- **Fonterra** in respect of the Commerce Commission’s “Review of the state of competition in the New Zealand dairy industry” and the Ministry of Primary Industries’ (MPI) subsequent review of the Dairy Industry Restructuring Act (DIRA) (2015-2016);

### *Other Competition Advice*

- **Sky TV** in respect of the Commerce Commission’s investigation into its agreements with RSPs (2013);
- **Fletcher Building** in respect of the Commerce Commission’s investigation of alleged price fixing between certain PlaceMakers and Carters building supplies stores, including estimating the “overcharge” (2013);
- A **manufacturer** in respect of damages caused to it by collusion between input suppliers (2012);
- A **port** in respect of pricing for access by a competitor (2011);
- A **duty free retailing firm** in respect of pricing for access to its scarce space (2010-2011);
- **AmBreed** regarding dairy database access pricing (2008-2009); and
- A **manufacturer** on the competitive effects of a fidelity rebate scheme (2008).

### **Energy market design and policy**

- **Vector:** advice on policy options related to managing EV charging to avoid inefficient distribution peak network capacity (2022);
- **Ministry of Business, Innovation and Employment (MBIE):** advice on problem definition and potential solutions on a range of issues regarding potential barriers in the transition to a low emissions electricity system (2022);
- **Australian Energy Markets Commission:** expert advice on market power mitigation mechanisms and mechanism design issues regarding the introduction of a “operational security mechanism” (OSM) in the NEM (2022)
- **Energy Security Board:** advice on capacity market design, including detailed case studies of the CAISO, French, Irish, British and PJM mechanisms (2022).
- **Vector:** advice on the application of the new beneficiary pays transmission pricing methodology (TPM) (2022);

- **Australian Energy Regulator:** advice on methodologies for assessing the extent of economic withholding in the NEM (2022);
- **Energy Security Board:** Modelling and report on the impact of demand response and a capacity mechanism on the Australian National Electricity Market as part of the ESB's post 2025 market design work (2021);
- **Contact Energy:** expert report on the NZ Electricity Authority's proposals to address inefficient price discrimination in response to its concerns about the terms offered to the Tiwai Point Aluminum smelter (2021);
- **Australian Department Industry, Science Energy and Resources:** Report on potential barriers to efficient investment in mid-stream gas infrastructure in Australia (2021);
- **Australian Renewable Energy Agency (ARENA):** Report and market modelling on the potential value of demand side flexibility in Australia's National Electricity Market (2021)
- **Ara Ake:** construction of a comparison tool that calculates the total cost of ownership (TCO) of using different low carbon fuels (direct electrification, hydrogen, bio fuel) for long distance heavy road freight (2021);
- **Ara Ake:** Review of existing studies on the economics of using green hydrogen to decarbonize long distance heavy freight (2021);
- **Meridian Energy:** on the problem definition for the Electricity Authority's proposal to implement mandatory reporting of internal transfer prices for vertically integrated gentailers (2021);
- **Australian Energy Markets Commission (AEMC)** on the costs and benefits of introducing locational marginal pricing (LMP) and financial transmission rights (FTRs) in Australia's national electricity market (NEM). This included analyzing related policy questions such as market power mitigation and the impact on contract market liquidity (2020);
- **Australian Department Industry, Science Energy and Resources:** Report on options to assist commercial and industrial (C&I) gas users better negotiate their gas supply agreements (2020);
- **Contact Energy:** Expert report on the use of offers to manage constraint risk in the context of the New Zealand Electricity Authority's 2020 undesirable trading situation (UTS) investigation into Contact and Meridian's hydro generation offer behavior (2020).
- **Australian Energy Markets Commission (AEMC)** on the costs and benefits of imposing an additional market making obligation (MMO) in Australia's national electricity market (NEM) (2019);
- **Meridian Energy** on proposals to reform the electricity transmission pricing methodology (TPM) in New Zealand (2019).
- **Meridian Energy** in respect of the New Zealand government review into retail electricity pricing, including in relation to market making, vertical integration and competition in the wholesale and retail markets (2018).
- **AGL:** Provision of an expert report in the context of the ACCC's retail electricity market study to assess the impact of vertical integration on the wholesale electricity market in Australia based on lessons from international jurisdictions, including Great Britain, Ireland, New Zealand and the Netherlands (2017);
- **Australian Energy Markets Commission (AEMC)** on market design issues in the context of the 2018 Reliability Frameworks Review, including the design of a day-ahead market (2018);
- **The Gas Market Reform Group:** Peer review member of NERA team providing analysing the design of a day-ahead auction for gas transmission capacity in East Australia (2017);

- **Meridian Energy** on transmission issues (2014-2016);
- **Meridian Energy** on competition issues, including the Commerce Commission’s investigation into the New Zealand electricity markets (2009);

## Publications

“Collaboration and Combination Due to 5G: Unlocking Investment or Reducing Competition?”, *Antitrust* (23 August 2021). Available at: <https://www.nera.com/publications/archive/2021/collaboration-and-combination-due-to-5g--unlocking-investment-or.html>

“The Role of Economics on the Road to Autonomous Vehicles and Digital Mobility”, *NERA White Paper* (17 August 2021). Available at: <https://www.nera.com/publications/archive/2021/the-role-of-economics-on-the-road-to-autonomous-vehicles-and-dig.html>

“Fintech Developments and Antitrust Considerations in Payments”, *Antitrust* (26 April 2021). Available at: <https://www.nera.com/publications/archive/2021/fintech-developments-and-antitrust-considerations-in-payments.html>

“Competition implications of the transition to 5G”, *Competition Law International* (24 March 2021). Available at: <https://www.nera.com/publications/archive/2021/nera-experts-discuss-the-competition-implications-of-the-transit.html>

“Antitrust Considerations in Payments”, *ABA Consumer Financial Services Committee Newsletter* (10 December 2020). Available at: <https://www.nera.com/publications/archive/2020/antitrust-considerations-in-payments.html>

“The Role of Cost-Reflective Distribution Tariffs and Flexibility Contracts in Supporting the Energy Transition”, *NERA White Paper* (17 November 2020). Available at: <https://www.nera.com/publications/archive/2020/the-role-of-cost-reflective-distribution-tariffs-and-flexibility.html>

“Improving Mobile Coverage in Mature Markets”, *NERA White Paper* (19 June 2020). Available at: <https://www.nera.com/publications/archive/2020/improving-mobile-coverage-in-mature-markets.html>

“Economic and Financial Analyses in Australian Securities Litigation in the Wake of TPT Patrol Pty Limited as trustee for Amies Superannuation Fund v Myer Holdings Limited”, *NERA White Paper* (1 May 2020). Available at: <https://www.nera.com/publications/archive/2020/economic-and-financial-analyses-in-australian-securities-litigat.html>

“Failing Firm Merger Analysis in the Shadow of COVID-19”, *NERA White Paper* (21 April 2020). Available at: <https://www.nera.com/publications/archive/2020/failing-firm-merger-analysis-in-the-shadow-of-covid-19.html>

“Measuring Economic Damages with Maximum Certainty”, *Global Arbitration Review* (14 June 2019). Available at: <https://www.nera.com/publications/archive/2019/measuring-economic-damages-with-maximum-certainty.html>

“Blockchains in Power Markets: Decentralized Disruption or Incremental Innovation?”, *NERA White Paper* (11 February 2019). Available at: <https://www.nera.com/publications/archive/2019/blockchains-in-power-markets--decentralized-disruption-or-increm.html>

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"Management shareholding ain't all it's cracked up to be" in *ISCR Competition and Regulation Times* 23 (July 2007). Available at [http://www.iscr.org.nz/f350,9758/9758\\_nsl\\_23.pdf](http://www.iscr.org.nz/f350,9758/9758_nsl_23.pdf)

"Invest in haste... repent at leisure" in *ISCR Competition and Regulation Times* 22 (March 2007).  
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## **Appendix B. Letter of instruction**

## Brief of advice

**To** Will Taylor  
Director  
NERA  
Will.Taylor@NERA.com

**From** Angus Henderson and Jordan Cox

**Date** 8 February 2023

**Subject** Independent expert report on nbn Special Access Undertaking Variation

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### Confidential

Dear Will

## 1. Background

We act for NBN Co Limited (**nbn**), the company operating the national broadband network in Australia.

As you know, **nbn**'s special access undertaking (**SAU**) given under Part XIC of the Competition and Consumer Act (**CCA**) was accepted by the Australian Competition & Consumer Commission (**ACCC**) on 13 December 2013, with a minor variation accepted by the ACCC on 1 April 2021. The current SAU is focused on FTTP, fixed wireless and satellite technologies. Within the broader framework under Part XIC, the SAU sets out the regulatory framework that will govern the prices that **nbn**, as a wholesale-only, open access network, can charge for the services it supplies to service providers.

Since 2013, **nbn**'s rollout has transitioned from an FTTP-centric model to an optimised multi-technology mix (**MTM**) model, where a mixture of technologies has been used to support the rollout of the **nbn**<sup>®</sup> network. This includes the extensive use of FTTB, FTTC, FTTN and HFC technologies. Government policy affords **nbn** discretion in respect of which technologies are to be used in particular geographic areas on a case-by-case basis, as long as they fit within the defined funding envelope.

The SAU currently in force applies only to **nbn**'s fibre,<sup>1</sup> fixed wireless and satellite networks, and does not cover MTM networks.

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<sup>1</sup> In this context, "fibre" means the network over which **nbn** provides the **nbn**<sup>®</sup> Ethernet (Fibre) product (its layer 2 GPON ethernet product) and the **nbn**<sup>®</sup> Enterprise Ethernet product (a business-oriented ethernet product with a relatively higher proportion of P2P fibre, albeit with some GPON elements still).

## 2. New SAU Variation process

In March 2022, **nbn** lodged a variation to the SAU (the **March Variation**) which was proposed to amend **nbn**'s long-term pricing construct in the SAU.

The March Variation was also proposed to vary the company-wide revenue control which applies under the current SAU (and which relates to **nbn**'s costs incurred in respect of all **nbn**'s networks). Due to the size of the Initial Cost Recovery Amount (**ICRA**) and **nbn**'s ability under the current SAU to draw upon the full ICRA in any given year, the revenue control that applies to **nbn** under the existing SAU would not have operated to constrain **nbn** (not in the short to medium term and probably not in the remaining term of the SAU).

In that context, **nbn** proposed in the March Variation to commit to a revised revenue control which would comprise a revenue allowance derived from a traditional Building Blocks Model (**BBM**) (i.e., where those building blocks comprise opex, a return on capital (which is determined by applying a rate of return to a RAB), a return of capital (depreciation), a tax allowance and, at least in the first Regulatory Cycle, a construction-in-progress allowance) plus a portion of the ICRA (with a significant remainder amount of the ICRA not able to be recovered during the SAU term).

The March Variation also proposed a variety of other amendments to incorporate **nbn**'s FTTB, FTTC, FTTN and HFC networks within the ambit of the SAU.<sup>2</sup> Examples of such changes include changes to the service descriptions in the SAU to incorporate services provided over the new technologies, and changes which recognise that not all services will have a network boundary point in the premises.

