Dear Sir/Madam,

Consultation on Current Telecommunications Act Amendments – Low Impact Facilities Determination (LIFD) No.2 of 2015

The NSW electricity Distribution Network Service Providers, Ausgrid, Endeavour Energy and Essential Energy (known severally as Networks NSW), thank you for the opportunity to respond to the Consultation Paper dated 12 June 2015, to support the rollout of the multi-technology mix (MTM) National Broadband Network (NBN) and other next-generation broadband networks.

This response is provided on behalf of Ausgrid and Essential Energy and is supportive of the Endeavour Energy response provided separately.

Ausgrid and Essential Energy are electricity distributors in New South Wales, and parts of Queensland. They are responsible for the safe and reliable supply of electricity to more than 2.4 million homes and businesses across NSW. These networks are made up of over 1.9 million power poles and 166,000 smaller substations bound together by over 230,000 kilometres of underground and overground cables.

The electricity network assets operated by Networks NSW can pose dangers to persons if correct work practices are not followed or equipment is incorrectly installed. In addition the poles themselves can be compromised, and potentially fail if over loaded or exposed to excessive strain. The maintenance of safe working practices and sound engineering practices are critical to the safety and integrity of the overall network.

Telecommunications infrastructure attached to Ausgrid and Essential Energy Poles
In addition to supporting the overhead electricity cables used to supply electricity in the distribution area, Ausgrid and Essential Energy’s poles are also used by:

a) Telstra to support the Telstra copper line network (also referred to as the PSTN) used to supply telephone and broadband services;

b) Telstra to support the Telstra hybrid fibre coaxial (HFC) network used to supply Foxtel Pay TV services and broadband services;

c) Optus to support the Optus HFC network used to supply broadband and telephone services;

d) NBN Co to support various fibre optic lines and related equipment used by NBN Co to implement the NBN;
e) Other associated telecommunications equipment installed by telecommunications carriers, including antennae for mobile telecommunications services;

f) Ausgrid & Essential Energy for the attachment of streetlights which Ausgrid and Essential Energy permits as a service to local government authorities; and

g) Community benefit attachments, such as street signs and video cameras as well as some commercial attachments.

The Networks NSW businesses have significant experience in dealing with the installation, operation and maintenance of Fibre, PSTN and HFC networks on electricity poles. They have a significant proportion of their pole assets supporting these telecommunications assets.

Given the extensive existing use of Networks NSW poles for non-electricity purposes, it is critical that any additional items are installed in a safe manner and in a way that is consistent with their existing technical standards. Ausgrid has a standard relating to the installation of HFC cables and certain other communications assets, and it is Ausgrid’s strong preference that all new installations be carried out in a manner which is compliant with that standard. A uncontrolled copy of the standard, Ausgrid’s standard *NS232 National Broadband Network Assets on Ausgrid Poles* is attached to this letter.

**Proposed changes to the LIFD**

The proposed amendments to the LIFD are designed to allow NBN Co to install a broader range of assets as "low impact" using powers under Schedule 3 of the Act. The proposed changes that are most relevant to Networks NSW are those that relate to the designation of the following items as being "low impact":

a) An increase the diameter from 30mm to 48 mm for existing and new HFC cabling;

b) An increase the diameter from 30mm to 40 mm for existing and new PSTN cabling;

c) Splice enclosure; and

d) Power supply

The Networks NSW businesses have the following key concerns regarding the proposed changes to the Telecommunications Act. These relate to:

a) lack of identification of potential safety issues for any proposal to work under or near our live electrical assets, particularly conductive HFC and PSTN cables,

b) determinations that the impacts of the change in included infrastructure is low for larger cables or bundles of MTM cables;

c) the LFID and Telecoms Code do not currently provide adequate controls for the installation of HFC assets; and

d) the asymmetry of Schedule 3 powers to telecommunications infrastructure owners with respect to electricity distribution asset owners.

Detailed responses to each of the areas of concern can be found in Attachment 1.

Networks NSW submits that the proposed changes should only be considered low impact when they conform to existing industry practice that has been adhered to for all HFC deployments. In the event that the timelines do not allow the Telecommunications Code to be amended to incorporate a need to comply with prevailing industry practice, we submit that the legislation for these specific changes should require compliance with the relevant utility standards for aerial infrastructure. Attached to this letter is a more detailed explanation of the concerns Networks NSW has with the proposed changes to the LIFD.
We would be pleased to participate in any trials and subsequent build out of the National Broadband Network on our poles on the basis we have outlined above. Please contact Mr Murray Chandler on (02) 9269 7210 or murray.chandler@ausgrid.com.au if you require any further information on this submission.

