Australia's broadband network

7 April 2017

Director Industry and Infrastructure Policy
NSW Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Director

Submission on NSW Department of Planning and Environment proposed review of *State Environmental Planning Policy (Infrastructure) 2007* (NSW)

We refer to the Department of Planning and Environment's (**Department**) invitation to make submissions on the Department's proposed review of the *State Environmental Planning Policy (Infrastructure) 2007* (NSW) (**ISEPP**).

Introduction

nbn co ltd (**nbn**) supports the Department's review of the ISEPP and welcomes the opportunity to engage closely with the Department as part of the review process.

The ISEPP is of particular importance to **nbn**, given that it is the key planning instrument that facilitates the rollout of the **nbn™** network in NSW. [redacted]

[redacted]

The ISEPP is an effective and valuable tool in the rollout of the **nbn**™ network, as it provides a responsive and streamlined planning framework for the construction and installation of telecommunications facilities.

In 2010, the NSW Government made a number of amendments to the ISEPP that provided an efficient planning pathway for the development of specific types of telecommunications facilities, with the aim of making NSW a national leader in the roll out of the **nbn**™ network, stimulating the NSW economy, and particularly benefitting rural communities.

nbn has now been conducting the rollout of the **nbn**™ network in NSW under the amended ISEPP for a number of years, and believe that there are a number of further changes that could be made to the ISEPP to streamline the approvals process, which would further facilitate the fast and efficient rollout of the **nbn**™ network, but with minimal impact on land use planning, and that would not be of concern to the community generally.

nbn has set out, in the Annexures below, information about the unique challenges that are faced by each technology type, and suggested amendments to the ISEPP that would facilitate the rollout of the **nbn**™ network, as follows:

- **Annexure A** provides information about **nbn**™'s fixed line network;
- **Annexure B** provides information about **nbn**™'s fixed wireless network; and
- **Annexure C** provides suggested amendments to the ISEPP.

Please also see below some general information about the rollout of the **nbn**™ network in NSW.

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Roll out of the nbn™ network

nbn is a Government Business Enterprise, established to upgrade Australia's existing telecommunications network, as part of a national initiative with the objective of providing access to very fast broadband to 100% of Australian homes and businesses (**end-users**).

nbn is working to achieve the objectives of its Shareholders as set out in the August 2016 Statement of Expectations. This states that **nbn** should deploy a Multi Technology Mix network (**MTM**) providing peak wholesale download data rates of at least 25Mbps to all premises and at least 50Mbps to 90 per cent of the fixed line footprint as soon as possible. Across the country more than 4.4 million premises are now ready for service, and the 2016 **nbn**™ Corporate Plan sets out a strategy for activating 8 million premises by 2020. Currently almost 140,000 premises in NSW have access to fixed wireless services, primarily in rural and regional areas, providing wholesale speeds of up to 100Mbps, while approximately 1,100,000 premises currently have access to fixed line services.

The roll out of the **nbn**™ network is Australia's largest infrastructure project. The scale, scope, speed and complexity of the project is unprecedented and rollout is taking place in the context of a rapidly changing market with a high level of technological innovation.

Broadband is now considered a necessity and a core service that every person in Australia should have access to, much like water and electricity. **nbn**'s national rollout will ensure that no Australian community is left behind. Access to fast broadband is critical to Australian families, businesses and the economy's continued success.

One of the key challenges faced by **nbn** in the rollout of its network in New South Wales is the regulatory environment, particularly in the planning context. There is a stark difference in the approval and rollout time between elements of the **nbn**™ network that can be carried out under the ISEPP and those that require development consent under Part 4 of the *Environmental Planning and Assessment Act 1979* (NSW). By way of illustration, in relation to new fixed wireless facilities the average time for consultation and amendment carried out under the ISEPP is 52 days. Compared to the average, the time is 152 days for **nbn** applications for development consent, with the slowest 10% of **nbn** development applications taking 464 days.

Next steps

Please contact [redacted] if you would like to discuss this submission, or any of the proposed amendments.

Yours sincerely

[redacted]

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ANNEXURE A

FIXED LINE NETWORK -

A1 - Fixed line network challenges

All types of **nbn™** network connections that utilise a physical line running to the premises are considered fixed line connections. The different fixed line technology types are described below.

Fibre to the premises

An **nbn™** Fibre to the premises connection (FTTP) is used in circumstances where an optic fibre line will be run from the nearest available fibre node, to the premises. FTTP requires the installation of a Premises Connection Device (PCD) on the external side of a property, and also requires an **nbn™** network device to be installed inside each premises.

Fibre to the Node

An **nbn™** Fibre to the node (FTTN) connection is utilised in circumstances where the existing copper network will be used to make the final part of the **nbn™** network connection, from a nearby FTTN cabinet or micro-node to the premises.

The fibre node is likely to take the form of a street cabinet. Each street cabinet will allow the **nbn™** network signal to travel over optic fibre from the exchange to the cabinet, and connect with the existing copper network to reach the premises.

Hybrid Fibre Coaxial

An **nbn™** Hybrid Fibre Coaxial (HFC) connection is used in circumstances where the existing 'pay TV' or cable network can be used to make the final part of the **nbn™** network connection. In this circumstance a HFC line will be run from the nearest available fibre node, to the premises.

HFC connections require an **nbn™** network device to be installed at the point where the HFC line enters the premises through the PCD. This device requires power to operate, and can only be installed by an approved **nbn™** installer or service provider.

Fibre to the Curb

nbn™ will deliver fibre all the way to the telecommunications pit outside a premises, where the fibre then connects with a small Distribution Point Unit (DPU) that then uses the existing copper line to deliver fast broadband to the premises over a (usually) relatively short distance.

Fibre to the building

An **nbn™** Fibre to the building (FTTB) connection is generally used when we are connecting an apartment block or similar types of buildings to the **nbn™** network. In this scenario we run a fibre optic line to the building communications room - we then use the existing technology in the building to connect to each apartment.

Within the building, the fibre node within the communications room is likely to take the form of a secure cabinet. Each cabinet will allow the **nbn™** network signal to travel over the optic fibre, to the existing network technology present in the building.

Transit network

The transit network comprises rings of backbone fibre-optic cables that will connect **nbn**'s central hub to the modern equivalent of telephone exchanges. Construction of the transit network is therefore an important component of **nbn**'s plans to provide a connection within the reach of every Australian household and business to its fibre, fixed wireless or satellite services.

