FANOC Special Access Undertaking

Submission to the Australian Competition and Consumer Commission

Dated 30 May 2007

1. Introduction

FANOC has lodged a Special Access Undertaking (the "Undertaking") with the Australian Competition and Consumer Commission (the "Commission") under s 152CBA of the Trade Practices Act 1974 (Cth) (the "TPA").

FANOC intends to construct and own a HFTP Network that will be used to provide high speed Broadband Access Services to access seekers and will appoint a management company, (the "BAS Manager"), to manage the operation of the HFTP Network.

FANOC has lodged the Undertaking to specify the terms and conditions on which FANOC will comply with the standard access obligations ("SAOs") in respect of the supply of the Broadband Access Service to access seekers using the HFTP Network.

In accordance with section 152CBA of the TPA a special access undertaking ("SAU") may be lodged by a person who is, or expects to be, a carrier or carriage service provider supplying a listed carriage service or a service that facilitates the supply of a listed carriage service (whether to itself or to other persons), so long as the service is not an active declared service.

The HFTP Network will be a listed carriage service or a service that facilitates the supply of a listed carriage service, in accordance with the Telecommunications Act 1997 (Cth) ("Telecommunications Act"). FANOC will construct and own the HFTP Network and FANOC therefore expects to be a licensed carrier and will apply to the Australian Communications and Media Authority ("ACMA") for a carrier licence in respect of the HFTP Network.

The Broadband Access Service to which this Undertaking relates is not a declared service and therefore FANOC may give a special access undertaking to the Commission in relation to the supply of the Broadband Access Service over the proposed HFTP Network.

The Undertaking has been lodged in order to provide the regulatory certainty that investors in the HFTP Network require to proceed with its proposed construction. The Undertaking will have a maximum term of 15 years from the date of first provision of the Broadband Access Service.

This submission is in support of the Undertaking and is intended assist the Commission in its consideration of the Undertaking having regard to the criteria in s 152CBD and 152AH (the "Submission"). Terms that are defined in the Undertaking have the same meaning when used in this submission unless the context indicates otherwise.

Nothing in this Submission overrides the interpretation of the Undertaking.

Schedule 3 of this submission includes confidential information. A public version of this schedule is provided in which confidential information has been masked as [C-I-C] and this version may therefore be disclosed publicly.

FANOC will provide confidential versions of Schedule 3 (and the Initial Pricing Model referred to in that document) to interested parties for the purpose of those parties participating in the Commission’s public consultation on the Undertaking, subject to the provision of appropriate confidentiality undertakings, in a form agreed with FANOC.

2. Executive Summary

The Undertaking is for the provision of Broadband Access Services over a Hybrid Fibre Twisted Pair network, using architecture commonly referred to as a "fibre-to-the-node" network (the "Network").

The initial network build would cover approximately 4 million homes in five capital cities, using ADSL2+ technology, for an initial capital cost of approximately $3.6 billion. ADSL2+ is currently capable of achieving speeds of up to 24Mbps under an HFTP FTTN configuration.

The network will be able to be transitioned to a VDSL network over time when there is sufficient consumer demand for very high speed broadband services. VDSL allows speeds of up to 50Mbps within the planned architecture.

The interests of users of standard telephone services would be met in the conversion to the Network. The Network will not require any immediate changes to end user equipment or to customer phone numbers. However, over time, the network could be transitioned to a fully IP based network.

2.1 FANOC and SpeedReach

The Undertaking is submitted by FANOC Pty Limited (FANOC), a company newly established for the purposes of the Network project.

The shareholders and board of FANOC will be re-constituted at the financing phase of the project when a range of third party debt and equity investors are expected to invest in the Network as a stand alone financial investment. The structures for that later investment have not yet been finalised. Accordingly, the Undertaking includes a concept of "FANOC Ownership Entities" to allow flexibility to establish the most efficient investment structures for those investors.

Investec have provided advice in relation to the financiability of the network and been involved in some of the initial costing that underpins the Undertaking.

FANOC's wholesale customers will own a separate entity that is identified in the Undertaking as the BAS Manager and which is the entity that has previously been described as "SpeedReach".

SpeedReach will be appointed by FANOC to operate and manage aspects of the fibre network and it will be involved in key operational decisions. All wholesale customers will be entitled to be members of SpeedReach, and, through SpeedReach, may influence the dimensioning of the Network and the expenditure that is incurred by FANOC.

2.2 The implementation of the Undertaking

The term of the Undertaking is for 15 years from the launch of services. A long period is necessary in order to provide investors with appropriate certainty in relation to this significant long term asset.

The Undertaking strikes a balance between the need for this long term certainty and appropriate regulatory oversight in the following manner:

- Ownership control and governance - it implements a model for corporate governance and vertical ownership control that embeds the correct economic incentives for pro-competitive outcomes.

- Pass through of cost of legacy local loop costs - the cost of Telstra's legacy customer access network comprising copper local loops (this is the cost of the last ½ mile of copper) is passed through in access prices.

- Pricing model for new network build - the Undertaking then provides a pricing model for the components of the network that will be built by FANOC and for

which it is able to influence the cost structure and ensures that FANOC can only charge its prudently incurred costs (including its cost of capital) for that new network build.

- Ongoing oversight - in applying the pricing model where there are matters of judgement that may have a material impact on prices, then pricing model parameters proposed by FANOC are often required to be approved by SpeedReach, or alternatively the Commission or an independent expert.

These features provide a high level of transparency and establish the correct economic incentives over the long term.

2.3 Ownership control and governance

FANOC recognises the importance of vertical ownership controls for promoting competition and the Undertaking therefore adopts a number of "Management Principles" that will prevent access seekers from having a controlling interest in the Network and will create the economic incentives that will promote vigorous competition in the retail supply of broadband services in Australia.

The Management Principles include the following features:

- *FANOC will only serve wholesale customers* - FANOC will not provide any retail telecommunications services. Unlike Telstra, FANOC will not be vertically integrated. FANOC will only provide wholesale access to its Network to other telecommunications carriers who will then compete at a retail level.

- *No carrier control of FANOC* - no carrier (or group of carriers acting in concert) can be in a position to control FANOC prices.

- *No discrimination on the basis of investment* - FANOC may not discriminate against an access seeker on the basis of whether the access seeker is an investor in FANOC.

- *No carrier control of SpeedReach* - No carrier (or a group of carriers that have an incentive to favour FANOC) may control SpeedReach.

- *SpeedReach Shareholders* – All access seekers will be entitled to be members of SpeedReach. SpeedReach members will have voting rights measured against the volume of services they acquire, but capped at a maximum percentage (to strike a balance between the interests of large and small users of the Network).

- *SpeedReach Board* - The SpeedReach board will include both representatives of carriers and independent directors.

- *SpeedReach management functions* - FANOC and SpeedReach will enter into a Management Agreement under which SpeedReach is allocated key operational functions in respect of the FTTN Network including:

    - reviewing and approving material aspects of FANOC's business plans and budget to ensure they are commercially prudent; and

    - establishing reference non-price terms for the supply of broadband services.

The result of this structure is that FANOC's objective, in order to maximise its own returns, will be to deliver high quality and cost effective access services to access seekers that will then compete in downstream markets. This will:

- ensure that consumers receive the lowest price and greatest quality benefits from open broadband competition; and

- avoid the negative regulatory dynamic caused by Telstra's vertical integration, its multiple interests across wholesale and retail markets and its strong incentive to stifle competition.

This pro-competitive ownership and management structure is material to the Undertaking. Therefore the Undertaking provides that if the ownership or management structures depart from these principles, the Commission will be entitled to re-assess the Undertaking and may require a variation or the withdrawal of the Undertaking.

2.4 Services available for Access Seekers

The Undertaking is a commitment to provide wholesale access to all services that FANOC elects to provide over the Network to all access seekers, with technical and operational equivalence between access seekers.

FANOC and SpeedReach will develop technical specifications for a range of different services that will be available for access seekers which will include a basic telephone access service to allow access seekers to provide basic voice as well as a variety of high bandwidth services.

The initial services contemplated by the Undertaking are:

- the Basic Telephone Access Service - a service provides a basic residential telephone access services to allow for the provision by an Access Seeker of an IP telephony based Standard Telephone Service or equivalent service to a residential end user; and

- Standard Broadband services of different bandwidths of 1.5Mbps, 6Mbps, 12Mbps and 24Mbps.

FANOC would develop a range of other high speed broadband transmission services to meet the needs of access seekers including business grade services. These services may also include point-to-multipoint services for the distribution of IPTV.

2.5 Pricing

The pricing for the broadband services is a combination of a "Pass Through Component" (effectively the Telstra charges for access to the local loop) and the "FANOC Component", (the charges for the new infrastructure that FANOC will build).

The Network uses the Telstra ‘sub-loop’ from the pillar to end user premises (this is in contrast to today where access seekers buy access to the full copper loop, known as ULLS). Access from the pillar will require a charge to FANOC by Telstra for the use of that sub-loop. The Undertaking provides for these charges to be passed through to access seekers at cost. Therefore the maximum FANOC Component prices referred to in the Undertaking do not include these charges.

The Undertaking sets prices for each access period over the 15 years of the Undertaking (an initial 3 year access period followed by three 4 year access periods). Prices for the initial services will be set in the Undertaking for the initial 3 year period (subject to CPI price

variations). Prices for the Basic Telephone Access Service will be set throughout the term of the Undertaking (subject only to CPI price variations).

Prices for other services and for the initial broadband services in other access periods will be set within the constraints of the pricing model. For these services the FANOC Component is set on the basis of a "weighted average price cap" methodology. This methodology and construct has many features similar to those used in regulating networks in other industries, such as electricity.

The pricing model (methodology) essentially has two steps:

- At the beginning of each access period, a calculation will be made of costs which will determine the 'Target Revenue' required for FANOC to recoup its costs. The Target Revenue includes a return on capital (at the regulated WACC), a return of capital (depreciation), and operating and capital expenditures.

- Then, on the basis of demand forecasts that have been developed (and which will be approved by SpeedReach, the Commission or an independent expert), the price cap is then applied to provide the percentage change in prices needed across all products, so that FANOC will earn its 'Target Revenue' if it meets the forecasts.

If sales are lower than forecast, FANOC will earn less revenue. If sales are higher than forecast it will earn greater revenue. This provides FANOC with the incentive:

- to set prices and restructure prices to maximise usage of the Network; and

- to improve quality of service and innovation in service delivery.

2.6 Pricing during the Initial Period

In the first three years of the Undertaking, while the Network is still being rolled out, forecasts of sales are inherently less reliable. Therefore, prices for the first three years have been set based on long term forecasts of expenditures and service demand, including long term forecasts of broadband penetration on various network platforms.

The initial FANOC component prices for certain basic products have been specified in the Undertaking, for the initial 3 year access period. They can be represented as follows. Note that these prices allow for a range of possible ULLS charges (the Pass Through Component). FANOC consider that $5 is a reasonable charge for this component but considers that it is appropriate to indicate a range for this 'pass through' charge on the basis that a final amount will be negotiated with Telstra or subject to the arbitration provisions under Part XIC of the TPA.

Service	Basic service charge [$/month]	Sub-loop [$/month]	Broadband component [$/month]	Total * [$/month]
Basic telephone access service	10	5 – 15		15 – 25
Standard broadband service + 1.5Mbps	10	5 – 15	4.23	19 – 29
Standard broadband service + 6Mbps	10	5 – 15	8.46	23 – 33

Standard Broadband service + 12Mbps	10	5 – 15	16.92	32 – 42
Standard broadband service + 24Mbps	10	5 – 15	25.38	40 – 50

* Figures are rounded for ease of interpretation

Because certain basic telephony services are subject to social obligations (such as the retail price controls on basic line rental), the Undertaking provides that the Basic Telephone Access Service will be required to be provided throughout the term of the Undertaking at the price specified for the first three years, subject only to CPI increases.

2.7 SpeedReach approval of budgets

Provisions for access seekers (through SpeedReach) to control expenditures incurred by FANOC provide greater incentive to minimise costs. Whilst FANOC has the incentives to minimise costs, to ensure that higher prices do not discourage utilisation and that it can recover its costs subject to market demand, its position as the only provider of BAS blunts those incentives.

Accordingly, SpeedReach will be given a role in approving FANOC budgets. SpeedReach will have an incentive to ensure that:

- the expenditure budget reflects outcomes that access are commercially prudent;
- expenditure will be at the lowest level possible that delivers the services that end users require; and
- expenditure will not be incurred in delivering services that end customers value at less than the cost of provision.

3. The HFTP Network and the Service

FANOC intends to build a hybrid fibre twisted pair (HFTP) network based on a fibre to the node (FTTN) architecture. It is intended that the initial network roll out will cover approximately 4 million homes in five capital cities using ADSL2+, with a possible extension of the network footprint during the term of the Undertaking.

3.1 HFTP Network Architecture

The basic architecture involves a DSLAM located at the node which is collocated with a pillar. The ULL is terminated to the DSLAM. Traffic is backhauled to the point of interconnection (POI) on optical fibre. Access seekers interconnect at a local access point (LAP) or at a Transit Access Point (TAP).

The network is a local access network designed to utilise existing copper (or aluminium) wire from an end user customers to a local access pillar where it is connected to a DSLAM (the node point). The network architecture therefore depends on the provision of access by Telstra to enable all ULL lines at a pillar to be connected to a single node[1].

The nodes are then connected via transmission systems to Local Access Points (or TAPs), which form the points of interconnection between the HFTP Network and the network of an access seeker. It is anticipated that the transmission system used in the HFTP network will be optical fibre or equivalent. The Local Access Points may be located in TEBA space in existing Telstra Exchanges or at similar locations.

The fibre to the node architecture to be deployed in the HFTP network uses a shared DSLAM at the node, which provides the following key benefits:

(a) All carriers can gain access without locating their own DSLAMs at the node.

(b) The configuration reduces ULL wiring complexity at the node.

(c) A single (or shared) DSLAM at the node saves costs. This can be contrasted with a build involving multiple DSLAMs at node which would prevent recovery of fixed installation costs due to lower market share.

(d) Space restrictions, environmental concerns, backhaul and power issues are lower.

(e) Truck Rolls are not required to swap pairs across when cutting over customers between Access Providers.

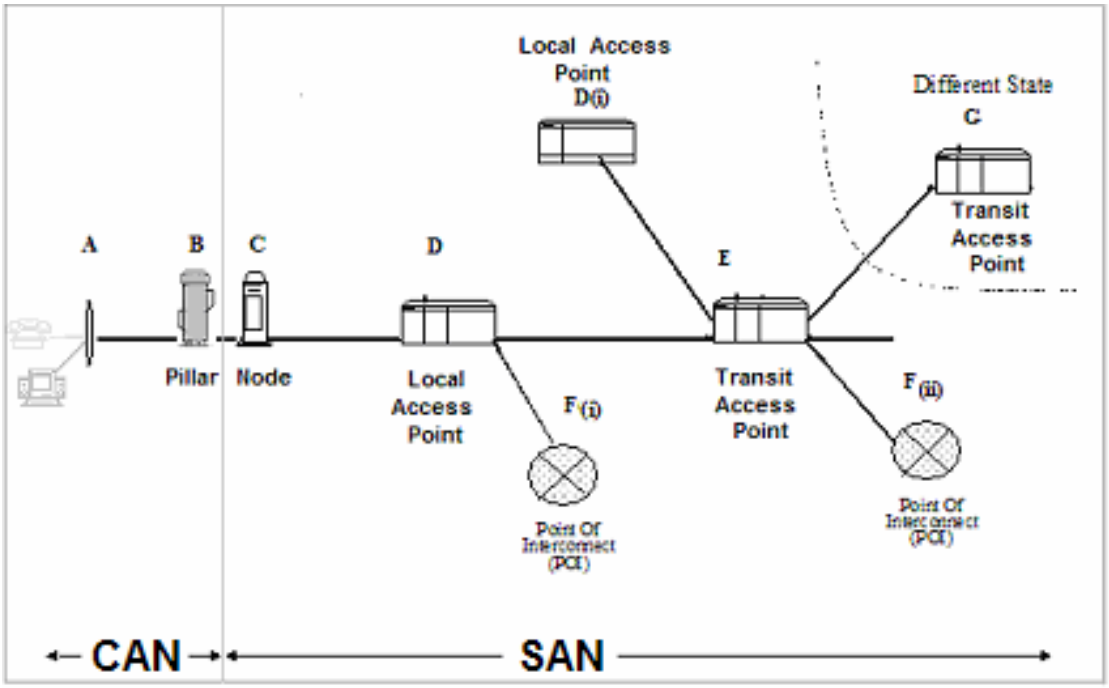
Access seekers are offered a point of interconnection (POI) at each interconnection point (or LAP). This architecture promotes competition in backhaul provision in the inter exchange network (IEN). This can be contrasted with a more aggregated configuration where POIs are located higher in the network. This also reduces the likelihood of disputes regarding backhaul provisioning that may arise in a more aggregated configuration.

3.2 Network elements

The network design will be consistent with the DSL Forum TR-101 reference model.

Although the design of the HFTP network is complicated, it can be represented as follows.

[1] In May 2007 the Commission announced a public inquiry under subsection 152AL of the TPA to determine whether it should vary its service declaration for ULLS to ensure that sub-loop access falls within the definition of the declared ULLS. The transfer of all ULL lines from a pillar to a node may require additional legislative amendment. FANOC is in discussion with the Government in relation to such amendments being made. A copy of this request is attached as Schedule 5.



The HFTP uses the Customer Access Network ("**CAN**") and the Service Aggregation Network ("**SAN**"). The CAN extends between points A and B on the above diagram and is typically made up of:

(a) a transport system (copper (or aluminium) wire twisted pair based) between end user customers and pillars (A to B);

(b) pillars, each of which aggregates all the transport system links from up to approximately 160 customers (B). This is done to reduce the number of copper (or aluminium) wires required in the next transport system link;

(c) a transport system (copper (or aluminium) wire based) between pillars and nodes (B to C); and

(d) nodes, which concentrate customer access links to ensure efficient use of the capacity in the next transport system link and allow the application of port speed limiting and the application of QoS controls for the aggregate data stream (C).

