FILE12/2282
ED16/48529
PJG:MC

6 May 2016

DUBBO
CITY COUNCIL

The Director
Policies and System Implementation
GPO Box 39
SYDNEY NSW 2001

Dear Sir/Madam

SUBMISSION - REVIEW OF COMPLYING DEVELOPMENT FOR INLAND NSW

Dubbo City Council wishes to submit the following comments in relation to the proposal for the Inland Code.

Council is generally supportive of the proposed changes as outlined in the Background Paper. However, in consideration of such proposals, Council considers that the following would further enhance the operation and effectiveness of the Inland Code:

1. <u>Grain Storage Bunkers & Silos – Exemption Criteria</u>

Whilst Council agrees with the intent and direction of creating a new land use category specifically for grain storage bunkers and silos, particularly in the 'grain belt' of NSW, there is still a need to incorporate an exclusion as follows.

The Dubbo City Regional Airport was, up until the last decade, plagued with numerous bird strikes with aircraft operating in and out of such airport, due to the historical development under that airport's flightpath, of grain silos. Whilst such damaging and potentially fatal occurrences have significantly abated due to redevelopment and establishment of tighter controls over the original offending premises, Council certainly would not like to see its recurrence either at its airport, or those of other councils, as a consequence of these exempt development proposals.

Consequently, Council considers that there is a need to ensure that exempt development in the form of grain bunkers and silos are not established under or within a CASA regulated airport's flight path. To this end, Council believes that a merit assessment including liaison with CASA, of any such proposals, should be undertaken where these activities could potentially pose a threat to the safe operation of aircraft at an airport.

Similarly, the maximum stipulated height for silos, being 15 m, would have the potential to intrude into an airport's Obstacle Limitation Surface.

All communications to:
THE GENERAL MANAGER PO BOX 81 CHURCH STREET DUBBO NSW 2830
T (02) 6801 4000 **F** (02) 6801 4259 **E** dcc@dubbo.nsw.gov.au
CIVIC ADMINISTRATION BUILDING CHURCH STREET DUBBO NSW 2830 ABN 77 296 185 278

Whilst Council does not have a specific preference as to the manner in which such a restriction should be incorporated into the proposed exempt development type, the options available would appear to be:

(a) Exclude such exempt development within an airport's defined Obstacle Limitation Surface (OLS), where one exists; or
(b) Adopt a specific radial distance from the airport as the exclusion zone for such exempt development.

To fully comprehend the issue being raised, Council would commend the Department consult the Australian Transport Safety Bureau's documents 'Australia aviation wildlife strike statistics – Bird and animal strikes 2002 to 2011' and 'Australia aviation wildlife strike statistics –2004 to 2013' available at the following websites:

https://www.atsb.gov.au/media/3913013/ar-2012-031_.pdf

https://www.atsb.gov.au/media/5177450/ar2014075_final.pdf

Also, the CASA Advisory Circular AC139-26(0) 'Wildlife Hazard Management at Aerodromes' highlights the limitations of aerodrome operators to be able to regulate wildlife hazards that are located outside their aerodrome.

2. General Commentary

Council is aware of a number of public safety design issues which are not adequately addressed in either the current Codes SEPP or proposed Inland Code for rural and residential developments. These include:

(a) Clearance from overhead electrical powerlines

The majority of low voltage overhead feed electrical powerlines that exist in the State are not protected by electricity easements. This is particularly a problem in rural areas given the large expanse of land. Neither the exempt nor complying development criteria currently specified in the Codes SEPP set minimum clearances from such infrastructure for farm buildings.

The electrical utility provider for the Dubbo Local Government Area (Essential Energy) has raised with Council instances of farm buildings being erected too close to their power lines, including under them.

Whilst there is a legislated requirement to assess set-backs of farm buildings from electrical infrastructure where they are the subject of a Development Application under the Infrastructure SEPP, it is incredulous that equal protection for the same utility infrastructure is not provided where the structures are proposed as either exempt or complying development.

Whilst not wanting to pre-empt the requirements of all electricity distribution providers, Essential Energy does specify that structures should maintain a clearance of at least 10 m from their low-voltage distribution network (see attached brochure titled 'Structures near Powerlines').

