

1 April 2010

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Department of Broadband, Communications and the Digital Economy

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Response to Agenda Paper – Key Issues for Greenfields Subordinate Legislation

Dear Anne

Thank you for the opportunity for the Urban Development Institute of Australia (UDIA) to provide a written response to the Agenda Paper – Key Issues for Greenfields Subordinate Legislation, which was provided to the Fibre in Greenfields Stakeholder Reference Group on 16 March 2010.

As you are aware UDIA is the peak body representing the urban development industry in Australia, and has been actively engaged with the Government in the consultation process in relation to this legislation.

UDIA notes that the Stakeholder Reference Group was given very little time to analyse the Agenda Paper on Greenfields Subordinate Legislation and appreciates being able to provide these written comments.

UDIA's response to the Agenda Paper is attached, however there are major issues in relation to the NBN and Greenfields that still remain unresolved, despite being raised on multiple occasions by UDIA and other members of the Stakeholder Reference Group. These include:

- The treatment of brownfields and greenfield sites must be consistent and equitable. It is simply inequitable for there to be an upfront capital charge placed on greenfield sites, but not elsewhere.
- There is currently a lack of information regarding how NBN funding will be applied to greenfield sites. Whilst it has been inferred in recent weeks by the Department that developers will be required to fund FTTP in greenfields sites, this position has never been publically stated by the Government. This has created an environment of financial uncertainty for many developers.

- There is currently a lack of technical resolution and information available on the NBN model and the ownership of assets – this is outlined in greater detail in the attached response.
- What will the financial impact of the NBN be on Greenfield sites for the development of low income housing product?

In responding to the Department's questions in the Agenda Paper, on occasions UDIA has been required to go into significant technical detail. Given this, UDIA believes that it would be beneficial if it were able to meet with the Department in order to work through the details outlined in the paper.

I will be in contact with you to arrange a mutually suitable time for us to meet. In the meantime I can be contacted on 0422 022 746 or rlindsay@udia.com.au

Yours sincerely



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Chief Executive Officer

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UDIA Submission

Key Issues Greenfields Subordinate Legislation – Discussion Paper

1. GEOGRAPHIC COVERAGE AND EXEMPTIONS

Where will the subordinate legislation apply geographically?

NBN Co have stated¹ that in locations where fibre deployment will not be possible, that wireless or satellite technologies would be used to provide broadband speeds up to 20Mbps (compared to 100Mbps for fibre). No other information has been made available as to how this 20Mbps service would be delivered to each home and whether fibre is preferred to be utilised in any way.

Therefore, the answer as to whether a remote greenfield site has to be “fibre ready” can only be determined based upon:

- § Clarification of NBN Co's model for wireless and satellite delivery of services.
- § An assessment and determination of whether a site will fall within a Fibre Serving Area to be provided with services by NBN Co.

Developers will require an immediate determination by NBN Co at stage 1 of the ‘Generic Pipeline for Greenfield Development’ as to whether a development site falls within a Fibre Serving Area and if it doesn't, to determine if there are any ‘fibre ready’ requirements for distribution of service delivered via wireless or satellite technologies.

Should the subordinate legislation apply on a State, Territory or regional basis?

To avoid ambiguity of interpretation, a consistent approach should be adopted nationally. The requirement as to whether a development must deploy FTTP or be ‘fibre ready’ should be as simple as possible to interpret and be as equitable as possible in its treatment. Ideally, a consistent FTTP deployment model should be considered that avoids the need for complex, time consuming and potentially costly interpretation by consultants. The legislative model should be as easy to interpret for smaller developers as it is for larger developers and will need to contemplate the consideration of remote sites that are not located in Fibre Serving Areas.

2. TYPES OF DEVELOPMENTS TO BE CAPTURED

What types of developments would need to be fibre ready?

The terminology used to describe different development typologies varies significantly between jurisdictions and between the development and service industries. For example, in the development industry, an apartment building is referred to as a ‘*multi-unit dwelling*’. In the telecommunications industry this is referred to as a *multi-dwelling* unit or MDU.