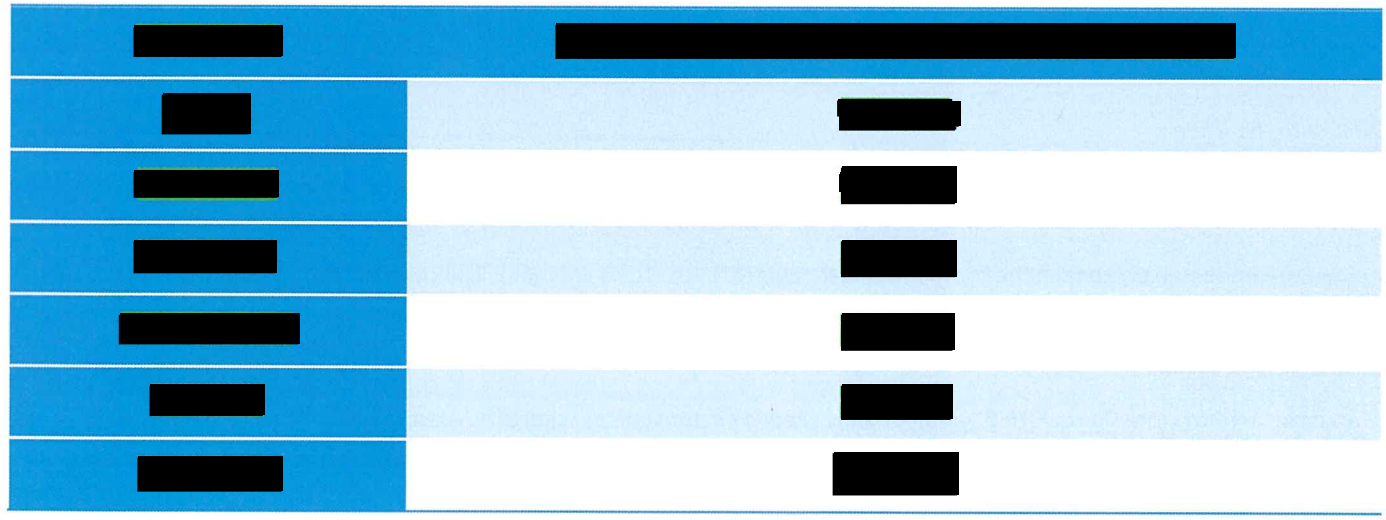
Challenges

One of the most significant challenges for **nbn** in NSW is rolling out the fixed line network technologies in areas in which there are significant numbers of locally listed heritage properties and locally listed heritage conservation areas.

Extending application of ISEPP to heritage conservation areas and heritage items

In these areas, **nbn**'s experience is that the DA process adds considerable time to the process but generally does not change the outcome in terms of the approved form of the development to support the **nbn**™ network rollout. There are a number of fixed line deployment areas (including The Rocks, Glebe, Balmain and Grafton), which have extremely high volumes of heritage items, or indeed are entirely within a heritage conservation area.

[redacted]



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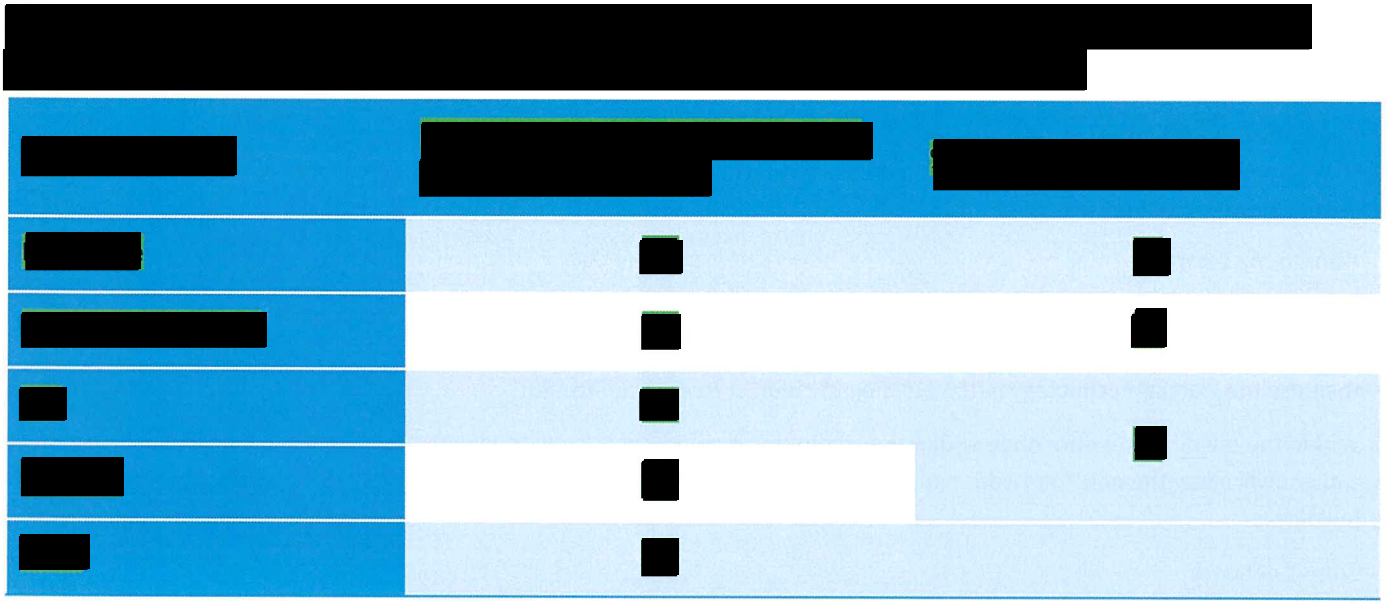


nbn appreciates the importance of protecting the heritage values of areas and suburbs, however, in the context of the national rollout of the **nbn**™ network, the existing heritage limitations in the ISEPP pose a significant challenge to the efficient

and timely connection of all end users, given the minimal impact to the heritage values that the installation of **nbn** equipment presents.

The limitations mean that **nbn** is required to obtain development consent from the local Council for a large number of facility installations that are located within a heritage conservation area or that will impact a local heritage item. This results in a significant increase in costs, and leads to delays in construction of the **nbn**™ network in those areas due to obtaining statutory approvals or exemptions from statutory approvals. Ultimately, this can lead to considerable delay in the connection of premises to the **nbn**™ network.

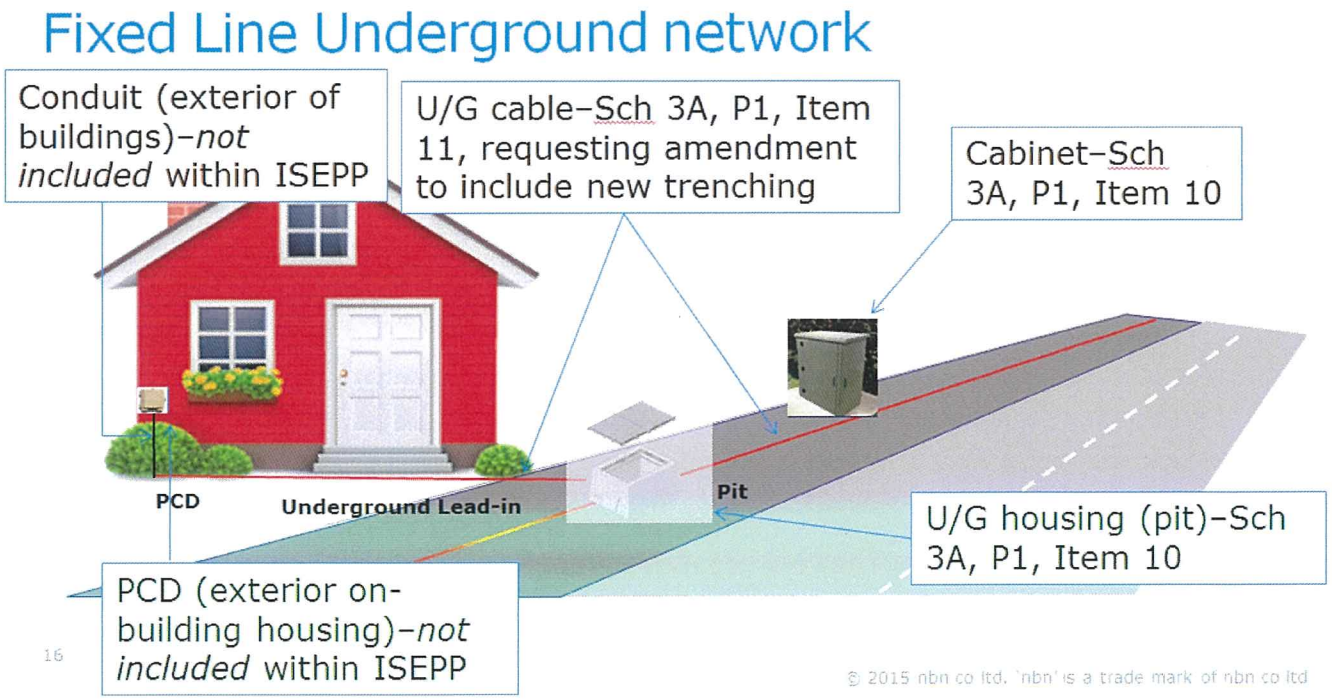
In the majority of cases, the installation of **nbn**'s equipment only has a minor impact on the protected heritage values of a heritage item or the heritage conservation area, the DA process ultimately makes minimal practical difference to the outcome.