In response to feedback from the ACCC and RSPs following **nbn**'s submission of the March Variation, **nbn** withdrew the March Variation in July 2022. **nbn** intends to submit another variation (the **New Variation**) which will propose new pricing constructs and the replacement of a company-wide revenue control with a weighted average price control (**WAPC**) on all **nbn** services (subject to limited exceptions) (**WAPC Services**), in circumstances where the ACCC has indicated its view that a WAPC would create a stronger link between **nbn**'s overall pricing yield and its BBM costs. The proposed WAPC will provide **nbn** the opportunity to recover a portion of the ICRA (as described in section 7), and is proposed to be supplemented by individual price controls (i.e., 'sub-caps' or 'side constraints') on particular mass market residential services until June 2032.

For the period of July 2032 to June 2040, the ACCC will have the ability to reset the regulatory framework (including whether **nbn** is regulated under a WAPC) subject only to high level principles. This reset regulatory framework and the nature of the price controls under it will be determined through a separate ACCC process closer to 2032.

We will provide to you alongside this brief:

- the March Variation;

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<sup>2</sup> **nbn** proposed variations to the SAU to incorporate MTM technologies in May 2016 and June 2017. These were both withdrawn and are not relevant for current purposes.

- **nbn**'s submission to the ACCC in response to the ACCC's Consultation Paper on March Variation; and
- a report prepared by Frontier Economics for **nbn** in response to the ACCC's Consultation Paper on the March Variation.

Capitalised terms used in this brief but not defined in this brief have the meaning given to them in the March Variation.

### 3. Assessment criteria for SAU variations

Part XIC of the CCA permits **nbn** to seek to vary an accepted SAU and provides criteria for the ACCC's assessment of such a variation. Those assessment criteria (the **statutory criteria**) are set out in section 152CBD(2) of the CCA.<sup>3</sup>

Broadly, to accept a variation to **nbn**'s SAU, the ACCC must be satisfied that:

1. the terms and conditions specified in the variation relating to compliance with the Category B Standard Access Obligations (**SAOs**) are consistent with those obligations and are reasonable;
2. conduct specified in the variation in relation to access to **nbn**'s services will promote the long-term interests of end-users (**LTIE**), and that the related terms and conditions are reasonable;
3. conduct specified in the variation relating to certain additional matters (such as developing new eligible services) will promote the LTIE; and
4. the variation is consistent with any Ministerial pricing determination (noting that the Minister has not made a pricing determination in relation to the services which are the subject of **nbn**'s SAU).

Further, the ACCC cannot reject the variation for particular reasons related to fixed principles terms and conditions. **nbn**'s SAU contains a number of fixed principles terms and conditions.

In considering whether terms and conditions are reasonable (i.e., because they relate to compliance with the SAOs, or to **nbn**'s conduct in relation to access to **nbn**'s services), the ACCC must have regard to:<sup>4</sup>

- whether the terms and conditions promote the long-term interests of end-users (**LTIE**) (see below);
- the legitimate business interests of the carrier or carriage service provider, and the carrier's or provider's investment in facilities used to supply the relevant declared services;

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<sup>3</sup> For an example and summary of the ACCC's interpretation of the statutory criteria, see ACCC, *Variation to NBN Co Special Access Undertaking: Consultation paper, August 2017*, pp. 29-31 <https://www.accc.gov.au/system/files/NPC%20-%20final%20-%20consultation%20paper%20for%20revised%20SAU%20variation%20-%20for%20publication%20-%20August%202017.pdf>.

<sup>4</sup> CCA, section 152AH.



- the interests of persons who have rights to use the relevant declared services;
- the direct costs of providing access to the relevant declared services;
- the operational and technical requirements necessary for the safe and reliable operation of the relevant service, telecommunications network or facility; and
- the economically efficient operation of the relevant service, telecommunications network or facility.

Further, in considering the LTIE (i.e., in the context of considering reasonableness, or in relation to conduct described in (2) and (3) above), the ACCC must have regard to the objectives of:<sup>5</sup>

- promoting competition in markets for carriage services and services supplied by means of carriage services;
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users; and
- encouraging the economically efficient use of, and the economically efficient investment in, the infrastructure by which these services are supplied and any other infrastructure by which these services are, or are likely to become, capable of being supplied. The ACCC has said previously that this third limb involves an analysis of the three forms of economic efficiency (productive, allocative and dynamic efficiency).<sup>6</sup>

## 4. Proposed WAPC framework

In response to ACCC concerns that the March Variation did not create a sufficiently strong link between **nbn**'s overall pricing yield and its BBM costs and the ACCC's view that a WAPC would better achieve this link, **nbn** proposes to adopt a WAPC over almost all **nbn** services, with limited exclusions. An overview of the proposed WAPC framework is set out below.

### 4.1 Scope of the proposed WAPC

The charges that are excluded from the WAPC fall into two categories:

- Charges for '**Competitive Services**', which will be defined to comprise Enterprise Ethernet, Business Satellite Services and Satellite Mobility for Large Commercial Aircraft. These are enterprise-oriented services. The New Variation will include a process for categorising a service as either a Competitive Service or Core Regulated Service.
- **Non-WAPC Core Service Charges**, which will be defined to comprise:

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<sup>5</sup> CCA, section 152(AB).

<sup>6</sup> For example, see ACCC, *Inquiries into NBN access pricing and wholesale service standards, Final Report*, November 2020, Appendix A, pp 55-56: <https://www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network-nbn/inquiry-into-nbn-access-pricing/final-report>.

- ancillary services which are provided on a 'time and materials' or 'quoted' basis (such services will have separate, individual price caps and controls, to the extent they meet the 'service descriptions' in the SAU);
- build works (i.e., pre-supply construction services) – noting these services generally have prices which vary depending on the nature of the works;
- new developments charges (noting that **nbn**'s provision of these services is subject to the maximum prices set under the Government's Telecommunications in New Developments policy)<sup>7</sup>;
- duct and tower access and other facilities access services regulated under the Facilities Access Code (Schedule 1 to the *Telecommunications Act*);
- "continuity services", which are provided under licences and support the continuity of existing services on other networks (i.e. as formerly owned by Telstra) during the transition to **nbn**'s network; and
- any other charge in respect of a Core Regulated Service that the ACCC approves to be excluded from the WAPC from time to time.

#### 4.2 Average price changes under the proposed WAPC

Under a standard WAPC framework, the weighted basket of all the prices for WAPC Services is ordinarily allowed to change each year in a manner which allows forecast revenue for each Financial Year in a Regulatory Cycle to equal allowable BBM revenues for those years. This may mean that the weighted basket increases or decreases each year – depending on allowable BBM revenues.

However, given that **nbn** is currently under-recovering relative to its allowable BBM revenues, **nbn** proposes a transition to 'cost reflective' price levels, where the WAPC framework will allow **nbn**'s basket of prices to increase each year on average at the annual percentage change in CPI (on a use-it-or-lose-it basis). That is, the rate of increase in the price of the weighted basket will be controlled in two phases as follows:

- (a) **During an initial glidepath period, average increases in Tariff List prices will be limited to the annual percentage change in CPI (subject to limited adjustment factors).** The initial glidepath period will be the period up to and including the year in which **nbn** is forecasted to first achieve its Forecast Nominal Core Services ABBRR (not when **nbn** in fact meets the Forecast Nominal Core Services ABBRR).<sup>8</sup> Currently, **nbn** expects to achieve its Forecast Nominal Core Services ABBRR between Financial Year 2030 and Financial Year 2032.
- (b) **Following the initial glidepath period, average changes in Tariff List prices will be equal to the 'X-factor' (after accounting for CPI and subject to**

<sup>7</sup> <https://www.infrastructure.gov.au/media-centre/publications/2020-telecommunications-new-developments-policy>

<sup>8</sup> Note: the term ABBRR stands for Annual Building Block Revenue Requirement.

**limited adjustment factors**). The X-factor is a percentage which is expected to provide **nbn** with the opportunity to recover the sum of its forecast **'Annual WAPC Revenue Requirement'** over the Regulatory Cycle in present value terms. The Annual WAPC Revenue Requirement (further discussed in Schedule 1 below) for each Financial Year is made up of the Forecast Nominal Core Services ABBRR (less the annual forecast revenue for Non-WAPC Core Services and the Forecast Annual RBS Amount) and a Nominal Annual Drawdown of ICRA. The calculation of the Nominal Annual Drawdown of ICRA in or after the WAPC Factor Change Year will be set at a level which allows **nbn** a reasonable opportunity to achieve and maintain an investment grade credit rating. For clarity, **nbn** confirms that the Nominal Annual Drawdown of ICRA during the initial glidepath period would be zero.

The initial glidepath increase of CPI is a lower price path than if the X-factor were to apply from the outset (given that **nbn** is currently under-recovering its allowable BBM revenues). **nbn** considers this approach benefits RSPs and end users as **nbn** is constrained by regulation from increasing prices rapidly in order to recover the ICRA (noting that in **nbn's** view, even without regulation, **nbn's** ability to increase prices is constrained by other factors, including competition).

**nbn** will publish a Tariff List by 1 May each year and which will come into effect on 1 July, applying for that Financial Year. **nbn** must comply with the WAPC (and particular sub-caps or side-constraints) when setting or changing Tariff List prices as part of publishing the Tariff List each year. **nbn** will be allowed to issue a new Tariff List during the year with lower prices, but not higher prices (subject to limited exceptions). Tariff List prices will function as Maximum Regulated Prices to the extent that relevant services meet the service descriptions in the SAU.

The limited adjustment factors referred to above relate to a proposed 'cost pass-through' mechanism and a proposed 'excess adjustment' mechanism, discussed below.

#### **4.3 Setting the X-factor**

The X-factor for the WAPC framework will be set at the start of each Regulatory Cycle as part of the 'replacement module' process established under **nbn's** existing SAU. In particular:

- (a) during the initial glidepath period, the X-factor will be set at zero;
- (b) after the initial glidepath period, the X-factor will be calculated and determined in accordance with the formula set out in Schedule 1;
- (c) in the transition Regulatory Cycle where **nbn** is expected to achieve its Core Services ABBRR for the first time, two X-factors will apply:
  - (i) for those years in the Regulatory Cycle that are forecast to still be in the initial glidepath period, the X-factor will be zero; and

- (ii) for those years in the Regulatory Cycle that are forecast to occur after the initial glidepath period, the X-factor will be calculated and determined in accordance with the formula set out in Schedule 1.

The X-factor in a given Financial Year ( $t$ ) that occurs after the initial glidepath period will be set out in the ACCC Replacement Module Determination for that Financial Year. In the event that the ACCC has not made an ACCC Replacement Module Determination by 31 March of Financial Year  $t - 1$ , the X for this period will be the X-factor set out in **nbn**'s Replacement Module Application calculated per the X-factor formula in Schedule 1. Replacement Module Applications submitted by **nbn** for a Regulatory Cycle will propose an X-factor consistent with the rules above and may also propose inputs relevant to calculating the X-factor (including forecast quantities, forecast prices, forecast CPI and Forecast Nominal Core Services ABBRR).

In making an ACCC Replacement Module Determination, the ACCC may either:

- accept the inputs provided in **nbn**'s Replacement Module Application (including the proposed X-factor), in which case such inputs will be incorporated into the ACCC Replacement Module Determination; or
- set out an X-factor that is different to the X-factor proposed by **nbn** in its Replacement Module Application.

**nbn** considers that it is incentivised by the Replacement Module Application process to set accurate forecasts (as an input into **nbn**'s proposed X-factor) by virtue of the fact that the ACCC will have the ability to either approve or reject such forecasts (and the proposed X-factor) via the ACCC Replacement Module Determination process.