Therefore, it is highly recommended that clarification of the terminologies used to describe ‘development types’ should be sought from all local and state planning authorities to ensure that accurate terminology is used in any proposed legislation. This will enable the legislation to be consistently interpreted.

¹ NBN Co Network and Operations Information Session, Sydney March 26, 2010.

What fibre-ready facilities would be required in in-fill projects where there's existing passive infrastructure?

The department has defined "fibre ready" and 'fibre-ready facilities' as "passive infrastructure like ducting and pits which permit the ready roll-out of fibre in the future". In addition to pit and pipe infrastructure there is additional FTTP infrastructure for the active components of the network that will need to be considered from a planning and spatial basis.

The specification, number and arrangement of this infrastructure will be dependent upon the size of the development and the technical architecture of the FTTP solution that will be installed for a site at a later date. It is therefore assumed that if a site is only required to be "fibre-ready" then the design of the passive infrastructure has to be aligned to the same NBN architecture being deployed in other areas by NBN Co.

To date, the NBN co. Network architecture is largely unknown by the property development industry. However, feedback from developers who have deployed FTTP in their developments and limited NBN Co Information Sessions, have identified the spatial requirement for the following types of facilities:

- § A Communications Head End – for large sites. Typically a 3x 4m minimum shelter plus the required council planning setbacks or a solution that fits into the basement of a building. In NBN Co briefings, this equivalent type of facility is referred to as a Fibre Access Node (FAN) where each FAN is capable of serving up to 3200 dwellings in a fibre distribution area.
- § Fibre Distribution Hubs – street cabinets required per x number of dwellings.
- § Antenna location for an MATV solution for FTA TV over fibre.
- § Dish locations for PayTV solution over fibre.

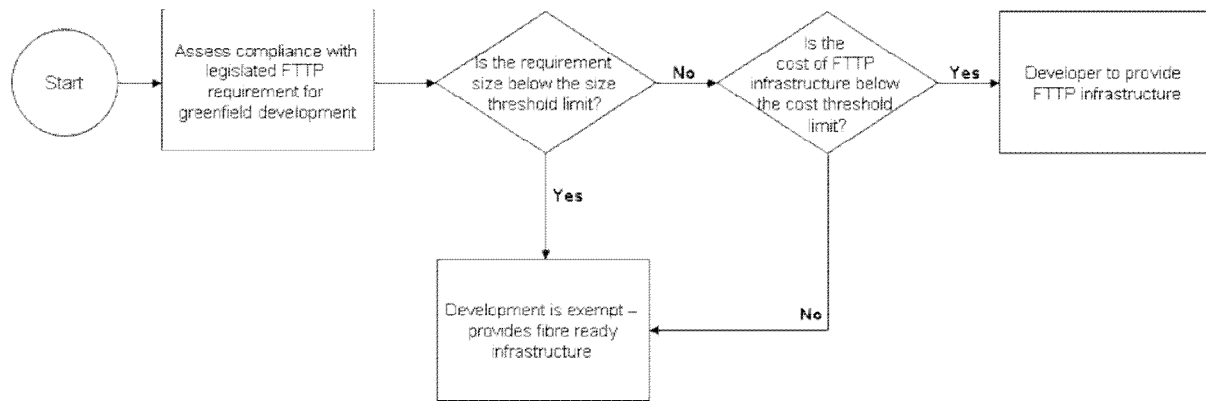
The location and treatment of these components will be dependent upon the following, inter alia:

- § spatial planning requirements – where can these facilities fit on the site;
- § local authority planning and construction approval requirements;
- § site yield limitations – can the development afford to lose the space required; and
- § street alignment with other utilities such as power, water, gas.

It is imperative that the NBN co. spatial requirements of the passive network infrastructure are known in order to be properly allowed for planning and cost analysis. This is essential to avoid any costs associated with incompatibilities and associated reworks.

What sort of threshold should be implemented?