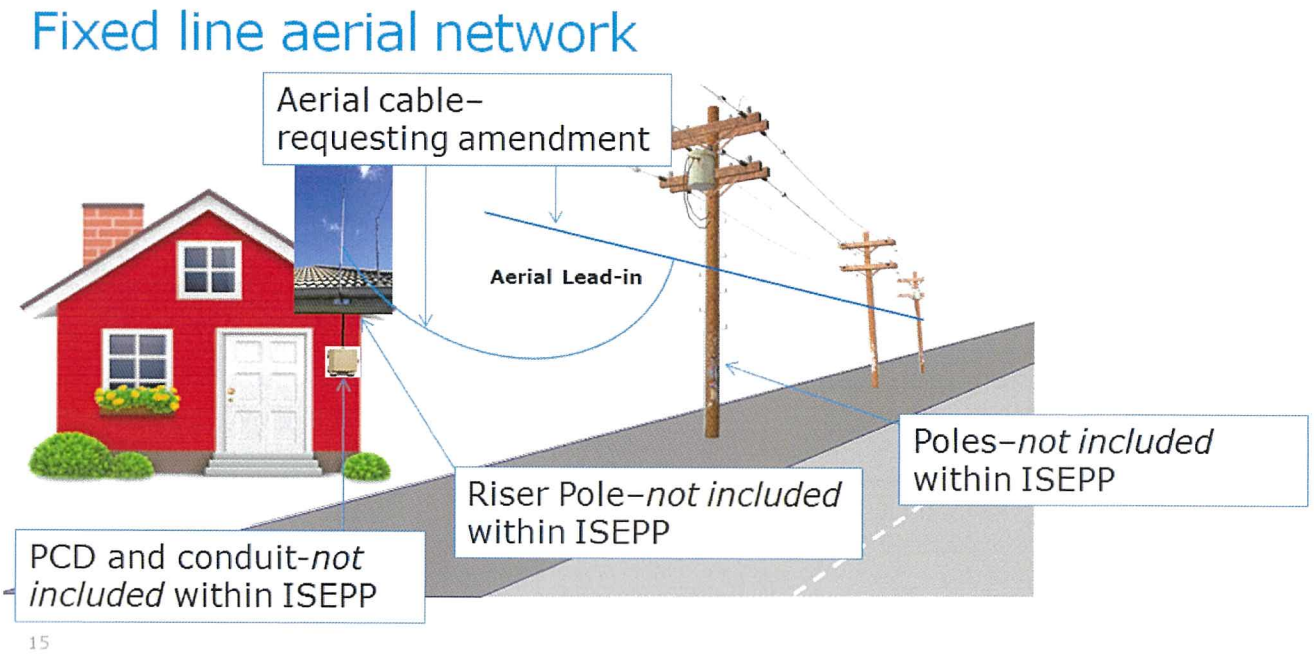
nbn takes the view that the installation of infrastructure is an ongoing part of the continually evolving urban environment and the minor impacts of the infrastructure associated with the fixed line technology types, do not justify the delay and expense that results from the need to obtain formal development consent.

The diagrams below show the existing components of the **nbn**™ aboveground and underground network rollout and the existing 'gaps' which **nbn** is seeking to have closed or altered with the changes which **nbn** is seeking to introduce to the ISEPP.

For example, the ISEPP currently does not allow for the installation of a PCD or conduit on a heritage item, yet being unable to install these two items in a timely and efficient way would create critical 'gaps' in the rollout of the fixed line network meaning that some of the technology types cannot be made to work.

The request for the addition of trenching within a heritage area is consistent with the ISEPP's intention of allowing increased telecommunications infrastructure, where boring is permitted within heritage environments. However, it is often the case that heritage areas have a significant amount of old underground assets which are not within the correct asset alignment, which unacceptably raises the risk of asset strikes. Therefore, trenching is the only available installation option and **nbn** is currently required to seek relevant statutory approvals for this to occur.





A2 - Consultation for fixed line infrastructure

nbn takes a rigorous approach to the notification of local Councils and affected landowners with regard to the placement of above- and below-ground fixed line infrastructure. **nbn** considers that the procedures it has in place are industry-leading. In the first instance, **nbn** provides briefings and notification to Councillors and senior Council managers. **nbn** then meets with Council operational staff.

The operational meetings with Council staff have proven to be very important, as the Council officers are able to provide **nbn** with valuable information on local conditions and constraints. At a later date, Council is provided with the opportunity to comment on the proposed location for above-ground fixed line infrastructure. **nbn** has generally found that this process works well, and **nbn** has been able to respond to requests from Council where practicable. To date **nbn** has not received any objections from Councils to the construction or placement of above-ground fixed line infrastructure that has been installed in accordance with the ISEPP.

ANNEXURE B

FIXED WIRELESS NETWORK

An **nbn**™ fixed wireless connection is typically used in circumstances where the population density is lower and the distance between premises is greater than for **nbn**™ network fixed line areas. In this circumstance data travels from a transmission tower located as much as 14kms from a premises to a small rooftop antenna.

B1 - Proposed 100m buffer

In the draft amendments to the ISEPP, the Department has proposed amending item 5 of Part 2 of Schedule 3A of the ISEPP to include new development standards in Column 2 which would have the effect of preventing the complying development of new telecommunications towers within 100m of a "dwelling". The 100m restriction would impact approx. 58% of **nbn**'s planned FW sites that are yet to obtain a Complying Development Certificate. Of these, 70% would trigger the 100m restriction due to **nbn**'s landlord's dwelling being within 100m of the tower site.

We understand that this 100m buffer is proposed to ensure adequate community consultation and address community concern about electromagnetic energy (**EME**) from radio communications equipment on telecommunications towers.

nbn is conscious that local communities are often concerned about the development of telecommunications facilities, and that community consultation is critical to increasing community understanding about those facilities. Accordingly, **nbn** undertakes significant community consultation when planning fixed wireless sites under the ISEPP. In many cases the scope and scale of this consultation exceeds that undertaken by Councils for **nbn** proposals requiring development consent and as such it is not considered likely that requiring more fixed wireless sites to obtain development consent would lead to greater levels of engagement with NSW communities.