Yours sincerely,

John Hardwick
General Executive Network Strategy
Networks NSW (Ausgrid, Endeavour Energy and Essential Energy)

Enclosed:
Attachment 1: Networks NSW comments on the proposed changes to the LIFD
Attachment 2: Standard NS232 - National Broadband Network Assets on Ausgrid Poles
Attachment 1: Networks NSW comments on the proposed changes to the LIFD

Proposed changes to the LIFD

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The Low Impact Facilities Determination (LIFD)

Telecommunications carriers have powers under Schedule 3 of the Telecommunications Act 1997 (Cth) (the Act) to install "low-impact facilities" without seeking state, territory or local government planning approval and without the need to obtain prior approval from landowners/occupiers. The low impact facilities are specified in the Telecommunications (Low-impact Facilities) Determination 1997, and include small radio-communications antennae and dishes that are erected on existing towers and buildings. Certain underground and overhead optical fibre installations undertaken for the NBN are also identified as being low-impact facilities. All low-impact facilities must be installed in accordance with the Act and the Telecommunications Code of Practice 1997 (Telecoms Code).

As a carrier, NBN Co is generally able to install low-impact facilities, such as its underground or above ground fibre network, without obtaining prior approval from landowners/occupiers. However, NBN Co is required to notify a landowner of its intention to install a low-impact facility. If a landowner or occupier objects to the installation of a low-impact facility, the landowner/occupier can raise the matter first with the carrier. If unable to resolve the matter directly with the carrier, the matter may be referred to the Telecommunications Industry Ombudsman (TIO). The TIO may investigate any low-impact facility installation proposal following a complaint from a landowner and can issue a direction to the carrier about the installation. Carriers and the landholder must comply with any TIO direction.

Networks NSW submits that the proposed changes should only be considered low impact when they conform to existing industry practice that has been adhered to for all HFC deployments. In the event that the timelines do not allow the Telecommunications Code to be amended to incorporate a need to comply with prevailing industry practice, we submit that the legislation for these specific changes should require compliance with the relevant utility standards for aerial infrastructure.

Networks NSW offers the following detailed comments on the proposed changes to the LIFD

1. Networks NSW's Safety Concerns

Networks NSW has safety concerns in regard to any proposal to undertake cable works upon its assets under or near our live electricity Network, particularly potentially conductive cables such as HFC and PSTN. Any such work practices require stringent work processes and controls.

In this regard Networks NSW does not support the introduction of any amendments related to the Legislation pertaining to Electricity Infrastructure that do not mandate the full and demonstrable consideration of all relevant Electricity Industry WH&S practices and
requirements to at least an equivalent level as applied to the Electricity Industry as well as clear accountability in this regard of the Telecommunications entity when exercising their rights under such legislation.

2. Networks NSW considers the potential risks posed by the installation of MTM Cabling assets are not insignificant

The types of facilities proposed as low-impact are those considered to be essential to the effective and efficient operation of telecommunications networks in providing services to the public, but are considered to be of low visual impact and unlikely to cause significant disruption to the community during installation or operation.

Networks NSW does not agree that the installation of larger cables or bundles of MTM cables would be unlikely to significantly disrupt the community. If the HFC and PSTN cabling assets (MTM cables) are not properly installed and maintained there could be significant detriment caused to the safety of persons, the integrity of the electricity poles and the continuity of electrical supply.

The MTM cabling assets now proposed for inclusion as low impact facilities are materially different to the existing fibre optic assets and this needs to be recognised. Whilst the installation of fibre optic cables upon electricity poles carries a potential risk to electricity network integrity and safety, these risks are mitigated to some extent when the fibre optic cables and systems:

- a) are not electrically conductive;
- b) are not electrically connected to the electricity network itself;
- c) involve the installation of a limited range of ancillary equipment (eg fibre splice enclosures);
- d) have a low breaking strain, which means they are less likely to cause damage to a pole where a fibre optic cable was snagged; and
- e) are likely to have a lower impact on pole loadings, once assessed and are therefore less likely to result in overloading a pole beyond its engineering limits.

By contrast the MTM cables:

- a) are electrically conductive;
- b) are electrically connected to the electricity network, typically including being bonded to the neutral wire for earthing, rather than to a separate electrode;
- c) involve a wide range of equipment (including amplifiers, optical node devices, power supplies etc.);
- d) will have a high breaking strain, which means they are far more likely to cause damage to a pole if snagged; and
- e) have (with the associated assets) a greater size profile, tensioning requirement and weight characteristics and are therefore likely to have a much higher impact on pole loadings and therefore more likely to result in overloading poles beyond their engineering limits, which in worst case may cause the pole to fail potentially impacting person or property.

It is important to note that when the LIFD was amended in 2011 the Minister took into account a submission made by the Energy Networks Association which recommended that aerial cable installations be confined to non-conductive (ie fibre optic cables) and the LIFD amendments accordingly restricted aerial cables (refer to Part 4A, Item 4(g)) to non-conductive cables. The Explanatory Statement issued with the 2011 Amendment to the LIFD states (at page 2):

“As a result of the consultation process two key changes were made to the Amending Determination. Firstly, in response to the Energy Networks Association’s (ENA) proposal
that aerial cabling be required to be non-conductive, the Amending Determination now requires cabling to comply with the electrical properties set out in the relevant standard set by the Institute of Electrical and Electronics Engineers. This amendment has been made in consultation with the ENA and NBN Co. Requiring aerial cabling to meet this standard will ensure that, subject to other relevant requirements including occupational health and safety standards, it can be placed as close to existing electrical cabling as possible....

