

20 February 2020

Department Ref: SSD-10288

APA Ref: 442773

Rob Beckett

Department of Planning, Industry and Environment

GPO Box 39

Sydney NSW 2001

Dear Rob,

**RE: Submission on the proposed Culcairn Solar Farm (400MW)**  
**Lots 70-73, Lot 86 on DP753764, Lots 9-11, 45-47, 53, 54 on DP753735, Lot 1 on DP179854, Lot 114 on DP664997, Lot 1 on DP575478, Lot 1 on DP171815, Lot 1 on DP945904, Lot B on DP972054**

Thank you for the opportunity to review and provide comment on the proposed Solar Farm near Weeamera Road, Culcairn. This APA submission updates previous letter advice dated 16 May 2019.

APA Group (APA) is Australia's largest natural gas infrastructure business and has direct management and operational control over its assets and investments. APA's gas transmission pipelines span across Australia, delivering approximately half of the nation's gas usage. APA owns and operates over 15,000 km's of high pressure gas transmission pipelines across Australia.

East Australian Pipeline Pty Limited (APA) owns and operates the Culcairn to Barnawatha pipeline which is located on a south-west alignment through subject Lot 54 on DP753735 and Lot 1 on DP575478. APA is the owner and operator of the Culcairn to Barnawatha pipeline (see Table 1 for details):

**Table 1: Transmission gas pipelines in the area of consideration**

Pipeline	Pipeline Licence	Easement Width (m)	Diameter (mm)	Measurement Length (m)
Culcairn to Barnawatha pipeline	PL24	24	450	463
<b>Note:</b> measurement length is applied to either side of the pipeline.				

### APA's Role

As a Licensee under the *Pipelines Act 1967*, APA is required to operate pipelines in a manner that minimises adverse environmental impacts and protects the public from health and safety risks resulting from operation of our high pressure gas transmission pipelines (**HPGTP**). Once a HPGTP is in place, APA is required to constantly monitor both the pipeline corridor and also a broader area within which we are required to consider land use changes and development and to assess what such changes means to the risk profile of the HPGTP.

APA has a number of responsibilities and duties to perform under a complex framework of legislation, standards and controls across Federal, State and Local Government landscapes. In particular, the *Pipelines Act 1967*, cites Australian Standard 2885 (**AS2885**) as a mandatory safety standard for the design, construction, operation and maintenance of transmission pipelines. In discharging our regulative responsibilities, APA needs to continuously review what is happening around its assets, what land use changes are occurring and what development is taking place to ensure it remains in a

position to comply with applicable operational and safety standards and legislation whilst meeting its commercial obligations and imperatives.

### **Pipeline Risk Profile and the Measurement Length**

In managing HPGTP's and considering land use changes, APA must focus on that area geographically defined by AS2885 as the Measurement Length (**ML**). The ML area is the heat radiation zone associated with a full-bore pipeline rupture. APA is mandated to consider community safety in the ML due to the high consequences of pipeline rupture to life, property and the economy.

The ML is determined by the size of the pipe and the Maximum Allowable Operating Pressure (**MAOP**) of the pipe. APA must consider any changes of land use within the ML area to determine the effect of a new use on the risk profile of the pipeline.

For reference, the ML of the Culcairn to Barnawatha pipeline is 463m. Note that the ML is a radial dimension, and therefore applies to both sides of the pipe.

### **Safety Management Study**

AS2885 requires a Safety Management Study (**SMS**) to be undertaken whenever the land use classification of land within the ML changes. The purpose of an SMS is to assess the risk associated with a change in land use, including both construction risks and ongoing land use risks. The SMS will also develop appropriate controls to reduce risks to 'as low as reasonably practicable' (**ALARP**). The proposed development of a large scale solar farm would result in a change in the location class in this instance and require an SMS to be undertaken.

The cost of undertaking any SMS is to be borne by the proponent as the 'agent of change'. APA has developed a list of preferred SMS facilitators.

### **Easement Management**

APA is the beneficiary of a pipeline easement in which the Culcairn to Barnawatha pipeline is located. To ensure compliance with the safety requirements of AS2885, APA needs to ensure our easement is managed to an appropriate standard. This includes:

- Ensuring the easement is maintained free of inappropriate vegetation and structures.
- Place warning signs at various mandated points along the pipeline route, including any change in property description/boundaries.
- Maintain a constant line of sight between warning signs.
- Undertake physical patrols and inspections of the easement.

APA will not accept outcomes that do not enable us to achieve our safety responsibilities to the surrounding community. Crossing of the pipeline should be at 90 degrees and minimised as much as possible.