In relation to EME **nbn** respectfully submits that there is no scientific or policy justification for the imposition of distance-based restrictions, like the 100m buffer, on health grounds, as compliance with the *Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz (2002)* (**ARPANSA Standard**), is sufficient to protect against adverse health impacts. This is a position that has accepted by courts throughout Australia. In fact the existence of such a buffer could lead to a public perception that there are safety concerns within this distance - something which is not supported by the ARPANSA Standard.

Set out below is **nbn**'s approach to public consultation and more detailed information about the ARPANSA Standard including relevant judicial consideration of that standard.

Community consultation

nbn undertakes a significant level of community consultation when planning fixed wireless sites in order to satisfy community expectations regarding infrastructure development and in line with **nbn**'s broader community engagement objectives.

While not specifically required for fixed wireless sites classified as complying development under the ISEPP, **nbn** undertakes the following consultation activities for all new-build fixed wireless sites:

1. Consultation with local Councils about proposed fixed wireless sites in their local government area, including providing the Council with a Strategic Engagement Report (which provides Council with details about **nbn**'s network and what is planned for that local government area).
2. Identification of relevant stakeholders for each site and detailed town planning assessment to facilitate a specific consultation plan for each site.
3. Once a site is chosen:
    - Stage 1 – Site specific consultation with Council regarding the proposed public consultation plan (10 business days).

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- Stage 2 – Public consultation with interested and affected persons (20 business days):
  - newspaper advertisement;
  - on site notice;
  - written notification to surrounding community, including details of the proposed facility design;
  - public website access to proposal details on the Radio Frequency Site Archive (RFNSA)
  - community information sessions, where recommended by the detailed town planning assessment; and
  - consideration of public submissions received and redesign of facilities to address relevant issues if practicable/feasible.
- Stage 3 – Response to public submissions and a site-specific Final Consultation Report is issued to Council which summarises the outcomes of the public consultation, and how **nbn** intends to proceed (including if any changes will made to the facility as a result of the consultation).

Community interest in **nbn** fixed wireless proposals typically relates to a number of commonly-held concerns about health and safety, property values and visual amenity. These issues are routinely dealt with by **nbn**, which is well placed to provide communities with detailed information about how the **nbn** fixed wireless base stations comply with all relevant regulatory requirements, and how the base stations have been sited and designed to meet the requirements of the ISEPP and to minimise amenity impacts.

In relation to the above measures **nbn** often undertakes dedicated fixed wireless community information sessions where communities are invited to meet **nbn** and representatives to discuss the detail of particular proposals. To date the **nbn** fixed wireless team has undertaken in excess of 125 community information sessions in NSW further to numerous Council briefings, stakeholder meetings and site visits.

However, **nbn**'s commitment to open and constructive community engagement is best measured by the extent to which material changes to **nbn** proposals has resulted from consultation activities. In this regard **nbn** has changed proposed site locations at in a number of NSW communities including Rosebank, Moore Creek, Central Tilba, Modanville, Fernleigh, Beechwood and substantially modified site design in many more instances as outcomes of consultation.

Regulatory framework and compliance – Public Health & Safety

We consider the imposition of a mandatory complying development buffer, rather than relying on the ARPANSA Standard, will create a real risk of unfounded community concern that **nbn** base stations will have adverse health impacts, and recommend that a buffer not be required by the ISEPP.

The **nbn** fixed wireless network transmits radio signals or radiofrequency (**RF**) EME and is, therefore, subject to regulation by the Australian Communications and Media Authority (**ACMA**). This is the same as for other licensed RF transmitters operating in the environment. Common examples of these include television and AM/FM radio broadcast transmitters, two-way taxi radios and emergency services communications equipment.

The ACMA's regulatory arrangements require **nbn** base stations to comply with the exposure limits in ARPANSA Standard, (also known as Australian Standard RP3), published by the Australian Radiation Protection and Nuclear Safety Agency (**ARPANSA**). The ARPANSA Standard is designed to protect people of all ages and health status against all known adverse health effects from exposure to RF EME. The ARPANSA Standard is based on scientific research that shows the levels at which harmful effects occur and it sets limits, based on international guidelines, well below these harmful levels.(Source: ARPANSA Fact Sheet National Broadband Network Fixed Wireless Base Stations and Health).

In addition to the inherent precautionary approach represented in the ARPANSA Standard it is typically the case that **nbn** facilities even at maximum power are only capable of operating at 1% or less of the permitted signal strengths. As these sites are rarely required to operate at full power the actual signal emitted is often thousands of times below permitted levels.

nbn recently commissioned a field survey (**enclosed**) of existing EME levels at six locations in the Hawkesbury Local Government Area to assist in community consultation in that area. One of these locations was adjacent to an existing mobile carrier base station with a maximum predicted RF signal strength of 1.16% of the ARPANSA Standard (ie approximately 86 times lower than the maximum exposure limit). The field survey measured the level of RF signals from all operators at this site, and others in the vicinity, and identified that the cumulative RF EME signal in the vicinity was more than **23,600 times below** the maximum exposure limit set by the ARPANSA Standard. This measurement demonstrates that base stations operate at power levels well within the ARPANSA Standard.

Further, in 2014/15 the ACMA undertook an audit (summary available at http://www.acma.gov.au/Industry/Suppliers/Product-supply-and-compliance/Priority-compliance-areas/electromagnetic-energy-compliance-and-the-national-broadband-network) of **nbn** fixed wireless sites, to assess compliance with the ARPANSA. In summary, the ACMA audit confirmed that **nbn**:

- has a high level of compliance with EME licence conditions;
- has a clear understanding of EME compliance obligations and associated record-keeping requirements;
- has processes in place to ensure that compliance assessments accurately reflect current environmental and site conditions;
- is appropriately addressing the underlying risk of EME exposure from its base stations; and
- is highly cooperative and willing to work with the ACMA in relation to all aspects of its EME compliance.

Adequacy of the ARPANSA Standard - no justification for distance-based restrictions

nbn recognises that, despite the prevalence of radio communications facilities in the environment, some members of the community continue to equate proximity to transmitters, rather than RF signal intensity, as leading to public health exposure risks. However, it is important to note that the ARPANSA Standard protects the public by placing a limit on the strength of the signal that any licensed radio facility may transmit, rather than imposing a distance-based restriction.

As a result of this, radio communications facilities are found in all locations. For example, the ACMA Register of Licensed Radio Communications shows that, nationally, there are:

- more than 68 licensed radio communications facilities (including mobile carrier facilities) located within high schools;
- more than 335 licensed radio facilities located within university campuses; and
- more than 900 licensed radio facilities located within hospitals across Australia.

This issue of the adequacy of the ARPANSA Standard has arisen numerous times in all jurisdictions. In NSW, the seminal court decision on this issue, and that of the precautionary principle generally, is the decision of the Land and Environment Court in *Telstra Corporation Limited v Hornsby Shire Council [2006] NSWLEC 133* (***Hornsby***). In that case, Preston CJ exhaustively examined the ARPANSA Standard and the application of the precautionary principles in respect of a Telstra mobile phone base station, and held as follows (citations omitted):

> *91 The Australian Standard RPS3 is an authoritative and scientifically credible standard to protect the health and safety of people and the environment from the harmful effects of radiofrequency fields in the frequency range of 3kHz to 300 GHz. The Standard is based on the 1998 ICNIRP Guidelines of the International Commission on Non-Ionising Radiation Protection ("ICNIRP Guidelines").*
>
> ...
>
> *98 It is not appropriate for a court to set aside or disregard such an authoritative and scientifically credible standard as the Australian Standard RPS3.*

99 Nor is it appropriate for a court to pioneer standards of its own. The creation of new standards is the responsibility of other authorities with special expertise, such as ARPANSA.