The Service Aggregation Network (SAN) extends between points C and E (or F) on the above diagram and is made up of:

(a) routers at Local Access Points (eg D, E & G);

(b) transport systems between routers (which are normally optical fibre based systems) (eg C to D, D to E, E to D(i) and E to G); and

(c) POIs (eg F(i) or F(ii)) where the access seekers can connect to the network as Application Service Providers complying to the interface specifications detailed in the DSL Forum TR-101 Reference Model.

The network elements in the SAN are located at the node (collocated with a pillar) and at the LAP and between those points.

Each node will concentrate customer access links. Equipment at the node includes transmission equipment, DSLAM, test access equipment, Special Access Service and

combination cards, copper and optical fibre distribution frames, a cabinet, a power system (mains powered) with battery backup, pitt/joints, and slab and other civil works.

The node will be connected to the pillar by a copper tie cable.

The LAP and TAP will locate transmission and routing equipment.

The various intermediate interfaces within the Local and Transit Access Points will comply with the DSL Forum TR-101 Reference Model and the DSL Forum Technical Report TR-058 Multi-Service Architecture & Framework Requirements.

The access seeker's will have physical Ethernet connection. A POI will operate with port bit rates of between 2 Mbps and 10Gbps (or greater for business grade services) depending on the access infrastructure.

Access seekers will have Network Management access to all elements of the HFTP (including the DSLAM and Backhaul network) for Provisioning, Capacity Management, Service Assurance, etc. This will be via a mediation device that accepts inputs/requests from the Access seeker’s Network Management systems.

Fibre optic cable will be laid between the nodes and the LAPs. It is anticipated that around 60% of duct space will be built or sourced from third parties. The remaining ducts will be sourced from Telstra.

The nodes will be powered by mains power with a battery back up that will last up to 8 hours.

3.3 Services provided over the HFTP

The Broadband Access Service (BAS) provides a transmission service between an end-customer and a POI with FANOC’s network. Access seekers gain access to the customers by connecting to the POI located at the local access point (or LAP).

The Broadband Access Service involves the sale of data transmission to access seekers. It involves the carriage of data from an end user to a service provider’s POI, with three types of service configuration possible. These are:

(a) a point to point high speed transmission service capable of delivering broadband to residential customers.

(b) a point to multipoint high speed transmission service capable of delivering multiple video channels to residential customers.

(c) a point to point access service to allow for the provision by an access seeker of a Standard Telephone Service or equivalent service to a residential end user (the 'Basic Telephone Access Service').

The node provides VLAN handling, Ethernet/VLAN aggregation, Security, QoS, Multicast / IGMP and OAM capability complying with the Technical Report from the DSL Forum TR-059 DSL Evolution – Architecture Requirements for the Support of QoS-Enabled IP Services.

The Local and Transit Access Points provide Bandwidth/QoS policy enforcement, Security, Multicast control, Ethernet/VLAN aggregation, potential for separate multicast content injection point, resiliency and OAM capability. The interface at the access seeker's port at the POI will operate to open protocol standards nominated by FANOC (subject to the arrangements with the BAS Manager).

Service classes (priorities) will be consistent with ITU protocols. For example, the Standard Broadband service has Transport Class 4 Layer 2 Ethernet QoS.

Initially it is intended that the Basic Telephone Access Service will be provided using an analogue service from the end-user premises to the node, and using an IP-based service over the Service Aggregation Network. The access seeker's voice switch will terminate the Residential Telephony Service. Telephony interface is designed to be compatible with analogue telephone instruments conforming to AS/ACIF S002, S004 and AS/NZS 60950-2000 standards. Therefore customers will be able to retain existing customer premises equipment such as phones and fax and answering machines.

The features of any retail telephone service provided using the Basic Telephone Access Service will be largely dependent on the access seeker's own network (ie, its Voice Switch). The Basic Telephone Access Service does not include resale services or an end-to-end carriage between two end user's premises. It is an 'access service' for the carriage to a relevant point of interconnection with the access seeker's own network. Switching capability and other service functionality will be differentiated by the access seeker in accordance with its voice switches.

The availability of existing number retention and full number portability will be supported but will be the responsibility of access seekers, as will the availability of other features such as priority assistance and pre-selection.

CLI will be retained by the customer and access seeker will be required to comply with the *Telecommunications (Emergency Call Service) Determination 2002* (or any equivalent regulatory requirement), and to enable 13/1300 and 1800 calls to be appropriately routed. IPND, directory and emergency service databases are to be maintained by the access seeker. Directory assisted services are to be provided by the access seeker.

Special Access Services (SAS) such as alarms and EFTPOS are accommodated using SAS Cards and a program to migrate customer premise equipment to IP solutions.

3.4 Build timing

A three year rollout of the network is planned. Using separate contractors for different regions it is estimated that the rollout can achieve around 500 nodes per month. A three year period is planned for the initial rollout to 4 million homes.

The rollout plan is predicated on an amendment to the ULLS declaration to allow 'pillar migration'. The estimate of the initial rollout schedule is presented in the table below.

Initial rollout schedule

	%	Nodes	Node/Year	Node/Month
Sydney	40	8,000	2,667	222
Melbourne	30	6,000	2,000	167
Brisbane	16	3,200	1,067	89
Adelaide	7	1,400	467	39
Perth	7	1,400	467	39
Average				556

Following the initial rollout further regional installations could be undertaken at a rate of around 250 nodes per month.

The build phasing produces means that initial build capital expenditure is significant. It is followed by a period of on-going expansion of the network which is in turn followed by an increase in capital expenditure to replace and upgrade electronic equipment. This capital program does not include any migration to VDSL.

3.5 Digital subscriber line technology

The network design for the initial roll out is based on ADSL2+ technology.

ADSL2+ provides access speeds over ULL up to approximately 24Mbps. The actual speed achieved at each customer's premises depends on a number of factors, including but not limited to:

(a) Length of copper ULL from the Telstra exchange to the customer premises

(b) Age, quality, and core diameter of copper wire

(c) Moisture in cable ducts and pits

(d) Degree of cross talk between adjacent copper pairs

As the ULL length increases, the effective speed achieved by the customer declines. An industry recognised breakpoint is 1.5km, at which a speed of 12Mbps is achievable using ADSL2+. Beyond 1.5Km the customer speeds are expected to drop below 12Mbps.

Approximately 33% of the metropolitan population (Band 2 ULLS) live within 1.5Km of a Telstra exchange, and are therefore theoretically capable of receiving ADSL2+ services with a speed of around 12Mbps. The remaining 67% of metropolitan customers require fibre to be extended beyond the current exchange locations to push DSL closer to them.

To achieve this, FANOC proposes building a HFTP network, placing DSLAMs in nodes that will be co-located with pillars, to service the outer reaching customers.

The Service Aggregation Network can be migrated to VDSL over time.

An industry recognised breakpoint is 800 metres, at which a speed of up to 50 Mbps is achievable using VDSL. Nodes established during the initial build (i.e those outside of the 1.5km radius of a Telstra exchange) will have a customer capture area of less than 800 metres and will therefore be suitable for upgrade to VDSL. However to provide the benefits of VDSL to all of those end users that are currently within 1.5kms of the exchange more nodes would be required to locate the DSLAM within 800 metres of those customers. In addition a VDSL migration would require additional transmission capacity to backhaul traffic between the node and the LAP, additional DSLAM capacity and greater power at the nodes. The desirability of a migration to VDSL would depend on whether there is sufficient latent consumer demand for very high speed broadband services and/or applications requiring dedicated transmission.

3.6 Service Description

The Undertaking relates to the service defined as the Broadband Access Service and specifies the terms and conditions on which FANOC will comply with the SAOs in respect of that service. The Broadband Access Service is defined in Schedule 2 of the Undertaking as being any carriage service that FANOC elects to provide to an access seeker over the HFTP Network provided between an End User POI and an Access Seeker POI.

The service description for the Broadband Access Service is intended to be wide enough to capture all potential access services that may be able to be provided over the HFTP Network throughout the term of the Undertaking. This wide service description has a number of implications, considered in detail below, that support the Reasonableness of the Undertaking. In particular, the wide service description means that if the Undertaking is accepted:

(a) any service that FANOC provides to an access seeker that involves carriage over the HFTP Network as described in the Undertaking, will be deemed to be a declared service by subsection 152AL(7) of the TPA;

(b) the standard access obligations, including the obligation to supply an active declared service to an access seeker will apply to any such service. Therefore, all access seekers will be entitled to any service supplied to any other access seeker;

(c) any service that FANOC provides that involves carriage of the HFTP Network will be accounted for in the pricing model described in Schedule 3 of the Undertaking. In effect this will mean that all service provided over the HFTP Network will be subject to the same cost control and efficient pricing incentives as the initial BAS services; and

(d) if an access seeker is unable reach agreement with FANOC in respect of the terms and conditions on which any such service is supplied, the terms of the Undertaking will apply and the Commission can arbitrate a dispute in relations to terms and conditions of supply that are not covered by the Undertaking, under Division 8 of the TPA.

An alternative approach could have been to specify certain pre-defined services with defined technical parameters to which the Undertaking would apply. However, given the length of time for which the Undertaking will be in place, such an approach would not be reasonable.

Over the term of the Undertaking it is likely that access seekers will demand an array of different services over the HFTP Network. These might include services such as point-to-multipoint video distribution and different types of broadband service. As the HFTP Network is likely to be a key piece of bottleneck fixed telecommunication infrastructure for the term of the Undertaking and beyond, the intention of the Undertaking is that any service that FANOC provides will fall within the terms of the Undertaking.

The Undertaking does include a provision for certain types of service to be defined as 'Excluded Products', subject to the approval of the Commission. The effect of a product being defined in the 'Excluded Products' category is not that the product would fall outside the terms of the Undertaking, but merely that the pricing of the Excluded Products will be beyond the pricing model until the end of the Access Period in which it is launched.

Such Excluded Products, to the extent there are any, will still be captured by the requirement to comply with the SAO in respect of the supply of that product and if an access seeker was unable reach agreement with FANOC in respect of the terms and conditions on which an Excluded Product was to be supplied, the Commission could arbitrate a dispute under Division 8 of the TPA.

Carriage between and End User POI and Access Seeker POI

To fall within the definition of Broadband Access Service, the service must involve carriage between an End User POI and an Access Seeker POI. The End User POI is defined as the network boundary of an end user's premises, or such other point of interconnection as agreed to by FANOC.

As noted above, in section 3.1, the HFTP Network includes both the Service Aggregation Network (from the Local Access Point (or the TAP) to the node) and the use of ULL from the pillar to an end user's premises. Therefore, the service covered by the Undertaking is not limited to carriage solely over the fibre portion of the Service Aggregation Network, which will be constructed by FANOC, but will also include carriage over the copper or aluminium ULLS to the network boundary at an end user's premises. The cost of FANOC accessing the ULLS will then be passed through to the access seeker (see section 5.1).

However, the Undertaking also provides that access seekers may request an End User POI at a location other than the network boundary of an end user's premises. Therefore, subject to commercial and operational constraints, a Broadband Access Service could, for example, include a carriage service that did not include carriage over the ULLS such as wireless broadband, by providing that the End User POI for a particular service would be located at the node.

As a service only becomes a Broadband Access Service when it is actually provided by FANOC, it will not be compelled to provide such services. However, Access Seekers have provision within the Undertaking to request a service be provided and FANOC consult on the request and reasonably consider the commercial viability of the request.

Technical and Operational Quality

Generally the SAO's require that an access provider must take all reasonable steps to ensure that the technical and operational quality of the declared service is equivalent to that which the access provider provides to itself (section 152AR(3)(b). However, the Undertaking requires that FANOC must not provide any retail carriage services. FANOC can only provide wholesale services to access seekers. These requirements are discussed further in section 4 of this submission. Therefore, section 152AR(3)(b) arguably will not have any direct application for the quality of the services to be provide by FANOC to access seekers.

Accordingly the Undertaking requires that the technical and operational quality of the BAS Product provided to any access seeker is equivalent to that which the access provider supplies to other access seekers generally. The pricing model also provides strong incentives for the provision of high quality of service.

3.7 BAS Products

Since the Broadband Access Service is broadly defined, the Undertaking includes a process for determining the specific parameters of the differentiated services that will be made available to access seekers. In particular, the Undertaking contemplates that specific 'BAS Products' will be developed, which will be a type or class of Broadband Access Service that FANOC will provide, and that will have specified features, technical parameters and prices.

The Undertaking provides that FANOC will consult with the BAS Manager in relation to the specification of BAS Products to be made available, and the BAS Manager will be responsible for developing the non-price terms and conditions of access for those products (such as ordering and provisioning processes).

Some examples of BAS Specifications are set out in Schedule 2 of this submission.

If an access seeker requests the provision of a type of Broadband Access Service that is not a currently specified BAS Product then FANOC is required to reasonably consider providing the requested product, in consultation with the BAS Manager.

This situation should be contrasted with the case when the service provider is vertically integrated. Where the monopoly infrastructure owner is providing both retail and wholesale

services (such as Telstra), the monopoly infrastructure owner has an incentive to limit the technical and operational quality of the services available to access seekers, in order to ensure that no access seeker is able to provide a better retail service than the service being provided by the monopolist. This is discussed further in the NERA paper in Schedule 4.

In a sense, section 152AR(3)(b) permits this to occur by only requiring that the technical and operational quality of the service that must be provided to access seekers to comply with the SAOs is "equivalent to that which the access provider provides itself". This can significantly stifle innovation.

As such the ownership controls in the Undertaking provide a competitive framework with in-built incentives for innovation that go beyond the requirements of SAO's on any vertically integrated provider.

As discussed in further detail section 4, FANOC will not be providing any downstream retail services, but will only be supplying carriage services to access seekers. In addition, FANOC will not be controlled by any carrier or carriage service provider (or two or more carrier or carriage service providers in certain circumstances). Therefore, unlike a vertically integrated incumbent, FANOC will not have any incentive not to provide an access seeker with a service of any particular technical parameter or operational quality for which there is demand - provided that any incremental costs involved in the provision of that product (including lost sales on other products) are likely to be met by higher revenue.

3.8 Initial BAS Products

The Undertaking includes technical parameters of certain products that will be available to access seekers at the time the service is commercially launched. The BAS Specifications for these Initial BAS are set out in Schedule 2 of this submission, and are as follows:

Annexure A - Basic Telephone Access Service;

Annexure B - Standard Broadband Service - 1.5Mbps;

Annexure C - Standard Broadband Service - 6Mbps;

Annexure D - Standard Broadband Service - 12Mbps

Annexure E - Standard Broadband Service - Unlimited.

The Undertaking provides that the initial BAS cannot be withdrawn or altered in any material respect during the First Period. The Basic Telephone Access Service cannot be withdrawn at any time, unless approved by the Commission.

As noted in section 3.3 above, the Basic Telephone Access Service is a service that could be used by access seekers to provide residential end users with an IP Telephony based Standard Telephone Service. Initially the service would be provided as an analogue service from the end user premises to the node. Therefore, existing customer premises equipment would continue to be effective. Utilising the capability of the access seekers voice switch, the Basic Telephone Access Service will allow access seekers to provide services to retail end users of equivalent functionality to those offered today.

The Undertaking also provides for a number of standard broadband services, with differing maximum speeds. These services are layer 2 point-to-point transmission services, based on ADSL2+ service features. The targeted maximum downstream line speed is able to be set by FANOC at the level of the node.

The Initial BAS does not include Business Grade Services, however, it is anticipated that FANOC would provide a business grade product, to the extent that access seekers had a demand for this grade of service in particular regions. Schedule 2 also includes an example of a draft BAS Product Specification for a Business Grade Broadband Service (Schedule 2 Annexure F).

4. Ownership Structure and Management Principles

A central element of the proposed HFTP Network is the nature of the management and ownership of the HFTP Network. In particular, it is intended that:

- FANOC will own the HFTP Network, will not be a vertically integrated wholesale provider, and will not be controlled by access seekers; and
- the BAS Manager will make particular operational and management decisions regarding the HFTP Network, and will be owned by access seekers.

This management and ownership structure materially support the reasonableness of the terms and conditions of the Undertaking.

4.1 FANOC role and structure

The HFTP Network will be owned by FANOC, which is intended to be a vehicle that provides investors with an attractive market based risk and return model, when analysed as a stand alone financial investment. This model would be similar to those found in the gas, electricity and transport sectors. As the owner of the HFTP Network, FANOC's ownership structure and FANOC's involvement in the telecommunications industry will clearly play a critical role in shaping FANOC's incentives.

Two key elements of FANOC's ownership and structure, which are reflected in the Management Principles of the Undertaking are:

- **No vertical integration:** FANOC will not provide downstream retail telecommunications services, so it will not be a vertically integrated wholesale provider. FANOC will therefore have straightforward incentives to maximise the utilisation of the network.
- **Diversity of ownership:** By offering an attractive market based risk and return model, FANOC will attract a range of investors that will not have a strategic interest in the telecommunications sector, and can therefore operate independently of the interests of any single access seeker.

These elements are given effect through the Management Principles set out in clauses 4.1 of the Undertaking.

FANOC Ownership Entity

The Management Principles in respect of FANOC's ownership structure apply to any FANOC Ownership Entity, which includes FANOC itself, any subsidiary of FANOC, or any trust of which FANOC is trustee or responsible entity or any other entity managed by FANOC, if the entity has been established for the purpose of owning all or part of the HFTP Network and has agreed with FANOC to comply with the terms of the Undertaking. The purpose of this concept is to allow flexibility in establishing appropriate investment structures for investors.

No vertical integration

The principle that FANOC will not be a vertically integrated wholesaler provider is effected by restricting FANOC from providing certain services. Clause 4.1(a) of the Undertaking provides that FANOC Ownership entity will not provide any carriage service to any persons that is not an access seeker. This restriction would prevent FANOC from providing both retail telecommunications services that use the HFTP Network, as well as any other retail telecommunications services. Therefore this Management Principle ensures that FANOC will not have any other ancillary interest in the provision of retail telecommunications services that may influence its making of decisions in relation to the HFTP Network.

In addition to removing any incentive FANOC may have to discriminate between access seekers, the principle also aims to restrict FANOC's economic incentives to making an appropriate return on the investment in the HFTP Network, as a standalone investment, by maximising the utilisation of the network.