In Council's opinion, it would be appropriate for the Inland Code to specify a minimum set-back for its farm building exempt and complying development standards criteria.

(b) Clearance from Electrical Padmount Kiosk Type Substations

The electrical utility provider for the Dubbo Local Government Area (Essential Energy) has previously written to the councils within its area of operations (copy attached), highlighting an issue with respect to set-backs required of dwellings and other buildings from kiosk-type substations.

Such substations are routinely provided within new residential subdivisions and typically have created for them, their own easement within the subdivision. One of the purposes of the aforementioned correspondence was to highlight fire restriction zones required around such high voltage distribution substations under AS 2067. Whilst such matters are routinely addressed by councils through the clause 45 referral process under the Infrastructure SEPP, no equivalence is provided in relation to exempt and complying development.

The significance of the fire risk zone specified under AS 2067 is that it extends beyond the easements normally created for the kiosk-type substations. Consequently, any structures erected as either exempt or complying development next to a kiosk-type substation will not have addressed the clearances specified under AS 2067 as neither the Codes SEPP or the BCA make reference to it or any other electrical safety criteria.

Given that the Department has apparently had adequate justification to instigate the clause 45 referral process into the Infrastructure SEPP for Development Applications, it seems extraordinary that the same electrical infrastructure are not given an equal level of protection from structures erected under the Codes SEPP.

Council would not however suggest or recommend that there should be a referral process instituted under the Codes SEPP and Inland Code, given that <u>all</u> Development Applications for new dwellings in greenfield subdivisions must be referred under clause 45 of the Infrastructure SEPP, due to the consequent delays in determination experienced.

However, it is presumed that it would be a relatively straight forward process to obtain from the electrical distribution industry appropriate set-back criteria that could be imposed as a development standard to protect both the electrical infrastructure and the adjoining residential developments.

Council welcomes the work that has been undertaken with the draft Inland Code to assist inland development and appreciates the opportunity to comment. I trust that this submission is of some benefit in the Department's Inland Code proposal and to future reviews of the Code's SEPP. Council would be happy to provide any further clarification if required.

Yours faithfully

Melissa Watkins
Director Environmental Services

Attachments:
1. Correspondence dated 21 November 2013 from Essential Energy
2. 'Structures near Powerlines – Essential Energy'

STRUCTURES NEAR POWERLINES

Keeping structures a safe distance from powerlines

Did you know that electricity can 'jump' across an open space? That means you don't actually need to come into contact with powerlines for your life to be endangered or your property to be damaged.

What is a minimum safe distance?

A minimum safe distance is the clearance you need to have between a building or other structure and a powerline during strong winds or high temperatures. Under these conditions, the conductor may swing or sag considerably towards the building or structure compared with its usual position, and that needs to be included in the minimum safe distance.

How do I find out the minimum safe distance?

Minimum safe distances for voltages up to and including 132,000 volts are specified in the Overhead Line Design - Detailed Procedures AS/NZS 7000:2010 and the Service and Installation Rules of NSW. Copies of these publications can be found on the internet by entering their names into your search engine.

For voltages exceeding 132,000 volts, the matter should be referred to TransGrid. See www.transgrid.com.au or phone 02 9284 3000 for more information.

Radio communications or television aerials

No radio communications or television aerials should be placed so that any part is vertically above a powerline. Where an aerial or its supporting wires are likely to become electrically charged through contact with a powerline (by collapsing or any other cause), then both the aerial and the stay wires must comply with the requirements of Australian Standard AS1417.1 (int) 2011, Radio and Television Receiving Aerials for design and construction, height limitation, mounting and staying.

Flags

Flags should not be allowed to flap closer than the distances specified in 'D' of the table.

Swimming pools

Swimming pools must not be built underneath overhead powerlines

Easements

What is an easement?

An easement is a registered legal right applying to land. Put simply, an easement allows a person to enter someone else's property so they can install and maintain facilities like powerlines and cables.

Do I need permission to build within an easement?

Yes. You cannot build within a registered easement that's connected to a powerline without written approval from Essential Energy. Information about easements can be found in Essential Energy's Easement Policy CEOP8046 or Living with Electricity Easements brochure. You can obtain a copy by phoning 13 23 91.