100 The Court should accept and apply the Australian Standard RPS3.

...

184 ... The levels of RF EME emitted from the proposed base station will easily comply with the Australian Standard RPS3. Any harm to the health and safety of people or the environment caused by exposure to such extremely low levels of RF EME is negligible.

...

186 This conclusion does not mean that there has been an avoidance of a precautionary approach. To the contrary, the conclusion is a direct consequence of the fact that a precautionary approach has already been adopted in the standard setting process, the terms of the Australian Standard RPS3, the design and location of the proposed base station, the equipment to be provided, the operation of the equipment including adaptive power control, the application of the Standard to the RF EME generated from the base station, and the likelihood of actual RF EME being significantly less than predicted RF EME. The cumulative effect of these precautionary approaches is to prevent any threat of serious or irreversible environmental damage. Hence, there is no basis to invoke the precautionary principle so as to take any further measures to prevent environmental degradation.

It follows from the decision in Hornsby, which has been applied in subsequent cases,[1] that the ARPANSA Standard is the appropriate tool to be used to protect against health impacts from RF EME generated by base stations. The field survey commissioned by **nbn** and the ACMA audit of **nbn** fixed wireless base stations confirm that the RF signals generated by base stations are many times lower than the maximum exposure limit set by the ARPANSA Standard.

In addition to the adequacy of current regulations and significant margin of **nbn** compliance **nbn** is concerned about the potential for communities to be unduly alarmed by this proposal if adopted. One example of this is that in course of recent consultation some community members have expressed significant concern about the impact of this draft provision upon the potential for future development of land which falls within the 100m radius of a proposed **nbn** facility. Their interpretation of the proposed buffer was that this would prohibit potential future residential development of their neighbouring land. Whilst it is clear this is not the intended application of this provision it does underline the likelihood of misinterpretation by communities.

B2 - Importance of the ISEPP - Timing of approvals

The ISEPP has been a critical asset to the rollout of **nbn**'s fixed wireless network, due to the ability to construct fixed wireless towers as complying development. This dramatically reduces the timeframes for approval, when compared to the time required to obtain development consent from local Councils.

Since 2012, of **140** fixed wireless base station sites for which development consent was sought, all were granted approval. Of those 140 approved sites, the average planning authority assessment timeframe was **152 days**, and the average assessment timeframe of the slowest 10% of development applications was **464 days**.

By contrast, in the same period, **nbn** was able to complete **245** fixed wireless base stations under the ISEPP's exempt and complying development provisions. This has enabled the high speed broadband to be made available to over 110,000 NSW homes and businesses. The average ISEPP consultation and assessment period was **52 days**. The ISEPP has been an effective

[1] Telstra Corporation Limited v Tweed Shire Council [2014] NSWLEC 1240 at [30]-[31]; Benclutch Pty Limited v Liverpool City Council [2012] NSWLEC 1284 at [67]-[68]; Telstra Corporation Ltd v Clarence Valley Council [2012] NSWLEC 1125 at [23]; Telstra Corporation Limited v Palerang Council [2009] NSWLEC 1391 at [31]-[32].

mechanism for streamlining the approvals process while ensuring appropriate environmental planning protections are in place.

The fixed wireless network operates as linked "chains" of facilities with each base station connected to other base stations in the chain. Due to this dependency, a delay in delivery of any one base station site can affect the delivery of services over all dependant base stations. For example, in 2013, **nbn** sought DA approval for a base station in Fernmount, NSW, which had two dependant base stations (neither of which required development consent). The development consent timeframe for the Fernmount site was 304 days. The two dependant sites were constructed and ready to operate by April 2014. The delay in approval of the Fernmount site led to a delay of 12 months before services could be provided to all three communities.

Extending the operation of the ISEPP to remove the need for development consent in the circumstances proposed in this submission will have an appreciable benefit without adverse consequences.

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ANNEXURE C
SUGGESTED AMENDMENTS TO THE ISEPP

Item No.	ISEPP clause reference	Suggested amendment	Rationale for suggested amendment	Other jurisdictions
1	Schedule 3A, Part 1, development standard 11.1, and new development standard 11.5	**Development standards** 11.1 The conduit or cable may only be: (a) laid in an existing trench, or (b) laid in a trench that has been lawfully created for any other purpose, or (c) hauled or otherwise deployed through a duct, pit, hole, tunnel or conduit, or (d) installed in, on or under an existing bridge, or (e) for the purposes of wholesale broadband infrastructure, laid in a new trench in a heritage conservation area, where the installation of the conduit or cable will have no more than a minor,	As part of the rollout of **nbn**'s fixed line network, it is often necessary to install new underground cables and ducts in heritage areas where there are not existing utility trenches or available ducts. As has been previously noted, there are areas of the rollout, where either large sections, or entire suburbs are within heritage conservation areas. The need to obtain development consent for new trenches in heritage areas can cause significant delay and increased costs for the rollout of the **nbn**™ network, and delay to the connection of properties and businesses in those areas. **nbn** requests that development standard 11.1 of Part 1 of Schedule 3A be amended to permit the installation of conduit and cables by trenching in heritage areas, subject to a requirement that the	**Commonwealth** The existing exemptions under the *Telecommunications (Low-impact facilities) Determination 1997 (Cth)* (**Determination**) do not permit the installation of a new cable/conduit by trenching in AoES (which includes places listed on a register relating to heritage conservation). As such, planning approval is required, unless the facility/activity is exempt under State law. **Other State legislation** *Victoria* Locally listed items: Underground cable lead-ins (subscriber connections) can be installed on a locally listed heritage item without obtaining planning approval.

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Item No.	ISEPP clause reference	Suggested amendment	Rationale for suggested amendment	Other jurisdictions
		and development standard 11.5 is complied with. ... 11.5 If a new trench is created in a heritage conservation area for the deployment of wholesale broadband infrastructure services, the land under which the conduit or cable is installed must be restored to a condition that is as close as practicable to the condition before the conduit or cable was installed.	land be returned to a condition that is as close as practicable to the existing condition of the land.	The installation of underground cables that impact a locally listed heritage building would otherwise likely require planning approval. Heritage overlay areas: Generally, heritage overlays (with limited exceptions) are not regarded as AoES in Victoria, and therefore cable trenching in local conservation areas may be undertaken without planning approval under the Determination. *South Australia* State items and heritage areas: **nbn** has an overarching agreement with the State Heritage Branch that the installation of certain infrastructure would not materially affect heritage values and therefore does not require planning approval. Applications may still be made to Council, but in practise the Councils do not require approval for works on a State heritage item and accept the State Heritage Branch agreement. Local Conservation Area: Local Conservation areas are not considered to be AoES in South Australia, and therefore cable trenching in local conservation

Item No.	ISEPP clause reference	Suggested amendment	Rationale for suggested amendment	Other jurisdictions
				areas may be undertaken under the Determination. Locally listed items: Facilities can be installed on locally listed items provided that they are not visible from the street (which includes underground cables). Otherwise planning approval is required. *Queensland* State items: New trenching on State listed heritage items in Qld is dependent on impacts to listed heritage values. Should impacts be identified, an application for exemption or development approval (if required) could be made to the State Govt department. Locally listed items and conservation areas: Cable trenching may be undertaken in local heritage areas under the Determination.
2	Schedule 3A, Part 1, development standards 12.1	**Development standards** 12.1 The cable must be co-located with an above ground electricity supply connection, unless there is no existing above ground electricity supply connection, or it is not possible to co-locate due to	As part of the rollout of the **nbn**™ network, **nbn** will be installing new aerial cabling, which is permitted under the Determination. It will not always possible to co-locate new aerial subscriber connections with an aboveground electricity supply connection, as there may not be an existing	**Commonwealth legislation** **nbn** can install new aerial cabling in all areas under the Determination, except in AoES, in which case planning approval is required, unless the cabling is exempt under State law.