Diversity of ownership

Diversity of FANOC ownership is achieved through the constraints placed on the types of entities that can control FANOC in clause 4.1(b), which provides that neither FANOC nor any FANOC Ownership Entity will be controlled by:

(a) any individual access seeker or its related body corporate; or

(b) any two or more access seekers and their related bodies corporate (in circumstances where that control will likely result in discrimination in favour of those access seekers).

This clause requires that particular combinations of entities must not control FANOC, as that term is defined in section 50AA of the Corporations Act. This definition of control is not limited to the simple ownership of a majority of the shares in a body corporate, but instead provides that "an entity controls a second entity if the first entity has the capacity to determine the outcome of decisions about the second entity's financial and operating policies".

The constraints extend to a combination of the above entities and any of their related bodies corporate (as defined in the Corporations Act to include subsidiaries, holding companies, and other subsidiaries of the same holding company). This would prevent carriers and carriage service providers from, while not having actual control themselves, being able to 'effectively' control FANOC through acting together.

The effect of these constraints is to ensure that FANOC is controlled by entities unrelated to any strategic interest in the telecommunications industry control. Investors in FANOC will make their investment decisions based on the returns it is expected to generate, not on the basis of ancillary strategic benefits that are specific to their downstream businesses in the telecommunications sector.

These constraints are therefore consistent with the intention that FANOC will not be a strategic control investment for any particular carrier/carriage service provider (or group carriers or carriage service providers). It is intended that some carrier/carriage service provider may take an interest in FANOC. Each carrier/carriage service provider will make its own individual investment decision and the proportion of its investment will not necessarily reflect its level of participation in the BAS Manager or its proportionate use of BAS Products provided over the HFTP Network , either initially or in the longer term.

A group of carriers (referred to collectively as the 'G9') will comprise the initial owners of FANOC, in order to establish FANOC and to establish the regulatory regime under which

FANOC will operate (including the preparation of this Special Access Undertaking). These constraints on FANOC's ownership therefore apply only after the date at which FANOC commences providing services over the HFTP Network.

4.2 BAS Manager role and structure

It is intended that FANOC will appoint a separate management company, the BAS Manager, to be responsible for the operational management of the HFTP Network. It is intended that the BAS Manager will represent the interest of access seekers (to the extent, if any, that the interests of access seekers do not coincide with the interests of FANOC). The primary purpose of the BAS Manager is:

- to facilitate a degree of separation between the funding and ownership of the HFTP Network and its day to day operations;
- to provide access seekers with a degree of oversight of the costs incurred by the access provider (since any inefficient costs would be borne by access seekers in the form of higher charges).

These management arrangements will allow access seekers to ensure that the HFTP Network is constructed and operated in a manner that facilitates access for all access seekers and delivers BAS Products that meet the needs of their respective end users, in an efficient manner.

The Undertaking provides the following in respect of the ownership structure of the BAS Manager

- **Membership of access seekers**: all Broadband Access Service access seekers will be entitled to be members of the BAS Manager. (clause 4.1(d))
- **Constitution of the Board:** The BAS Manager board will comprise directors nominated by the members of the BAS Manager. It is anticipated that the chairperson and a number of other directors will be required to be independent of any particular member/access seeker. Such independent directors may be the majority of directors or of such a number as will ensure that the interests of all members are balanced in the board decision making process. (clause 4.1(f))
- **Voting rights of members:** No member would be able to control the BAS Manager. In order to ensure that the BAS Manager reflects a balance of the interests of access seekers, the voting threshold for key decisions would be greater than the voting rights of any one member. In addition, the BAS Manager will not be able to be controlled by any group of Access seekers that also have a significant financial interest in FANOC. (clause 4.1(e))

The BAS Manager will play a role in the determination of BAS Products, and the available Budget allowed for capital expenditure by FANOC. It is therefore important that decisions relating to these responsibilities cannot be made in the interests of an individual access seeker, where those decisions could potentially create technical and operational barriers or otherwise impact upon competition in downstream markets. These provisions ensure that such decisions will be made by the BAS Manager acting in the interests of all access seekers, and thereby promote an open competitive environment.

The legal relationship between the BAS Manager and FANOC will principally be governed by a management agreement that will determine the division of rights between the parties. The management principles in the Undertaking aim to strike a balance between the necessary requirements of investors in FANOC and the users of the HFTP Network (the access seekers). In particular, debt and equity financiers of FANOC will need to be assured that the rights of

BAS Manager may not be exercised in a manner that is detrimental to the economic model on which their investments in FANOC have been based. Key responsibilities given to the BAS Manager include:

- **Approving the Budget and Deployment** - including confirming that any proposed capital expenditure by FANOC represents efficient costs. (clause 5)

- **BAS Products** - developing the non-price terms of access for each BAS Product and conferring with FANOC in relation to the technical characteristics and parameters of all products. (clauses 6.3 and 6.5)

Determination of BAS Products

Section 3.7 of this submission describes an intended process for determining the parameters and availability of BAS Products.

Approval of Budget for capital expenditure

Expenditure incurred by FANOC will flow through to access seekers in the form of higher charges for the Broadband Access Service. Therefore FANOC's yield is largely protected, provided the quantity of services sold is consistent with forecasts. Therefore, it is arguable that FANOC may not have a sufficient incentive to ensure expenditure is efficient. For this reason, the Undertaking provides that FANOC's expenditure must be approved by the BAS Manager (or otherwise approved by an Independent Reviewer or the Commission).

The Undertaking provides that FANOC must submit a Budget to the BAS Manager prior to the commencement of each financial year, and at any other time FANOC intends to incur capital expenditure not already approved in a Budget. If the BAS Manager considers that certain expenditure in the budget is not expenditure that would be undertaken by a prudent telecommunications network provider acting efficiently and in accordance with good industry practice, then FANOC would not be prevented from incurring the expenditure, but if it did so, the expenditure would not be able to be included in the pricing model (and therefore would not be recoverable by FANOC from access prices) unless the Commission or an Independent Reviewer has determined that the expenditure is prudent.

4.3 Compliance with the Management Principles

The Undertaking includes an acknowledgement that conformance to the Management Principles may have a material impact on whether the terms of the Undertaking are reasonable.

If there were to be a change in the management, FANOC would be required to notify the Commission and the Commission would be able to determine if the relevant change would mean that the Undertaking was no longer reasonable. The Commission is required to issue a written rectification notice to FANOC if the Undertaking is no longer reasonable, and FANOC must then elect (within 30 days of the rectification notice) to either rectify the compliance with the relevant principle, give additional Undertakings to the Commission as required to satisfy the Commission of the reasonableness of the Undertaking (together with the additional undertakings), or withdraw the Undertaking.

If FANOC elects to withdraw the Undertaking, then because the Undertaking can only be withdrawn after giving a minimum of 12 months notice, there will be a period of 12 months during which the Undertaking will not be reasonable, but still operational. For this reason, the Undertaking requires that should FANOC elect to withdraw the Undertaking, FANOC must comply with any additional undertakings reasonably required by the Commission to satisfy the Commission of the reasonableness of the Undertaking (together with the additional undertakings) during this 12 months.

4.4 Reasonableness of the Management Principles

The structure of FANOC and the BAS Manager and arrangements between them, as described above, will establish an environment in which the relevant economic incentives encourage an attractive regulatory dynamic, that will promote competition and efficient investment in infrastructure. In particular, the FANOC\BAS Manager structure achieves the following outcomes that are relevant to the reasonableness criteria:

- **Diversity of FANOC ownership:** FANOC's decision making will operate independently of the objectives of any individual telecommunications carriers. A significant proportion of FANOC's debt and equity funding will be derived from independent third part debt and equity financiers (and its board is likely to be comprised of representatives of major equity financiers, as well as independent directors).

- **Development of products for HFTP Network access seekers:** FANOC will not be a retail service provider. FANOC's customers will be access seekers with a demand for BAS Products. FANOC's economic interests will therefore be served by meeting the needs of all of those access seekers.

- **A special purpose BAS provider:** FANOC will have very focused network and service objectives related to the wholesale BAS Products provided to access seekers using the HFTP Network . Its incentive will be to maximise the use of the HFTP Network and to provide the highest volume of BAS Products.

- **Greenfield network project:** FANOC will establish a new network and will be acquiring new network assets. While there is the potential to transfer some existing network assets to FANOC, the different economic incentives of FANOC and network owners selling such assets will ensure they are transferred at an arms length market price.

- **Access seeker control over expenditure:** Access seekers will have responsibility for approval of FANOC's budget, which will ensure prudent investment rather than 'gold plating'.

- **BAS Manager operational decisions:** Operational decisions regarding the HFTP Network will be taken by the BAS Manager which will engage an independent executive team supervised by a board comprised of independent directors and directors appointed by BAS Manager members. Accordingly, such operational decisions will meet the needs of access seekers.

- **Diversity of BAS Manager ownership:** The BAS Manager board will comprise representatives of a range of access seekers, none of whom will have control over the BAS Manager. The BAS Manager will also have independent directors and management. Accordingly, the decisions of BAS Manager will benefit from open and independent corporate governance structures.

- **Cost transparency:** As a result of such a commercial focus, in addition to the ownership controls and the payment of market values for all HFTP Network assets, there can be a high degree of confidence that the actual costs of the HFTP Network are both readily identifiable and consistent with efficient forward looking costs.

Promotion of competition

The Management Principles substantially advance the promotion of competition in downstream retail telecommunications markets. The Commission has previously taken the

view, adopting the interpretation made by the Tribunal in *Sydney International Airport [2000]*[2], that the notion of promoting competition involves creating the conditions or environment in which an improvement in competition is likely to occur.[3] An important benchmark for the Commission in assessing whether appropriate conditions are created for the improvement of competition has been the principle of non-discriminatory access between downstream suppliers of a service, and the idea that access seekers must be given an opportunity for 'effective access' to a particular service.

The Management Principles require that FANOC will not be a vertically integrated access provider. FANOC will be controlled by a diverse range of investors and will operate independent of the objectives of any individual telecommunications carrier or group of carriers. In addition, FANOC will not itself provide any retail services that compete with access seekers in any telecommunications market. The structure therefore creates an environment in which vigorous competition in downstream markets is likely to be facilitated, because FANOC has a strong incentive to maximise the utilisation of the HFTP Network by access seekers, in order to maximise FANOC's own return.

The competitive environment created by the FANOC structure may be compared to the circumstance in which a vertically and horizontally integrated incumbent such as Telstra were to construct an FTTN/HFTP network. Where a network is owned by an incumbent, who also provides services in the retail market, then the provision of services to an access seeker can be viewed as providing a service to a competitor in the retail market. Therefore, it follows that an incumbent would not have as strong an incentive to maximise the utilisation of the network, but instead would have an incentive to minimise the utilisation of the network by access seekers in order for the incumbent to retain its own retail market share.

The creation of an environment in which competition is likely to improve is primarily addressed by ensuring that the HFTP Network is not owned by a single carrier and is solely focussed on providing services to access seekers. However, the promotion of competition is also achieved by giving access seekers a role, through the BAS Manager, in making key decisions in the management and operation of the HFTP Network. This involvement in key decision making will directly promote an open competitive environment. In particular, technical and operational barriers to competition are also likely to be significantly lower in downstream markets where management decisions at the wholesale level are not heavily influenced by the interests of a particular carrier (or group of carriers).

Economically efficient use of and investment in infrastructure

A vertically integrated provider of an FTTN/HFTP network, such as Telstra, may have incentives not to use, or invest in, infrastructure efficiently. For example, a vertically integrated owner of a HFTP Network may only take into account the needs and business plans of its own retail service providers in making technical decisions regarding the nature of the service to be rolled out, rather than making decisions in the interest of the collective needs and interests of all potential users of the service.

That is, technical decisions may be made that do not consider the interests of access seekers or that specifically disadvantage access seekers in comparison to the incumbent's own interests. For example, a vertically integrated provider could be tempted to make decisions in relation to the geographic reach of the proposed network that were based on an objective of harming the

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[2] ACompT 1 (1 March 2000)

[3] Commission, *Assessment of Foxtel's Special Access Undertaking in relation to the Digital Set Top Unit Service - Draft Decision*, August 2006, p19.

provider's competitors in the retail market rather than being based on an objective assessment of the current demand for services. For these reasons, a vertically integrated ownership structure is unlikely to promote productive, allocative or dynamic efficiency.

However, because the Management Principles provide that FANOC will not be owned or controlled by a retail provider and will not itself provide retail services FANOC will not have an incentive to make inefficient investment decisions. In addition, as further assurance of productive and allocative efficiency, the BAS Manager, which is owned by access seekers, has approval over material aspects of FANOC's budget. Under the pricing model inefficient investment and operational decisions may directly flow through to access seekers in the form of higher charges. Therefore, providing access seekers with oversight in respect of capital expenditure will ensure that decisions in relation to expenditure are made efficiently, as unnecessary expenditure that does not provide an appropriate benefit to access seekers will not be approved.

The legitimate business interests of FANOC

The Management Principles do not impact upon FANOCs legitimate business interests (i.e. FANOC's ability to earn a normal commercial return on its investment).

The expenses incurred by FANOC in the construction of the HFTP network, as used in the pricing model to determine pricing (and therefore the return on investment to which FANOC is entitled), will be the actual costs incurred by FANOC. It is appropriate however, to assume that FANOC's actual costs will appropriately reflect efficient costs on the basis that the Management Principles (in requiring diversity of ownership and no vertical integration), ensure that FANOC will not have an incentive to increase its costs, in order to raise the cost of its competitors in the downstream retail markets (cost "sabotage"). Therefore, FANOC's actual costs will be an accurate reflection of FANOC's legitimate business interests. In addition, because the HFTP Network will be a greenfields network project, FANOC's actual costs are easy to identify and there is no real opportunity for any FANOC claim any entitlement to a return on costs that FANOC did not actually incur.

The interests of Access Seekers

The Management Principles support the interests of access seekers as a whole by providing for a regime in which access seekers

- can compete in downstream markets on the basis of their relative merits; and
- are able to have a direct influence on the management and the provisioning of the HFTP Network
- have a degree of control over the expenditure that can be incurred by the network owner (which ensures that access charges to not reflect inefficient expenditure or 'gold plating').

5. Pricing

The maximum prices that may be charged to an access seeker for the supply of particular BAS Products is calculated according to the price terms in clause 7 of the Undertaking and the pricing model set out in Schedule 3 of the Undertaking.

5.1 Pricing Mechanisms

Price components

The maximum price at any time for a BAS Product will include one or more FANOC Component Charges and may, where relevant, also include a Pass Through Component. Adding these components together will determine the maximum Total Charge.

As noted in section 3.6, the supply of some BAS Products will include carriage to the network boundary of an end user premises and therefore the supply of such services may involve FANOC obtaining the supply of a ULLS or LLS service from Telstra in order to supply the BAS Product to an access seeker. The Pass Through Component of the Total Charge will capture the ULLS Access Charge or any similar or equivalent amounts payable by FANOC in respect of the use of a third party access service.

The Total Charge may vary at any time during the Undertaking as a result of a change in the Pass Through Component of that charge, after a period of 20 business days notice is given to access seekers. Therefore, changes in such prices are able to be appropriately passed on to access seekers, without affecting the commercial return to FANOC, while still having regard to the interests of access seekers.

Maximum FANOC Component Charges

The Undertaking requires that a maximum amount be set for FANOC Component Charges at the beginning of each financial year, throughout the term of the Undertaking. When pricing BAS Products, FANOC may set the actual amount of the FANOC Component Charges for BAS Products at, or below, those maximum amounts.

During an initial period (the "First Period") which will extend from the date at which FANOC first supplies a Broadband Access Service to the third anniversary of 30 June following that date, the maximum amount of the FANOC Component Charges for those products specified in the Undertaking as Initial BAS (and made available when the Broadband Access Service is first supplied) are specified in the Undertaking.

The manner in which these prices have been determined is described in detail in Schedule 3 of this submission.

Specifying maximum prices in the First Period allows for there to be certainty about the pricing of key BAS Products for the first three years of the Undertaking. During this time it is anticipated that the HFTP Network would still be being constructed, as services availability will commence on a region by region basis, with the Undertaking taking effect as soon as the first service is supplied. Therefore the application of the pricing model at that time could lead to inappropriate results if based on early unstable demand estimates.

During the First Period, FANOC may add new BAS Products at any time and the maximum amount of the FANOC Component Charges for those BAS Products will be at FANOC's discretion. While the discretion of FANOC in setting the prices for new BAS Products is not directly constrained during this First Period, FANOC will only be able to successfully launch new products if they are offered at a price that makes them attractive relative to existing products. Moreover, the revenue that is obtained from the supply of all BAS Products will be deducted from the value of the capital assets that is used to determine the maximum FANOC Component Charges for all BAS Products during the remaining term of the Undertaking. Because of this, and the potential for substitution with existing BAS Products, there are indirect limits on FANOC's discretion in pricing new BAS Products during the First Period.

In all subsequent Access Periods, the maximum amount of the FANOC Component Charges will be determined at the commencement of each financial year in accordance with the pricing model in Schedule 3 of the Undertaking. Because the Undertaking does not specify actual maximum amounts for these Access Periods (only a pricing methodology for determining the maximum amounts), FANOC is required to publish a reference price list at the commencement

of each financial year, showing the maximum FANOC Component Charges, calculated pursuant to the pricing model, for BAS Products to be provided in that year. Any changes to the FANOC Component Charges will not take effect, however, until 20 business days notice has been provided to access seekers, and a revised reference price list has been published.

In the Second and Further Access Periods new BAS Products may be added at any time during a year, however, rather than re-calculating all prices under the Price Model to take into account the new product (which could involve considerable disruption and inconvenience to access seekers) the new products will be treated as 'excluded products' until the next yearly price calculation. Further details in relation to excluded products are set out below.

Excluded Products

The Undertaking provides that some products may be excluded from being priced in accordance with the pricing model, with the approval of the Commission, if the demand for the product cannot be reliably measured, standardised and forecast, or the inclusion of the relevant BAS Product would otherwise have an adverse impact on the operation of the Weighted Average Price Cap Model (such as a BAS product that will only be available for a short period of time).

