

21 May 2018

APA Reference: 20180424_LO_439701_Renew Estate Bomen Solar

NSW Department of Planning & Environment

Dear Sir / Madam,

RE: **Proposed development of Bomen Solar Farm**
State Significant Development Application Number SSD8835

Background

APA owns the Young – Wagga Wagga Pipeline and Young – Wagga Wagga Looping located through the subject site in a common easement (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)
Young – Wagga Wagga Pipeline	19	20	300	294
Young – Wagga Wagga Looping	19	20	450	452

Note: measurement length is applied to either side of the pipeline.

Renew Estate has lodged a Preliminary Environmental Assessment (PEA) as the first stage of seeking approval for the Bomen Solar Farm as a State Significant Development. There are a number of considerations that the project Environmental Impact Statement (EIS) should address to ensure the integrity and safe operation of the pipelines.

APA statutory obligations

SEPP (Infrastructure) 2007 states that risks associated with development applications adjacent to a gas pipeline corridor needs to be assessed and those risks included in considerations prior to determining an application for development (Clause 55 'Development adjacent to corridor' in Division 9). The PEA considers the SEPP in relation to the delivery of solar energy infrastructure, but does not give any consideration in relation to the potential impacts on existing gas transmission infrastructure of regional importance.

As a licence holder for high pressure gas transmission pipelines (HPGTPs) APA has statutory obligations under the *Pipelines Act 1967 (the Act)*. The associated *Pipelines Regulation 2013*, states that a licensee must ensure that the design, construction, operation and maintenance is in accordance with Australian Standards 2885 (AS2885). These are the Standards that APA must consider in assessing and addressing risks associated with development applications under the Infrastructure SEPP.

In considering a development proposal APA is obligated to ensure its pipelines are not damaged, nor subject to development which may increase the future risk of damage. Furthermore, APA must ensure the pipeline is designed to *"reflect the threats to pipeline integrity, and risks to people, property and the environment"* (AS2885.1, s4.3.1). Location classes are used to determine the appropriate pipeline design and management for the circumstances. The location class considers the land use and activities within the Measurement Length (ML), which is the area of consequence in the case of full bore pipeline rupture. The subject pipeline has a ML each side of the pipeline of the distances shown in Table 1 above.

AS2885.1, s2.6 states “a pipeline in the vicinity of electricity supply powerlines or facilities shall be analysed to determine if controls are required to provide for electrical safety”. Section 2.6 refers to Appendix R, which references the requirements of AS4853 for electrical analysis (earth potential rise and low frequency induction). Potential impacts arise from transmission lines crossing the pipeline or running alongside the pipeline. In addition to impacts directly on the pipeline, electrical currents have the potential to impede the effective operation of cathodic protection measures (addressed in AS2832). Electrical currents of concern may include feeder lines, transformers, and transmission lines.

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 for the Young – Wagga Wagga Looping is 452m each side of the pipeline.

The ML is determined by the design parameters of the pipe (driven by the surrounding environment at the time of construction) and the Maximum Allowable Operating Pressure (MAOP) of the pipe. APA must consider any change of land uses within the ML area to determine the effect of a new use on the risk profile of the pipeline.

Location classes (based on land use) are used to determine the appropriate pipeline design and management for the circumstances. If the location class changes within the ML, a Safety Management Study (SMS) is required to assess the additional risk and ensure actions are taken to reduce the risk to an acceptable level. The proposed use will change the location class of the pipeline in the area of the development.

Proposed Development

The proposal plan clearly shows APA’s pipeline and easement, however does not accurately label it as a ‘high pressure gas transmission pipelines’. The easement is clear of the siting of solar panels, although panels are shown up to the boundary of the easement.

The proposal plan shows Trahairs Road crossing the pipelines, to access the proposed hardstand compound area and control building, where the road ends. While the road exists, it appears to be only a minor access road and does not carry through traffic.

The proposed development has significant areas of panels to both the east and west of the pipeline easement. A single area for both potential battery storage and substation is located to the west of the development site. Regardless of the final area for battery storage and substation, the need for crossings of the pipelines is anticipated. These are expected to include:

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

APA seeks to minimise the number of crossings and have these perpendicular to the pipelines if possible. 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.

Comments

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.

Electrical works near 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 these studies and any necessary mitigations must be borne by the development proponent.

Details of all proposed crossings, 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 the existing location of the Trahairs Road crossing.

The development proponent should address the issues raised in this letter prior to any approval being granted. APA acceptance of the proposed development is subject to the following conditions.

Conditions

1. No improvements within Easement

Buildings, structures, roadway, pavement, pipeline, cable, fence, change in ground level, or any other improvement on or under the land, must not be constructed within the gas transmission pipeline easement, without the prior authorisation of APA. This includes both temporary and permanent improvements of the type detailed above. All construction workers on site must be made aware of this requirement.

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 Young to Wagga Wagga Pipeline (including cathodic protection systems), caused by any powerlines, or associated infrastructure.

7. 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.

8. 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. Any ongoing fencing, or access restriction, as determined by the SMS will be implemented by the proponent.

9. 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'*.

10. 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 as 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 APA directly on 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 APAprotection@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.

For any further enquiries relating to this correspondence, please feel free to contact myself on 0459 899 076 or the Urban Planning Team at planningnsw@apa.com.au.

Yours faithfully,



Ross Larsen
Senior Urban Planner
Infrastructure Planning and Protection