Item No.	ISEPP clause reference	Suggested amendment	Rationale for suggested amendment	Other jurisdictions
		safety reasons.	electricity supply connection, or safety requirements may mandate a separation between electricity cables and telecommunications cables. The need to obtain development consent for subscriber connections that cannot be co-located with existing electricity supply connections can cause significant delay to the connection of premises to the **nbn**™ network. Accordingly, development standard 12.1 should be modified to provide that subscriber connections do not need to be co-located if not possible due to safety reasons, or if there is not an existing electricity supply connection to the premises.	**Other State legislation** *Victoria* Aerial subscriber connections do not require planning approval in any area. *South Australia* State items and heritage areas: **nbn** has an overarching agreement with the State Heritage Branch that the installation of certain infrastructure would not materially affect heritage values and therefore does not require planning approval. This includes the installation of aerial subscriber connections. Applications may still be made to Council, but in practise the Councils do not require approval for works on a State heritage item and accept the State Heritage Branch agreement. Locally listed items: Facilities can be installed on locally listed items provided that they are not visible from the street (which includes underground cables). Otherwise planning approval is required. Local Conservation Area: Local Conservation areas

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				are not considered to be AoES in South Australia, therefore and therefore aerial subscriber connections in local conservation areas may be undertaken under the Determination. *Queensland* State items: Installation of new aerial subscriber connections on State listed heritage items in Qld is dependent on impacts to listed heritage values. Should impacts be identified, an application would be made to the State Govt department seeking either exemption or approval as necessary. Locally listed items and conservation areas: Cable trenching may be undertaken in local heritage areas under the Determination.
3	Schedule 3A, Part 1, new item 12A	**Development purpose** Above ground cable for wholesale broadband infrastructure in a heritage conservation area. **Development standards** 12A.1 The cable must be co-located with an existing above ground electricity supply connection or existing above ground telecommunications cable	Under the Determination, **nbn** is permitted to install new aerial cabling, except in particular areas that are defined as "areas of environmental significance" (**AoES**). In NSW, heritage conservation areas under an LEP are regarded as AoES. Therefore, in the event that the rollout of the **nbn**™ network in a heritage conservation area is to be	**Commonwealth Legislation** **nbn** can install new aerial cabling in all areas under the Determination, except in AoES, in which case planning approval is required, unless the cabling is exempt under State law. **Other State legislation**

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		unless it is not possible to co-locate due to safety reasons.	undertaken by new aerial cabling, such as where there is existing aerial telecommunications cabling that will be used by **nbn**, it would be very onerous for **nbn** to be required to obtain development consent for the new aerial cabling. This would lead to a significant increase in costs, and delay to the connection of premises in that area. Where there is existing aerial cabling, including electricity cabling, the installation of additional telecommunications cabling would only have a minor impact on the heritage values of the heritage conservation area. Accordingly, **nbn** submits that it should be permissible for **nbn** to install new above ground cabling as exempt development, provided that it is co-located on existing poles that support existing electricity supply cables, or existing telecommunications cables.	*Victoria* Except in respect of particular listed heritage properties, the installation of new aerial cabling would be undertaken under the Determination, as heritage overlays are generally not considered AoES. *South Australia* State items and heritage areas: **nbn** has an overarching agreement with the State Heritage Branch that the installation of certain infrastructure would not materially affect heritage values and therefore does not require planning approval. This includes the installation of aerial cabling. Applications may still be made to a Council, but in practise the Councils do not require approval for works on a State heritage item and accept the State Heritage Branch agreement. Locally listed items: Facilities can be installed on locally listed items provided that they are not visible from the street (which includes aerial cables). Otherwise planning approval is required.

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				Local Conservation Area: Local Conservation areas are not considered to be AoES in South Australia, and therefore aerial cabling may be installed in local conservation areas under the Determination. *Queensland* State items: Installation of new aerial cabling on State listed heritage items in Qld is dependent on impacts to listed heritage values. Should impacts be identified, an application would be made to the State Govt department seeking either exemption or approval as necessary.Locally listed items and conservation areas: Aerial cabling can be installed under the Determination.
4	Schedule 3A, Part 1, item 13	**Development purpose** Conduit or cable on or within a building for subscriber connection or fibre-optic cable for broadband.	As the diagram in Annexure A (above) showed, conduit (and PCDs) are not currently included within ISEPP, with the result that certain components of the network are able to be installed within heritage areas, however statutory approvals are required to be obtained for the installation of conduit (and PCDs). In order to connect premises to the **nbn**™ network, **nbn** often needs to attach new conduits to the	**Commonwealth Legislation** **nbn** can install conduit in all areas under the Determination, except in AoES, in which case planning approval is required, unless the conduit is exempt under State law. **Other State legislation** *Victoria* Except in respect of particular listed heritage

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			outside of premises to protect the new cabling. It is necessary for these new conduits to be attached to the outside of premises, in order to permit the connection of the premises to the **nbn**™ network via a "premises connection device" (**PCD**) (see further below). **nbn**'s submits that item 13 should be expanded to permit the installation of conduit and cabling to the outside of premises.	properties, the installation of conduit would be undertaken under the Determination, as heritage overlays are not considered AoES. *South Australia* State items: **nbn** has an overarching agreement with the State Heritage Branch that the installation of certain infrastructure would not materially affect the heritage values and therefore planning approval is not required. This includes the installation of new conduit on State heritage items. Applications may still be made to Council but in practise the Councils' do not require it for works on a State heritage item and accept the State Heritage Branch agreement. Locally listed items: Facilities can be installed on locally listed items provided that they are not visible from the street (which includes conduit). Otherwise planning approval is required. Local Conservation Area: Local Conservation areas are not considered to be AoES in South Australia, and therefore conduit may be installed in local conservation areas under the Determination.