#### 4.4 WAPC formula

Prices for WAPC services stated in the Tariff List (published by 1 May each year) must comply with the WAPC formula. The WAPC formula is set out in Schedule 2.

At a high level, the WAPC formula involves:

- determining a hypothetical revenue forecast for the coming financial year based on the Tariff List prices for that financial year and  $t - 1.25$  quantities (i.e., quantities for the 1 April to 31 March in the previous calendar year) (**A**);
- determining a hypothetical revenue amount for the current financial year based on the Tariff List prices from that financial year (averaged over that year – i.e., averaged over ~ 9 months of actual data from 1 July to 31 March and three months of forecast data from ~ 1 April to 30 June) and  $t - 1.25$  quantities (**B**); and
- dividing A by B and ensuring the result is less than or equal to the percentage by which the basket is allowed to increase in a given year (which depends on the X-factor, the CPI adjustment, any relevant cost pass-through factor and any relevant 'excess adjustment' factor). This approach is broadly consistent with the approach used by the Australian Energy Regulator (**AER**) in gas network regulation.

As part of the process for publishing a new Tariff List each year, **nbn** will also assess whether it has exceeded the WAPC allowance historically, with any such excesses to be accounted for in an 'excess adjustment factor', discussed in the next section.

#### 4.5 Consequences of exceeding the WAPC allowance

In the first Regulatory Cycle, Fixed Line and Fixed Wireless TC-4 services which have a two-part price structure will be accounted for in the WAPC on an industry 'average combined charge' basis (i.e., the average price paid for the speed tier, comprising the fixed AVC-CVC bundle charge and the industry average overage charge for the speed tier). This creates the possibility that the prices for such services (as stated in the relevant Tariff List) will be set at a level which may result in **nbn** exceeding the WAPC allowance (based on the WAPC formula) over the course of the year. Such excesses would not be an issue in the second Regulatory Cycle, given those services will transition to AVC-only pricing at the start of that cycle.

To address this issue, **nbn** proposes that any excess relative to the WAPC allowance for a given Financial Year ( $t$ ) will result in an adjustment to the WAPC allowance for the subsequent Financial Year ( $t + 2$ ) (in circumstances where the full extent of any excess for Financial Year ( $t$ ) will not be known at the time of setting prices in compliance with the WAPC formula for Financial Year ( $t + 1$ )).

This adjustment mechanism is given effect by including an 'excess adjustment factor' ( $EM_t$ ) in the WAPC formula (described further in Schedule 3).

If **nbn** under-achieves relative to the WAPC allowance (based on the WAPC formula), **nbn** will not be entitled to carry forward the difference into later years. That is, the WAPC allowance is a 'use it or lose it' allowance – including in the initial glidepath period where the WAPC allowance is fixed at the annual percentage change in CPI.

#### 4.6 Questions on the proposed WAPC framework

- (a) Having regard to the statutory criteria, what economic incentives are created or affected by the proposed WAPC framework described above, including in relation to pricing efficiently, product innovation, maximising demand and promoting efficient use of **nbn**'s network?
- (b) Taking into account the 'replacement module' process and the economic incentives created by **nbn**'s proposed WAPC framework, do you consider that **nbn** has sufficiently strong incentives to set accurate forecasts of quantities and prices when calculating the WAPC X-factor to be proposed in a Replacement Module Application?
- (c) Do you consider it is reasonable, having regard to the statutory criteria, for the New Variation to provide for **nbn**'s basket of prices to increase at different rates across two phases (at the rate of CPI during the initial glidepath period and at CPI-X following the initial glidepath period). If so, do you consider the rates of increase proposed for each of those two periods is reasonable?

## 5. WAPC sub-caps

### 5.1 WAPC sub-caps

The WAPC is proposed to be supplemented by sub-caps, which apply an individual price control on TC-4 Fixed Line, Fixed Wireless and Satellite services.

The following sub-caps are proposed for TC-4 Fixed Line and Fixed Wireless services:

- (a) an individual sub-cap price control at the percentage change in CPI on the 'entry level' TC-4 services. The entry-level TC-4 services will initially be the 25/5 Mbps speed tier but may change each Regulatory Cycle through the Replacement Module process. The entry-level service for each Regulatory Cycle must be a speed tier below the most ordered speed tier offered by **nbn** (ranked by download speed)<sup>9</sup> and must have the same maximum downlink and uplink AVC TC-4 data transfer rate on each of the relevant **nbn** networks (being the fibre network, FTTB network, FTTN network, FTTC network, HFC network and wireless network);<sup>10</sup> and
- (b) an individual sub-cap price control of 5% or the percentage change in CPI (whichever is greater) on all other TC-4 Fixed Line and Fixed Wireless services.

To the extent that TC-4 Fixed Line and Fixed Wireless services will continue to have a two-part (AVC-CVC) pricing structure in the first Regulatory Cycle, these sub-cap price controls will apply based on the Average Combined Charge (as described in section 6.1).

Individual sub-cap price controls will apply to TC-4 Satellite services (noting these have a two-part (AVC-CVC) pricing structure), with:

- (a) an individual sub-cap price control at the percentage change in CPI for all Satellite AVC TC-4 speed tiers; and
- (b) a commitment not to increase the price of Satellite CVC TC-4 from its current level at \$15.75 for the term of the SAU.

**nbn** does not propose to apply sub-caps on non-TC-4 services that are price regulated under the WAPC.

### 5.2 Questions on WAPC sub-cap features

Please consider on whether you consider it is reasonable, having regard to the statutory criteria, for the proposed WAPC framework to include the proposed sub-caps, including:

- (a) the proposal to supplement the WAPC with sub-caps on mass market residential services (but not other services covered by the WAPC); and

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<sup>9</sup> Unless the lowest speed tier offered by **nbn** is the most ordered speed tier, in which case the entry level will be that speed tier.

<sup>10</sup> If there is no AVC TC-4 bandwidth profile with the same download and upload speed supplied on each of the **nbn** networks, **nbn** must select from **nbn** offers with the AVC TC-4 bandwidth profile supplied over the most number of **nbn** networks. For the remaining networks, **nbn** must select offers with AVC TC-4 bandwidth profiles that are most similar to those supplied over the most number of **nbn** networks.

- (b) the proposed sub-caps that will apply to those services.

## 6. Other WAPC design features

The WAPC formula in the New Variation also includes additional design features, as described in more detail below. This section 6 is provided for additional context only.

### 6.1 CVC Overage and the Average Combined Charge

**nbn**'s price levels were originally set by reference to the price of DSL services from which end users were migrating to the **nbn** network and to avoid a price shock in doing so (particularly given that the DSL network was subject to a forced closure after a specified migration window). **nbn** observed that this generally led to RSPs moving customers onto the lowest **nbn** speed tiers in a 'race to the bottom' by RSPs to migrate customers for the lowest price. In turn, this resulted in significant congestion on **nbn**'s network at an individual RSP level, due to RSPs not ordering sufficient CVC capacity with a view to keeping their costs low. As the capacity needs of end-users grew, particularly with the introduction of on-demand video streaming and other data-intensive applications, this congestion became acute.

In response, **nbn** introduced wholesale plans which encouraged RSPs to order more CVC capacity to relieve this congestion and to improve the end-users' experience on **nbn**'s network. In recent years, **nbn** has introduced AVC-CVC bundles (which include a fixed amount of CVC capacity appropriate for the AVC speed tier).

In response to feedback from the ACCC and RSPs that the AVC-CVC bundles may lead to unreasonable overall prices and price shocks, **nbn** is proposing to change its offers for existing and new high-speed mass market residential services (i.e., TC-4 services with a maximum download speed of 100 Mbps or more, which are supplied on **nbn**'s Fixed Line networks), so that those services will have an AVC-only price structure on or soon after 1 July 2023. Currently, all **nbn** mass market residential speed tiers are offered on an AVC-CVC bundle basis (excluding Satellite services).

**nbn** is also proposing to change the Maximum Regulated Price structure for lower speed mass market residential services (i.e., TC-4 services with a maximum download speed below 100 Mbps, supplied on **nbn**'s Fixed Line and Fixed Wireless networks), by:

- (a) moving such services to AVC-only pricing (i.e., a \$0 overage charge for CVC TC-4) on TC-4 Bundle Offers by no later than 1 July 2026; and
- (b) reducing the Price in the Tariff List for CVC TC-4 Offers by at least \$1 per Mbps each financial year, starting at \$8 per Mbps in Financial Year 2024, as set out in the table below.

Date	Price commitment
1 July 2023	\$8.00
1 July 2024	\$7.00
1 July 2025	\$6.00
1 July 2026 and later	\$0.00

**nbn** proposes that Fixed Line and Fixed Wireless TC-4 services which will continue to have a two-part price structure in the first Regulatory Cycle will be accounted for in the WAPC formula based on an 'Average Combined Charge', which will be on an industry average 'combined price' basis (noting that these services will be AVC-only by the second Regulatory Cycle). **nbn** does not propose that would also be the case for TC-4 Satellite services, noting that such services are not provided on an AVC-CVC 'bundled' basis today (and are not proposed to be under a revised SAU variation). **nbn** also considers that the same concerns regarding pricing uncertainty due to variable charges do not exist for Satellite services, given Satellite network capacity constraints and related commercial limits, such as those created through **nbn**'s Fair Use Policy.

## 6.2 Services accounted for in WAPC at Tariff List prices

Compliance with the WAPC (and the sub-caps described above) is proposed to exclude / not take into account discounts offered commercially – i.e., it will be based on Tariff List prices (which will function as Maximum Regulated Prices to the extent that relevant services meet the service descriptions in the SAU). **nbn** will still be able to discount commercially, but those discounted prices will not allow **nbn** to increase other prices within the WAPC.

## 6.3 Use of $t-1.25$ quantities

The WAPC formula uses  $q_{t-1.25}$  quantities (i.e., quantities from the most recent 1 April to 31 March period). This input is determined by the actual quantities of each charge component  $m$  for the relevant Financial Year. The use of  $t - 1.25$  quantities in the WAPC formula reflects that, at the time of publishing a Tariff List on 1 May each year to apply for the upcoming Financial Year  $t$ , actual quantities for the full Financial Year  $t - 1$  will not be available.

## 6.4 Transition arrangements

The WAPC formula will not apply at the start of the first year of the first Regulatory Cycle. Rather, the 'launch prices' applying from 1 July 2023 will be set in the SAU itself and subject to ACCC approval of the New Variation.

## 6.5 Compliance with WAPC and individual price controls

**nbn** has proposed an obligation to publish a Price Control Compliance Statement no later than 1 May immediately preceding each Financial Year. This statement will have a forward-looking compliance check in which **nbn** will state that the prices in the proposed Tariff List comply with the WAPC and individual price controls described in section 5.1.

The statement published by 1 May ahead of upcoming Financial Year ( $t$ ) will also certify whether, on a backward-looking compliance basis, **nbn** has complied with certain individual price controls in the Financial Year in which the Price Control Compliance Statement is published ( $t - 1$ ) (based on average Tariff List prices over that year – i.e., averaged over ~ 9 months of actual data from 1 July to 31 March and three months of forecast data from ~ 1 April to 30 June).<sup>11</sup> The individual price controls which will be certified for backward-looking

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<sup>11</sup> Note that backwards looking compliance with individual price controls will not be assessed for Financial Year 2023-24 (being the first year in which this framework is proposed to apply).



compliance are those applying to services which have an Average Combined Charge (i.e., Fixed Line and Fixed Wireless TC-4 services as discussed in section 4.5).