The requirement to install fibre, based upon an assessment of project size and estimated cost, is dependent upon a large number of variables. This variability adds complexity to a simple determination of these threshold numbers. The UDIA interpretation of this proposal is summarised as:



The options for the size and cost thresholds are discussed below:

Size Threshold Assessment

Simplistically, a practical size threshold number is dependent upon an assessment of commercial affordability for the type of development and a practical consideration of how the solution can be delivered to a given site. For example, anecdotal evidence would suggest that a threshold limit could be around 400 to 600 dwellings for detached dwellings using one type of FTTP delivery model, but 300 dwellings for an alternate type of delivery model. However, the size threshold limit will also depend on whether there is a spatial requirement for certain on site infrastructure or alternatively, the site can be connected back to a centralised exchange that also serves other areas.

The topic is complex and is explained from a developer's perspective in the following section. What can be concluded from this analysis is that it is extraordinarily difficult to define one number as a size threshold limit that could be applied nationally across all development types. **The UDIA concludes therefore, that whilst a size threshold limit is easy to interpret from a regulatory compliance perspective, it is likely to be inequitable in its treatment of different development types and therefore a size threshold limit cannot be effectively utilised as a compliance criteria.**

- The **FTTP technical solution** for a site, provided by an independent FTTP provider (or alternatively by an NBN co designed solution architecture if the site falls outside the compliance threshold), will define certain space requirements for the required pit and pipe configuration, a communications head end or Fibre access node, fibre distribution hubs etc. For example, certain sized sites (such as urban infill sites) may not be large enough to accommodate the necessary on-site infrastructure to accommodate a communications room head end and would have to be connected back to some other interconnect point via backhaul.
- The **commercial assessment** as to whether FTTP is an affordable solution, relates in part to the type and cost of the product being developed such as affordable housing product or luxury apartments etc. There are a large number of factors that can influence this assessment including:
 - Cost of a FTTP solution
 - Geographic Location
 - Land Use
 - Site Size
 - Site Yield
 - Product Sale Types
 - Proximity to Infrastructure and Services

An outline of these criteria is described in the following section.

Cost of a FTTP solution

- Quotations provided by FTTP providers typically include:

- The capital cost of establishing backhaul to a site or a contribution towards this figure;
- The capital costs of establishing a FTTP network consisting of fibre, fibre network units and ONTs to each dwelling.
- The capital cost of establishing an onsite Telco exchange to provide a FTTP system (depending on the size of the development and the need for an exchange based upon the FTTP provider's alternate access to other suitable interconnect facilities);

Additional costs include:

- The capital cost of providing a passive pit and pipe network infrastructure. Sometimes this is provided by the developer and other times by the FTTP provider.

Geographic location

The geographic location of a site will often determine the price point at which residential products can be sold at. Influencing factors include postcode and general location described as:

- Inner urban
- Urban fringe
- Rural

Site Size

The size and zoning of the site will often determine what land use and site yield is possible e.g.

- Small site redevelopment sites
- Inner urban Infill sites
- Greenfield master planned communities sites

Land use

Different types of development products are common on Greenfield sites and the mix will affect the commerce of the project e.g.

- Mixed use developments (residential, commercial, retail, industrial, education etc.)
- Multi-unit dwellings (low cost affordable housing dwellings to luxury dwellings)
- Detached dwellings (low cost affordable housing dwellings to luxury dwellings)

Site Yield

The number of dwellings that can be developed on a site will be dependent upon local planning guidelines per site location. This determines how many dwelling types can be approved for a given location based upon various planning guidelines and yield formulas. The commercial assessment and feasibility of the development (i.e. profitability) will be largely driven by the yield for the site multiplied by the sale revenue per dwelling less the associated development costs (e.g. Infrastructure build, civil works and construction costs, overheads etc. etc.)