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				Queensland State items: Installation of conduit on State listed heritage items in Qld is dependent on impacts to listed heritage values. Should impacts be identified, an application would be made to the State Govt department seeking either exemption or approval as necessary. Locally listed items and conservation areas: Conduit can be installed under the Determination.
5	Schedule 3A, Part 1, new item 13A Clause 113, new definition of "Premises connection device"	**Development purpose** Installation or relocation of premises connection devices. **Development standards** 13A.1 The premises connection device must be: (a) mounted on the existing premises wall, and (b) not more than 300mm by 300mm (square) by 100mm deep. **S 113 definition:** **"premises connection device"** means a separate enclosure attached to the outside of a premises to	As the diagram in Annexure A (above) showed, PCDs (and conduit) are not currently included within ISEPP, with the result that certain components of the network are able to be installed, however statutory approvals are required to be obtained for the installation of PCDs (and conduit). A new item of exempt development should be included for PCDs, which are small boxes installed on the outside of a premises to protect a cable connection (see image below). PCDs are essential elements that are required to connect premises to **nbn**'s fixed line network. PCDs have a minor visual	**Commonwealth Legislation** **nbn** can install PCDs in all areas under the Determination, except in AoES, in which case planning approval is required, unless the PCD is exempt under State law. **Other State legislation** *Victoria* Except in respect of particular listed heritage properties, the installation of PCDs would be undertaken under the Determination, as heritage overlays are not considered AoES.

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		house a cable connection for a fixed line subscriber connection. Alternative Development Standard 13A: 10.6 If the development is the installation of a premises connection device on a locally listed heritage item or on a property within a listed heritage conservation area, the premises connection device must: (a) where practical, the premises connection device should be located away from the front of the property (preferably out of view), or (b) where (a) is not possible, for example in the case of terrace housing, the premises connection device must be co-located with other utility infrastructure such as power and water meters, and (c) be colour matched to its background. (d) be mounted on the existing premises wall, and (e) be not more than 300mm by 300mm (square) by 100mm deep.	and / or heritage impact, and are installed as close as possible to a premises' existing telecommunications connection. **nbn** requests that the installation of PCDs be exempt development in all areas, including in heritage conservation areas and on heritage items. 	*South Australia* State items **nbn** has an overarching agreement with the State Heritage Branch that the installation of certain infrastructure would not materially affect the heritage values and therefore planning approval is not required. This includes the installation of PCDs on State heritage items. Applications may still be made to Council but in practise the Councils' do not require it for works on a State heritage item and accept the State Heritage Branch agreement. Locally listed items: Facilities can be installed on locally listed items provided that they are not visible from the street (which includes PCDs). Otherwise planning approval is required. Local Conservation Area: Local Conservation areas are not considered to be AoES in South Australia, and therefore PCDs may be installed in local conservation areas under the Determination. *Queensland* State items: Installation of PCDs on State listed

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			 **nbn** suggests that an additional item is inserted as item (13A) that relates specifically to PCDs required for the rollout of wholesale broadband infrastructure. **nbn** notes that PCDs are an integral part of the rollout of the **nbn**™ network and that they are not specifically captured within the ISEPP and thus there is a critical 'gap' within the	heritage items in Qld is dependent on impacts to listed heritage values. Should impacts be identified, an application would be made to the State Govt department seeking either exemption or approval as necessary. Locally listed items and conservation areas: PCDs can be installed under the Determination.

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			infrastructure which can be rolled out through the use of ISEPP. The existing effect is that most components of the **nbn**™ network can be installed via the legislative pathways available in the ISEPP, however as noted, there are critical gaps which require **nbn** to seek either exemptions or approvals from Councils for work on heritage items or within heritage conservation areas. Within the metropolitan area of Sydney, some Councils with large conservation areas include: Sydney City, Leichhardt, Ku-ring-gai, Willoughby, Hunters Hill, Mosman, North Sydney, Ashfield Marrickville, Waverly, Woollahra. Some regional Council areas with large areas of heritage include Byron Shire Council, Grafton, Bathurst, Newcastle, Orange, Goulbourn and Palerang Council (Braidwood). The implication is that **nbn** must seek either exemptions or approvals for each property within the conservation areas, including potentially owners' consent for each property. This can cause significant delays and increased costs associated with the rollout of the critical **nbn** infrastructure. Therefore, **nbn** requests a new item, item 13A, to	

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			permit the installation of PCDs for the delivery of wholesale broadband services.	
6	Schedule 3A, Part 1, item 18, Cause 113, definition of "ancillary facility"	**Clause 113, definition of "ancillary facility"** Add a new paragraph (l): (l) taps, amplifiers, power supply units or other equipment necessary for the operation or proper functioning of an above ground cable used for wholesale broadband infrastructure. **Development purpose** Ancillary facilities to a telecommunications facility for any of the following purposes: (a) to ensure the protection or safety of the telecommunications facility, members of the public in close proximity to that facility or persons required to access and maintain that facility, (b) to screen or shroud antennas or telecommunications equipment (or both) to minimise their visibility and improve visual outcomes~~.~~, or (c) necessary for the operation or proper	There are a range of facilities that **nbn** needs to install as part of the installation of new cabling, and that are necessary for the operation or proper functioning of **nbn**'s facilities, which are not currently covered by the definition of "ancillary facility", or permitted under item 18 of Part 1 of Schedule 3A. These facilities include amplifiers and power supply, which are small items of equipment that have a minor additional impact. **nbn** submits that the definition of "ancillary facility" should be amended to include these types of equipment, and the development purpose at item 18 be expanded to include equipment "necessary for the operation or proper functioning of the telecommunications equipment".	**Commonwealth Legislation** **nbn** can install facilities that are ancillary to facilities permitted under the Determination, in all areas, except in AoES, in which case planning approval is required, unless the ancillary facilities are exempt under State law. **Other State legislation** *Victoria* Except in respect of particular listed heritage properties, the installation of ancillary facilities would be undertaken under the Determination, as heritage overlays are generally not considered AoES. *South Australia* State items **nbn** has an overarching agreement with the State Heritage Branch that the installation of certain infrastructure would not materially affect the

Item No.	ISEPP clause reference	Suggested amendment	Rationale for suggested amendment	Other jurisdictions
		functioning of the telecommunications equipment.		heritage values and therefore planning approval is not required. This includes the installation of ancillary facilities on State heritage items. Applications may still be made to Council but in practise the Councils' do not require it for works on a State heritage item and accept the State Heritage Branch agreement. Locally listed items: Facilities can be installed on locally listed items provided that they are not visible from the street (which includes ancillary facilities). Otherwise planning approval is required. Local Conservation Area: Local Conservation areas are not considered to be AoES in South Australia, and therefore ancillary facilities may be installed in local conservation areas under the Determination. *Queensland* State items: Installation of ancillary facilities on State listed heritage items in Qld is dependent on impacts to listed heritage values. Should impacts be identified, an application would be made to the State Govt department seeking either exemption or approval as necessary.