If in applying the backward-looking compliance test for the individual price controls for a given Financial Year ( $t - 1$ ), it is shown **nbn** has not complied with that individual price control, **nbn** must set the Tariff List price for that offer in the next Financial Year ( $t$ ) as if the average Tariff List price for the Financial Year ( $t - 1$ ) had complied with the individual price control.

## 6.6 Effect of withdrawing products or services on the WAPC

Products provided by **nbn** under the SAU are composed of different elements referred to as 'charge components' that may be recurring or non-recurring in nature. Where a product is withdrawn under the New Variation, special rules operate to preserve the integrity of the price path link under the WAPC framework and capture the price impact of existing demand moving to alternative products. This is achieved by tying the price of the withdrawn product for the purposes of applying the WAPC (ie, the  $p_t^m$  of the relevant charge component) to the hypothetical price (for WAPC purposes) of the successor charge component(s) to which customers are expected to migrate. This aspect of the New Variation does not regulate the actual price of the successor charge components. This pre-emptively accounts for the estimated movement of customers and considers the impact that existing demand for the withdrawn product may have on the alternative products.

### *Withdrawal of recurring WAPC Charge Components*

The process of withdrawal for a product with a recurring WAPC Charge Component<sup>12</sup> depends on its nature. A proposed withdrawn product falls in one of the following three categories:

- (a) withdrawal under clause 2H.6.2(a) (in respect of which **nbn** must provide a Withdrawal Notice 12 to 24 months prior to withdrawal);
- (b) withdrawal required by law or directed by Shareholder Ministers; or
- (c) withdrawal of products outside the scope of the SAU service descriptions.

Under the first category above, **nbn** may withdraw a product by providing a "Withdrawal Notice" to the ACCC (which must be provided 12 to 24 months prior to the actual withdrawal date). At the same time, **nbn** must provide a 'WAPC Treatment Proposal' to the ACCC which identifies the successor charge component(s) to which customers are expected to migrate and the relative proportions of customers expected to migrate to those successor charge components.

If the ACCC does not object to **nbn**'s proposal to withdraw the product, it will issue a "WAPC Treatment Notice" determining the matters proposed by **nbn** in its WAPC Treatment Proposal.

Within 20 Business Days of the ACCC issuing a WAPC Treatment Notice (such date, the **WAPC Reapplication Date**), **nbn** will be required to re-apply the WAPC formula and update the Tariff List accordingly. The WAPC is re-applied such that  $p_t^m$  of the WAPC Charge

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<sup>12</sup> A "WAPC Charge Component" is, at a high level, a component of a charge which is covered by the WAPC.

Component to be withdrawn will be the weighted average  $p_t^m$  of the expected successor charge components, weighted by the proportions of customers expected to migrate to those successor charge components as set out in the ACCC's WAPC Treatment Notice (i.e.  $p_t^m$  is the blended price of the expected successor charge components). The  $p_{t-1}^m$  value and all other inputs into the WAPC will remain unchanged from the inputs used by **nbn** from when the WAPC was last run.

For completeness, note that where there is no expected successor charge component identified in the WAPC Treatment Notice, then the  $p_t^m$  of the recurring WAPC Charge Component will be set to \$0 where the proposed withdrawn product has already been withdrawn as at the WAPC Reapplication Date. However, where the proposed withdrawn product is still being supplied as at this date, the  $p_t^m$  of the recurring WAPC Charge Component is the intended price of that recurring WAPC Charge Component from the WAPC Reapplication Date (i.e. has the ordinary meaning given to it under the formula in Schedule 2).

For the second category identified above (products that are withdrawn as required by law<sup>13</sup>), **nbn** is not required to provide a Withdrawal Notice. However, **nbn** will still be required to give the ACCC a WAPC Treatment Proposal no later than 20 Business Days after becoming aware of the requirement to withdraw such product. The ACCC may then provide a WAPC Treatment Notice, following which the WAPC formula must be re-applied, in line with the timeframes and principles above.

Finally, for the third category identified above (withdrawal of products outside the scope of the SAU service descriptions), **nbn** is not required to provide a Withdrawal Notice. However, **nbn** must provide the ACCC a WAPC Treatment Proposal no later than 20 Business Days after **nbn** has withdrawn the product or service. Similar to the above, the ACCC may then provide a WAPC Treatment Notice and the WAPC formula is subsequently re-applied in line with the timeframes and principles above.

#### *Withdrawal of non-recurring WAPC Charge Components*

**nbn** is not required to provide the ACCC with a Withdrawal Notice or WAPC Treatment Proposal with respect to the withdrawal of non-recurring WAPC Charge Components.<sup>14</sup> Instead, **nbn** is only required to re-apply the WAPC formula and within 20 Business Days of withdrawing a non-recurring WAPC Charge Component, publish an updated Tariff List. The updated WAPC calculation must take into account any non-recurring successor charge components that **nbn** reasonably considers succeeds the withdrawn non-recurring WAPC Charge Component. As is the case in the withdrawal of recurring WAPC Charge Components, the WAPC is re-run such that  $p_t^m$  of the withdrawn charge component will be the weighted average  $p_t^m$  of the non-recurring successor WAPC Charge Components, weighted by the proportions of customers expected to migrate to those successor charge components. The  $p_{t-1}^m$  value and all other inputs into the WAPC remain unchanged.

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<sup>13</sup> Or as directed by the Communications Minister and the Finance Minister.

<sup>14</sup> Broadly, this refers to a component or element of a product of service supplied by **nbn** under the WAPC framework that is charged on a non-recurring basis.

Where **nbn** does not reasonably consider that there are any non-recurring successor WAPC Charge Components, then  $p_t^m$  will be reset to \$0.

### 6.7 Effect of new WAPC Charge Components on the WAPC

The introduction of new WAPC Charge Components has been contemplated under the WAPC framework and integrated in the WAPC formula such that the price of the service in the Tariff List is updated for any new WAPC Charge Components introduced during the course of the Financial Year. However, the WAPC is not required to be re-run for the relevant period. Any changes to the WAPC as a result of the introduction of the new WAPC Charge Components will be reflected when the WAPC is applied for the Tariff List published in respect of the next Financial Year. The exception to this is where a new WAPC Charge Component is introduced between 1 April and 30 June of a Financial Year ( $t$ ), in which case it will only be included in the WAPC calculations for Financial Year  $t + 2$ .

For example, where a new WAPC Charge Component is introduced on 1 September 2025, **nbn** may set a price and the Tariff List is updated as required. The WAPC will not be re-run for the remainder of the 2025-2026 Financial Year. When the WAPC is calculated on 1 May 2026 (to apply from 1 July 2026), the new WAPC Charge Components will be included in the WAPC calculation.

Relevantly,  $p_{t-1}^m$  for the new WAPC Charge Component for the purposes of the WAPC applicable from 1 July 2026 will be the average price applicable from the date that **nbn** first supplies that WAPC Charge Component through to 30 June 2025 as set out in Schedule 2 Exception 2 of the definition for  $p_{t-1}^m$  (i.e. unlike for other WAPC Charge Components, the period for measuring  $p_{t-1}^m$  for a new WAPC Charge Component will commence on the date that **nbn** first supplies the new WAPC Charge Component in Financial Year  $t - 1$ , and will not commence on 1 July of Financial Year  $t - 1$ ).

### 6.8 Other price caps

As indicated above, **nbn** proposes that charges calculated on a time and materials basis will be excluded from the WAPC. These charges will have separate, individual price caps and controls based on the 'Hourly Labour Rate' plus the cost of materials (to the extent those charges meet the SAU service descriptions). Under the SAU, **nbn** proposes that the Hourly Labour Rate can be changed by indexing it to the ABS Labour Wage Price Index for Private Sector Construction or by periodically resetting it with reference to the relevant rates charged to **nbn** by its contractors.

### 6.9 Cost pass-through mechanism

The March Variation included a mechanism for adjusting the ABBRR and Maximum Regulated Prices during a Regulatory Cycle to account for material changes in costs as a result of certain exogenous events or commercial negotiations with RSPs in relation to service standards. A similar mechanism exists in the regulatory framework applying to electricity networks regulated by the AER.

In the New Variation, **nbn** proposes to retain a similar mechanism. During a Regulatory Cycle, **nbn** will be allowed to submit 'cost pass-through applications' to the ACCC in respect

of particular events that are likely to materially increase **nbn**'s costs (and will be required to submit such applications in respect of particular events that are likely to materially decrease **nbn**'s costs).

The relevant events in respect of which **nbn** may (or, in the case of a material decrease in costs resulting from an event in paragraphs (a) to (d) below, must) submit a cost pass-through application are summarised below:

- (a) tax change events;
- (b) changes in regulatory requirements that affect, or could reasonably be anticipated to affect (or are otherwise associated with) the supply of products or services by **nbn**;
- (c) the issuing or withdrawal by the Communications Minister of a formal notice requiring **nbn** to undertake a particular project or program to achieve government policy;
- (d) changes in **nbn**'s service standards directed by the ACCC;
- (e) changes in **nbn**'s service standards proposed by **nbn** and approved by the ACCC; and
- (f) natural disaster and terrorism events.

in each case only to the extent that the event results in **nbn** incurring a change in costs that is at least 1% of the Core Services ABBRR for the relevant financial year, or to the extent the ACCC otherwise considers the change in costs is material.

In considering whether to approve a cost pass-through application, the ACCC will be required to determine whether the event has occurred, and if so, the amount of costs that should be passed through.

The cost pass-through is incorporated in the WAPC by way of the  $PT_t$  factor. While the X-factor is set at the beginning of a Regulatory Cycle to account for expected costs,  $PT_t$  allows for higher-than-expected costs, with unexpected costs during the Regulatory Cycle able to be included in the WAPC calculation.

## 7. ICRA

### 7.1 Context

In the course of **nbn** supplying services at the same time as it has been building its underlying network over which those services are supplied, **nbn** has accumulated regulatory losses in the form of an ICRA. This is because **nbn** has been unable to recover the full cost of investment from revenues as the **nbn** network was being built.

Under the New Variation, the SAU will cap the total amount of the ICRA that **nbn** will be allowed to recover over the SAU period. This represents a significant reduction in the ICRA amount from approximately \$44 billion (as estimated at the end of the 2022-23 financial year) down to \$12.5 billion. Any future losses will no longer be added to the ICRA, and the ICRA will only be indexed to inflation over the period to 2040.

The \$12.5 billion ICRA amount will be allocated as follows:

- (a) a “Module 2” amount (\$1.1 billion) which may be recovered before 2032 (but after the initial glidepath period ie, after **nbn** achieves or is expected to achieve its Core Services ABBRR for the first time);<sup>15</sup> and
- (b) a “Module 3” amount (\$11.4 billion) which may be recovered between 2032 and 2040.

Both before and after 2032, the profile of ICRA recovery will be determined through the replacement module process, and subject to a general principle that **nbn** have a reasonable opportunity (but not the guarantee) to achieve and maintain a standalone investment grade credit rating with a stable outlook.

The “Module 2” amount of ICRA may be recovered in the ‘Module 2’ period through the inclusion of a Nominal Annual Drawdown of ICRA in the Annual WAPC Revenue Requirement on and from the WAPC Factor Change Year. Consequently, **nbn** will have the opportunity to recover a portion of the ICRA through its price-setting over time under the WAPC framework (after the initial glidepath period).