Buildings and powerlines

- Clearances between powerlines and blank walls should comply with 'D' of the table.
- Clearances between powerlines and windows should comply with 'C' of the table.
- Clearances above normally accessible roofs should comply with 'A' of the table.
- Exterior display signs or similar advertising structures erected near a powerline are required to comply with distances specified in 'C' and 'D' of the table.

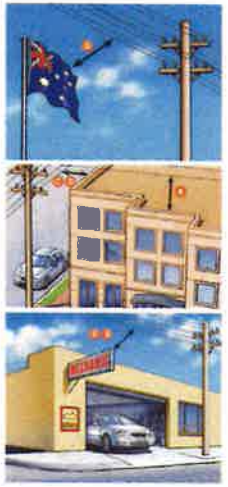
TIP: Essential Energy recommends that no structures be built within 10 metres of overhead powerlines and poles.

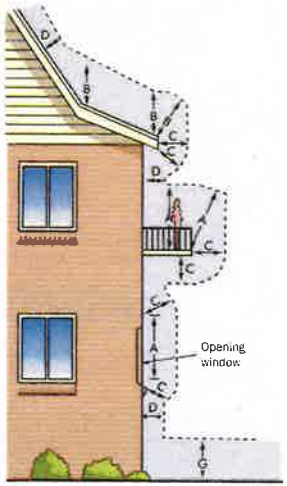
For your convenience, we have included illustrations and a table on minimum safe distances in this brochure. If you are in any doubt, contact Essential Energy on 13 23 91.

Be safe, because they need you

Minimum safe distances

Here is a table showing what the required minimum safe distances must be between parts of buildings or structures and an overhead powerline, after allowing for any swing or sag in accordance with the design of the powerline.



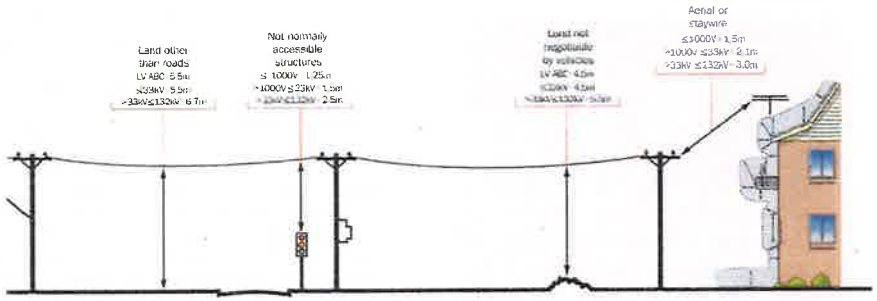


CLEARANCE U = System voltage	U ≤ 1000V			U > 1000V		1000V < U ≤ 33kV	33kV < U ≤ 132kV
	Insulated m	Bare Neutral m	Bare Active m	Insulated with earthed screen m	Insulated without earthed screen m	Bare m	Bare m
A Vertically[1] above those parts of any structure normally accessible to persons.	2.7	2.7	3.7	2.7	3.7	4.5	5.0
B Vertically[1] above those parts of any structure not normally accessible to persons but on which a person can stand.	1.25	2.7	2.7	2.7	2.7	3.7	4.5
C In any direction (other than vertically above) from those parts of any structure normally accessible to persons, or from any part not normally accessible to persons but on which a person can stand.	1.25	1.25	1.5	1.5	1.5	2.1	3.0
D In any direction from those parts of any structure not normally accessible to persons.	0.1[2]	0.3[2]	0.6[2]	0.1	0.6	1.5	2.5
G In any direction from ground.	Please refer to image above, and 'Minimum clearance requirements for completed structures or land (NSW)' image for clearance details.						