Any works within the easement must be approved by APA through our Third Party Works Authorisation process. This process will ensure all works are undertaken in a safe manner that does not physically impact on the pipeline. If you are seeking to undertake works on property containing a pipeline, or are seeking details on the physical location of the pipeline, please contact Dial Before You Dig on 1100 or APA directly at [APAProtection@apa.com.au](mailto:APAProtection@apa.com.au).

## **Proposed development**

APA's submission has been provided following review of the Layout Plan prepared by Iberica Engineering, dated September 2019, Index B. Specifically pages 1 of 4 of the layout plan where APA's easement is outlined on Lots 54 on DP753735 and Lot 1 on DP575478 near PVs 44, 54, 55, 56, and 61-64. APA notes the provision that all buildings including panels are located off APA's easement and inclusion of a 10-metre setback from APA's easement, which generally aligns with the proposed fencing. APA is supportive of the proposed layout subject to further review of the proposal during the detailed design phase. The information provided below and conditions of approval, have been provided to assist in this regard.

APA appreciates the requested notation of *'no works to occur without the prior authorisation of the pipeline operator'* for APA's pipeline easement on the above-mentioned layout plan. To ensure an appropriate level of risk is communicated for those undertaking site works.

Our preference is to avoid any works in the pipeline easement, including any improvements or installations. However, we are willing to accept such works necessary for the development provided they will not impact on the pipeline. Details of all proposed crossings (including roads or services) and works within the easement, must be submitted to APA for consideration. No crossings may occur without the prior authorisation of APA, and must be completed in accordance with any conditions imposed by APA. This includes changes in ground level on the easement, change in stormwater flows over the easement, and storage of equipment.

Crossings of underground services must accord with APA requirements, particularly minimum separation distances. Road crossings for heavy vehicles (as expected to be required in this case) will require a concrete slab crossing to disperse loads on the pipeline to an acceptable level. This will need to be designed to APA requirements. Vehicular crossings during construction and operation will need be at the agreed crossing points.

The proposed land use changes the current location class around the pipeline and therefore a SMS is required to ensure the ongoing integrity and safety of areas surrounding the pipeline. The SMS must be completed prior to detailed design, so that the outcomes of the SMS can inform this process. The cost of the SMS and any resulting recommendations must be borne by the development proponent. APA is happy to provide a list of recommended SMS facilitators upon request.

Electrical works in the vicinity of the pipeline (including crossings) have the potential to impact on the pipelines safe operation and studies in accordance with AS4853 are necessary. The cost of the these studies and any necessary mitigations must be borne by the development proponent. Obviously the further that electrical works can be kept from the pipeline the better, but if this can't be avoided mitigation works will be required. There are specialist consultants who can complete the necessary studies/modelling. The safe separation distance depends on how far the electrical powerlines follow the route of the pipeline, and the voltage of the powerlines, so it is impossible to say what a safe separation distance would be. We are happy to discuss this further and provided feedback on proposed design, however, the technical studies are the only way to know for sure if there will be an issue, and what (if any) mitigation measures will be required.

All proposal plans must clearly show APA's pipelines and easement, labelled as 'high pressure gas transmission pipelines – no works without prior approval of APA'.

The proposed development is expected to have significant areas of panels to both the north and south of the pipeline easement, and there is anticipated to be the need for crossings of the pipeline. These include:

- Electrical feeder lines (either above or underground) to transformers and any on-site substation;
- Electrical transmission lines from the substation to transmission grid connection point; and
- Access tracks (for construction and operation).

APA seeks to minimise the number of crossings and have these perpendicular to the pipeline if possible. This should include the co-location of road and services crossings. No work on the easements, including crossings, changes in ground level or other works, may occur without the prior authorisation of APA. Detailed design for crossings will need to be informed by field works to positively locate the pipeline (alignment and depth). Such field works must only be performed under APA permit.

For the proposed subdivision of Lot 54 on DP753735 to create the substation land parcel. The current pipeline easement must be transferred to the new title for proposed 'Lot E', and our current easement rights will be retained in relation to the proposed 'Lot E'.

### **Comments**

On the basis of the information provided, APA does not object to the proposed development subject to the following conditions being included with any approval issued for the proposal:

### **Conditions of Approval**

#### **1. No Improvements within Easement**

Buildings, structures, roadway, pavement, pipeline, cable, fence, on-site waste water treatment (or irrigation area), or any other improvement on or under the land within the gas transmission pipeline easement must not be constructed without prior consent in writing from APA. No structure or vegetation will be permitted on the easement that prohibits maintenance of line of sight along the pipeline easement.

#### **2. Safety Management Study Required**

Prior to the development commencing, a Safety Management Study (SMS), in accordance with Australian Standards 2885 for Pipelines – Gas and Liquid Petroleum, must be conducted by the applicant and its recommendations/actions must be implemented to the satisfaction of APA. All costs associated with the SMS, and implementing its recommendations/actions are to be borne by the applicant.