- High density
- Medium density
- Low density

Product Sale types

Development sales can be derived from a range of options including:

- Land only sales
- House and land sales
- Apartment sales
- Sales of lots to sub-developers (for either detached dwellings or multi-unit dwellings)

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Proximity to infrastructure and services

The proximity and availability of existing infrastructures can influence the total cost of development for a given site. It is typical that prior to achieving planning and in some cases zoning approval, a development must be able to demonstrate that essential infrastructures and a broad range of community services will be available to residents such as:

- Power, potable water, non-potable water, gas, telecommunications, sewerage treatment, storm water treatment etc.
- Transport
- Community facilities
- Environmental site treatments eg. Wetlands preservation, fauna and flora preservation etc.

The commerciality of the development will depend on (and can be significantly affected by) how many of these infrastructures and services have to be provided for the site before planning approval can be achieved.

Cost Threshold Assessment

For reasons outlined later in this submission, the cost of backhaul should be removed from an assessment of the cost threshold. Therefore, it is assumed that the FTTP cost threshold per dwelling = FTTP network cost divided by the total no. of dwellings for the total development.

The cost of providing a FTTP network consists of:

- the capital costs of establishing a FTTP network consisting of fibre, fibre network units and ONTs to each dwelling;
- the capital cost of establishing an onsite Telco exchange to provide a FTTP system (depending on the size of the development and the need for one based upon the FTTP provider's access to other suitable interconnect facilities); and
- the capital cost of providing a passive pit and pipe network infrastructure. Sometimes this is provided by the developer and other times by the FTTP provider.

The total costs previously identified will usually depend upon the providers experience and capabilities and the geographic location of the site (that affects pricing such as: material transport costs, labour costs etc.) Defining a cost threshold limit will be reliant on industry benchmarks for the cost of a delivering a standard FTTP design.

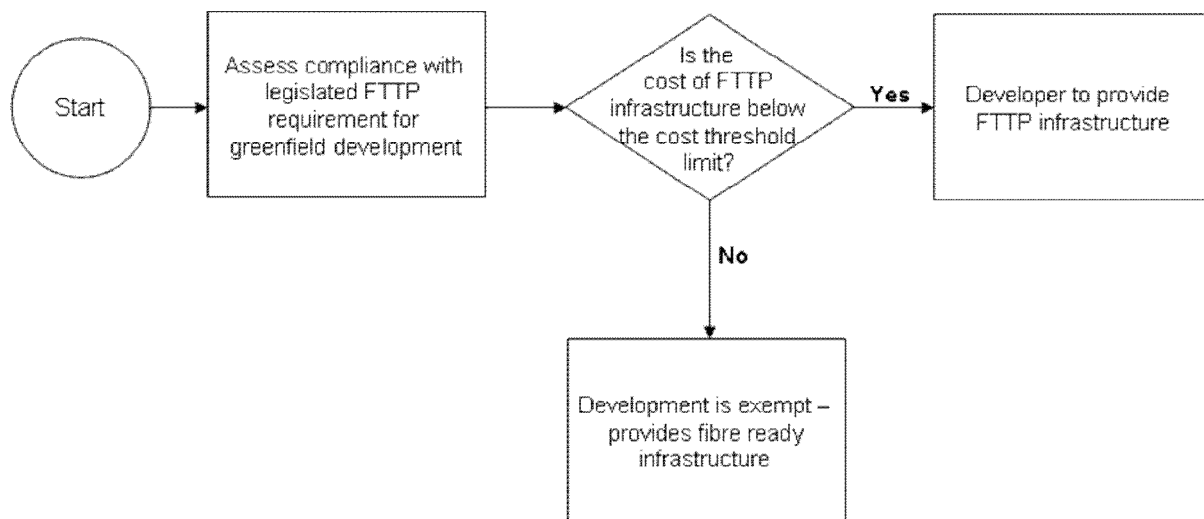
Currently FTTP costs vary from provider to provider and project type to project type based upon the requirements of the developer e.g. costs per dwelling for detached dwellings in a large development will differ from the costs per dwelling for a multi-story apartment building. Therefore, it is suggested that standardised pricing models need to be identified for each development type and at a minimum for detached dwellings and multi-unit dwellings.