An Excluded Product may be priced at the discretion of FANOC. However, any revenues obtained from the supply of an Excluded Product will be deducted from the capital asset value used to determine the maximum FANOC Component Charges for all BAS Products in the next Access Period. The effects of the pricing of, and revenue obtained from the supply of, Excluded Products will therefore be captured by the pricing model and be reflected in the constraints placed on the pricing of BAS Products in future Access Periods.

The effect is that FANOC gets to keep the time value of money on the revenue earned on Excluded Products between the time the Excluded Product is launched and the end of the Access Period. This will encourage FANOC to not delay the launch of the product, but it may provide an incentive to have the product defined as an Excluded Product. The approval of the Commission is therefore required for any product to be treated as an Excluded Product, which supports the reasonableness of this provision.

These provisions are included in the Undertaking to ensure that there is a procedure under the Undertaking for some products to be priced in an alternative manner where their inclusion in the model could create distortions. This is necessary given that FANOC has not sought to limit the application of the Undertaking to particular products, but instead will apply the Undertaking to any product delivered over the HFTP Network.

Record Keeping and Review

The Undertaking includes a number of record keeping and review provisions (clauses 8 and 10), that support the reasonableness of the price terms of the Undertaking. In particular, these provisions address concerns associated with applying a pricing methodology to determine the prices that FANOC may charge for particular BAS Products, by formalising a process for reviewing those calculations, and therefore providing confidence to both the Commission and access seekers that the prices that FANOC charges are consistent with those pricing methodologies.

Clause 8.1 provides that FANOC will keep, and will require the BAS Manager to keep, full and accurate records in a transparent and auditable manner, supporting all costs and revenue throughout the term of the Undertaking. This requirement is material to the operation of the review provisions, in ensuring that appropriate records will be available for external and internal review.

Prior to the commencement of each Access Period (except for the First Period), an independent review must be conducted of the matters specified in the Undertaking. These matters are:

(a) in respect of the previous Access Period, confirm that the FANOC Component Charges for all BAS Products were in accordance with the pricing model; and

(b) in respect of the next Access Period;

  (i) confirm whether the calculation of the Target Revenue is supported by the Records;

  (ii) confirm whether the Initial Capital Asset Value used in the calculation of the Target Revenue is supported by the Records;

  (iii) express an opinion in relation to whether the Actual WACC, is higher or lower than the WACC calculated in accordance with the formula in the pricing model, and if lower, the value of the Actual WACC; and

  (iv) confirm that the Target Expenditure is consistent with the Approved Expenditure.

The independent review will therefore verify that FANOC has complied with the price terms of the Undertaking in each Access Period, both at the beginning and at the end of each access period.

At least 6 months prior to the commencement of each Access Period (other than the First Period), the Commission must be provided with a copy of a report of the independent reviewer, along with an calculation of the Target Revenue Requirement for the commencing Access Period. The Commission is therefore able to be satisfied, that FANOC has complied with the price terms of the Undertaking. The Undertaking specifies a process for the appointment of the independent reviewer to ensure the veracity and independence of the review.

FANOC is also required to publish a price list on a yearly basis, specifying the maximum FANOC Components Charges for BAS Products, that must be consistent with the calculations made at the beginning of the Access Period. To ensure that between Access Periods, there is an ability to review FANOC's determination of its yearly price list, the Commission is given the power to, at any time, request such records and information from FANOC as the Commission reasonably requires to be satisfied that the FANOC Component Charges for all BAS Products are in accordance with the pricing model.

5.2 Pricing Model

The pricing model is based on four-year access periods. The pricing model (methodology) essentially has two steps:

- At the beginning of each access period, a calculation will be made of costs which will determine the 'Target Revenue' required for FANOC to recoup its costs. The Target Revenue includes a return on capital (at the regulated WACC), a return of capital (depreciation), and operating and capital expenditures.

- Then, on the basis of demand forecasts that have been developed (and which will be approved by the BAS Manager, the Commission or the independent reviewer), a price cap is then applied to provide the percentage change in prices needed across all products, so that FANOC will earns its 'Target Revenue' if it meets the forecasts.

The model allows some flexibility in pricing, in that individual prices may vary, provided the weighted average of the prices reduces by (or does not rise by more than) a specified percentage, so that FANOC earns its 'Target Revenue'.

FANOC's actual revenue may diverge from target revenue. If sales are lower than forecast, FANOC will earn less revenue; if sales are higher than forecast it will earn greater revenue. This provides FANOC with the incentive to set prices to maximise usage of the network. Further details in relation to the pricing model are set out in the NERA paper in Schedule 4 of this submission and in Schedule 3 of the Undertaking.

In the first Access Period, while the network is being rolled out, information available to FANOC will be insufficient to set reliable forecasts of sales. Therefore, in the first period the price of the Initial BAS has been set. These Initial BAS prices are set out in paragraph 2.1 of Schedule 3 of the Undertaking. Further details in relation to the manner in which the prices for the Initial BAS have been determined are set out in Schedule 3 to this submission.

5.3 Reasonableness of using a methodology to calculate prices

The terms of the Undertaking do not set out specific prices for BAS Products (except in the initial period). Instead, prices will be calculated on a yearly basis according to the methodology set out in the pricing model, and the maximum price for the FANOC Component Charges of each of these BAS Products in a particular year will depend on a number of variables, including the forecast quantities to be sold in that year, and any expenditure incurred in the preceding years.

While an actual price for BAS Products will not be determinable by an access seeker referring to the Undertaking alone (except in the initial period), the Undertaking provides for procedures that ensure access seekers will be appropriately notified of the maximum total charges applicable for all BAS Products. In particular, FANOC is required to publish a reference price list at the commencement of each financial year, and to provide access seekers with appropriate days notice prior to implementing any price change.

The processes set out in clause 7 and schedule 3 of the Undertaking for determining maximum charges are appropriately clear and transparent. There are also detailed procedures provided in the Undertaking for:

- the independent review of all calculations made under the pricing model, and used to determine the final maximum Total Charges;
- FANOC to keep full and accurate records of all costs and revenue to support the pricing calculation; and
- an express obligation to provide the Commission with such information as it may require to ensure that pricing has been appropriately derived in accordance with the requirements of the Undertaking.

Taking into account these matters, and the length of the Undertaking, it is reasonable for BAS Product prices to be calculated according to a pricing model rather than being specified in the Undertaking itself.

The Commission has previously found the proposed use of pricing methodologies instead of set prices to be reasonable in its consideration of the Foxtel Special Access Undertaking in

relation to the Digital Set Top Unit Service ("**Foxtel Undertaking**").[4] The Commission found, in both its draft decision of August 2006 and its later acceptance of a revised undertaking in March 2007, that the use of "a methodology by which annual access prices will be calculated, rather than a list or schedule of access prices" was reasonable in the context of that undertaking.[5] The Foxtel Undertaking provided for the production of a Rate Card to access seeker, which would specify the applicable annual access prices. While some interested parties submitted that the application of the pricing methodology would result in charges that would be "difficult to ascertain with certainty", the Commission accepted Foxtel's submission that the methodology is reasonable, clearly set out, and transparent.[6]

In addition, the Foxtel Undertaking provided for an independent review of its Rate Card calculations pursuant to the pricing methodology, only once after the first year and every three years after that.[7] The Commission noted that this would provide greater confidence to it and access seekers that Foxtel is calculating its Rate Card in accordance with the pricing methodology.[8]

Accordingly, in light of the Commission's findings, the use of a pricing methodology in the Undertaking, with provision for the Commission to request records at any time in order to verify compliance, and the requirement to conduct an independent review every 4 years, should be considered reasonable.

5.4 The Undertaking ensures that costs represent the efficient costs

This section contains a discussion of the various controls and incentives by which the Undertaking and the pricing model ensure FANOC's costs represent the efficient costs of supply. First, the distinction between the typical position faced by the Commission in regulating a service provider and the current circumstances is set out. Next, the pricing model's incentives and controls are discussed in more detail.

The distinction between the HFTP network and the typical regulatory scenario

Cost of finance

In a typical regulatory scenario the regulator must form an opinion on the efficient risk adjusted cost of capital to be earned on assets that have already been built and for which the capital has already been raised. By contrast, in the current circumstances the asset has not yet been built and the capital has not yet been raised. This provides a unique opportunity for the regulator to observe rather than estimate the risk adjusted cost of capital.

Two distinct weighted average cost of capital (WACC) parameters are set out in the SAU: the Maximum WACC and the Actual WACC. Prices will incorporate capital costs calculated using the lower of the Actual WACC and the Maximum WACC. The derivation and efficiency-related properties of the two WACCs are discussed below.

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[4] Commission, *Assessment of Foxtel's Special Access Undertaking in relation to the Digital Set Top Unit Service - Draft Decision*, August 2006.

[5] See above, at 50 and 54.

[6] See above, at 54.

[7] See above, at 54.

[8] See above, at 59.

The Maximum WACC

The maximum return on investment that FANOC will earn is that consistent with the standard assumptions used by Australian economic regulators for similar natural monopoly assets in the energy sector (specifically, an equity beta of 1.0 and a debt margin of around 120 basis points). At current market interest rates this methodology will result in a nominal post tax nominal WACC of around 9.0%.

In a presentation to analysts in August 2006, Telstra stated that it had negotiated a return on investment with the Commission of 10.34% (down from 11.02%). This (10.34%) is materially above the maximum return on investment in the Undertaking.

The Actual WACC

The standard approach applied by Australian regulators already incorporates significant elements of monopoly returns. Moody's has attributed the higher allowed return on investment in Australia to the standard approach resulting in a return above the true cost of capital.[9]

The Allen Consulting Group has attributed this excessive cost of capital to the fact that market capitalisation of regulated businesses is 40% to 60% higher than the value of regulated assets suggesting the allowed regulated return is well in excess of the true cost of capital.[10] Moreover, an investment intended to earn HFTP revenues provided under an undertaking will be less risky than an investment in most other regulated monopolies precisely because the HFTP owner gets to set the terms. In doing so, the HFTP owner can largely eliminate regulatory risks.

On this basis, the true nominal post tax WACC for the HFTP is more likely to be in the vicinity of 7% or lower. The G9 proposes that the Actual WACC be revealed through a transparent equity raising process. It is anticipated that this will involve an auction process whereby equity in FANOC is initially offered to the capital market, including large superannuation funds and similar institutional investors, at a particular WACC, or, more specifically, at a particular equity beta. In this auction the equity beta will initially be set low (say 5%) and then will be gradually raised until the market is prepared to meet FANOC's required level of equity funding.

This process will be similar to a standard "book build" process used to raise equity capital in initial public offerings. In this process, equity is initially offered to the market at a high price and gradually lowered until all the shares on offer are sold. The difference in the case of the FANOC equity auction will be that the amount of equity required will be predetermined and the WACC in the Undertaking will be increased until that equity is raised.

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[9] Moody's Investors Service (August 2003), *Regulatory Differences Justify Higher Rating For Australian Gas And Electricity T&D Companies Over UK Counterparts*, pp. 3-4. "Moody's believes Australian regulators have shown a willingness to let T&D companies earn returns in excess of WACC."

[10] The Allen Consulting Group (2003), Review of the Gas Code: Commentary on Economic Issues, report to BHP Billiton, August.

Equity Auction Example

Round of book build	Actual Equity Beta (β_e) offered in book build	Subscribed equity	Is subscribed equity greater than target equity of, say, $1bn	Action
1	0.30	Super funds and other investors subscribe for 100m	No	Raise β_e
2	0.50	Subscriptions rise to $200m	No	Raise β_e
3	0.60	Subscriptions rise to $600m	No	Raise β_e
4	0.65	Subscriptions rise to $750m	No	Raise β_e
5	0.7	Subscriptions rise to $900m	No	Raise β_e
6	0.72	Subscriptions rise to $950m	No	Raise β_e
7	0.73	Subscriptions rise to $980m	No	Raise β_e
8	0.74	Subscriptions rise to $1.2bn	Yes	Set equity beta in Undertaking equal to 0.74

All investors receive a WACC based on the revealed Actual Equity Beta of 0.74. All investors who committed funds at an equity beta of less than 0.74 receive their desired subscription of equity in FANOC. The investors who subscribed for the $40m of equity in the final round have their subscriptions scaled back by 50% (being the proportion of oversubscription in the final round).

The transparency as to the regulatory regime, which is detailed in the Undertaking, means that investors participating in a book build of this kind will 'price in' to the required cost of capital any looseness in the control of prices, gaming opportunities and ability to make unintended returns within the regime. As a result, the competitive auction process will eliminate any expectations of potential for monopoly returns resulting from such factors.

In undertaking this process, the WACC will be set at the minimum required to raise the necessary capital. It is anticipated that this will to be closer to 7% than Telstra's claim of 10.3%. In any event the upper bound for the WACC in the Undertaking is 9% (the Maximum WACC).

To put this in perspective, a 3.0 percentage point reduction in the cost of capital from 10.3% to 7.3% represents a 29% (4/10.3=0.39) reduction in the annual revenues required to finance the HFTP investment.

This mechanism (or any similar competitive mechanism) will eliminate any potential for monopoly returns and ensures that the cost of capital in the pricing model is the absolute minimum, market determined, cost of capital required to finance the HFTP network. It is, by definition, the efficient cost of capital.

Value of network assets

In a typical regulatory scenario, the access provider has already built the network, and the issue is the appropriate costs for which it should be compensated (ie, the 'efficient' costs). The Commission's approach to determining whether the actual expenditure incurred by the access provider in building the network was efficient might involve estimating efficient costs using a bottom-up model of a hypothetical network. Alternatively, optimised replacement costs may be estimated using a top-down model. This approach is justified on the basis that the appropriate benchmark for efficient costs is an efficient new entrant using the latest technology.

By contrast, in the current circumstances, there is no need to consider replacement costs since the network is to be constructed in the future using the latest technology (as opposed to Telstra's copper network, for example, which was built decades ago). Further, since the HFTP Network is not yet built and therefore actual costs are not yet known, it is not possible to compare actual costs with estimates of 'efficient costs'. Instead, it is necessary to consider whether the correct incentives and controls are in place to ensure that, when they are incurred, actual costs are efficient.

Incentives / controls in place to ensure that costs are efficient

This section discusses the incentives and controls that are in place to ensure that costs are efficient. The discussion of incentives and controls is divided between:

- those controls and incentives to ensure that FANOC's budget represents efficient costs; and
- the in-period controls and incentives for FANOC to keep to budget.

Controls and incentives to ensure that the budget represents efficient costs

FANOC's budget is agreed with the BAS Manager on a yearly basis. The budget as agreed will represent efficient costs because of the incentives of both FANOC and the BAS Manager.

FANOC does not have an incentive to advocate for excessive expenditure at the budget-setting stage, because its rate of return on that expenditure is not excessive. The auction method for determining the WACC results in the minimum cost of capital consistent with raising sufficient capital to fund the network build (as discussed above).

This situation may be contrasted with a more typical scenario where the WACC is determined by the regulator and the regulated entity has the incentive to advocate for as a high a WACC as possible. If the WACC is higher than a normal return, then the regulated entity will earn excess returns (higher than ordinary market returns) on any expenditure. This gives the regulated entity the incentive to advocate for as high an expenditure as possible. By contrast, FANOC will be able to earn only ordinary market returns on its expenditure, which means there is little incentive for FANOC to put forward a budget in excess of efficient costs.

The BAS Manager is composed of access seekers for whom the access price is a key input to production. The BAS Manager then has strong incentives to keep access prices as low as is consistent with achieving the desired quality of service. This gives the BAS Manager a strong incentive to ensure that FANOC's budget does not exceed efficient costs. To ensure that the BAS Manager only has these incentives, the Undertaking also provides that the BAS Manager must not be controlled by any group of access seekers that also have a significant financial interest in FANOC.

The BAS Manager is not likely to have the incentive to try to keep the budget *below* efficient costs. This is because access seekers need to be able to provide high quality services, which requires incremental capital expenditure to ensure better speeds, and appropriate maintenance on the network. Further, access seekers also wish to maximise their opportunity to serve new customers, which suggests they will support, where it is economic, budgeted expenditure to allow the provision of new or improved services (including increased coverage). Therefore the BAS Manager will not have the incentive simply to minimise expenditure in the budget; rather it will have the incentive to ensure the budget represents efficient costs and no more.

There may be a degree of disagreement between access seekers over what expenditure is appropriate (for example, if customers of one access seeker demand higher quality than the customers of another). This suggests that some degree of compromise between access seekers may be necessary in relation the appropriate degree of service quality and proposed expansion or improvement in the HFTP Network. However, this is appropriate as the optimal level of service quality depends on the preferences of all end customers and the best way to reflect this is by giving all access seekers a say on such expenditure, to the extent that it will impact upon access prices. This should be compared with a scenario of a vertically integrated monopolist where such decisions are likely to be skewed to the advantage of the incumbent's downstream affiliate.

However, to ensure that access seekers are not able to prevent FANOC from making appropriate and prudent investment in the network the Undertaking provides that an Independent Reviewer or the Commission may approve expenditure, if the BAS Manager refuses to approve expenditure that is efficient. This provision is discussed in greater detail in the NERA paper in Schedule 4 of this submission.

Further, since the Management Principles in the Undertaking prevent FANOC and the BAS Manager from being controlled by any single access seeker, this will also ensure that the design of the network will be decided in a manner that takes into account all assets currently deployed by all fixed line telecommunications providers. This will help ensure that total industry costs are minimised – rather than the costs of a single provider (such as Telstra).

In-period controls and incentives for FANOC to keep to budget

The Undertaking provides that FANOC may spend more than a pre-determined amount above budget, however if this is done without the agreement of the BAS Manager (with the exception of defined events) the expenditure may not be recoverable. This provision is discussed in greater detail in the NERA paper in Schedule 4 of this submission. This provides a clear limitation on the extent of any over expenditure. There is provision for independent review or determination by the Commission in the event of dispute between the BAS Manager and FANOC over whether expenditure over budget is necessary. This process ensures that any expenditure over budget would nevertheless be efficient.

Second, as discussed above since the rate of return on capital allows only ordinary returns this limits FANOC's incentive to spend in excess of efficient costs.