#### **3. Risk Assessment Required**

Prior to the development commencing, and to inform detailed design, the applicant must conduct electrical hazard studies in accordance with (the requirements of) Australian Standard 4853-2012 (for Low Frequency Induction and Earth Potential Rise). The applicant must address any relevant requirements and any recommendations and/or actions must be implemented to the satisfaction of APA. All costs associated with the study, and implementing its recommendations and/or actions are to be borne by the applicant. The applicant must complete validation testing upon completion of construction.

#### **4. Electrical Interference Studies**

The applicant must conduct electrical interference studies in accordance with the requirements of AS2832 once detailed design is complete.

## **5. Amend Design to Comply with Australian Standards**

The applicant must amend its design as required in order to obtain results for the electrical interference studies and electrical hazard studies which comply with the applicable Australian Standard and promptly provide a copy of the studies and reports to APA.

## **6. High Voltage Powerlines**

The applicant must make good (at the applicant's cost) any hazards or risks to the Culcairn to Barnawatha pipeline (including cathodic protection systems), caused by any powerlines.

## **7. Landscape Plans**

Prior to the development commencing, landscape plans depicting any planned landscaping, including the planting of vegetation, species details, surface treatments, furniture, structures or improvements within three metres of the pipeline must be submitted to and approved by APA, in addition to any approval required by the assessment manager. A three metre minimum clearance between the pipeline and any vegetation with a mature height greater than 0.5 metres must be maintained.

## **8. Construction Management Plan**

Prior to the commencement of any works, including demolition, on land within 50 metres of the pipeline easement, a construction management plan must be submitted to and approved by APA. The plan must:

- Prohibit the use of rippers or horizontal directional drills unless otherwise agreed by the operator of the gas transmission pipeline.
- Avoid significant vibration, heavy loadings stored over the pipeline and heavy vehicle / plant crossings of the pipeline within the easement.
- Be endorsed by the operator of the gas transmission pipeline where the works are within or crossing the relevant gas transmission easement.

## **9. Services**

The design of any infrastructure services shall minimise encroachment on the gas pipeline easement. Any application for an APA permit for an easement crossing will be required to demonstrate that an alternative route, avoiding the easement, is not feasible.

## **10. Easement Delineation On Site**

During construction, the boundary of the easement must be clearly delineated on site by temporary fencing (or other means as agreed by APA), and clearly marked as a hazardous work zone/ restricted area.

## **11. Easement Delineation On Plans**

All plans which include the area of the gas pipeline easement must have the easement clearly identified with hatching on the full width of the easement. The easement must also be clearly labelled as *'high pressure gas pipeline easement – no works to occur without the prior authorisation of the pipeline operator'*.

## **12. Pipeline Operator Access**

The ability of the pipeline operator to access the easement must be maintained at all times to facilitate prompt maintenance and repairs. This may be through interlocking padlocks so APA has keyed access at any time. APA field officers will undertake any necessary site induction to facilitate unaccompanied access.

### Note

If you are planning on undertaking any physical works on property containing or proximate to a pipeline, or are seeking details on the physical location of a pipeline, please contact Dial Before you Dig on 1100 or <https://www.1100.com.au/>, or APA directly on [APAprotection@apa.com.au](mailto:APAprotection@apa.com.au).

Note

An early works agreement from APA is required for any assessments/approvals that require greater than 3 days assessment or supervision. Lead in times for agreements can be up to 12 weeks. Please contact APA at [APAprtection@apa.com.au](mailto:APAprtection@apa.com.au) or 1800 103 452.

Note

Any improvements within the transmission gas pipeline easement undertaken by third parties is at the risk of the proponent who will remain liable. APA will not be liable for any costs associated with the reinstatement of any vegetation and/or infrastructure constructed on the easement.

Note

Where access to the pipeline will not be readily available because of the proposed development e.g. significantly obstructed by pavement etc an assessment of the condition of the pipeline coating will be required prior to development commencing. Any re-coating works required as a result of this assessment, due to future inaccessibility or as an outcome of an SMS will be at the developers expense and to the satisfaction of the pipeline licensee/operator.

Note

APA has a suite of standard engineering drawings to assist with detailed design. These are available upon request. Please contact APA at [APAprtection@apa.com.au](mailto:APAprtection@apa.com.au) or 1800 103 452.

APA does not seek to unnecessarily inhibit future development proximate to our assets and is happy to work development proponents to achieve mutually acceptable and compliant outcomes. Any interested parties are strongly encouraged to contact APA early to discuss the process of integrating APA assets into future developments.

Should you wish to discuss the contents of this correspondence, or have any further queries, please contact me on 07 3223 3385 or the Infrastructure Planning & Protection team at [planningnsw@apa.com.au](mailto:planningnsw@apa.com.au).

Yours faithfully,



**Ben Setchfield**  
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