Additional regulatory losses after FY23 will not be included in the ICRA. At the end of the term of the SAU, the ICRA will be zero.

This information on the ICRA is provided for your background only.

### Federal court rules on expert witnesses

Your report should be prepared subject to, and in accordance with, the Expert Evidence Practice Note (GPN-EXPT) issued by the Federal Court of Australia on 25 October 2016. You should review these rules applicable to expert reports carefully to familiarise yourself with them.

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<sup>15</sup> For completeness, there is no ability for ICRA recovery between 2032 and 2026.

A copy is attached at **Attachment A**.

## Confidentiality

All information, communications and documentation made available by **nbn** to NERA during this process, other than publicly available information, remains the confidential information of **nbn**. NERA must maintain the confidentiality of this information.

Yours sincerely

Webb Henderson

Angus Henderson  
**Partner**

Jordan Cox  
**Partner**

## Schedule 1 Calculation of X-factor

For each Financial Year including the WAPC Factor Change Year and thereafter, the X-factor will be calculated by solving for the value of  $X$  in the formula below:

$$\sum_{t=1}^T \sum_{m=1}^M (1 + CPI_t)(1 - X_t)p_{t-1}^m q_t^m \cdot \text{Cumulative Discount Factor}_t$$

$$= \sum_{t=1}^T \text{Annual WAPC Revenue Requirement}_t \cdot \text{Cumulative Discount Factor}_t$$

where:

- (a)  $t$  is each Financial Year in the Regulatory Cycle, with  $t = 1$  being the first Financial Year in the Regulatory Cycle and  $t = T$  being the last Financial Year in the Regulatory Cycle;
- (b) *Cumulative Discount Factor* $_t$  for each Financial Year  $t$  of the Regulatory Cycle, is equal to  $\prod_{s=1}^t \frac{1}{(1+WACC_s)}$ , where the nominal WACC for each Financial Year  $s$  in the Regulatory Cycle is as set out, or proposed to be set out, in the Replacement Module Application or ACCC Replacement Module Determination (as applicable) for the Regulatory Cycle;

For example, for a 5-year Regulatory Cycle, the *Cumulative Discount Factor* for each of years 1 to 5 of the Regulatory Cycle is:

$$\text{Cumulative Discount Factor}_1 = \frac{1}{(1 + WACC_1)}$$

$$\text{Cumulative Discount Factor}_2 = \frac{1}{(1 + WACC_1)(1 + WACC_2)}$$

$$\begin{aligned} \text{Cumulative Discount Factor}_3 & \\ &= \frac{1}{(1 + WACC_1)(1 + WACC_2)(1 + WACC_3)} \end{aligned}$$

$$\begin{aligned} \text{Cumulative Discount Factor}_4 & \\ &= \frac{1}{(1 + WACC_1)(1 + WACC_2)(1 + WACC_3)(1 + WACC_4)} \end{aligned}$$

$$\begin{aligned} \text{Cumulative Discount Factor}_5 & \\ &= \frac{1}{(1 + WACC_1)(1 + WACC_2)(1 + WACC_3)(1 + WACC_4)(1 + WACC_5)} \end{aligned}$$

- (c)  $p_{t-1}^m$  means:

- (i) where  $t$  is the first Financial Year in the Regulatory Cycle, then:
- (A) for each charge component  $m$  that is a Bundled TC-4 Offer<sup>16</sup>, the Forecast Average Combined Charge during Financial Year  $t - 1$ ; and
- (B) for each other charge component  $m$ , the average price in the Tariff List forecast to apply in Financial Year  $t - 1$ ; and

**Exception:** Where a charge component  $m$  has been introduced, or is forecast to be introduced, between 1 July and 30 June of Financial Year  $t - 1$ ,  $p_{t-1}^m$  means:

- where that charge component  $m$  is a Bundled TC-4 Offer, the Forecast Average Combined Charge during the period from the date that **nb**n first supplies (or the forecast date that **nb**n will first supply) that charge component  $m$  to 30 June of Financial Year  $t - 1$ ; and
- where that charge component  $m$  is not a Bundled TC-4 Offer, the average price in the Tariff List forecast to apply during the period from the date that **nb**n first supplies (or the forecast date that **nb**n will first supply) that charge component  $m$  to 30 June of Financial Year  $t - 1$  (calculated on an average daily basis).

- (ii) where  $t$  is a Financial Year other than the first Financial Year in the Regulatory Cycle,  $p_{t-2}^m(1 + CPI_{t-1})(1 - X_{t-1})$ , where:

- (A) for each charge component  $m$  that is a Bundled TC-4 Offer,  $p_{t-2}^m$  is the Forecast Average Combined Charge during Financial Year  $t - 2$ ; and
- (B) for each other charge component  $m$ ,  $p_{t-2}^m$  is the average Price in the Tariff List forecast to apply in Financial Year  $t - 2$ ;

**Exception:** Where a charge component  $m$  has been introduced, or is forecast to be introduced, between 1 July and 30 June of Financial Year  $t - 2$ ,  $p_{t-2}^m$  means:

- where that charge component  $m$  that is a Bundled TC-4 Offer, the Forecast Average Combined Charge during the period from the date that **nb**n first supplies (or the forecast date that **nb**n will first supply) that charge component  $m$  to 30 June of Financial Year  $t - 2$ ; and
- where that charge component  $m$  is not a Bundled TC-4 Offer, the average Price in the Tariff List forecast to apply during the period from the date that **nb**n first supplies (or the forecast date that **nb**n will first supply) that charge component  $m$  to 30 June of Financial Year  $t - 2$  (calculated on an average daily basis).

- (d)  $q_t^m$  means:

- (i) for each charge component  $m$  that has a recurring charge, the average quantity forecast to be supplied on each day of Financial Year  $t$ , and then multiplied by the number of times such charge component is charged per Financial Year (e.g. if the recurring charge

<sup>16</sup> A “Bundled TC-4 Offer” is, at a high level, a service offered by **nb**n which comprises either an AVC component bundled with an amount of CVC, or the slowest AVC bandwidth profile together with CVC. It excludes satellite services and expiring services.



is a monthly recurring charge, it will be multiplied by 12, and if it is a quarterly charge, it will be multiplied by 4, as it is charged four times per Financial Year); and

- (ii) for each charge component  $m$  that has a non-recurring charge, the aggregate quantity forecast to be supplied in Financial Year  $t$ ;
- (e)  $m$  means, in respect of Financial Year  $t$ , each WAPC Charge Component that **nbn** forecasts it will supply during Financial Year  $t$  (excluding CVC TC-4 for all **nbn** networks other than satellite), where there are  $M$  such charge components in total;
- (f)  $CPI_t$  means the forecast of inflation expectations for Financial Year  $t$ , as determined in the New Variation;
- (g)  $X_t$  will have the following meaning:

- (i) where the formula in this Schedule 1 is being applied to calculate the X-factor in a Replacement Module Application lodged by **nbn**, a draft Replacement Module Determination or an ACCC Replacement Module Determination issued by the ACCC on or before 31 March of the Financial Year immediately preceding the first Financial Year of the applicable Regulatory Cycle,

$X_t$  means the X-factor for each Financial Year  $t$  (i.e. the amount that results in the formula in this Schedule 1 being balanced), where  $X_t$  must have the same value for each Financial Year of the Regulatory Cycle; and

- (ii) where the formula in this Schedule 1 is being applied to calculate the X-factor in an ACCC Replacement Module Determination issued by the ACCC after 31 March of the Financial Year immediately preceding the first Financial Year of the applicable Regulatory Cycle, then:

- (A)  $X_t$  in respect of the first Financial Year of the Regulatory Cycle will be the X-factor applied for such Financial Year set out in a draft Replacement Module Determination or **nbn**'s Replacement Module Application (as applicable); and

- (B)  $X_t$  in respect of each subsequent Financial Year of the Regulatory Cycle will be the amount that results in the formula in this Schedule 1 being balanced where  $X_t$  must have the same value for each of those subsequent Financial Years and where  $X_t$  in the first Financial Year of the Regulatory Cycle is determined as set out in paragraph (A).

- (h) **Annual WAPC Revenue Requirement** for each Financial Year ( $t$ ) in the Regulatory Cycle will be calculated in accordance with the following formula:

$$\begin{aligned}
 & \text{Annual WAPC Revenue Requirement} \\
 &= \text{Forecast Nominal Core Services ABBRR}_t \\
 & - \text{Annual Non-WAPC Core Services Forecast Revenue}_t \\
 & - \text{Forecast Nominal RBS Amount}_t \\
 & + \text{Nominal Annual Drawdown of ICRA}_t
 \end{aligned}$$

and where:

**WAPC Factor Change Year** means the Financial Year immediately following the Financial Year in which the sum of **nbn's** Annual Core Services Forecast Revenue and the Forecast Annual RBS Amount first exceeds or equals the Forecast Nominal Core Services ABBRR for that Financial Year, as forecast in a Replacement Module or an ACCC Replacement Module Determination, except that:

- (a) if the sum of **nbn's** Core Services Revenue<sup>17</sup> and the Forecast Annual RBS Amount for a Financial Year in the First Regulatory Cycle exceeds or equals (or is forecast in the ACCC Replacement Module Determination for the Second Regulatory Cycle to exceed or equal) the Forecast Nominal Core Services ABBRR for that Financial Year, then the WAPC Factor Change Year will be the first Financial Year of the Second Regulatory Cycle; or
- (b) if:
  - (i) the sum of **nbn's** Core Services Revenue and the Forecast Annual RBS Amount<sup>18</sup> for that Financial Year in a Regulatory Cycle (the **Given Regulatory Cycle**) exceeds or equals the Forecast Nominal Core Services ABBRR for that Financial Year; and
  - (ii) the ACCC Replacement Module Determination for the Given Regulatory Cycle does not identify a Financial Year in which the sum of **nbn's** Annual Core Services Forecast Revenue (that is, the Core Services Revenue that is forecast to be earned in that Financial Year, as specified in the relevant Replacement Module or ACCC Replacement Module Determination) and the Forecast Annual RBS Amount first exceeds or equals the Nominal Core Services ABBRR in the applicable Financial Year,

then the WAPC Factor Change Year will be the first Financial Year of the next Regulatory Cycle after the Given Regulatory Cycle.

**Forecast Average Combined Charge** means, for a given Bundled TC-4 Offer and a given time period, the sum of:

- (a) the forecast average monthly recurring Price in the Tariff List for that Bundled TC-4 Offer over the given time period; and
- (b) an amount equal to:
  - (i) the forecast average monthly recurring Price in the Tariff List for the CVC offer (TC-4) in respect of **nbn's** networks other than satellite over the given time period;
  - (ii) multiplied by:
    - (A) the forecast average daily peak utilisation (in Mbps) for all AVC TC-4 product components for all access seekers for the

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<sup>17</sup> For your purposes, "Core Services Revenue" is, at a high level, all of **nbn's** revenue except that related to Competitive Services.

<sup>18</sup> At a high level, the "Forecast Annual RBS Amount" is the forecast net amount that **nbn** will be entitled to receive by way of grant or distribution under the Regional Broadband Scheme.

group of which that Bundled TC-4 Offer forms part, over the given time period; minus

- (B) the forecast average CVC TC-4 inclusion (in Mbps) in the Tariff List for that Bundled TC-4 Offer over the given time period,

where the forecast average daily peak utilisation may be derived from forecast monthly utilisation or forecast annual utilisation.