This will then determine a cost threshold for each development type e.g.:

- \$3000 for detached dwelling sites
- \$2500 for multi-unit dwellings

The reference design used for calculating the costs per dwelling type should be based upon the same reference architecture used by NBN co. This will ensure a level of parity with the broader NBN project and can benchmark the costs against known costs in this program. The defined cost threshold limits would need to be reviewed and updated on a regular basis.

The assessment process for the cost threshold can be described as follows:



It is a fair assumption that if a development falls below a defined size threshold and that FTTP cannot be installed, then a 'fibre-ready' infrastructure should be required.

What will happen in developments where fibre will not be required because of either size or backhaul costs?

The assessment of a development to be exempt from providing a FTTP solution and fall back to being "fibre ready" will be dependent upon the following:

- an assumption that a telephone service provider will be available in the area (by default this falls to Telstra under their USO obligations.); and
- an assumption that the "fibre ready" pit and pipe infrastructure can also accommodate the immediate telco requirements as well as the future NBN co requirements.

Telstra's recent announcement to no longer deploy copper network infrastructure seriously complicates this issue. Even though developers can provide a "fibre ready" pit & pipe infrastructure, it appears they can no longer rely upon Telstra to provide a traditional copper network-based telephone service under the USO and at no cost to the developer. Telstra have indicated that they will potentially supply a mobile wireless handset to meet their USO obligations.

In addition to this, most residential customers have also become accustomed to the availability of broadband in areas where a copper based telephone service is available either via ADSL or ADSL 2+. Telstra's proposed plans also complicate this issue as customers would be restricted to the availability of mobile broadband providers in the location where there is the absence of a copper line back to a Telstra exchange.

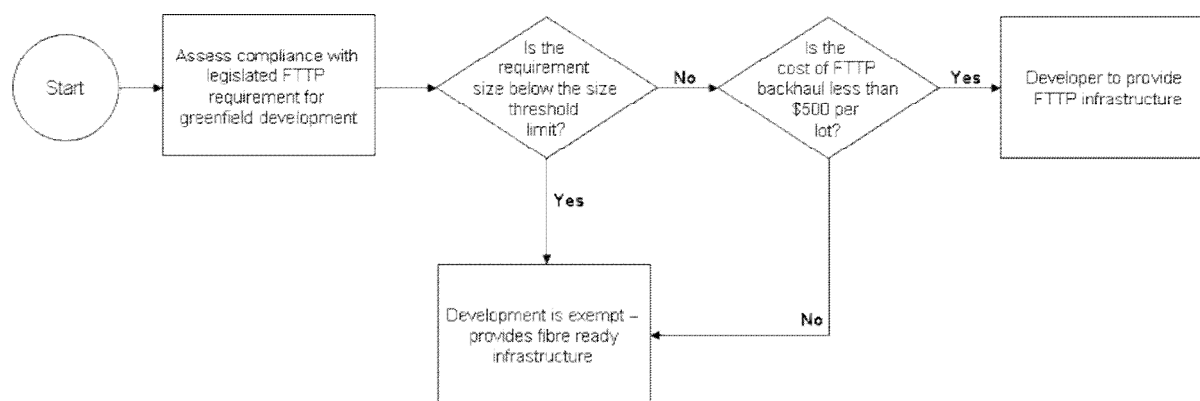
The cost of mobile broadband plans are typically at a much higher cost than fixed line broadband and the number of available providers are typically lower. Based upon feedback from many developments where there has been acknowledged issues with the availability of broadband, there can be significant adverse community reaction ranging from affected land and property sales to, in some cases, claims for compensation from the developer (especially from home based businesses). On a national scale, this could be a significant issue for the Government who have brought about the circumstances affecting this situation.

At what level should the backhaul threshold be set?