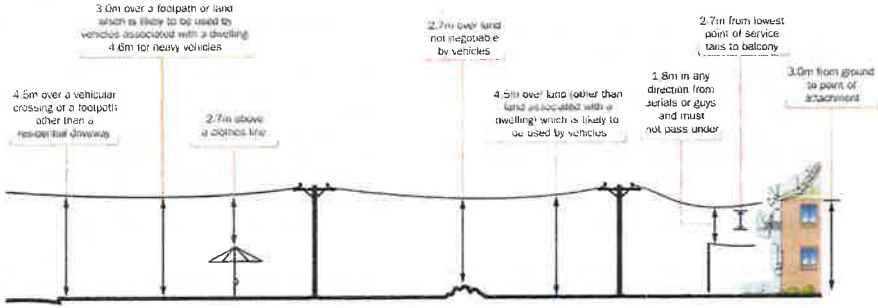
1 This should not be taken as meaning the literal vertical. The actual clearance may also extend outwards in an arc until it intersects with the relevant (C) dimension clearance. 2 This clearance can be further reduced to allow for the termination at the point of attachment.

Minimum clearance requirements for completed structures or land (NSW)

High and low voltage



Insulated service lines connecting customer premises to mains



Notes:

1. These requirements are for powerlines near completed structures or land. They do not represent safe working distances while building or operating machinery near powerlines. Refer to WorkCover Regulation 2001 Chapter 4 Division 8 and relevant WorkCover Codes of Practice for these safe working requirements.

2. Clearances specified on this drawing are for Essential Energy mains only. For clearances of consumer mains see Australian Standard AS/NZS 3000:2007.

3. Clearances stated on this drawing comply with the Energy Networks Association Overhead Line Design-Detailed Procedures AS/NZS 7000:2010 and the Service and Installation Rules of NSW.

4. Clearances stated are for the worst case of maximum sag and maximum swing.

5. The clearances given may need to be increased where vehicles of unusual height are likely to pass under an overhead line.

Legend

< Less than

≤ Less than or equal to

> Greater than

≥ Greater than or equal to

We're here to help

> For general enquiries call 13 23 91
> For supply interruptions call 13 20 80
> For interpreter services call 13 14 50
> essentialenergy.com.au
> Follow us

For energy efficiency advice call the energyanswers team on 1800 ENERGY (1800 363 749) or visit us at essentialenergy.com.au/energyanswers

essential energy

essential energy

Ref: BT/sw:DCS01

21 November 2013

Mr Mark Riley
General Manager
Dubbo City Council
PO Box 81
DUBBO NSW 2830

Dear Mark

Proximity of buildings and swimming pools to electricity infrastructure

We are writing to you in regards to the obligation councils have to notify Essential Energy of any structures or swimming pools being built within a certain radius of electricity infrastructure, as outlined in Reg 45 of the New South Wales Consolidated Regulations: State Environmental Planning Policy (Infrastructure) 2007. Once Essential Energy receives written notification of these structures or swimming pools we will respond with the appropriate recommendation, we also request that you advise us of any structures that have already been built within these zones. This reminder comes as there have been incidences where buildings have been constructed within the restricted zones without the appropriate safety precautions being taken.

Buildings Structures

High voltage distribution substations currently require a 3 meter fire risk zone from the closest point to any other structure. As per the Building Code of Australia any structure within the 3 meter fire restriction zone will require a 120/120/120 fire rating or be protected by a 120/120/120 fire rated barrier. The information in AS 2067 Appendix C gives a detailed account of the restrictions with structures within a 3 meter radius of a high voltage distribution substation.

Swimming Pools

Electricity infrastructure may also affect the installation of swimming pools and council should provide written notice to Essential Energy if a swimming pool is being proposed within 30 meters of a distribution substation or within 5 meters of an overhead line. For further information on this please review ISSC 20 Guidelines for the Management of Activities within Electricity Easement and Close to Electricity Infrastructure and New South Wales Consolidated Regulations: State Environmental Planning Policy (Infrastructure) 2007- Reg 45.

This letter is a friendly reminder that your council has an obligation to consult with Essential Energy before structures are built and advise us of structures that have already been built within the prescribed radius of high voltage infrastructure so that preventative action can be taken to ensure everyone's safety.

For site by site consultation please contact your local Essential Energy Planning Manager directly or through 13 23 91. If you have any questions on construction around high voltage infrastructures please contact Daniel Kelly on 02 6589 8623.