**Exception:** *Where the amount in paragraph (ii)(A) minus the amount in paragraph (ii)(B) results in a negative number, the forecast Price referred to in paragraph (i) will be multiplied by 0 instead of being multiplied by the amount in paragraph (ii).*

## Schedule 2 WAPC formula

The WAPC formula is as follows:

$$(1 + CPI_t)(1 - X_t)(1 + PT_t)(1 + EM_t) \geq \frac{\sum_{m=1}^M p_t^m q_{t-1.25}^m}{\sum_{m=1}^M p_{t-1}^m q_{t-1.25}^m}$$

where:

- (a)  **$CPI_t$**  means the December Quarter CPI published in the Financial Year  $t - 1$ ;
- (b)  **$EM_t$**  means the excess adjustment factor in Financial Year  $t$ . The formula for this adjustment factor is set out in Schedule 3;
- (c)  **$m$**  means, in respect of each Financial Year  $t$ , each WAPC Charge Component supplied by **nbn** as at 31 March of Financial Year  $t - 1$  (excluding CVC TC-4 in respect of all **nbn** networks except Satellite), where there are  $M$  such charge components in total;
- (d)  **$p_t^m$**  means:
  - (i) for each charge component  $m$  that is a Bundled TC-4 Offer, the Forecast Average Combined Charge during Financial Year  $t$ ; and
  - (ii) for each other charge component  $m$ , the Price in the Tariff List to apply from 1 July of Financial Year  $t$ ;
- (e)  **$p_{t-1}^m$**  means:
  - (i) for each charge component  $m$  that is a Bundled TC-4 Offer, the weighted average of:
    - (A) the Average Combined Charge during the period from 1 July to 31 March of Financial Year  $t - 1$ ; and
    - (B) the Forecast Average Combined Charge for the period from 1 April to 30 June of Financial Year  $t - 1$ ,weighted by the number of days in each of the periods in paragraphs (A) and (B); and
  - (ii) for each other charge component  $m$ , the average of the price in the Tariff List in respect of Financial Year  $t - 1$ , calculated as the sum of:
    - (A) the price in the Tariff List that applied on each day from 1 July to 31 March of Financial Year  $t - 1$ ; and

- (B) the price in the Tariff List that is forecast to apply on each day from 1 April to 30 June of Financial Year  $t - 1$ ,

divided by the number of days in Financial Year  $t - 1$ ;

**Exception 1:** If Financial Year  $t$  is the second Financial Year of the Subsequent Regulatory Period, the periods referred to in clause (e)(i)(A) or (e)(ii)(A) (as applicable) will commence on the Price Transition Date<sup>19</sup>, rather than 1 July of Financial Year  $t - 1$ , and the “number of days in Financial Year  $t - 1$ ” for the purposes of clause (e)(ii) will mean the number of days from the Price Transition Date to 30 June of Financial Year  $t - 1$ , inclusive.

**Exception 2:** Where a charge component  $m$  has been introduced between 1 July and 31 March of Financial Year  $t - 1$ , the period referred to in (e)(i)(A) or (e)(ii)(A) (as applicable) will commence on the date that **nbn** first supplies that charge component  $m$  rather than 1 July of Financial Year  $t - 1$ , and the “number of days in Financial Year  $t - 1$ ” for the purposes of clause (e)(ii) will mean the number of days from the date that **nbn** first supplies that charge component  $m$  to 30 June of Financial Year  $t - 1$ , inclusive.

- (f)  $PT_t$  means the cost pass-through adjustment factor in Financial Year  $t$  as set out further below;

- (g)  $q_{t-1.25}$  means:

- (i) for each charge component  $m$  that has a recurring charge, the average quantity supplied on each day from the Price Transition Date or 1 April of Financial Year  $t - 2$  (whichever is later) to 31 March of Financial Year  $t - 1$ , and then multiplied by the number of times such charge component is charged per Financial Year (e.g. if the recurring charge is a monthly recurring charge, it will be multiplied by 12, and if it is a quarterly charge, it will be multiplied by 4, as it is charged four times per Financial Year); and
- (ii) for each charge component  $m$  that has a non-recurring charge, the aggregate quantity of the charge component to which the non-recurring charge applies supplied in the period from 1 April of Financial Year  $t - 2$  to 31 March of Financial Year  $t - 1$ ;

**Exception:** If Financial Year  $t$  is the second Financial Year of the Subsequent Regulatory Period,  $q_{t-1.25}^m$  for each charge component  $m$  that has a non-recurring charge means the aggregate quantity of the charge component to which the non-recurring charge applies supplied in the period from the Price Transition Date to 31 March of Financial Year  $t - 1$ , multiplied by a factor calculated by:

- taking the number of days from 1 April of Financial Year  $t-2$  to 31 March of Financial Year  $t-1$ , inclusive; and
- dividing that number by the number of days from the Price Transition Date to 31 March of Financial Year  $t-1$ , inclusive.

- (h)  $t$  means the Financial Year in the Subsequent Regulatory Period for which **nbn** is publishing or updating a Tariff List; and

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<sup>19</sup> The **Price Transition Date** is the later of 1 July 2023 and 3 months after the New Variation takes effect.

- (i)  $X_t$  means:
  - (i) where Financial Year  $t$  precedes the WAPC Factor Change Year, 0; and
  - (ii) where Financial Year  $t$  is, or occurs after, the WAPC Factor Change Year, the X-factor applicable to Financial Year  $t$ .

The cost pass-through adjustment factor  $PT_t$  is calculated in accordance with the formula below:

$$PT_t = \frac{(1 + PT'_t)}{(1 + PT'_{t-1})} - 1$$

where:

- (a)  $PT'_t = \frac{AP_t}{(1+CPI_t)(1-X_t)(1+EM_t)\sum_{m=1}^M p_{t-1}^m q_{t-1.25}^m}$ ;
- (b)  $AP_t$  is the total cost pass through amount (if any) approved by the ACCC for Financial Year  $t$ , and calculated in accordance with Schedule 3; and
- (c)  $PT'_{t-1}$  is:
  - (i) in the first Financial Year of the Subsequent Regulatory Period, zero; and
  - (ii) in every other Financial Year of the Subsequent Regulatory Period, the value of  $PT'_t$  in the immediately preceding Financial Year.

## Schedule 3 Excess adjustment factor

The excess adjustment factor  $EM_t$  is:

- (a) where Financial Year  $t$  is the second or third Financial Year of the Subsequent Regulatory Period, zero (noting that the WAPC formula does not apply in the first Financial Year of the Subsequent Regulatory Period); and
- (b) for each subsequent Financial Year  $t$  in the Subsequent Regulatory Period, the lesser of zero and the amount determined in accordance with the following expression:

$$\frac{(1 + CPI_{t-2})(1 - X_{t-2})(1 + PT_{t-2})(1 + EM_{t-2})}{\frac{\sum_{m=1}^M p_{t-2}^m q_{t-3.25}^m}{\sum_{m=1}^M p_{t-3}^m q_{t-3.25}^m}} - 1$$

where:

- (i)  $CPI_{t-2}$  means the December Quarter CPI published in Financial Year  $t - 3$ ;
- (ii)  $EM_{t-2}$  means the excess adjustment factor in Financial Year  $t - 2$ , calculated in accordance with this Schedule 3
- (iii)  $m$  means, in respect of Financial Year  $t - 2$ , each WAPC Charge Component supplied by **nbn** as at 1 May of Financial Year  $t - 3$  (excluding CVC TC-4 for all **nbn** networks other than Satellite), where there are  $M$  such charge components in total;
- (iv)  $p_{t-2}^m$  means:
  - (A) for each charge component  $m$  that is a Bundled TC-4 Offer, the Average Combined Charge during Financial Year  $t - 2$ ; and
  - (B) for each other charge component  $m$ , each price in the Tariff List for that applied during Financial Year  $t - 2$  (calculated on an average daily basis);
- (v)  $p_{t-3}^m$  means:
  - (C) for each charge component  $m$  that is a Bundled TC-4 Offer, the Average Combined Charge during Financial Year  $t - 3$ ; and
  - (D) for each other charge component  $m$ , each price in the Tariff List for that applied during Financial Year  $t - 3$  (calculated on an average daily basis);

**Exception 1:** if Financial Year  $t - 2$  is the second Financial Year of the Subsequent Regulatory Period,  $p_{t-3}^m$  means:

- for each charge component  $m$  that is a Bundled TC-4 Offer, the Average Combined Charge during the period from the Price Transition Date to 30 June of Financial Year  $t - 3$ ; and
- for each other charge component  $m$ , the price in the Tariff List that applied in the period from the Price Transition Date to 30 June of Financial Year  $t - 3$  (calculated on an average daily basis).

**Exception 2:** Where a charge component  $m$  has been introduced between 1 July and 31 March of Financial Year  $t - 3$ ,  $p_{t-3}$  means:

- for each charge component  $m$  that is a Bundled TC-4 Offer, the Average Combined Charge during the period from the date that **nbn** first supplies that charge component  $m$  to 30 June of Financial Year  $t - 3$ ; and
- for each other charge component  $m$ , the price in the Tariff List that applied in the period from the date that **nbn** first supplies that charge component  $m$  to 30 June of Financial Year  $t - 3$  (calculated on an average daily basis).

(c)  $PT_{t-2}$  means the cost pass-through adjustment factor in Financial Year  $t - 2$ , calculated in accordance with Schedule 2;

(d)  $q_{t-3.25}$  means:

- for each charge component  $m$  that has a recurring charge, the average quantity supplied on each day from the Price Transition Date or 1 April of Financial Year  $t - 4$  (whichever is later) to 31 March of Financial Year  $t - 3$ , and then multiplied by the number of times such charge component is charged per Financial Year (e.g. if the recurring charge is a monthly recurring charge, it will be multiplied by 12, and if it is a quarterly charge, it will be multiplied by 4, as it is charged four times per Financial Year); and
- for each charge component  $m$  that has a non-recurring charge, the aggregate quantity of the charge component to which the non-recurring charge applies supplied in the period from 1 April of Financial Year  $t - 4$  to 31 March of Financial Year  $t - 3$ ;

**Exception:** if Financial Year  $t - 2$  is the second Financial Year of the Subsequent Regulatory Period,  $q_{t-3.25}^m$  for each charge component  $m$  that has a non-recurring charge means the aggregate quantity of the charge component to which the non-recurring charge applies supplied in the period from the Price Transition Date or 1 April of Financial Year  $t - 4$  (whichever is later) to 31 March of Financial Year  $t - 3$ , multiplied by a factor calculated by:

- taking the number of days from 1 April of Financial Year  $t - 4$  to 31 March of Financial Year  $t - 3$  inclusive; and
- dividing that number by the number of days from the Price Transition Date to 31 March of Financial Year  $t - 3$ , inclusive.

(e)  $X_{t-2}$  means the X-factor that applied in respect of Financial Year  $t - 2$ .