The cost of providing backhaul for most Greenfield sites is a significant portion of the costs associated with providing a complete FTTP solution. While distribution costs of a FTTP solution within a given development are fairly consistent, within a given range, backhaul costs can vary significantly based upon a range of factors, namely:

- distance from the nearest backhaul interconnect point to the site;
- commercial pricing of the backhaul provider;
- commercial terms offered by the backhaul provider to the FTTP provider;
- number of obstructions encountered on the backhaul route (e.g. roads, rivers, rail, other utilities);
- ownership of existing infrastructure that the backhaul may be required to use e.g. Pipes owned by other carriers or utilities;
- cost of access to existing infrastructure e.g. lease costs to other asset owners;
- initial connection costs to the backhaul provider; and
- service type availability of the backhaul provider;

The UDIA interpretation of this proposal by the DBCDE is summarised as:



The variability of backhaul costs makes it difficult for developers to effectively anticipate and plan for the cost of FTTP in a commercial assessment. The scope of backhaul provision can introduce a significant and unacceptable level of risk for a development.

UDIA contends that the cost of backhaul should be treated separately from the cost of fibre deployment. The UDIA considers that backhaul is part of a National Broadband infrastructure backbone that can potentially service multiple sites in both greenfield and brownfield developments and therefore should be considered an essential component of the National Broadband Network. Backhaul costs should definitely not be a cost that requires developer contribution and should be addressed by the NBN project.

Why not use a threshold that takes account of the proximity of backhaul?

UDIA contends that the proximity threshold concept as proposed is not workable. From feedback based upon multiple FTTP projects, it is apparent that the cost of backhaul is based upon multiple criteria and is based upon an assessment by the FTTP provider of factors such as those detailed earlier in the submission.

All of these factors result in a determination of:

- whether the nearest backhaul is suitable to the task
- whether the backhaul can be delivered to a schedule that suits the development requirements

- the up front capital cost of the backhaul charged to the developer.

Therefore, closer proximity does not necessarily equate to a lower cost of backhaul. The cost of backhaul also has to relate to the type of product being developed, so even though costs may be relatively low, it may still be uneconomical for low income affordable housing products for example.

The UDIA reiterates its recommendation therefore that:

- the management of backhaul request should be managed as an NBN co responsibility providing co-ordination amongst backhaul providers or through provision of infrastructure procured as part of their own network; and
- the developer's contribution to the cost of backhaul should be removed.

This proposed arrangement enables simplified commercial assessments for telecommunications infrastructure without the need for complex assessment criteria. It also encourages NBN co to facilitate competitively priced backhaul options across a broad spectrum of locations across Australia as per the objectives of the NBN project.

If there is to be a size threshold, what should it be?

For the reasons outlined earlier, the UDIA reiterates that it is extremely difficult to define one number as a size threshold limit that could be applied nationally across all development types. **The UDIA concludes therefore, that whilst a size threshold limit is easy to interpret from a regulatory compliance perspective, it is likely to be inequitable in its treatment of different development types and therefore a size threshold limit cannot be effectively utilised as a compliance criteria.**

3. START DATE

When should the fibre-ready requirement start to apply?

As previously indicated in this submission and previous submissions, an understanding of the true impact of the proposed Greenfields legislation will be dependent upon knowledge of:

- NBN co's deployment plans ie. When will they be deploying to certain areas;
- NBN co's technical solution design. (This affects spatial and planning requirements of a site to be 'fibre ready');
- availability of the NBN implementation study (currently pending release); and
- an industry agreement upon compliance thresholds.

All of the matters raised by the prospect of this legislation are relatively complex and require consideration based upon known variables. Currently there are more unknown variables than known variables. For example, NBN co are unable to define deployment plans or final technical solutions until further studies and trials are completed.

Once these solutions have been finalised, the design and cost impact of the NBN co. requirements for passive network infrastructure have yet to be assessed to determine whether they are higher or lower than typical passive network infrastructures deployed by developers. Therefore, it is difficult for the Development industry to achieve an informed consensus view that would fully support the legislation in the proposed timeframe.