Third, as discussed in the NERA paper in Schedule 4 of this submission, FANOC's exposure to demand risk encourages it to avoid incurring inefficient expenditures. This is because the more efficient is FANOC's expenditure the lower will be its prices. To the extent that lower prices help to achieve higher penetration FANOC will directly benefit from more efficient expenditure since under the Undertaking provides that, in all access periods after the first period, FANOC derives a financial benefit if it can increase the growth in utilisation of the HFTP network (and will suffer a financial detriment if the opposite occurs).

Summary

In summary, the controls and incentives on FANOC and the BAS Manager make it likely that expenditures incurred in constructing and operating network services will be minimised subject to providing appropriate quality of service. That is, FANOC's costs are likely to represent the efficient costs of supply. Further, since the pricing model allows FANOC to set prices just sufficient to recover its costs, FANOC's prices will reflect the efficient costs of supply.

6. Other non-price terms and conditions

6.1 Term of the Undertaking

The Undertaking is expressed to expire on the earlier of 15 years from the commercial launch of the service (i.e. 15 years from the first provision of a Broadband Access Service to an access seeker) or 17 years from the date on which the Undertaking is accepted by the Commission, unless the Undertaking is otherwise terminated, withdrawn or replaced in accordance with the TPA).

The proposed investment in a HFTP Network is an infrastructure investment of significant scale. The investment also faces significant demand risks, and additional structural risks flowing from the requirement that FANOC not be vertically integrated, that will in turn lead to a greater sensitivity to the impact of regulation. A longer term for the Undertaking provides greater regulatory certainty to the investors in the HFTP Network, and has the effect of encouraging investment in substantial infrastructure projects such as this.

A Undertaking term of 15 years is reasonable in the context of these risks and the need to obtain substantial regulatory certainty in order for the proposed investment in the HFTP Network to proceed. The greater regulatory certainty afforded by the length of the Undertaking will also serve to encourage ongoing investment in the HFTP Network throughout this period.

According to the Explanatory Memorandum for the *Telecommunications Competition Bill* 2002 (Cth)[11], the purpose of the introduction of the provisions of the TPA which allow the submission of special access undertakings was specifically to encourage investment in telecommunications infrastructure and services, by providing certainty for potential investors in relation to the access obligations that will apply to the new infrastructure.

The efficiency of the initial, and any further, investments in the HFTP Network are addressed by the Undertaking and the pricing model, as outlined in section 5.4. However, without a term of at least 15 years, investment in the HFTP Network, in particular by a non-vertically integrated entity, is unlikely to occur, given the risk of future regulatory intervention that could significantly effect returns.

6.2 Transitional Arrangements

The construction of the HFTP Network will necessarily affect the manner in which existing carriers and carriage service providers are able to provide the services that they currently provide to end users, in those areas whether the HFTP Network is rolled-out. In particular, infrastructure presently used to provide or facilitate the provision of carriage services may, following the construction of parts of the HFTP Network, no longer be able to be used to

[11] Explanatory Memorandum for the *Telecommunications Competition Bill* 2002 (Cth), at p 82.

provide those carriage services, or may require significant modification to enable its continued use to provide services over the HFTP Network.

The Undertaking includes an acknowledgement that nothing in this Undertaking detracts from any power of the Commission in relation to determining appropriate processes and procedures to be followed to ensure that the roll-out of the HFTP Network occurs in an appropriate manner that balances the interests of FANOC and end users in an efficient deployment of the HFTP Network and the provision of BAS Products with the needs and interests of access seekers and their end users in minimising any disruption or inconvenience to their existing telecommunications networks and telecommunications services.

6.3 Transparency and equivalent information

Access to equivalent information is essential in order to promote fair and equal competition in downstream markets. The Undertaking includes a general provision in requiring FANOC to provide access seekers with such information as, in FANOC's reasonable opinion, they may reasonably require in order to make an informed decision in relation to their own usage of the HFTP Network. In particular, FANOC is required to ensure that all access seekers have access to equivalent information in relation to:

(a) the technical and operational parameters of the HFTP Network;

(b) the Deployment Schedule for the HFTP Network;

(c) the BAS Products that are being provided and the current maximum Total Charges for each of those products; and

(d) any new BAS Products that have been requested by an access seeker.

In addition to generally supporting the reasonableness of the Undertaking by allowing access seekers to compete and make their own investment and business on the basis of equivalent information, these requirements also contribute to ensuring that the management principles operate as they are intended - with all access seekers in a position to participate in the decisions of the BAS Manager on a fully informed basis.

6.4 Additional terms to be negotiated between FANOC and Access Seekers

Clause 3.2 of the Undertaking emphasises that the Undertaking does not specify all the terms and conditions on which FANOC will comply with the standard access obligations. This leaves a number of other terms to be either negotiated and agreed between FANOC (or the BAS Manager) and individual access seekers, or failing agreement, determined under Division 8 of Part XIC of the TPA.

A Special Access Undertaking (or any access undertaking) is not required to specify all of the terms on which the access provider will comply with the SAOs, and in fact, the TPA makes this explicit in the note below subsection 152CBA(3) when read in combination with subparagraph 152AY(2)(b)(ii).

To the extent that a dispute arises between FANOC and an access seeker in respect of any term of access not covered by the Undertaking, the Commission will have the power to arbitrate in relation to those matters. This is also explicitly noted in clause 3.3 of the Undertaking.

7. Undertaking satisfies relevant criteria

7.1 Consistent with SAOs

Under s152BV(2)(b) of the Act, the Commission must not accept the Undertaking unless it is satisfied that it is "consistent" with the SAOs that are applicable to FANOC. The TPA does not stipulate the way in which this is to be ascertained.

FANOC submits the Commission can be satisfied that the Undertaking is consistent with the SAOs applicable in respect of the supply of the Broadband Access Service to access seekers.

As required by s152CBA(3)(a), the Undertaking states that FANOC agrees to be bound by the SAOs referred to in s152AR, to the extent that those obligations would apply to FANOC in relation to the Broadband Access Service if the service were treated as an active declared service. As required by s152CBA(3)(b), the Undertaking also states that FANOC undertakes to comply with the terms and conditions specified in the Undertaking in relation to the obligations in s152AR.

The Commission has stated on several previous occasions that this assessment of "consistency" involves a consideration of whether the terms and conditions of an undertaking "raise any inconsistencies with the SAOs."[12] Furthermore, it has stated that if the terms and conditions are not found to be inconsistent with the SAOs, the Commission is likely to regard the undertaking as being consistent with the applicable SAOs[13]. The Commission has stated that it does not require that the terms of an undertaking "be precisely in accordance with the applicable SAOs". Instead, there must be "at least a reasonable level of conformity" with them.[14]

On this basis, FANOC submits that there is nothing in the Undertaking which is inconsistent with the SAOs. Therefore, the Undertaking meets the criteria in s152BV(2)(b).

7.2 Reasonableness

In accordance with the principles outlined in Schedule 1 of the Submission, when assessing the reasonableness of the Undertaking, the Commission must look at the terms and conditions as a whole.[15] This section of the submission considers the reasonableness of the terms and conditions as a whole by having regard to the way in which they interact with one another.

Application of the future with and without test

The Commission has previously found that a consideration of the likely state of the market with the Undertaking accepted compared to that without the Undertaking, can assist with the application of some of the Reasonableness Criteria. In particular, the application of the 'with

[12] Hutchison Decision, p 95; Final Decision on the Assessment of Telstra's ULLS Monthly Charge Undertaking, released in August 2006 (the Telstra ULLS Decision), p 28; Draft Decision on the Assessment of Telstra's PSTN and LCS Undertakings, released in September 2006 (the Draft Telstra PSTN Decision), p 28; Final Decision on Optus' undertaking with respect to the supply of its Domestic GSM Terminating Access Service, released in February 2006, p 182.

[13] Hutchison Decision, p 95. Statements to the same effect can be found in the Telstra ULLS Decision, p 28 and the Draft Telstra PSTN Decision, p 28.

[14] Optus Decision, p 182; Hutchison Decision, pp 95 — 96

[15] ACCC Report — Analogue Pay TV Undertaking [Foxtel], p 36.

or without' test has been found to be especially useful in assessing whether the terms and conditions of an undertaking promote the LTIE. FANOC submits that the application of such a test demonstrates that Undertaking is likely to achieve that objective.

Outcomes without the Undertaking

Without the Undertaking being accepted, it is possible that the Broadband Access Service, or at least some of the services provided over the HFTP network (or the Service Aggregation Network), may be declared by the Commission, which would allow the Commission the arbitration of terms and conditions of access. However, investors in future infrastructure may not be prepared to invest, or may alter their investment decisions given the risk of the service being declared and the uncertainty in the terms and conditions of access that declaration brings. Therefore, without the Undertaking the HFTP network may not be built by FANOC, may be built but at a greater cost (given the increased risk), or may be built by a third party, such as Telstra, with a far less competitively attractive model.

FANOC submits that to the extent that the with or without test is applied to the assessment of the reasonableness of this Undertaking, the 'without' element of the test must include the full range of possible outcomes described above.

Vertical integration and the promotion of competition

As discussed in section 4, a key feature of the management and ownership structure is the requirement that FANOC would not be vertically integrated. That is, FANOC, as owner of the HFTP Network, will not provide retail telecommunications services to end-users. This is to be directly contrasted with both the current level of vertical integration in the customer access and broadband services markets, and the level of vertical integration that might persist if Telstra were able to build a HFTP Network.

The problems that a vertically integrated provider of core access services presents for the promotion of competition in retail service markets are well canvassed, however, the key concern is the ability (and incentive) that a vertically integrated service provider has to discriminate between downstream suppliers of retail services.

Both the Tribunal and the Commission have recognised that the promotion of competition is concerned with creating the conditions or environment in which an improvement in competition is likely to occur, and that such an environment is likely to be created where barriers or obstacles to competition are reduced. The Commission has consistently indicated that a significant factor in facilitating this environment is the provision of non-discriminatory access to downstream suppliers of retail services, so that 'effective access' is provided.[16] Non-discriminatory access is therefore an important concern in assessing the promotion of competition.

Telstra as a vertically integrated provider

Telstra is already a heavily vertically integrated telecommunications service provider, exhibiting significant market power in many telecommunications markets. In particular, in both the customer access and broadband services retail markets, Telstra's competitors rely on Telstra for the supply of wholesale access services in order to provide competing retail services. Competitors rely upon access to Telstra services because of its ownership of the core copper customer access network, which provides the only means of supplying

[16] See, for example, ACCC, *Assessment of Foxtel's Special Access Undertaking in relation to the Digital Set Top Unit Service - Final Decision*, p25.

telecommunications services to many retail end users. Moreover, Telstra's vertical integration is extended through its ownership of alternative infrastructure to the core customer access network, including cable networks, further affecting competition in the customer access and broadband services markets.

Telstra is currently able to discriminate between itself as a downstream supplier of retail services and other access seekers also supplying downstream services, and therefore create obstacles and barriers to 'effective' access, which in turn inhibit competition in those downstream markets. Problems created by a lack of transparency and the regulatory regime itself, mean that Telstra has the ability to discriminate on price. But discrimination also arises in relation to the operational processes and technical specifications associated with the services offered to access seekers. A lack of equivalence in the information provided to all access seekers is another source of discrimination between downstream suppliers that can form a significant obstacle to 'effective access'.

Particular examples of discrimination through the operational processes and non-price conditions associated with access arise in the context of ULLS access, including:

- onerous forecasting arrangements which place the risk of forecasting entirely on access seekers by preventing access seekers from exceeding submitted forecasts, but may penalise access seekers if actual orders fall below those forecasts;
- the setting of arbitrary limits on daily migration rates, and preventing access seekers from pursuing aggressive migration strategies;
- general inefficiencies in the migration process run by Telstra that increases the period of service outage faced by end-users during the migration process, providing a substantial impediment to end-user uptake; and
- failure to guarantee reasonable service levels on migration, including timeframes for completion.

If Telstra builds a FTTN/HFTP Network

One possible outcome of the Undertaking not being accepted, is that Telstra will construct a FTTN/HFTP Network. In this circumstance, Telstra will further entrench its existing bottleneck control of customer access in Australia. There is then the potential for an even greater level of vertical integration to persist in the customer access and broadband services markets, and a better ability for Telstra to discriminate between service providers in those downstream markets.

Because much of the existing investment in facilities-based competition by competitors utilising the unbundled access to the copper loop, such DSLAM infrastructure, will be stranded by the construction of a fibre-to-the-node network, there are more significant concerns for competition in the event that a fibre-to-the-node network owner is a vertically integrated provider of services in downstream markets.

Competitors will require an equivalent 'unbundled' service to those that are currently available in order to continue providing services that may be appropriately differentiated from those of the vertically integrated provider. However, the vertically integrated provider will have an incentive supply only limited resale services that cannot be properly differentiated from the services of the access provider, and that prevent the access seeker from providing innovative retail services. Being limited to resale services, or services very much akin to resale services, will mean that competitors will be only able to earn low margins on the sale of retail services, and will be forced into a financially weak position where they are unable to apply pricing pressure on the access provider. Because the competitors will also have high marginal costs

and low average costs, they will also be unable to enjoy economic savings by increasing their scale and market share.

In the event that access to new and more innovative services are necessary due to technological advances or otherwise, these services must be declared via the slow and uncertain regulatory processes provided for in Part XIC of the TPA.

By contrast, FANOC has no such incentives, and because no individual retail service provider will control FANOC, and FANOC will not provide retail services, its economic interests will be served by meeting the needs of all access seekers. In any case, the Undertaking expressly requires FANOC to reasonably consider providing any BAS Product requested by the BAS Manager, and the BAS Manager (comprised of access seekers only) is responsible for developing non-price terms and conditions of access. Further, the BAS Manager must be consulted by FANOC in relation to the technical specifications for each BAS Product and, through approval of the budget and deployment schedules, the BAS Manager has a degree of control over the dimensioning of the network.

The control that a vertically integrated owner provider will have over the technical and operational characteristics of a FTTN/HFTP Network could pose significant barriers to 'effective access' and competition in downstream markets.

7.3 Long term Interests of End Users

Promoting competition

As a first step in the assessment of the promotion of competition, this section identifies the relevant markets in relation to the Undertaking. Market identification is a tool for drawing the boundaries within which the elements of the LTIE criteria can be assessed. The non-exhaustive role of market definition in competition analysis has been highlighted by the Federal Court, itself quoting the Commission's own position on the issue:

"…ACCC noted the limited relevance of market definition:

'In identifying relevant markets, Part XIC of the Act does not require the Commission to take a definitive stance on market definition. Furthermore, over time, declaration itself might affect the dimensions of these markets, particularly in relation to the functional dimension. Accordingly, market analysis under Part XIC should be seen in the context of shedding light on how declaration would promote competition rather than in the context of developing 'all purpose' market definitions.' "[17]

Accordingly, this section does not attempt an exhaustive market definition, but rather indicates the approximate areas of competition likely to be affected by a pricing decision on broadband access services provided by FANOC.

FANOC will provide high speed carriage services over the HFTP Network. Access seekers will use these carriage services as an input to their provision of retail voice, data and other services. FANOC will not be the only provider of high speed carriage services, since these may also be provided to some extent via alternative technologies such as HFC and wireless networks. However these alternative technologies have various limitations which are likely to limit the extent to which they will constrain pricing for FANOC's services.

There are likely to be a number of relevant downstream markets, including retail markets for voice products, data products and other products including content products such as IPTV.

[17] *Foxtel Management Pty Ltd v Australian Competition & Consumer Commission [2000]* FCA 589 at 153.

These downstream markets could be defined in more detail, however this appears unnecessary for present purposes. The salient feature of all these markets is that FANOC's broadband access services provide a key wholesale input for access seekers' provision of services to end-users in each market.

In considering whether competition will be promoted in the relevant markets, subsection 152AB(4) of the Act provides that "*…regard must be had to the extent to which the thing will remove obstacles to end-users of listed services gaining access to listed services*." However this does not limit the matters to which regard may be had, according to subsection 152AB(5).

In discussing the concept of promotion of competition in Sydney International Airport [2000] ACompT 1 (1 March 2000), the Tribunal noted:

… the notion of "promoting" competition in s 44H(4)(a) involves the idea of creating the conditions or environment for improving competition from what it would be otherwise….[18]

The Tribunal discussed the legislative objective which lay behind the promotion of competition concept in the recent decision on the ULLS (*Telstra Corporation Ltd (No 3) [2007]* ACompT 3), where it noted:

…the Act aims to promote competition because of the benefits that result from the process of competition, such as lower prices for consumers and the displacement of inefficient suppliers by efficient suppliers of services. [19]

The Tribunal explained the process of competition as follows:

… The process of competition allows efficient suppliers to survive and displace less efficient suppliers in well functioning markets. Inefficient suppliers will … be forced out of the market. If, however, efficient suppliers are unable for other reasons to remain in the market, prices will not reduce to levels consistent with the costs of the efficient suppliers….[20]

It follows that the terms and conditions in an undertaking will promote competition if they allow all suppliers of services to compete on their merits (that is, on the basis of their own efficiency), so that the competitive process described in the preceding quotation can take place unimpeded by extrinsic factors and obstacles unrelated to the efficiency of the competitors. Consequently, a key principle is that the terms and conditions in the undertaking (including access prices) will promote competition if they are non-discriminatory. Only if the access provider does not discriminate between access seekers will the process of competition be free to operate as the legislators intended. The Commission has noted the relevance of the principle of non-discriminatory access:

An important benchmark in assessing whether competition will be promoted is the consistency of the proposed terms of access with the principle of non-discriminatory access between downstream suppliers of the service. Ultimately, a proposal for access must represent an opportunity for effective access by an access seeker to the particular service. An effective form

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[18] *Sydney International Airport [2000]* ACT 1, para 106

[19] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 99

[20] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 98

of access should lead to a promotion of competition and contribute toward an efficient use of infrastructure.[21]

Non-discriminatory access between downstream suppliers of the service is very difficult to achieve if the access provider is vertically integrated, such that one of those downstream suppliers is in fact an affiliate of the access provider. In that case, the vertically integrated provider has the incentive to discriminate in favour of its own downstream affiliate and sabotage other access seekers. This issue is discussed further in the NERA paper in Schedule 4 of this submission. In these circumstances, it may be that efficient suppliers will be unable to remain in the market because the access provider is discriminating against them. As a result the access provider's downstream affiliate may dominate the market, even if it is less efficient than access seekers. Vertical integration is clearly unlikely to promote competition.