**Attachment A – Expert Evidence Practice (GPN-EXPT)**



# EXPERT EVIDENCE PRACTICE NOTE (GPN-EXPT)

## General Practice Note

### 1. INTRODUCTION

1.1 This practice note, including the *Harmonised Expert Witness Code of Conduct* (“**Code**”) (see [ANNEXURE A](#)) and the *Concurrent Expert Evidence Guidelines* (“**Concurrent Evidence Guidelines**”) (see [ANNEXURE B](#)), applies to any proceeding involving the use of expert evidence and must be read together with:

- (a) the [Central Practice Note \(CPN-1\)](#), which sets out the fundamental principles concerning the National Court Framework (“**NCF**”) of the Federal Court and key principles of case management procedure;
- (b) the [Federal Court of Australia Act 1976 \(Cth\)](#) (“**Federal Court Act**”);
- (c) the [Evidence Act 1995 \(Cth\)](#) (“**Evidence Act**”), including Part 3.3 of the Evidence Act;
- (d) Part 23 of the [Federal Court Rules 2011 \(Cth\)](#) (“**Federal Court Rules**”); and
- (e) where applicable, the [Survey Evidence Practice Note \(GPN-SURV\)](#).

1.2 This practice note takes effect from the date it is issued and, to the extent practicable, applies to proceedings whether filed before, or after, the date of issuing.

### 2. APPROACH TO EXPERT EVIDENCE

2.1 An expert witness may be retained to give opinion evidence in the proceeding, or, in certain circumstances, to express an opinion that may be relied upon in alternative dispute resolution procedures such as mediation or a conference of experts. In some circumstances an expert may be appointed as an independent adviser to the Court.

2.2 The purpose of the use of expert evidence in proceedings, often in relation to complex subject matter, is for the Court to receive the benefit of the objective and impartial assessment of an issue from a witness with specialised knowledge (based on training, study or experience - see generally s 79 of the [Evidence Act](#)).

2.3 However, the use or admissibility of expert evidence remains subject to the overriding requirements that:

- (a) to be admissible in a proceeding, any such evidence must be relevant (s 56 of the [Evidence Act](#)); and
- (b) even if relevant, any such evidence, may be refused to be admitted by the Court if its probative value is outweighed by other considerations such as the evidence being unfairly

prejudicial, misleading or will result in an undue waste of time (s 135 of the [Evidence Act](#)).

2.4 An expert witness' opinion evidence may have little or no value unless the assumptions adopted by the expert (ie. the facts or grounds relied upon) and his or her reasoning are expressly stated in any written report or oral evidence given.

2.5 The Court will ensure that, in the interests of justice, parties are given a reasonable opportunity to adduce and test relevant expert opinion evidence. However, the Court expects parties and any legal representatives acting on their behalf, when dealing with expert witnesses and expert evidence, to at all times comply with their duties associated with the overarching purpose in the [Federal Court Act](#) (see ss 37M and 37N).

### 3. INTERACTION WITH EXPERT WITNESSES

3.1 Parties and their legal representatives should never view an expert witness retained (or partly retained) by them as that party's advocate or "hired gun". Equally, they should never attempt to pressure or influence an expert into conforming his or her views with the party's interests.

3.2 A party or legal representative should be cautious not to have inappropriate communications when retaining or instructing an independent expert, or assisting an independent expert in the preparation of his or her evidence. However, it is important to note that there is no principle of law or practice and there is nothing in this practice note that obliges a party to embark on the costly task of engaging a "consulting expert" in order to avoid "contamination" of the expert who will give evidence. Indeed the Court would generally discourage such costly duplication.

3.3 Any witness retained by a party for the purpose of preparing a report or giving evidence in a proceeding as to an opinion held by the witness that is wholly or substantially based in the specialised knowledge of the witness<sup>20</sup> should, at the earliest opportunity, be provided with:

- (a) a copy of this practice note, including the Code (see [ANNEXURE A](#)); and
- (b) all relevant information (whether helpful or harmful to that party's case) so as to enable the expert to prepare a report of a truly independent nature.

3.4 Any questions or assumptions provided to an expert should be provided in an unbiased manner and in such a way that the expert is not confined to addressing selective, irrelevant or immaterial issues.

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<sup>20</sup> Such a witness includes a "Court expert" as defined in r 23.01 of the [Federal Court Rules](#). For the definition of "expert", "expert evidence" and "expert report" see the Dictionary, in Schedule 1 of the Federal Court Rules.

#### 4. ROLE AND DUTIES OF THE EXPERT WITNESS

4.1 The role of the expert witness is to provide relevant and impartial evidence in his or her area of expertise. An expert should never mislead the Court or become an advocate for the cause of the party that has retained the expert.

4.2 It should be emphasised that there is nothing inherently wrong with experts disagreeing or failing to reach the same conclusion. The Court will, with the assistance of the evidence of the experts, reach its own conclusion.

4.3 However, experts should willingly be prepared to change their opinion or make concessions when it is necessary or appropriate to do so, even if doing so would be contrary to any previously held or expressed view of that expert.

#### Harmonised Expert Witness Code of Conduct

4.4 Every expert witness giving evidence in this Court must read the *Harmonised Expert Witness Code of Conduct* (attached in [ANNEXURE A](#)) and agree to be bound by it.

4.5 The Code is not intended to address all aspects of an expert witness' duties, but is intended to facilitate the admission of opinion evidence, and to assist experts to understand in general terms what the Court expects of them. Additionally, it is expected that compliance with the Code will assist individual expert witnesses to avoid criticism (rightly or wrongly) that they lack objectivity or are partisan.

#### 5. CONTENTS OF AN EXPERT'S REPORT AND RELATED MATERIAL

5.1 The contents of an expert's report must conform with the requirements set out in the Code (including clauses 3 to 5 of the Code).

5.2 In addition, the contents of such a report must also comply with r 23.13 of the [Federal Court Rules](#). Given that the requirements of that rule significantly overlap with the requirements in the Code, an expert, unless otherwise directed by the Court, will be taken to have complied with the requirements of r 23.13 if that expert has complied with the requirements in the Code and has complied with the additional following requirements. The expert shall:

- (a) acknowledge in the report that:
  - (i) the expert has read and complied with this practice note and agrees to be bound by it; and
  - (ii) the expert's opinions are based wholly or substantially on specialised knowledge arising from the expert's training, study or experience;
- (b) identify in the report the questions that the expert was asked to address;
- (c) sign the report and attach or exhibit to it copies of:
  - (i) documents that record any instructions given to the expert; and

- (ii) documents and other materials that the expert has been instructed to consider.

5.3 Where an expert's report refers to photographs, plans, calculations, analyses, measurements, survey reports or other extrinsic matter, these must be provided to the other parties at the same time as the expert's report.

## 6. CASE MANAGEMENT CONSIDERATIONS

6.1 Parties intending to rely on expert evidence at trial are expected to consider between them and inform the Court at the earliest opportunity of their views on the following:

- (a) whether a party should adduce evidence from more than one expert in any single discipline;
- (b) whether a common expert is appropriate for all or any part of the evidence;
- (c) the nature and extent of expert reports, including any in reply;
- (d) the identity of each expert witness that a party intends to call, their area(s) of expertise and availability during the proposed hearing;
- (e) the issues that it is proposed each expert will address;
- (f) the arrangements for a conference of experts to prepare a joint-report (see Part 7 of this practice note);
- (g) whether the evidence is to be given concurrently and, if so, how (see Part 8 of this practice note); and
- (h) whether any of the evidence in chief can be given orally.

6.2 It will often be desirable, before any expert is retained, for the parties to attempt to agree on the question or questions proposed to be the subject of expert evidence as well as the relevant facts and assumptions. The Court may make orders to that effect where it considers it appropriate to do so.

## 7. CONFERENCE OF EXPERTS AND JOINT-REPORT

7.1 Parties, their legal representatives and experts should be familiar with aspects of the Code relating to conferences of experts and joint-reports (see clauses 6 and 7 of the Code attached in ANNEXURE A).

7.2 In order to facilitate the proper understanding of issues arising in expert evidence and to manage expert evidence in accordance with the overarching purpose, the Court may require experts who are to give evidence or who have produced reports to meet for the purpose of identifying and addressing the issues not agreed between them with a view to reaching agreement where this is possible ("**conference of experts**"). In an appropriate case, the Court may appoint a registrar of the Court or some other suitably qualified person ("**Conference Facilitator**") to act as a facilitator at the conference of experts.

7.3 It is expected that where expert evidence may be relied on in any proceeding, at the earliest opportunity, parties will discuss and then inform the Court whether a conference of experts and/or a joint-report by the experts may be desirable to assist with or simplify the giving of expert evidence in the proceeding. The parties should discuss the necessary arrangements for any conference and/or joint-report. The arrangements discussed between the parties should address:

- (a) who should prepare any joint-report;
- (b) whether a list of issues is needed to assist the experts in the conference and, if so, whether the Court, the parties or the experts should assist in preparing such a list;
- (c) the agenda for the conference of experts; and
- (d) arrangements for the provision, to the parties and the Court, of any joint-report or any other report as to the outcomes of the conference (“**conference report**”).

#### Conference of Experts

7.4 The purpose of the conference of experts is for the experts to have a comprehensive discussion of issues relating to their field of expertise, with a view to identifying matters and issues in a proceeding about which the experts agree, partly agree or disagree and why. For this reason the conference is attended only by the experts and any Conference Facilitator. Unless the Court orders otherwise, the parties' lawyers will not attend the conference but will be provided with a copy of any conference report.

7.5 The Court may order that a conference of experts occur in a variety of circumstances, depending on the views of the judge and the parties and the needs of the case, including:

- (a) while a case is in mediation. When this occurs the Court may also order that the outcome of the conference or any document disclosing or summarising the experts' opinions be confidential to the parties while the mediation is occurring;
- (b) before the experts have reached a final opinion on a relevant question or the facts involved in a case. When this occurs the Court may order that the parties exchange draft expert reports and that a conference report be prepared for the use of the experts in finalising their reports;
- (c) after the experts' reports have been provided to the Court but before the hearing of the experts' evidence. When this occurs the Court may also order that a conference report be prepared (jointly or otherwise) to ensure the efficient hearing of the experts' evidence.

7.6 Subject to any other order or direction of the Court, the parties and their lawyers must not involve themselves in the conference of experts process. In particular, they must not seek to encourage an expert not to agree with another expert or otherwise seek to influence the outcome of the conference of experts. The experts should raise any queries they may have in relation to the process with the Conference Facilitator (if one has been appointed) or in accordance with a protocol agreed between the lawyers prior to the conference of experts taking place (if no Conference Facilitator has been appointed).

7.7 Any list of issues prepared for the consideration of the experts as part of the conference of experts process should be prepared using non-tendentious language.

7.8 The timing and location of the conference of experts will be decided by the judge or a registrar who will take into account the location and availability of the experts and the Court's case management timetable. The conference may take place at the Court and will usually be conducted in-person. However, if not considered a hindrance to the process, the conference may also be conducted with the assistance of visual or audio technology (such as via the internet, video link and/or by telephone).

7.9 Experts should prepare for a conference of experts by ensuring that they are familiar with all of the material upon which they base their opinions. Where expert reports in draft or final form have been exchanged prior to the conference, experts should attend the conference familiar with the reports of the other experts. Prior to the conference, experts should also consider where they believe the differences of opinion lie between them and what processes and discussions may assist to identify and refine those areas of difference.

#### Joint-report

7.10 At the conclusion of the conference of experts, unless the Court considers it unnecessary to do so, it is expected that the experts will have narrowed the issues in respect of which they agree, partly agree or disagree in a joint-report. The joint report should be clear, plain and concise and should summarise the views of the experts on the identified issues, including a succinct explanation for any differences of opinion, and otherwise be structured in the manner requested by the judge or registrar.