Yours sincerely

Bradley Trethewey
Principal Engineer Network Standards

Attachments

1. Extract from the Australian Standards AS 2067 outlining the fire protection zone around a high voltage infrastructure
2. Extract from Reg 45 of the New South Wales Consolidated Regulations: State Environmental Planning Policy (Infrastructure) 2007.
3. Extract from ISSC 20 Guidelines for the Management of Activities within Electricity Easement and Close to Electricity Infrastructure

Attachment 1 – extract from the Australian Standards AS 2067 outlining the fire protection zone around a high voltage infrastructure

APPENDIX C

FIRE RISK ZONES FOR DISTRIBUTION SUBSTATIONS

(Informative)

For all figures below, the fire protection requirements of the Building Code of Australi apply together with (if combustible liquid-containing electrical equipment is employed) th Appendix H requirements of AS 1940—2004. The examples are for distribution substation having transformers with less than 1000 l of oil per transformer.

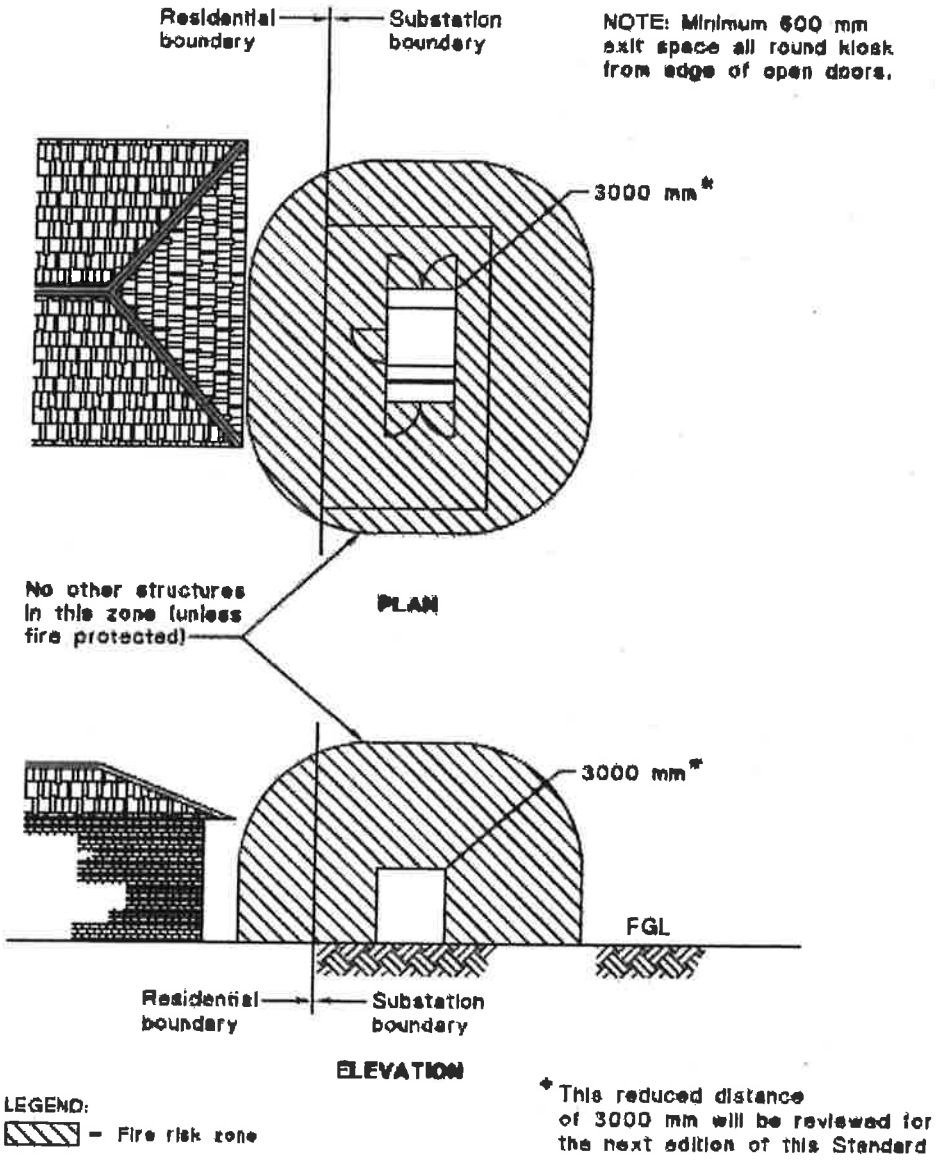


FIGURE C1 NON-FIRE-RATED KIOSK-TYPE SUBSTATION IN A LOW DENSITY RESIDENTIAL AREA

Attachment 2 – Extract from Reg 45 of the New South Wales Consolidated Regulations: State Environmental Planning Policy (Infrastructure) 2007.