By contrast, it is submitted that the arrangements and obligations set out in the Undertaking are likely to promote competition in two ways.

First, FANOC has no incentive to discriminate against (or in favour of) any particular access seeker. This is because FANOC is not a vertically integrated provider, since the Management Principles set out in clause 4 prevent it from being controlled by an access seeker. FANOC will benefit from increased sales of broadband access services, regardless of the identity of the purchaser.

Second, the Undertaking is designed to ensure non-discriminatory access. Clause 4.1 of the Undertaking obliges FANOC to make services available to all access seekers at the same price and quality of service, and to make information available to all access seekers on an equal basis. It ensures that FANOC may not discriminate in making pricing and operational decisions on the basis of which access seeker is using the service.

Since the Undertaking ensures that high speed carriage services over the HFTP Network will be available to all access seekers on a non-discriminatory basis, it enhances the conditions for improving competition in downstream markets by allowing efficient suppliers to compete on their merits and displace inefficient suppliers, resulting in lower prices for consumers. The Undertaking should therefore be regarded as likely to promote competition in downstream markets.

Any-to-any connectivity

Subsection 152AB(8) of the Act provides that the objective of any-to-any connectivity is achieved if, and only if, each end-user who is supplied with a carriage service that involves communication between end-users is able to communicate, by means of that service, with each other end-user who is supplied with the same service or a similar service, whether or not the end-users are connected to the same telecommunications network.

The Commission has noted that the any-to-any-connectivity objective is particularly relevant when considering services that involve communications between end-users,[22] and has stated that this criterion will be given less weight compared to the other objectives when considering other types of services (such as carriage services that are inputs to an end-to-end service or distribution services such as the carriage of pay television).[23] In this regard, it is relevant to

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[21] ACCC, *Assessment of Telstra's PSTN and LCS Undertaking, Final Decision*, Public version, 29 November 2006 at [26]

[22] Trade Practices Amendment (Telecommunications) Bill 1996, p.41

[23] ACCC, *Assessment of Telstra's PSTN and LCS Undertaking, Final Decision*, Public version, 29 November 2006 at [27]

note that FANOC's broadband access services are carriage services that are inputs to an end-to-end service.

If the proposed HFTP Network were constructed, then it will be necessary for many carriage service providers to obtain the supply of a Broadband Access Service supplied upon the terms and conditions provided in this Undertaking in order to provide carriage services that allow end-users to communicate with one another. To this extent, the objective of any-to-any connectivity may be relevant to the assessment of the terms and conditions of this Undertaking.

However, if the terms and conditions of the Undertaking are found to be reasonable with respect to the other Reasonableness Criteria (in particular, taking into account the interests of access seekers and the operational and technical requirements), there is no reason to believe that the terms and conditions will prevent the achievement of any-to-any connectivity in any relevant respect.

Given that the Undertaking provides for access seekers to have a primary role in determining the operational and technical characteristics of the HFTP Network and the BAS Products supplied over it, the objective of any-to-any connectivity is supported by the terms and condition of the Undertaking.

Efficient use of and investment in infrastructure

In considering whether the Undertaking promotes efficient investment in infrastructure, the investment incentives of both access provider and access seekers are relevant.

It is submitted that the cost-reflective wholesale access prices resulting from the pricing model will promote efficient investment in infrastructure because the access provider will be able to just recover its cost of investment, so it will have neither too great nor too little an incentive to invest. The central role of cost recovery in promoting efficient investment was confirmed by the Tribunal in the recent decision on the ULLS (*Telstra Corporation Ltd (No 3) [2007]* ACompT 3), where it stated:

In general terms, efficient investment by an access provider in the infrastructure necessary to supply telecommunications services will be achieved when the firm is just able to recover the costs of such investment (inclusive of a normal return on its investment). If the firm is unable to recover the costs of efficient investment, it will not undertake such investment. If the firm is able to recover more than the costs of its investment, it will have an incentive to expand investment beyond efficient levels. An access charge should be one that just allows an access provider to recover the costs of efficient investment in the infrastructure necessary to provide a declared service.[24]

By ensuring that FANOC will recover the costs of its efficient investment in the HFTP network (inclusive of a normal return on its investment), the pricing model ensures that FANOC will continue to invest in the network as required (for example, in response to a desire for increased capacity). Conversely, since the cost of capital is no greater than the efficient level, FANOC will have no incentive to invest beyond efficient levels.

Further, the pricing model will ensure that access seekers have the correct investment incentives. As the Tribunal observed in the ULLS decision, access seekers face "build or buy" choices; that is access seekers face a choice between on one hand investing in their own infrastructure in order to provide end-to-end services to end users and on the other hand

[24] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 159

making the more limited investments required to seek access to a wholesale provider's infrastructure.[25] As the Tribunal correctly stated:

162 An access seeker will have an incentive to make efficient "build or buy" choices if access charges are set to recover the efficient costs of investing in the infrastructure necessary to provide the declared service. If access charges are set at levels below those necessary to recover efficient costs, a potential access seeker may be encouraged to acquire access to a declared service when it would be more efficient for it to build its own infrastructure and bypass access to the declared service…

163 Conversely, if an access charge is set at a level in excess of that needed to recover the efficient costs of investment in infrastructure necessary to provide the declared service, the access seeker may be encouraged to invest in its own infrastructure in circumstances where it may be more efficient to seek access to an access provider's infrastructure…[26]

One of the key issues involved in the construction of a FTTN/HFTP network for Australia will be the need to avoid inefficient duplication of such costly infrastructure. This is the issue described by the Tribunal in paragraph 163 above. By setting cost-reflective prices, the pricing model ensures that access seekers will make efficient "build or buy" choices. In particular, by discouraging excessive wholesale prices, it will discourage inefficient bypass of the network.

Efficient use of infrastructure

In relation to the objective of the efficient use of infrastructure, the Tribunal in the ULLS decision stated that "it is relevant to consider three types of efficiency – allocative, productive and dynamic efficiency".[27]

The Commission has defined the three types of efficiency as follows:

Productive efficiency - This is achieved where individual firms produce the goods and services that they offer at least cost;

Allocative efficiency - This is achieved where the prices of resources reflect their underlying costs so that resources are then allocated to their highest valued uses (i.e. those that provide the greatest benefit relative to costs); and

Dynamic efficiency - This reflects the need for industries to make timely changes to technology and products in response to changes in consumer tastes and in productive opportunities.[28]

It is submitted that the pricing model promotes all three types of efficiency.

The model promotes allocative efficiency since it results in prices that are as close to marginal cost as possible (consistent with cost recovery) and also prices that are structured so as to promote the most efficient use of the network.

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[25] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 160

[26] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 162-163

[27] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 171

[28] ACCC, *Assessment of Telstra's PSTN and LCS Undertaking, Final Decision*, Public version, 29 November 2006 at [27]

It is a fundamental economic principle that "[a]llocative efficiency will be best promoted where the price of a service reflects the underlying marginal cost of providing the service", as the Tribunal observed in *Telstra's Line Sharing Service [2006]* ACompT 4 (2 June 2006).[29]

However marginal cost pricing is inconsistent with cost recovery whenever there are large fixed costs. As discussed in the NERA paper in Schedule 4, once built, the HFTP Network (like any telecommunications network) will have low marginal costs of providing service to new end users connected to any particular node. However, the network owner will still have to recover substantial sunk costs associated with the initial construction of the network. Consequently the prices for broadband access services (in common with existing telecommunications services such as the ULLS) will need to include a mark-up above marginal cost.

While the need for cost recovery must create some distortion relative to the (unachievable) ideal of marginal cost pricing, the pricing model minimises that distortion in two ways.

First, it keeps FANOC's costs to a minimum (as discussed above) which reduces the required mark-up between marginal cost and price.

Second, it is likely to result in an efficient price structure. As discussed in the NERA Paper at Schedule 4, the distortion to allocative efficiency is minimised when the fixed and common costs are allocated in a lesser proportion to price-elastic services and in a greater proportion to inelastic services. While the pricing model does not compel FANOC to structure its prices in this way, an efficient structure is very likely to result from the terms of the Undertaking, since:

(a) the pricing model allows FANOC discretion in setting individual prices within the overall price cap; and

(b) the pricing structure which minimises distortion to allocative efficiency is also the pricing structure that maximises the utilisation of the network, and consequently, the access provider's profitability. FANOC's strong incentives to price in a manner that ensures the HFTP is efficiently used are discussed in greater detail in the NERA paper at Schedule 4.

A simple example of efficient price structuring is set out in the NERA paper at Schedule 4. As this example demonstrates, end customers as a group can benefit from more efficient pricing structures. The pricing model encourages FANOC to structure prices in a way analogous to this, such that usage of the HFTP Network will be maximised subject to cost recovery constraints. That is, it promotes the most efficient use of the network infrastructure.

Note that in the first period, prices are set in advance in the Undertaking, rather than being set by FANOC. While this limits the scope for price discrimination by FANOC in the first period, the prices set in the Undertaking for the first period nevertheless incorporate price discrimination on the basis of broadband speed for the standard service. This issue is discussed in greater detail in the separate paper entitled Initial Period Pricing attached as Schedule 3 of this submission.

Another feature of the pricing model with implications for allocative efficiency is FANOC's control of the schedule for the return of invested capital, which allows FANOC to adjust the target revenue between years (within set limits). This flexibility improves FANOC's ability to increase the utilisation of the HFTP network. However, if the discretion was unlimited, FANOC would have the ability to implement an extremely imbalanced schedule (for example,

[29] *Telstra's Line Sharing Service [2006]* ACompT 4, 2 June 2006 at [94]

deciding to return 100% of capital in the first period). This would be detrimental to allocative efficiency between periods. In order to prevent such a situation the Undertaking controls the profile of return of capital by:

- ensuring that prices (and the return of capital) are predetermined in the first period; and

- ensuring that in subsequent periods, the return of capital cannot exceed that associated with straight line depreciation over the remainder of the Undertaking (unless otherwise approved by the BAS Manager, an Independent Reviewer or the Commission)

These arrangements promote allocative efficiency by providing FANOC with some flexibility, and also ensuring that the schedule for return of capital is not imbalanced.

The model promotes productive and dynamic efficiency for a number of reasons.

First, it promotes productive efficiency since the controls and incentives on FANOC and the BAS Manager make it likely that FANOC's budget will not exceed efficient cost and that FANOC will not incur costs in excess of its budget, as discussed in the previous section. Further, the equity auction aspect of the model ensures that the cost of financing capital expenditure from the capital market is minimised. As a result, FANOC's services will be produced at least cost.

Second, as discussed under efficient investment above, by ensuring that FANOC will recover the costs of its efficient investment in the HFTP Network, the pricing model ensures that FANOC will have the incentive to invest in the network – that is, FANOC will "make timely changes" to its network "in response to changes in consumer tastes and in productive opportunities". For example if consumers desire a faster service, FANOC will have the incentive to respond by making the required investment, since it will be appropriately compensated for that investment.

Third, the involvement of the BAS Manager in budget-setting will promote dynamic efficiency because the access seekers that are members of the BAS Manager are retailers. Since retailers sell services directly to end-users, they are more capable of responding in a timely manner to changes in consumer tastes and productive opportunities than a wholesaler or a regulator would be. Thus the involvement of the BAS Manager will encourage FANOC to ensure that its investment program responds in a timely manner.

Finally, the pricing model will promote productive and dynamic efficiencies among access seekers by virtue of the fact that it promotes competition. As the Tribunal noted in the ULLS decision:

…a term or condition of access that has the effect of promoting competition in telecommunications markets will normally have the effect of providing incentives for telecommunications service providers to pursue productive and dynamic efficiencies. By finding lower cost ways of producing services now (and in the future), service providers are able to offer lower prices to end users for their products in order to win greater market share.[30]

The anti-discrimination aspects of the pricing model will promote dynamic efficiency because they ensure that a wide range of access seekers will be able to provide services to end-users.

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[30] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 175

As a result, the dynamic nature of competition between these access providers will encourage more flexible and rapid responses to changes in consumer tastes and productive opportunities than would be the case in a scenario with less competition (for example, if a vertically integrated service provider was dominant in the retail sector).

In summary, it is submitted that the pricing model results in prices that promote the efficient investment in and use of infrastructure (taking into account allocative, productive and dynamic efficiency).

7.4 Legitimate business interests of the carrier

In *Telstra Corporation Limited [2006]* ACompT 4 the Tribunal took the following approach to the interpretation of "legitimate business interests":

"…We consider that a carrier's "legitimate business interests" is a reference to what is regarded as allowable and appropriate in commercial or business terms. In the context of s 152AH(1)(b), the expression connotes something which is allowable and appropriate when negotiating access to the carrier's infrastructure. When looked at through the prism of a charge term and condition of access and its relationship to a carrier's cost structure, it is a reference to the interest of a carrier in recovering the costs of its infrastructure and its operating costs and obtaining a normal return on its capital."[31]

Turning to the current Undertaking, it follows that the price terms produced by the Price Model will be in FANOC's legitimate business interests if they enable FANOC to recover the capital costs of the HFTP Network and its operating costs and obtain a normal return on capital invested.

As discussed in section 5, the pricing model ensures that FANOC will recover all its efficiently incurred costs (but no more) and earn a normal return on its investment. Accordingly, it is submitted that the pricing model results in price terms consistent with FANOC's legitimate business interests.

7.5 Interests of persons who have rights to use the service

The Tribunal in the ULLS decision (*Telstra Corporation Ltd (No 3) [2007]* ACompT 3) found that access seekers to the ULLS are served by an access price that enables them to compete on their merits (that is, on the basis of their own efficiency) in downstream markets.[32]

As discussed under promotion of competition above, the Undertaking ensures that high speed carriage services over the HFTP Network will be available to all access seekers on a non-discriminatory basis. As a result, the Undertaking enables access seekers to compete on their merits in downstream markets. Consequently, it is submitted that the terms of the Undertaking serve the interests of access seekers.

7.6 Direct costs of providing access to the service

As discussed in section 5, the pricing model ensures that FANOC will recover all its efficiently incurred costs and earn a normal return on its investment. The model permits recovery of the direct costs of providing access and no more. Accordingly the Undertaking is consistent with recovery of the direct costs of providing access to services.

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[31] *Telstra Corporation Limited [2006]* ACompT 4, para [89]

[32] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 262

7.7 Safety and reliability

According to the Tribunal in the ULLS decision (*Telstra Corporation Ltd (No 3) [2007]* ACompT 3):

> *A service provider will have a sufficient incentive to ensure the safe and reliable operation of carriage services, telecommunications networks or facilities so long as it receives sufficient revenue to cover the costs of ensuring safe and reliable operations.* [33]

As discussed in section 5, the pricing model ensures that FANOC will recover all its efficiently incurred costs and earn a normal return on its investment. Accordingly, it is submitted that by encouraging economically efficient investment in the long term, the pricing model enables FANOC to maintain the safety and reliability of the operation of the HFTP Network.

7.8 Economically efficient operation of the network

According to the Tribunal in the ULLS decision (*Telstra Corporation Ltd (No 3) [2007]* ACompT 3):

> The factors that are likely to encourage the economically efficient use of, and the economically efficient investment in, the infrastructure … are similar to those factors which are likely to lead to the economically efficient operation of a carriage service, a telecommunications network or a facility.[34]

Accordingly, since the pricing model results in price terms that encourage economically efficient investment in and use of network infrastructure, as discussed in section 5, it also results in price terms consistent with the economically efficient operation of services, including access seekers' services.

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[33] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 277

[34] *Telstra Corporation Ltd (No 3) [2007]* ACompT 3, para 279

Schedule 1 - Regulatory Framework

This Schedule provides an overview of the regulatory framework dealing with access to telecommunications services, and the principles relevant to the assessment of this Undertaking.

1.1 Declaration

The access regime set out in Part XIC of the TPA applies to all 'eligible services'. Section 152AL(1) defines an 'eligible service' as:

- a listed carriage service; or
- a service that facilitates the supply of a listed carriage service,

where the service is supplied, or is capable of being supplied, by a carrier or a carriage service provider.

There are two ways in which an 'eligible service' can become a 'declared service'. First, the Commission may declare that a specified eligible service is a declared service after following the procedure for public inquiry laid down in s 152AL(3). Second, an eligible service may be deemed to be a declared service under s 152AL(7) if:

- a person gives the Commission a special access undertaking in relation to a service or a proposed service; and
- the undertaking is in operation; and
- the person supplies the service or proposed service to itself or others.

Pursuant to s 152AL(8), the Commission may declare a service under subsection (3) even if the service is, to any extent, covered by subsection (7).

1.2 Standard access obligations

If a carrier or a carriage service provider supplies 'declared services' then the carrier or provider (referred to as the 'access provider') must comply with the SAOs set out in s 152AR in respect of those declared services (referred to as 'active declared services'). Specifically, the access provider must, if requested by a service provider:

- supply an active declared service to the service provider in order that the service provider can provide carriage services and/or content services: s 152AR(3)(a);
- take all reasonable steps to ensure the technical and operational quality of the active declared service supplied to the service provider is equivalent to that which the access provider provides to itself: s 152AR(3)(b);
- take all reasonable steps to ensure that the service provider receives, in relation to the active declared service supplied to the service provider, fault detection, handling and rectification of a technical and operational quality and timing that is equivalent to that which the access provider provides to itself : s 152AR(3)(c);
- permit interconnection of the facilities it owns or controls, or of which it is a nominated carrier, with the facilities of the service provider for the purpose of enabling the service provider to be supplied with active declared services in order that the service provider can provide carriage services and/or content services: ss 152AR(5)(a) and (c);

- take all reasonable steps to ensure that:
    - the technical and operational quality and timing of the interconnection is equivalent to that which the access provider provides to itself; and
    - the interconnection complies with any standard in force under s 384 of the Telecommunications Act: s 152AR(5)(d);
- take all reasonable steps to ensure that the service provider receives, in relation to the interconnection, fault detection, handling and rectification of a technical and operational quality and timing that is equivalent to that which the access provider provides to itself: s 152AR(e);
- provide billing information to the service provider in connection with matters associated with, or incidental to, the supply of the active declared services: s 152AR(6); and
- if the active declared service is supplied by means of conditional-access customer equipment, supply to the service provider any service that is necessary to enable it to supply carriage services and/or content services by means of the active declared service and using the equipment: 152AR(8).