The development industry cannot agree to the 'fibre ready' compliance date of 1 July 2010 until the 'fibre ready' requirements of the NBN co network architecture have been published. It is imperative that the NBN co. spatial requirements for the 'fibre ready' passive network infrastructure are known in

order to be properly allowed for in planning and cost analysis by the developer. This is essential to avoid any future costs associated with incompatibilities and associated reworks. The NBN co. 'fibre ready' design requirements need to be known well before any civil works stages and in Stage 4 or earlier. This is because the commercial impact of these requirements has to be considered by the developer and incorporated into their overall commercial assessment of the project.

When should the fibre requirement start to apply?

While it is acknowledged that notice may have been given to developers 12 months ago that it was the Government's intention to mandate FTTP by July 2010, what has not been made clear in any public manner to the development industry as a whole, is that the \$43B NBN project does not contemplate paying for any FTTP infrastructure in Greenfields developments that it proposes to legislate for.

It is inferred in all current discussions with the DBCDE that all costs associated with providing FTTP within the development boundary, and all costs associated with providing backhaul to the development site, are costs that must be met, in full, by the developer. This realisation has the development industry significantly concerned. As a result, it has on multiple opportunities, pointed out the inequity of this arrangement and is reacting to the relative haste of this change. In many cases developers are now only just being confronted with the reality of transitioning from paying \$0 for telecommunications infrastructure to potentially paying millions of dollars in costs to provide both backhaul and FTTP.

To allow for the effective transition to these new arrangements, it is critical that the proposed timing of compliance is set as early as possible in the planning lifecycle to allow for a proper commercial assessment of the impact that this proposed legislation brings about. Due to the high costs associated with fully funding FTTP it is anticipated that certain development sites may now be determined to be uncommercial to be developed or will need to claim exemption from immediate FTTP provision and be limited to provision of a 'fibre ready' telecommunications infrastructure.

It has been proposed that fibre ready compliance should apply to all developments receive 'Stage 4 approval after 1 July 2010'. However, by Stage 4 it is feasible that a commercial assessment of a development may already be complete and the developer may have attributed no cost towards the cost of FTTP telecommunications infrastructure or even a 'fibre ready' infrastructure. This could negatively impact the commercial assessment and feasibility of the entire project.

The previous Stage 3 is described as '*Negotiation of infrastructure levies and detailed structure planning.*' It is in this phase and earlier phases that appropriate budgets are allocated to the estimated costs associated with the development of the land, including all utility costs. All of these costs are included in a commercial assessment of the development which will indicate to the developer an anticipated yield and profit from the development.

The timing trigger for compliance for fibre requirement needs to be earlier than phase 4 to allow for an appropriate commercial assessment of costs by the developer.

Should the instrument contain detailed specifications?

Detailed specifications, covering both residential and non-residential premises, should be left to industry guidelines that are progressively developed and improved by an independent groups such as Communications Alliance or ACMA and not be specifically legislated for. This allows conditions to be kept in line with changes in technology without the need to redraft legislation.

Currently, the market is self regulating in that respect. Business grade customers typically seek and are willing to pay for certain qualities of services. How that service is delivered is determined by the service provider and is agreed upon under a Service Level Agreement (SLA) with the customer.

Typically the architecture of most FTTP deployments are able to cater for both residential grade and business grade services. NBN co. has also provided information indicating that the architecture of their network is also able to cater for these requirements².

It is almost certain that over time technology will change. Whilst the underlying distribution method will be fibre, both the active network components and the fibre cabling systems themselves will also most likely change. It is therefore not recommended that supporting legislation be put in place that goes so far as to specify specific technologies or specific fibre distribution methods.

Proposal 12 - That pending the finalisation of industry guidelines, codes and standards, as a safety net, the subordinate legislation provide broad outcome-orientated requirements, for both residential and non-residential premises.

The provision of outcome-orientated requirements, for both residential and non-residential premises appears to be reasonable as long as:

- there are published definitions of these requirements eg. An agreed definition of “any-to-any connectivity”; and

it removes reference to specific detailed technical requirements that may become outdated over time. Eg. Specific technical parameters behind a definition of “high speed Internet access”

² NBN Co Network and Operations Information Session, Sydney March 26, 2010.