What this means is that in 2011 the Government turned its mind to whether conductive cables (e.g. HFC) should be able to be installed as low impact facilities. It decided not to allow conductive cables to be installed as low impact facilities, and made changes to the Amending Determination to exclude them. Presumably it did so because it took into account concerns about safety and network integrity. Given that the Government reached these conclusions in 2011 it is not clear why the Government now considers that conductive cables are acceptable for installation as low impact facilities.

In reality, the potential risks posed by the installation of MTM cabling assets are significantly greater than optic fibre assets. It is incorrect to assume that, because optic fibre cables are currently designated as low impact facilities, that the MTM cabling assets can simply be treated in a similar way. It is Networks NSW's view that MTM cabling assets should only be able to be installed as low impact facilities where the practical mitigations proposed in the next section of this letter are also properly established and maintained.

3. The LIFD and Telecoms Code do not currently provide adequate controls for the installation of HFC assets

The existing HFC networks installed on Networks NSW poles by Telstra and Optus were mostly installed prior to the current Telecommunications Act 1997 in compliance with commercially negotiated contracts under which Networks NSW was able to exercise some contractual control over the materials, installation methods, attachment points, maintenance requirements and safe working practices of the relevant carriers.

If the LIFD is amended as proposed, NBN Co would be able to install HFC assets on Networks NSW poles using its statutory powers in circumstances where Networks NSW would have little practical control over the materials, installation methods, attachment points, maintenance requirements and safe working practices followed by NBN Co.

The potential risks associated with installing the HFC assets are not significantly mitigated by the installation requirements of the Telecoms Code. The Telecoms Code, last amended in 2002, does not specifically address how carriers should mitigate the risks posed by the installation of overhead cables on electricity poles and certainly does not address the heightened risks posed by the installation of electrically conductive MTM cabling assets (as described above).

Networks NSW recommends that if the LIFD is to be expanded to include MTM cabling assets, the Telecoms Code needs to be also revisited and special provision needs to be made for the way in which those assets must be installed and maintained. In particular the Telecoms Code needs to specifically require installations to meet and comply with technical standards. Those technical standards need to specify mandatory equipment specifications, pole loading assessment requirements, electrical connection requirements, required attachment points, compliance with WH&S requirements of the relevant utility and related matters. (Networks NSW notes that clause 4.7 of the Telecoms Code has little practical effect because the Australian Communications Media Authority has not "recognised" any industry standard for the installation of telecommunications lines and equipment on electricity poles.). If that is not
practicable then the Telcoms Code needs to be amended to require compliance with the relevant utility's standards for aerial infrastructure.

4. Regulation 11.2 - Increase the diameter of designated overhead line from 30 mm to 48 mm

The consultation paper indicates a requirement where “in some limited circumstances overhead cabling of up to 48mm would be required”. The augmentation of existing or the installation of new MTM cabling installed on Networks NSW poles, being single cables or bundles of cables, would have a substantive volume loading:

f) An increase from 30 mm to 48 mm for existing and new HFC cable which translates to 2.56 times that of the original 30mm bundle with corresponding increase in breaking strain.

g) An increase from 30 mm to 40 mm for existing and new PSTN cable which translates to 1.78 times the original 30mm bundle with corresponding increase in breaking strain.

h) An increase from 30 mm to 40 mm also represents (for either cable) a significant increase in sail area of attached conductors which carries with it an increase in loading due to wind.

In addition to the limited circumstances highlighted above, there is the compounding effect of multiple LIFD installations on Networks NSW's aerial assets. As indicated above Networks NSW will, once NBN assets are added, have in particular locations three communications carriers on its poles. When assessed in aggregate this does not represent a Low Impact to either Networks NSW or any other party, and the legislation does not address this situation.

There would be a requirement to ensure a redesign was carried out in each limited circumstance. Without this redesign there is no assurance that risks to personnel, the public and property (including through bush fire) are mitigated.

5. Proposed amendment 23 Schedule part 4A - Above ground facilities (for fixed line networks)

The descriptions of the following items do not address the impact of potentially multiple devices of the same or different types being installed on a single pole or cable:

a) Splice enclosure
b) Power supply

The descriptions do not address the impact of potentially multiple devices of the same or different types being installed on a single pole or cable.

The descriptions do not address the length or shape of the devices, the mechanical coupling or the location of the pole structure. The shape of a device will impact on the access to the pole for electrical and mechanical maintenance with corresponding WH&S impacts for personnel working on or adjacent to Networks NSW's network and an increase in the risk of pole failure with its associated risk to persons and property (including that of bush fire).

These items have a greater size profile and weight characteristics and are therefore likely to:

a) Have a much higher impact on pole loadings and therefore more likely to result in overloading poles beyond their engineering limits, which may cause the pole to fail potentially impacting person or property.
b) Pose a risk through localised degradation of strength due to the method of mechanical coupling utilised on the poles (e.g. through bolting carries with it the risk of severely degrading the mechanical characteristics of the pole and must only be carried out with due regard to appropriate standards).

c) Create an increased risk for maintenance personnel by restricting safe access to the overhead infrastructure.