7.11 In some cases (and most particularly in some native title cases), depending on the nature, volume and complexity of the expert evidence a judge may direct a registrar to draft part, or all, of a conference report. If so, the registrar will usually provide the draft conference report to the relevant experts and seek their confirmation that the conference report accurately reflects the opinions of the experts expressed at the conference. Once that confirmation has been received the registrar will finalise the conference report and provide it to the intended recipient(s).

### 8. CONCURRENT EXPERT EVIDENCE

8.1 The Court may determine that it is appropriate, depending on the nature of the expert evidence and the proceeding generally, for experts to give some or all of their evidence concurrently at the final (or other) hearing.

8.2 Parties should familiarise themselves with the *Concurrent Expert Evidence Guidelines* (attached in [ANNEXURE B](#)). The Concurrent Evidence Guidelines are not intended to be exhaustive but indicate the circumstances when the Court might consider it appropriate for concurrent expert evidence to take place, outline how that process may be undertaken, and assist experts to understand in general terms what the Court expects of them.

8.3 If an order is made for concurrent expert evidence to be given at a hearing, any expert to give such evidence should be provided with the Concurrent Evidence Guidelines

well in advance of the hearing and should be familiar with those guidelines before giving evidence.

## 9. FURTHER PRACTICE INFORMATION AND RESOURCES

9.1 Further information regarding [Expert Evidence and Expert Witnesses](#) is available on the Court's website.

9.2 Further [information to assist litigants](#), including a range of helpful [guides](#), is also available on the Court's website. This information may be particularly helpful for litigants who are representing themselves.

J L B ALLSOP  
Chief Justice  
25 October 2016



## ANNEXURE A

# HARMONISED EXPERT WITNESS CODE OF CONDUCT<sup>21</sup>

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### APPLICATION OF CODE

1. This Code of Conduct applies to any expert witness engaged or appointed:
  - (a) to provide an expert's report for use as evidence in proceedings or proposed proceedings; or
  - (b) to give opinion evidence in proceedings or proposed proceedings.

### GENERAL DUTIES TO THE COURT

2. An expert witness is not an advocate for a party and has a paramount duty, overriding any duty to the party to the proceedings or other person retaining the expert witness, to assist the Court impartially on matters relevant to the area of expertise of the witness.

### CONTENT OF REPORT

3. Every report prepared by an expert witness for use in Court shall clearly state the opinion or opinions of the expert and shall state, specify or provide:
  - (a) the name and address of the expert;
  - (b) an acknowledgment that the expert has read this code and agrees to be bound by it;
  - (c) the qualifications of the expert to prepare the report;
  - (d) the assumptions and material facts on which each opinion expressed in the report is based [a letter of instructions may be annexed];
  - (e) the reasons for and any literature or other materials utilised in support of such opinion;
  - (f) (if applicable) that a particular question, issue or matter falls outside the expert's field of expertise;
  - (g) any examinations, tests or other investigations on which the expert has relied, identifying the person who carried them out and that person's qualifications;
  - (h) the extent to which any opinion which the expert has expressed involves the acceptance of another person's opinion, the identification of that other person and the opinion expressed by that other person;
  - (i) a declaration that the expert has made all the inquiries which the expert believes are desirable and appropriate (save for any matters identified explicitly in the report), and

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<sup>21</sup> Approved by the Council of Chief Justices' Rules Harmonisation Committee

that no matters of significance which the expert regards as relevant have, to the knowledge of the expert, been withheld from the Court;

- (j) any qualifications on an opinion expressed in the report without which the report is or may be incomplete or inaccurate;
- (k) whether any opinion expressed in the report is not a concluded opinion because of insufficient research or insufficient data or for any other reason; and
- (l) where the report is lengthy or complex, a brief summary of the report at the beginning of the report.

#### **SUPPLEMENTARY REPORT FOLLOWING CHANGE OF OPINION**

- 4. Where an expert witness has provided to a party (or that party's legal representative) a report for use in Court, and the expert thereafter changes his or her opinion on a material matter, the expert shall forthwith provide to the party (or that party's legal representative) a supplementary report which shall state, specify or provide the information referred to in paragraphs (a), (d), (e), (g), (h), (i), (j), (k) and (l) of clause 3 of this code and, if applicable, paragraph (f) of that clause.
- 5. In any subsequent report (whether prepared in accordance with clause 4 or not) the expert may refer to material contained in the earlier report without repeating it.

#### **DUTY TO COMPLY WITH THE COURT'S DIRECTIONS**

- 6. If directed to do so by the Court, an expert witness shall:
  - (a) confer with any other expert witness;
  - (b) provide the Court with a joint-report specifying (as the case requires) matters agreed and matters not agreed and the reasons for the experts not agreeing; and
  - (c) abide in a timely way by any direction of the Court.

#### **CONFERENCE OF EXPERTS**

- 7. Each expert witness shall:
  - (a) exercise his or her independent judgment in relation to every conference in which the expert participates pursuant to a direction of the Court and in relation to each report thereafter provided, and shall not act on any instruction or request to withhold or avoid agreement; and
  - (b) endeavour to reach agreement with the other expert witness (or witnesses) on any issue in dispute between them, or failing agreement, endeavour to identify and clarify the basis of disagreement on the issues which are in dispute.

## ANNEXURE B

# CONCURRENT EXPERT EVIDENCE GUIDELINES

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### APPLICATION OF THE COURT'S GUIDELINES

1. The Court's Concurrent Expert Evidence Guidelines ("**Concurrent Evidence Guidelines**") are intended to inform parties, practitioners and experts of the Court's general approach to concurrent expert evidence, the circumstances in which the Court might consider expert witnesses giving evidence concurrently and, if so, the procedures by which their evidence may be taken.

### OBJECTIVES OF CONCURRENT EXPERT EVIDENCE TECHNIQUE

2. The use of concurrent evidence for the giving of expert evidence at hearings as a case management technique<sup>22</sup> will be utilised by the Court in appropriate circumstances (see r 23.15 of the *Federal Court Rules 2011 (Cth)*). Not all cases will suit the process. For instance, in some patent cases, where the entire case revolves around conflicts within fields of expertise, concurrent evidence may not assist a judge. However, patent cases should not be excluded from concurrent expert evidence processes.
3. In many cases the use of concurrent expert evidence is a technique that can reduce the partisan or confrontational nature of conventional hearing processes and minimises the risk that experts become "opposing experts" rather than independent experts assisting the Court. It can elicit more precise and accurate expert evidence with greater input and assistance from the experts themselves.
4. When properly and flexibly applied, with efficiency and discipline during the hearing process, the technique may also allow the experts to more effectively focus on the critical points of disagreement between them, identify or resolve those issues more quickly, and narrow the issues in dispute. This can also allow for the key evidence to be given at the same time (rather than being spread across many days of hearing); permit the judge to assess an expert more readily, whilst allowing each party a genuine opportunity to put and test expert evidence. This can reduce the chance of the experts, lawyers and the judge misunderstanding the opinions being expressed by the experts.
5. It is essential that such a process has the full cooperation and support of all of the individuals involved, including the experts and counsel involved in the questioning process. Without that cooperation and support the process may fail in its objectives and even hinder the case management process.

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<sup>22</sup> Also known as the "hot tub" or as "expert panels".

## **CASE MANAGEMENT**

6. Parties should expect that, the Court will give careful consideration to whether concurrent evidence is appropriate in circumstances where there is more than one expert witness having the same expertise who is to give evidence on the same or related topics. Whether experts should give evidence concurrently is a matter for the Court, and will depend on the circumstances of each individual case, including the character of the proceeding, the nature of the expert evidence, and the views of the parties.
7. Although this consideration may take place at any time, including the commencement of the hearing, if not raised earlier, parties should raise the issue of concurrent evidence at the first appropriate case management hearing, and no later than any pre-trial case management hearing, so that orders can be made in advance, if necessary. To that end, prior to the hearing at which expert evidence may be given concurrently, parties and their lawyers should confer and give general consideration as to:
  - (a) the agenda;
  - (b) the order and manner in which questions will be asked; and
  - (c) whether cross-examination will take place within the context of the concurrent evidence or after its conclusion.
8. At the same time, and before any hearing date is fixed, the identity of all experts proposed to be called and their areas of expertise is to be notified to the Court by all parties.
9. The lack of any concurrent evidence orders does not mean that the Court will not consider using concurrent evidence without prior notice to the parties, if appropriate.

## **CONFERENCE OF EXPERTS & JOINT-REPORT OR LIST OF ISSUES**

10. The process of giving concurrent evidence at hearings may be assisted by the preparation of a joint-report or list of issues prepared as part of a conference of experts.
11. Parties should expect that, where concurrent evidence is appropriate, the Court may make orders requiring a conference of experts to take place or for documents such as a joint-report to be prepared to facilitate the concurrent expert evidence process at a hearing (see Part 7 of the Expert Evidence Practice Note).

## PROCEDURE AT HEARING

12. Concurrent expert evidence may be taken at any convenient time during the hearing, although it will often occur at the conclusion of both parties' lay evidence.
13. At the hearing itself, the way in which concurrent expert evidence is taken must be applied flexibly and having regard to the characteristics of the case and the nature of the evidence to be given.
14. Without intending to be prescriptive of the procedure, parties should expect that, when evidence is given by experts in concurrent session:
  - (a) the judge will explain to the experts the procedure that will be followed and that the nature of the process may be different to their previous experiences of giving expert evidence;
  - (b) the experts will be grouped and called to give evidence together in their respective fields of expertise;
  - (c) the experts will take the oath or affirmation together, as appropriate;
  - (d) the experts will sit together with convenient access to their materials for their ease of reference, either in the witness box or in some other location in the courtroom, including (if necessary) at the bar table;
  - (e) each expert may be given the opportunity to provide a summary overview of their current opinions and explain what they consider to be the principal issues of disagreement between the experts, as they see them, in their own words;
  - (f) the judge will guide the process by which evidence is given, including, where appropriate:
    - (1) using any joint-report or list of issues as a guide for all the experts to be asked questions by the judge and counsel, about each issue on an issue-by-issue basis;
    - (2) ensuring that each expert is given an adequate opportunity to deal with each issue and the exposition given by other experts including, where considered appropriate, each expert asking questions of other experts or supplementing the evidence given by other experts;
    - (3) inviting legal representatives to identify the topics upon which they will cross-examine;
    - (4) ensuring that legal representatives have an adequate opportunity to ask all experts questions about each issue. Legal representatives may also seek

responses or contributions from one or more experts in response to the evidence given by a different expert; and

- (5) allowing the experts an opportunity to summarise their views at the end of the process where opinions may have been changed or clarifications are needed.
15. The fact that the experts may have been provided with a list of issues for consideration does not confine the scope of any cross-examination of any expert. The process of cross-examination remains subject to the overall control of the judge.
16. The concurrent session should allow for a sensible and orderly series of exchanges between expert and expert, and between expert and lawyer. Where appropriate, the judge may allow for more traditional cross-examination to be pursued by a legal representative on a particular issue exclusively with one expert. Where that occurs, other experts may be asked to comment on the evidence given.
17. Where any issue involves only one expert, the party wishing to ask questions about that issue should let the judge know in advance so that consideration can be given to whether arrangements should be made for that issue to be dealt with after the completion of the concurrent session. Otherwise, as far as practicable, questions (including in the form of cross-examination) will usually be dealt with in the concurrent session.
18. Throughout the concurrent evidence process the judge will ensure that the process is fair and effective (for the parties and the experts), balanced (including not permitting one expert to overwhelm or overshadow any other expert), and does not become a protracted or inefficient process.

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