New South Wales Consolidated Regulations

STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007 - REG 45

Determination of development applications-other development

45 Determination of development applications-other development

(1) This clause applies to a development application (or an application for modification of a consent) for development comprising or involving any of the following:

(a) the penetration of ground within 2m of an underground electricity power line or an electricity distribution pole or within 10m of any part of an electricity tower,

(b) development carried out:

(i) within or immediately adjacent to an easement for electricity purposes (whether or not the electricity infrastructure exists), or

(ii) immediately adjacent to an electricity substation, or

(iii) within 5m of an exposed overhead electricity power line,

(c) installation of a swimming pool any part of which is:

(i) within 30m of a structure supporting an overhead electricity transmission line, measured horizontally from the top of the pool to the bottom of the structure at ground level, or

(ii) within 5m of an overhead electricity power line, measured vertically upwards from the top of the pool,

(d) development involving or requiring the placement of power lines underground, unless an agreement with respect to the placement underground of power lines is in force between the electricity supply authority and the council for the land concerned.

(2) Before determining a development application (or an application for modification of a consent) for development to which this clause applies, the consent authority must:

(a) give written notice to the electricity supply authority for the area in which the development is to be carried out, inviting comments about potential safety risks, and

(b) take into consideration any response to the notice that is received within 21 days after the notice is given.

Attachment 3 – Extract from ISSC 20 Guidelines for the Management of Activities within Electricity Easement and Close to Electricity Infrastructure

9. PADMOUNT/KIOSK DISTRIBUTION SUBSTATIONS

Distribution substation sites, whether on public or private property, generally occupy the minimum area necessary for access to doors, adequate room to operate HV or LV apparatus, and for the provision of a buried earth grid. This means little scope exists for encroachments within these sites. Reference should also be made to relevant building codes and/or NO's standards for segregation with relation to fire risk mitigation.

Prior to carrying out any excavation work within padmount easements and close to padmount infrastructure, a Dial before You Dig enquiry shall be carried out in accordance with the requirements of the *Electricity Supply Act 1995* and associated Regulations. In particular, Part 11A (Infrastructure Protection) of the *Electricity Supply (General) Regulation 2001* provides further information on the requirements for excavation.

9.1 Permitted Activities

Written approval would not normally be required for such activities.

9.1.1 The landscaping or planting of small shrubs and tilling of the soil to a maximum depth of 250mm. Shrubbery must not restrict access to substation doors or be planted closer than 1m to the cabinet. Vegetation must not include species that would spread over the site and/or present a fire or access hazard.

9.2 Controlled Activities

9.2.1 The erection of metal fencing or bollards on the boundary of the substation site should only be permitted where:

- the fence is segregated by an insulating panel to prevent transfer of earth voltage rise under fault conditions;
- that portion of the fence or any bollards adjacent to the substation is earthed to the NO's standard;
- any bollards or fence posts are clear of cable routes; and
- access is maintained at all times.

Any excavation work shall follow the same requirements as underground cables as described in 8.2 3.

9.2.2 Swimming Pools

Swimming pools proposed in a location near a distribution substation requires site specific study and risk assessment for earthing and the effects of earth faults.

9.2.3 Car parking facilities

Provision shall be made for crash and impact protection from vehicles while maintaining access for the NO's activities.

9.3 Prohibited Activities

The activities listed below are normally prohibited within padmount easements and close to padmount infrastructure. Approval to engage in such activities should not be granted other than in the most exceptional circumstances which will be assessed in accordance with Section 10.

9.3.1 Any construction within the substation site.

9.3.2 Any mechanical excavation deeper than 150mm **or any rise in ground level** above the concrete base of the substation.