Limited exceptions to the SAOs prescribed by s 152AR apply.

If a carrier or carriage service provider is required to comply with any or all of the SAOs, they must do so on such terms and conditions as are agreed between them and the access seeker, or, failing agreement:

- if an access undertaking is in operation and specifies terms and conditions about a particular matter - on such terms and conditions relating to that matter as are set out in the undertaking; or
- if an access undertaking is in operation but does not specify terms and conditions about a particular matter - on such terms and conditions relating to that matter as are determined by the Commission under Division 8 (which deals with arbitration of disputes about access); or
- if there is no such undertaking - on such terms and conditions as are determined by the Commission under Division 8: s 152AY(2)

1.3 Access Undertakings and Special Access Undertakings

Carriers or carriage service providers may lodge access undertakings with the Commission. Two classes of undertakings can be lodged - ordinary access undertakings and SAUs.

An 'ordinary access undertaking' is a written undertaking given to the Commission by a carrier or a carriage service provider under which the carrier or provider undertakes to comply with the terms and conditions specified in the undertaking in relation to the SAOs applicable to them: s 152BS(1).

In contrast, a SAU is a written undertaking given to the Commission by a person who is, or expects to be, a carrier or a carriage service provider supplying a listed carriage service or a service that facilitates the supply of a listed carriage service which is not an 'active declared service' (see paragraph 1.2, above): s 152CBA. The undertaking must state that, in the event that the person supplies the service, the person:

- agrees to be bound by the obligations referred to in s 152AR, to the extent that those obligations would apply to the person in relation to the service if the service were treated as an active declared service; and

- undertakes to comply with the terms and conditions specified in the undertaking in relation to the obligations referred to in paragraph (a), above: s 152CBA(3).

According to the Explanatory Memorandum for the Telecommunications Competition Bill 2002 (Cth)[35], the purpose of a SAU is to encourage investment in telecommunications infrastructure and services by providing certainty for potential investors in relation to the access obligations that will apply to the services provided by the proposed infrastructure. The Explanatory Memorandum notes[36] that SAUs could see customers benefit from a wider range of services available on new and more diverse infrastructure and from lower prices resulting from greater investment in new infrastructure, which, in turn, could lead to economy-wide benefits as businesses take up new services at lower prices.

Once a SAU is in operation and the service is supplied, the service becomes a 'declared service' under s 152AL(7) and the SAOs and arbitration powers under Division 8 of Part XIC apply. The terms of the SAU will, however, prevail over any inconsistent arbitral determination: s 152CGB.

1.4 Criteria for SAUs

Pursuant to s 152CBD, the Commission must not accept a SAU unless it is satisfied that:

(a) the terms and conditions are consistent with the SAOs;

(b) those terms and conditions are reasonable; and

(c) the SAU is consistent with any Ministerial pricing determination.

To date, there has not been any Ministerial pricing determination in respect of the Broadband Access Service. Accordingly, the Commission is not required to assess the SAU under the criterion referred to in paragraph (c), above.

1.5 Consistent with SAOs

As previously noted (see paragraph 1.2, above), an access provider that supplies a declared service to itself or others must comply with the SAOs. The purpose of the requirement referred to in paragraph 1.4(a), above, is to ensure that a SAU is only accepted by the Commission where the undertaking is consistent with the SAOs applicable to the carrier or carriage service provider for the declared services.[37] This ensures that the carrier or carriage service provider is not subject to inconsistent obligations if the undertaking is accepted.[38]

The TPA does not detail any specific approach for assessing whether the terms and conditions of a SAU are consistent with the access provider's SAOs. Historically, the Commission has approached the analysis of this criterion on the basis of whether the terms and conditions of the

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[35] Explanatory Memorandum for the *Telecommunications Competition Bill* 2002 (Cth), at p 82.

[36] As above, at p 17.

[37] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 28.

[38] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 28.

undertaking are either expressly or impliedly inconsistent with the SAOs.[39] If the terms and conditions are not inconsistent with the SAOs, the Commission is likely to regard them as consistent.[40]

The Commission considers that terms and conditions of a SAU would be inconsistent with the SAOs if an access provider in giving effect to those terms and conditions would not satisfy each of the applicable obligations.[41]

1.6 Reasonableness

As noted in paragraph 1.4(b), above, the Commission may only approve a SAU if it is satisfied that the terms and conditions of the undertaking are 'reasonable'. In determining whether particular terms and conditions are reasonable, s 152AH(1) requires that regard must be had to the following matters (**Reasonableness Criteria**):

- whether the terms and conditions promote the long-term interests of end-users of carriage services or of services supplied by means of carriage services;
- 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 declared service;
- the interests of persons who have rights to use the declared service;
- the direct costs of providing access to the declared service;
- the operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or a facility; and
- the economically efficient operation of a carriage service, a telecommunications network or a facility.

In addition, the Commission may consider any other relevant matter.[42]

Application of the Reasonableness Criteria

Reasonableness as a whole

In assessing reasonableness, the Commission will look at the undertaking as a whole. In particular, the Commission will "take into account not only the effect of individual terms and conditions, but also the way in which the terms and conditions interact with each other and the

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[39] See, for example: ACCC, *A Report on the Assessment of Telstra's Undertaking for the Domestic PSTN Originating and Terminating Access Services*, July 2000, at pp 15-16; ACCC, *Assessment of Telstra's Core Services Undertakings - Preliminary View*, 12 December 2003, at p 16; ACCC, *A Final Report on the Assessment of Telstra's Undertaking for the Line Sharing Service*, August 2004, at p 21; ACCC, *Assessment of Telstra's Undertakings for PSTN, ULLS and LCS Final Decision*, December 2004, at p 23.

[40] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 28.

[41] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 28.

[42] Section 152AH does not use the expression "any other relevant matter". Rather, s 152AH(2) states that the matters listed in s 152AH do not limit the matters to which the Commission may have regard. Thus, the Commission may consider any other relevant matter: ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 28. See also ACCC, *Digital Set Top Unit Undertaking [Foxtel]*, March 2007, at p 121.

effect that the terms and conditions would have or are likely to have on relevant interests and matters."[43]

Application of the future with and without test

The Commission has indicated that it will use, where appropriate, a 'with or without' test in relation to particular criteria to assist with the assessment of reasonableness. In particular, the Commission believes that it is appropriate to use the 'future with or without test' as expressed in the Sydney Airports case.[44]

In this regard, the Australian Competition Tribunal (the "Tribunal") was of the view in the Seven Network Ltd case[45], that this approach was particularly helpful in assessing whether or not the terms and conditions promoted the long-term interests of end-users. While the Commission has indicated that the test is useful in having regard to a number of the Reasonableness Criteria, it has also emphasised that does not assist in the consideration of all of the relevant criteria, and that the test should only be applied in having regard to those criteria where it facilitates (as opposed to determines) the Commission's analysis in determining the overall reasonableness of the terms and conditions.[46]

The application of the test involves comparing the outcomes that will be achieved under the Undertaking against potential outcomes that are likely to otherwise occur in the absence of the Undertaking. This would involve taking both a short and longer term view as to the possible effects of the Undertaking through a consideration of likely events with and without the Undertaking.

However, the Commission has also stressed that the 'with or without' analysis should assist with the assessment of reasonableness but not determine that assessment, and that the test is not a substitute for the ultimate consideration of the reasonableness of the actual terms and conditions of the Undertaking.[47]

The long-term interests of end-users ("LTIE")

The Commission has published a guideline explaining what it understands is meant by the phrase 'long-term interests of end users' in the context of its declaration responsibilities (although there have been amendments to the TPA definition of the LTIE since that guide was published).[48] The Commission has expressed the view that a similar interpretation is appropriate in the context of assessing an undertaking.[49]

The Commission has indicated that, in a broad sense, it considers that terms and conditions in an undertaking might promote the LTIE if they are likely to contribute towards the provision of services at lower prices and/or higher quality, or contribute to a greater diversity of services

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[43] ACCC, *Digital Set Top Unit Undertaking [Foxtel]*, March 2007, at p 121.

[44] *Sydney Airports Corporation Ltd* (2000) 156 FLR 10.

[45] *Seven Network Ltd* [2004] ACompT 11.

[46] ACCC, *Digital Set Top Unit Undertaking [Foxtel]*, March 2007, at p 122.

[47] ACCC, *Digital Set Top Unit Undertaking [Foxtel]*, March 2007, at p 124.

[48] ACCC, *Telecommunications Services - declaration Provisions: a Guide to the Declaration Provisions of Part XIC of the trade Practices Act*, July 1999.

[49] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 21.

being available to end-users.[50] More specifically, in determining whether a particular thing promotes the LTIE, s 152AB(2) requires the Commission to have regard whether the terms and conditions are likely to result in the achievement of three specific objectives. Section 152AB(3) restricts the Commission to having regard to these three objectives alone when assessing whether a SAU is in the LTIE. These objectives are:

- promoting competition in markets for listed services;
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users;
- encouraging the economically efficient use of, and the economically efficient investment in:
    - the infrastructure by which listed services are supplied; and
    - any other infrastructure by which listed services are, or are likely to become, capable of being supplied.

LTIE objective 1 - promoting competition

In determining the extent to which a SAU is likely to result in the achievement of promoting competition in markets for listed services the TPA obliges the Commission to have regard to the extent to which the undertaking will remove obstacles to end-users of listed services gaining access to listed services. However, the Commission is not limited to this and may consider other matters in determining whether a SAU will achieve the promotion of competition in markets for listed services: ss 152AB(4) and (5).

In the Sydney Airports case, the Tribunal specifically rejected an argument that the test for promoting competition required a measurable advancement of competition:

> *"The Tribunal does not consider that the notion of promoting competition ... requires it to be satisfied that there would be an advance in competition in the sense that competition would be increased. ... Rather, the Tribunal considers that the notion of "promoting" competition ... involves the idea of creating the conditions or environment for improving competition from what it would be otherwise."*[51]

The Commission has also rejected the notion that promotion of competition requires a measurable increase in competition. In the context of Part XIC, the Commission has adopted the position that the promotion of competition does not involve the achievement of a particular level of competition:

> *"...the Commission considers that competition is promoted when market structures are altered such that the exercise of market power becomes more difficult; for example because barriers to entry have been lowered (permitting more efficient competitors to enter a market and thereby constrain the pricing behaviour of the incumbents) or because the ability of firms to raise rivals costs is restricted."*[52]

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[50] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 21.

[51] *Sydney International Airport* [2000] ACompT 1, 1 March 2003, at p 106.

[52] ACCC, *Mobile Services Review - Mobile Terminating Access Service*, June 2004, at p 11.

This position is consistent with section 152A(13)(4) of the Act, which specifies that in determining the extent to which a particular thing is likely to result in the promotion of competition, regard must be had to the extent to which the thing will remove obstacles to end-users of listed services gaining access to listed services.

LTIE objective 2 - achieving any-to-any connectivity

Subsection 152AB(8) of the TPA specifies that the objective of any-to-any connectivity is achieved if, and only if, each end-user who is supplied with a carriage service that involves communication between end-users is able to communicate, by means of that service, with each other end-user who is supplied with the same service or a similar service, whether or not the end-users are connected to the same telecommunications network.

LTIE objective 3 - encouraging efficient use of and investment in infrastructure

The Commission has indicated that, in its view, having regard to 'the objective of encouraging the economically efficient use of, and economically efficient investment in ... infrastructure' requires an understanding of the concept of economic efficiency.[53] This concept consists of three components:

- productive efficiency - this is achieved where individual firms use resources such that goods and services are produced using the least cost combination of inputs;
- allocative efficiency - this is achieved where the prices of resources reflect their underlying costs so that resources are then allocated to their highest value uses (i.e. those that provide the greatest benefit relative to costs); and
- dynamic efficiency - this reflects the need for industries to make timely changes to technology and products in response to changes in consumer tastes and in productive opportunities.[54]

Subsection 152AB(6) lists the matters the Commission must have regard to in determining the extent to which the terms and conditions of a SAU are likely to result in the achievement of the above objective. Those matters are:

- whether it is, or likely to become, technically feasible for the services to be supplied and charged for, having regard to:
    - the technology that is in use, available or likely to become available; and
    - whether the costs that would be involved in supplying, and charging for, the services are reasonable or likely to become reasonable; and
    - the effects, or likely effects, that supplying, and charging for, the services would have on the operation or performance of telecommunications networks;
- the legitimate commercial interests of the supplier or suppliers of the services, including the ability of the supplier or suppliers to exploit economies of scale and scope;

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[53] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 22.

[54] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 22.

- the incentives for investment in:
    - the infrastructure by which the services are supplied; and
    - any other infrastructure by which the services are, or are likely to become, capable of being supplied.

However, the Commission is not limited to these matters in its assessment of the extent to which a particular SAU is likely to achieve the above objective: s 152AB(7).

An assessment of whether a SAU encourages the efficient use of infrastructure is closely linked to the promotion of competition. This is because factors affecting competition, such as the terms and conditions of access to infrastructure, will determine the extent to which the infrastructure is utilised efficiently.

The legitimate business interests of the carrier or carriage services provider and the carrier's or provider's investment in facilities used to supply the declared service

The Commission has expressed the view that the concept of legitimate business interests should be interpreted in a manner consistent with the phrase 'legitimate commercial interests' used elsewhere in Part XIC of the TPA. Accordingly, it would cover the carrier's or carriage service provider's interest in earning a normal commercial return on its investment.[55]

However, it is unlikely the access provider's legitimate business interest would extend to achieving a higher than normal commercial return through the use of marker power.[56] For example, access prices should not, in most cases, be artificially inflated by the lack of competition in the supply of infrastructure services. However, carriers should also not be precluded from earning higher than normal commercial returns where these returns are generated from, for example, innovative investments or unique cost-cutting measures rather than through the exercise of market power.[57]

Following on from this, the access provider's legitimate business interests do not extend to receiving compensation for loss of any 'monopoly profits' that occurs as a result of increased competition.[58] In this regard, the Explanatory Memorandum for the Trade Practices Amendment (Telecommunications) Bill 1996 (Cth) states:

> *" ... the reference here to the 'legitimate' business interests of the carrier or carriage service provider and to the 'direct' costs of providing access are intended to preclude arguments that the provider should be reimbursed by the third party seeking access for consequential costs which the provider may incur as a result of increased competition in an upstream or downstream market".*[59]

When considering the legitimate business interests of the carrier or carriage service provider in question, the Commission has indicated it also considers what is necessary to maintain those

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[55] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 23.

[56] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 23 and ACCC, *Access Pricing Principles - Telecommunications: A Guide*, July 1997 at p 9.

[57] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 23.

[58] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 23.

[59] *Trade Practices Amendment (Telecommunications) Bill 1996 (Cth) Explanatory Memorandum*, at p 46.

interests. This can provide a basis for assessing whether particular terms and conditions in a SAU are reasonable to maintain those interests.[60] A carrier or carriage service provider, as an owner or controller of particular facilities, should not, simply because it is under an obligation to provide access to its service, be unduly compromised in the conduct of its own legitimate business interests.[61]

The interests of persons who have rights to use the declared service

An access provider can not dictate the terms of access such that the form of proposed access does not represent a commercially feasible business model for an access seeker.

Persons who have rights to use a declared service will, in general, use that service as an input to supply carriage services, or a service supplied by means of carriage services, to end-users. The Commission has expressed the view that these persons have an interest in being able to compete for the custom of end-users on their relative merits.[62] In assessing reasonableness the Commission will consider whether the terms of the undertaking support access seekers being able to compete in the supply of a service in a dependent market which is based on the costs and quality of its service relative to its competitors. Terms and conditions that favour one or more service providers over others and thereby distort the competitive process may prevent this from occurring and consequently harm those interests.[63]

The direct costs of providing access to the declared service

The Commission's Access Pricing Principles[64] state that:

- 'direct costs' are those necessarily incurred by the provision of access;
- that the access price should not be inflated to recover any profits the access provider may lose in a dependent market as a result of the provision of access; and
- this criterion also implies that, at a minimum, an access price should cover the direct incremental costs incurred in providing access.

The criterion also implies that the access price should not exceed the stand-alone costs of providing access.[65]

The operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or a facility.

The objective of this requirement is to ensure that access prices that are the subject of an undertaking do not lead to arrangements between access providers and access seekers that will result in or encourage the unsafe or unreliable operation of a carriage service,

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[60] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 24.

[61] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 24.

[62] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 24.

[63] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 24.

[64] ACCC, *Access Pricing Principles - Telecommunications: A Guide*, July 1997.

[65] Stand-alone costs are the costs an access provider will incur providing a service assuming the access provider produced no other services: ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 24.

telecommunications network or facility. Non-price terms and conditions which ensure that a network's integrity is not damaged are essential to protect the business interests of both the carrier or carriage service provider and the access seeker, provided that they are reasonable. However, such non-price terms and conditions, allegedly in relation to the safe operation of a network, must not be used as a barrier to effective access.

The economically efficient operation of a carriage service, a telecommunications network or a facility.

The Commission has indicated that, in its view, the concept of 'economically efficient operation' does not appear to be limited to the operation of carriage services, networks and facilities by the carrier or carriage service provider supplying the declared service, but would seem to include those operated by others (e.g. service providers using the declared service).[66]

In assessing an undertaking against this criterion the Commission may consider whether particular terms and conditions enable a carriage service, telecommunications network or facility to be operated in an efficient matter. This may involve an examination of whether they allow for the carrier or carriage service provider supplying the declared service to recover the efficient costs of operating and maintaining the infrastructure used to supply the declared service under consideration.

There is likely to be considerable overlap between the matters the Commission takes into account in considering the LTIE and its consideration of this matter.[67]

[66] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 24.

[67] ACCC, *Assessment of Telstra's ULLS monthly charge undertaking - final decision*, August 2006, at p 24.