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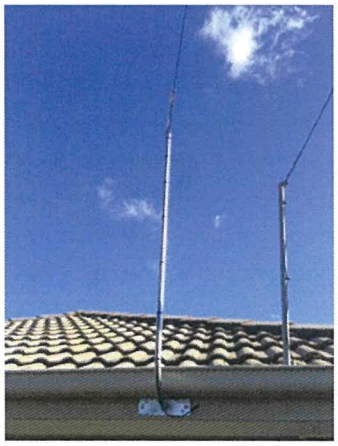
				Locally listed items and conservation areas: ancillary facilities can be installed under the Determination.
7	Schedule 3A, Part 1, item 18, new development standard 18.2 Clause 113, definition of "ancillary facility", and new definition of "riser pole"	**Clause 113:** Definition of "ancillary facility", new sub paragraph (m): (m) a riser pole New definition of "riser pole": "riser pole" means a structure attached to a building to support an above ground cable for subscriber connection or fibre-optic cable for broadband for pole to premises installation. **Development standards** 18.1 If located on a heritage item or in a heritage conservation area, the facilities must not be visible from the street at ground level from the property boundary or 18.2 If the development is for the replacement of an existing riser pole to allow for subscriber connections, and to meet the relevant safety	**nbn** is authorised to install, as exempt development, above ground subscriber connections in any zone under item 12 of Part 1 of Schedule 3A of the ISEPP. **nbn** often needs to also install support posts for those aerial subscriber connections (also commonly referred to as a "riser pole"). These are thin posts attached to a premise to provide the required clearance height for a new aerial subscriber connection (see image below), for safety and protection purposes. This proposed amendment would enable riser poles to be installed as exempt development.	**Commonwealth Legislation** **nbn** can install riser under the Determination, in all areas, except in AoES, in which case planning approval is required, unless the ancillary facilities are exempt under State law. **Other State legislation** *Victoria* Except in respect of particular listed heritage properties, the installation of riser poles would be undertaken under the Determination, as heritage overlays are generally not considered AoES. *South Australia* State items **nbn** has an overarching agreement with the State Heritage Branch that the installation of certain infrastructure would not materially affect the heritage values and therefore planning approval is

Item No.	ISEPP clause reference	Suggested amendment	Rationale for suggested amendment	Other jurisdictions
		standards then the replacement riser pole must be the minimum size required to meet the standards, or 18.3 If the development is for the installation of a new riser pole located on a heritage item or in a heritage conservation area, a new riser pole must be the minimum size required to meet the relevant safety standards.	 **nbn** requests that a new definition of "riser pole" be included in clause 113, and the list of ancillary facilities in clause 113 be amended to include these support structures. In addition, **nbn** requests that new development standards 18.2 and 18.3 be included to permit the installation or replacement of an existing riser pole as exempt development on heritage items or in heritage conservation areas, provided that the relevant safety standards are met.	not required. This includes the installation of riser poles on State heritage items. Applications may still be made to Council but in practise the Councils' do not require it for works on a State heritage item and accept the State Heritage Branch agreement. Locally listed items: Facilities can be installed on locally listed items provided that they are not visible from the street (which includes riser poles). Otherwise planning approval is required. Local Conservation Area: Local Conservation areas are not considered to be AoES in South Australia, and therefore riser poles may be installed in local conservation areas under the Determination. *Queensland* State items: Installation of riser poles on State listed heritage items in Qld is dependent on impacts to listed heritage values. Should impacts be identified, an application would be made to the State Govt department seeking either exemption or approval as necessary. Locally listed items and conservation areas: Riser

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			In **nbn**'s view this exemption is reasonable given that the heritage limitation does not apply to the installation of aerial subscriber connections under item 12 of Part 1 of Schedule 3A.	poles can be installed under the Determination .
8	Schedule 3A, Part 2, new item 7	**Development purpose** New, or replacement, poles to support above ground cables associated with the provision of wholesale broadband services. **Development standards** 7.1 New poles are to be similar in dimension and appearance to existing poles in the local area that are used to support electricity supply connections or above ground telecommunications cables. 7.2 A new pole can only be installed in a heritage conservation area if the street in which the pole is to be installed already has above ground electricity supply or above ground telecommunications cables.	A new item of complying development should be included for new poles to support above ground cables. In certain circumstances, **nbn** needs to install new, or replacement poles to support new aerial cabling or a power connection for **nbn**'s equipment. These new poles are generally required in rural or semi-rural areas, although are sometimes required in areas on the urban fringe. An example of the circumstances under which a new pole may be required is where **nbn** needs a cable to cross a roadway at a certain height, in order to comply with clearance requirements, but there is no suitable existing utility pole available. As an example for the justification for this inclusion, **nbn** is currently undertaking a survey of approximately 20,000 existing poles which will be taken over from Telstra. Given the number of	**Commonwealth Legislation** The installation or replacement of poles is generally not permitted under the Telco Act or Determination, except in limited circumstances. **Other State legislation** Generally, the installation of new telecommunications poles requires planning approval in all jurisdictions. However various exemptions apply in relation to electrical poles.

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			poles, it is impractical to expect that **nbn** would need to lodge a development application for a new/replacement pole, when the various power authorities have installation/replacement rights in the respective State legislation. **nbn** seeks to have similar rights made available through the ISEPP.	
9	Schedule 3A, Part 1 and Part 2, new item 2A	**Development purpose** 2A Additions or modifications to panel antenna, yagi antenna or other directional antenna, including the addition of equipment necessary for effective operation of antennas. **Development standards** 2A.1 If the addition or modification is to be made to an antenna that is not flush mounted, the addition or modification must not increase the total height of the equipment and antenna by more than 1 metre. 2A.2 The addition or modification must be the same colour as its background or painted in a neutral colour such as grey.	A new item should be added to Part 1 and 2 of Schedule 3A, to clearly provide for the installation of remote radio units (**RRUs**), remote access units (**RAUs**) (please see images below), filters and other additions or modifications, which enable the operation of antennas, as exempt or complying development. RRUs, RAUs, filters and other equipment are small unobtrusive additions used to enable operation of antennas on fixed wireless towers, and have minimal additional impact. This equipment needs to be located adjacent to the antennas in order to function and accordingly ground placement of this equipment is not technically viable.	**Commonwealth** Permitted under the Determination, where ancillary to antennas listed in the Part 1 of the Determination, other than in "areas of environmental significance" (**AoES**) (which includes places listed on a register relating to heritage conservation).

Item No.	ISEPP clause reference	Suggested amendment	Rationale for suggested amendment	Other jurisdictions
			  RAU mounted behind transmission dishes.	

Item No.	ISEPP clause reference	Suggested amendment	Rationale for suggested amendment	Other jurisdictions
			  RRU mounted behind panel antennas.	
10	Schedule 3A, Part 2, item 5, proposed new	Delete the proposed new 100m buffer in item 5 of Part 2 of Schedule 3A.	As noted in detail in Part A1 of Annexure A, the radio frequency equipment installed on telecommunications towers is required to comply	As noted in *Telstra Corporation Limited v Hornsby Shire Council [2006] NSWLEC 133*, the adequacy of the ARPANSA Standard to protect against adverse

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	item a(1)	~~Insert after paragraph (a) wherever occurring in Column 2 of the matter relating to item 5~~ ~~in the table to Part 2:~~ ~~(a1) be located within 100 metres of a dwelling, or~~	with the ARPANSA Standard, which sets limits for public exposure to RF EME. The decision of the Land and Environment Court in *Telstra Corporation Limited v Hornsby Shire Council [2006] NSWLEC 133*, as consistently applied in later judgments, makes clear the adequacy of the ARPANSA Standard to protect public health. There is no scientific or policy justification for imposing a distance-based limitation for the purposes of protecting public health, as public health is already protected by complying with the EME standards in the of the ARPANSA Standard. There is the risk that such a buffer could create a perception that the equipment has adverse health impacts. To the extent the buffer is intended to address other concerns, such as visual amenity, **nbn** considers that these are capable of being addressed via the ISEPP consultation process completed by **nbn**, which as noted above, is both significant and genuine.	health impacts from RF EME has been upheld in planning tribunals and courts across Australia.