Schedule 2 - Example BAS Product Specifications

The following BAS Products Specifications are annexed to the Undertaking and to this Schedule 2 of the submission:

Annexure A - Basic Telephone Access Service;

Annexure B - Standard Broadband Service - Maximum speed 1.5Mbps;

Annexure C - Standard Broadband Service - Maximum speed 6Mbps;

Annexure D - Standard Broadband Service - Maximum speed 12Mbps

Annexure E - Standard Broadband Service - Maximum speed unlimited.

This Schedule 2 also includes an example of a Draft BAS Product Specification for a Business Grade Broadband Service (Annexure F). This service has not been included as an Initial BAS in the Undertaking as it has not yet been included in the Initial BAS Pricing Calculation, attached to this submission as Schedule 3. However, it is anticipated that FANOC would provide a business grade product, to the extent that access seekers had a demand for this grade of service in particular regions.

Annexure A - Basic Telephone Access Service

BAS PRODUCT SPECIFICATION

Basic Telephone Access Service

General Product Description	The Service is an access service to allow the provision by an Access Seeker of an IP Telephony based Standard Telephone Service or equivalent service to a residential end user. The Service is provided over the HFTP Network with carriage over ULLS from local pillars (connected to the Service Aggregation Network (SAN) at the node). The Service is provided using an analogue service from the end-user premises to the node, and using an IP-based service over the Service Aggregation Network. The Access Seeker has network visibility at the DSLAM level supporting first level diagnostics. The Service allows both porting of telephone numbers and new services where an Access Seeker provides the local number (provided by the Access Seeker's Voice Switch). IPND, Directory and Emergency Service databases are to be maintained by the Access Seeker. Directory assisted services are to be provided by the Access Seeker. The Service will require the provision of location and call information by the Access Seeker. Access Seeker will be required to comply with the *Telecommunications (Emergency Call Service) Determination 2002* (or any equivalent regulatory requirement), and to enable 13/1300 and 1800 calls to be appropriately routed. The Node will provides VLAN handling, Ethernet/VLAN aggregation, Security, QoS, Multicast / IGMP and OAM capability complying with the Technical Report from the DSL Forum TR-059 DSL Evolution – Architecture Requirements for the Support of QoS-Enabled IP Services. The Local Access Points (or Transit Access Points) will provide Bandwidth/QoS policy enforcement, Security, Ethernet/VLAN aggregation, resiliency and OAM capability.
Service Technical Information	FANOC ULL-Telephony interface is designed to be compatible with analogue telephone instruments conforming to AS/ACIF S002, S004 and AS/NZS 60950-2000 standards. FANOC will comply with ACIF C513:2004 Customer and Network Fault Management Industry Code.

Interfaces	A End: Network Boundary of an end user's premises; and B End: Access Seeker POI at a Local Access Point or a POI agreed with FANOC. The various intermediate interfaces within the Local Access Point will comply with the DSL Forum TR-101 Reference Model and the DSL Forum Technical Report TR-058 Multi-Service Architecture & Framework Requirements.
Service performance objectives	To the extent appropriate the Service will comply with any Quality of Service standards for VoIP services that may be specified in a code or standard developed by the Communications Alliance or any similar or equivalent industry or regulatory body.
Selectable Features	Nil Selectable.
Limitations	The ability of Access Seekers to provide retail customer product features, such as those listed below, will depend upon the Access Seeker's Voice Switch capabilities. • LD Preselection • Call Return • Three Way Call • Call Waiting & Display • Call Divert • VoiceMail • Caller ID (Display on Retail User phone) • Silent Number • Calling Number Display (Sending) • priority assistance • complex numbers, including line hunt and indial. Such other limitations and requirements as may be specified in the General Terms, Retail User Terms, Acceptable Use Policy and Operations Manual as amended from time to time.

Annexure B - Standard Broadband - 1.5Mbps

BAS PRODUCT SPECIFICATION

Standard Broadband - Maximum 1.5Mbps

General Product Description	The Service is Layer 2 point-to-point transmission service, over the HFTP Network with carriage over ULLS from local pillars (connected to the Service Aggregation Network at the node). Retail User PPP encapsulated data is aggregated as L2TP and delivered to the Access Seeker at a Local Access Point. The Service supports ADSL2+ and is backward compatible with ADSL and ADSL2 modems. The Service supports the Basic Telephone Access Service. The Access Seeker has network visibility at the DSLAM level supporting first level diagnostics. The Node provides VLAN handling, Ethernet/VLAN aggregation, Security, QoS, Multicast / IGMP and OAM capability complying with the Technical Report from the DSL Forum TR-059 DSL Evolution – Architecture Requirements for the Support of QoS-Enabled IP Services. The Local Access Points (or Transit Access Points) provide Bandwidth/QoS policy enforcement, Security, Ethernet/VLAN aggregation, resiliency and OAM capability.
Service Technical Information	Meets: • ITU-T 922.1: Asymmetric digital subscriber line (ADSL) • ITU-T 992.3: Asymmetric digital subscriber line transceivers 2 (ADSL2) • ITU-T 922.5: ADSL transceivers – Extended bandwidth ADSL2 (ADSL2+) • ANSI T1.413 Issue 2 (ADSL) FANOC will comply with: • ACIF C513:2004 Customer and Network Fault Management Industry Code.
Interfaces	A End: Network Boundary of an end user's premises; and B End:. Access Seeker POI at a Local Access Point or a POI agreed with FANOC. The various intermediate interfaces within the Local and Transit Access Points will comply with the DSL Forum TR-101 Reference Model and the DSL Forum Technical Report TR-058 Multi-Service

	Architecture & Framework Requirements.
Service Performance Objectives	The service will have the characteristics of an ADSL2+ service as defined by the ITU standards set out in the "Service Technical Information" section above. The targeted maximum downstream line speed is 1.5Mbps. The targeted minimum downstream bandwidth is 1.5Mbps, which will be met in most cases. However, there may be rare circumstances when the maximum bit rate is less than 1.5 Mbps.
Selectable Features	Nil selectable
Limitations	1. Any speeds represented in the ITU standards or as Selectable Features above represent maximum line speeds supported and are not a guarantee that this speed will be achieved. 2. Downloading or uploading greater than 30 gigabytes per month per Individual Service (or such other period as notified to you from time to time) may affect the performance of the networks. Upon four days notice (but shorter if the excessive usage is seriously impacting the networks), FANOC may direct you to take action to prevent further excessive use of an Individual Service. If you do not act to curtail the excessive use within that four day period, the Individual Service may be immediately suspended or limited. 3. Such other limitations and requirements as specified in the General Terms, Retail User Terms, Acceptable Use Policy and Operations Manual as amended from time to time.

Annexure C - Standard Broadband - 6Mbps

BAS PRODUCT SPECIFICATION

Standard Broadband - Maximum 6Mbps

General Product Description	The Service is Layer 2 point-to-point transmission service, over the HFTP Network with carriage over ULLS from local pillars (connected to the Service Aggregation Network at the node). Retail User PPP encapsulated data is aggregated as L2TP and delivered to the Access Seeker at a Local Access Point. The Service supports ADSL2+ and is backward compatible with ADSL and ADSL2 modems. The Service supports the Basic Telephone Access Service. The Access Seeker has network visibility at the DSLAM level supporting first level diagnostics. The Node provides VLAN handling, Ethernet/VLAN aggregation, Security, QoS, Multicast / IGMP and OAM capability complying with the Technical Report from the DSL Forum TR-059 DSL Evolution – Architecture Requirements for the Support of QoS-Enabled IP Services. The Local Access Points (or Transit Access Points) provide Bandwidth/QoS policy enforcement, Security, Ethernet/VLAN aggregation, resiliency and OAM capability.
Service Technical Information	Meets: • ITU-T 922.1: Asymmetric digital subscriber line (ADSL) • ITU-T 992.3: Asymmetric digital subscriber line transceivers 2 (ADSL2) • ITU-T 922.5: ADSL transceivers – Extended bandwidth ADSL2 (ADSL2+) • ANSI T1.413 Issue 2 (ADSL) FANOC will comply with: • ACIF C513:2004 Customer and Network Fault Management Industry Code.
Interfaces	A End: Network Boundary of an end user's premises; and B End:. Access Seeker POI at a Local Access Point or a POI agreed with FANOC. The various intermediate interfaces within the Local and Transit Access Points will comply with the DSL Forum TR-101 Reference Model and the DSL Forum Technical Report TR-058 Multi-Service

	Architecture & Framework Requirements.
Service Performance Objectives	The service will have the characteristics of an ADSL2+ service as defined by the ITU standards set out in the "Service Technical Information" section above. The targeted maximum downstream line speed is 6Mbps. The targeted minimum downstream bandwidth is 1.5Mbps, which will be met in most cases. However, there may be rare circumstances when the maximum bit rate is less than 1.5 Mbps.
Selectable Features	Nil selectable
Limitations	1. Any speeds represented in the ITU standards or as Selectable Features above represent maximum line speeds supported and are not a guarantee that this speed will be achieved. 2. Downloading or uploading greater than 30 gigabytes per month per Individual Service (or such other period as notified to you from time to time) may affect the performance of the networks. Upon four days notice (but shorter if the excessive usage is seriously impacting the networks), FANOC may direct you to take action to prevent further excessive use of an Individual Service. If you do not act to curtail the excessive use within that four day period, the Individual Service may be immediately suspended or limited. 3. Such other limitations and requirements as specified in the General Terms, Retail User Terms, Acceptable Use Policy and Operations Manual as amended from time to time.

Annexure D - Standard Broadband - 12Mbps

BAS PRODUCT SPECIFICATION

Standard Broadband - Maximum 12Mbps

General Product Description	The Service is Layer 2 point-to-point transmission service, over the HFTP Network with carriage over ULLS from local pillars (connected to the Service Aggregation Network at the node). Retail User PPP encapsulated data is aggregated as L2TP and delivered to the Access Seeker at a Local Access Point. The Service supports ADSL2+ and is backward compatible with ADSL and ADSL2 modems. The Service supports the Basic Telephone Access Service. The Access Seeker has network visibility at the DSLAM level supporting first level diagnostics. The Node provides VLAN handling, Ethernet/VLAN aggregation, Security, QoS, Multicast / IGMP and OAM capability complying with the Technical Report from the DSL Forum TR-059 DSL Evolution – Architecture Requirements for the Support of QoS-Enabled IP Services. The Local Access Points (or Transit Access Points) provide Bandwidth/QoS policy enforcement, Security, Ethernet/VLAN aggregation, resiliency and OAM capability.
Service Technical Information	Meets: • ITU-T 922.1: Asymmetric digital subscriber line (ADSL) • ITU-T 992.3: Asymmetric digital subscriber line transceivers 2 (ADSL2) • ITU-T 922.5: ADSL transceivers – Extended bandwidth ADSL2 (ADSL2+) • ANSI T1.413 Issue 2 (ADSL) FANOC will comply with: • ACIF C513:2004 Customer and Network Fault Management Industry Code.
Interfaces	A End: Network Boundary of an end user's premises; and B End:. Access Seeker POI at a Local Access Point or a POI agreed with FANOC. The various intermediate interfaces within the Local and Transit Access Points will comply with the DSL Forum TR-101 Reference Model and the DSL Forum Technical Report TR-058 Multi-Service

	Architecture & Framework Requirements.
Service Performance Objectives	The service will have the characteristics of an ADSL2+ service as defined by the ITU standards set out in the "Service Technical Information" section above. The targeted maximum downstream line speed is 1.5Mbps. The targeted minimum downstream bandwidth is 1.5Mbps, which will be met in most cases. However, there may be rare circumstances when the maximum bit rate is less than 1.5 Mbps.
Selectable Features	Nil selectable
Limitations	1. Any speeds represented in the ITU standards or as Selectable Features above represent maximum line speeds supported and are not a guarantee that this speed will be achieved. 2. Downloading or uploading greater than 30 gigabytes per month per Individual Service (or such other period as notified to you from time to time) may affect the performance of the networks. Upon four days notice (but shorter if the excessive usage is seriously impacting the networks), FANOC may direct you to take action to prevent further excessive use of an Individual Service. If you do not act to curtail the excessive use within that four day period, the Individual Service may be immediately suspended or limited. 3. Such other limitations and requirements as specified in the General Terms, Retail User Terms, Acceptable Use Policy and Operations Manual as amended from time to time.

Annexure E - Standard Broadband - Unlimited

BAS PRODUCT SPECIFICATION

Standard Broadband - Maximum Unlimited

General Product Description	The Service is Layer 2 point-to-point transmission service, over the HFTP Network with carriage over ULLS from local pillars (connected to the Service Aggregation Network at the node). Retail User PPP encapsulated data is aggregated as L2TP and delivered to the Access Seeker at a Local Access Point. The Service supports ADSL2+ and is backward compatible with ADSL and ADSL2 modems. The Service supports the Basic Telephone Access Service. The Access Seeker has network visibility at the DSLAM level supporting first level diagnostics. The Node provides VLAN handling, Ethernet/VLAN aggregation, Security, QoS, Multicast / IGMP and OAM capability complying with the Technical Report from the DSL Forum TR-059 DSL Evolution – Architecture Requirements for the Support of QoS-Enabled IP Services. The Local Access Points (or Transit Access Points) provide Bandwidth/QoS policy enforcement, Security, Ethernet/VLAN aggregation, resiliency and OAM capability.
Service Technical Information	Meets: • ITU-T 922.1: Asymmetric digital subscriber line (ADSL) • ITU-T 992.3: Asymmetric digital subscriber line transceivers 2 (ADSL2) • ITU-T 922.5: ADSL transceivers – Extended bandwidth ADSL2 (ADSL2+) • ANSI T1.413 Issue 2 (ADSL) FANOC will comply with: • ACIF C513:2004 Customer and Network Fault Management Industry Code.
Interfaces	A End: Network Boundary of an end user's premises; and B End:. Access Seeker POI at a Local Access Point or a POI agreed with FANOC. The various intermediate interfaces within the Local and Transit Access Points will comply with the DSL Forum TR-101 Reference Model and the DSL Forum Technical Report TR-058 Multi-Service

	Architecture & Framework Requirements.
Service Performance Objectives	The service will have the characteristics of an ADSL2+ service as defined by the ITU standards set out in the "Service Technical Information" section above. The targeted maximum downstream line speed is unlimited. The targeted minimum downstream bandwidth is 1.5Mbps, which will be met in most cases. However, there may be rare circumstances when the maximum bit rate is less than 1.5 Mbps.
Selectable Features	Nil selectable
Limitations	1. Any speeds represented in the ITU standards or as Selectable Features above represent maximum line speeds supported and are not a guarantee that this speed will be achieved. 2. Downloading or uploading greater than 30 gigabytes per month per Individual Service (or such other period as notified to you from time to time) may affect the performance of the networks. Upon four days notice (but shorter if the excessive usage is seriously impacting the networks), FANOC may direct you to take action to prevent further excessive use of an Individual Service. If you do not act to curtail the excessive use within that four day period, the Individual Service may be immediately suspended or limited. 3. Such other limitations and requirements as specified in the General Terms, Retail User Terms, Acceptable Use Policy and Operations Manual as amended from time to time.

Annexure F - DRAFT Business Grade Broadband

DRAFT BAS PRODUCT SPECIFICATION

Business Grade Broadband

General Product Description	The Service is Layer 2 transmission service, over the HFTP Network with carriage over ULLS from local pillars (connected to the Service Aggregation Network at the node). Retail User PPP encapsulated data is aggregated as L2TP and delivered to the Access Seeker at a Local Access The Service supports ADSL2+ and is backward compatible with ADSL and ADSL2 modems. The Service supports the Basic Telephone Access Service. The Service supports e.SHDSL, SHDSL (2wire), SHDSL (4-wire). The Service supports 2BASE-TL Long reach Ethernet over Cu • Focused on high bandwidth symmetric services for business • Makes use of G.991.2 2003 SHDSL / TC-PAM technology. • Actual Capacity: 192Kb/s -> 5.696 Mb/s. • Two types of modulation used • 16 level TC-PAM (192kbps – 3.84Mbps) • 32 level TC-PAM (192 – 5.696Mbps) The Service supports EFM (Ethernet in the First Mile) bonding. The EFM aggregation layer allows multiple pairs to be used as a single, high capacity link, up to 8 pairs providing up 40Mbps. Access Seeker has network visibility is offered at the DSLAM level supporting first level diagnostics. The Node provides VLAN handling, Ethernet/VLAN aggregation, Security, QoS, Multicast / IGMP and OAM capability complying with the Technical Report from the DSL Forum TR-059 DSL Evolution – Architecture Requirements for the Support of QoS-Enabled IP Services. The Local Access Points (or Transit Access Points) provide Bandwidth/QoS policy enforcement, Security, Ethernet/VLAN aggregation, resiliency and OAM capability.
Service Technical Information	Meets: • ITU-T G.991.2 2003 SHDSL • IEEE 802.3ah EFM • ITU-T G.998.2 (G.bond) • ITU-T 992.3: Asymmetric digital subscriber line transceivers

	2 (ADSL2) • ITU-T 922.5: ADSL transceivers – Extended bandwidth ADSL2 (ADSL2+) • ANSI T1.413 Issue 2 (ADSL) • ITU-T 922.1: Asymmetric digital subscriber line (ADSL) FANOC will comply with: ACIF C513:2004 Customer and Network Fault Management Industry Code.
Interfaces	A End: Network Boundary of an end user's premises; and B End: Access Seeker POI at a Local Access Point or a POI agreed with FANOC. The various intermediate interfaces within the Local and Transit Access Points will comply with the DSL Forum TR-101 Reference Model and the DSL Forum Technical Report TR-058 Multi-Service Architecture & Framework Requirements.
Service Performance Objectives	The targeted minimum symmetric bandwidth is 2Mbps, which is met in most cases. However, there may be rare circumstances when the maximum bit rate is less than 2Mbps.
Supported Selectable Features	Nil selectable
Limitations	1. Service will be provided as a layer-2 access service from customer network boundary to interconnection point. 2. Such other limitations and requirements as specified in the General Terms, Retail User Terms, Acceptable Use Policy and Operations Manual as amended from time to time.

Schedule 3 Initial BAS Pricing Calculation

Schedule 4 NERA Paper

Schedule 5 - Request to Government for legislative change to facilitate the connection of FANOC nodes to Telstra pillars

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