


Annual Report for Moomba Wilton Pipeline – PL7 2021

Reporting period 30 June 2020 to 29 June 2021

August 27, 2021



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1. Purpose

This report is prepared in accordance with the requirements of Pipeline Licence 7, the Petroleum & Geothermal Energy Act 2000 (SA) and the Petroleum & Geothermal Energy Regulations 2013 (SA).

2. Scope

East Australian Pipeline Proprietary Limited (EAPL) owns the South Australia section of the Moomba-Wilton Natural Gas Pipeline (MWP) (Licence 7). APA Group, as the owner of EAPL, operates and maintains the pipeline on its behalf. Licence 7 was renewed in 2015, with the current term of the licence being 21 years; commencing on 30 June 2015 and expiring at midnight on 29 June 2036.

This report provides information to the Department for Energy and Mining in accordance with requirements of the Petroleum and Geothermal Energy Act 2000 and Section 33 of the Petroleum and Geothermal Energy Regulations 2013 and AS2885.3.

The pipeline in this report begins at the Moomba gas plant in South Australia and ends at the SA / QLD border. The entire section includes approximately 101 km of 864mm OD pipeline and the Moomba Interconnect Pipeline (MIP) approximately 1km of 660 mm OD pipeline which connects with the Moomba Pressure Reduction & Metering Station and 9km of 660 mm OD pipeline which is non-operational.

3. Regulated Activities

This report is a summary of the regulated activities conducted under the licence during the year. The last fitness for purpose assessment was conducted for PL7 and the report submitted for review on 20th July 2020. APA assessed this section of the Moomba to Wilton Pipeline covered by PL7 as being fit-for-purpose for current and future use, for at least 5 years from the assessment date. The next fitness for purpose assessment report is due 30th April 2025.

4. Pipeline Operation

APA operates and maintains the Moomba to Wilton pipeline and its associated facilities in accordance with AS2885.3 and other relevant standards.

Preventative, corrective and reactive maintenance activities are managed within APAs Works Management System. Preventative and corrective works are scheduled and monitored for completion using this system through the generation of work orders for maintenance staff to complete.

A description of the Operations and Maintenance activities is provided below

4.1. Inline Inspection

Intelligent Pigging of the MWP Section 1 (MW00-MW162) was conducted from 6th June 2021 to 18th June 2021 with EMAT, MFL-C, MFL-A and Calliper inspections completed.

4.2. Pipeline integrity

All features which were detected by previous 2013 and 2018 EMAT ILI programs have been inspected and repaired as appropriate.

Planning has begun on the MWP SCC Program, with sections 1 & 2 scheduled for commencement from 1st October, 2021. In line with communication from DEM (27th March 2020) regarding Activity Notification requirements for pipeline direct inspections on buried pipelines, APA will be submitting formal activity notification under regulation 18 or 19 as relevant, accompanied by information to satisfy the requirements of regulation 20)

4.3. Corrosion control

4.3.1. Annual Pipe to Soil Potential Survey

All cathodic protection test points surveyed in accordance with AS2832.1-2015 during the reporting period. Deviations from the criteria identified are being investigated and rectified.

4.3.2. Cathodic Protection System

Within SA the 864mm OD pipeline has impressed current CP units installed at MW10, MW29, MW40, MW65 and MW83, with a separate impressed current unit installed at Moomba (MW00) protecting the buried pipe within the Moomba Station. CP upgrade work continued along the MWP including at units within Section 1 (SA). 2021 CP survey is scheduled for October and November 2020, with results to be evaluated to determine improvement in CP coverage and proposed work program in FY22

Work on the proposed CP installation at MW95 continues suspended, with the focus on other areas of the pipeline with less CP protection.

4.4. Safety Management Studies

A Safety Management Study (SMS) 5 yearly Review was carried out for the Moomba to Lachlan River section of the Moomba to Wilton Natural Gas Pipeline on 11th to 13th August 2020 via video conference due to travel restrictions from COVID-19. The workshop consisted of staff and management from the pipeline operations, integrity management, infrastructure protection, asset management, and engineering teams with responsibility for this section of the Moomba to Wilton Natural Gas Pipeline.

The SMS assessment found three intermediate risks to the pipeline. All three had been identified prior to this SMS review and mitigation actions had commenced. The final report has been

presented to the Licensee for sign-off. Upon approval the SMS report will be provided to DEM for their information.

4.5. Electrical and Mechanical Maintenance

Routine six-monthly maintenance was performed at MW00, MW10, MW29, MW55, MW65 and MW83 as per the maintenance schedule. This includes all line valves and coolers at the Moomba inlet station. Santos operators inspected the Moomba cooler inlet station monthly.

Quarterly leak and security inspections were completed at each valve site.

4.6. Communications/SCADA

The SCADA continued to function correctly throughout the year without incident. The physical location of the control room is the APA Integrated Operations Control Centre (IOC) at Spring Hill, Brisbane, Queensland. An alternate / backup IOC in Mansfield, Brisbane is in place to ensure continuity of IOC operations in case of disruption at Spring Hill.

The IOC has been set up to control all APA pipelines nationally, with the exception of Victoria which is controlled by AEMO, in order to provide pipeline operation and control, engineering services and commercial services within the one location for improved coordination of services nationally.

4.7. Emergency Response

Details of the emergency response exercise were provided in the report 320-RP-ER-0066 submitted on 17th July 2020. The next emergency response exercise is due by 9 October 2021 with report to be submitted within 2 months of completion of the exercise.

4.8. Pipeline Construction

There has been no pipeline construction within the Pipeline Licence 7 area for the reporting period.

4.9. Landowner and emergency services activities

The annual landowner liaison program was undertaken during FY21. This included a landowner package being sent to landowners and direct liaison as required.

Council and Emergency services were contacted and, where possible, gas awareness presentations delivered as per APA Easement Stakeholder Management program.

4.10. Aerial Surveillance and Maintenance

Aerial patrols of the pipeline route were completed each month as scheduled with additional vehicle patrols conducted in association with other maintenance activities.

4.11. Health and Safety

APA Group recorded no LTI, MTI on the pipeline in South Australia during the reporting period.

APA has implemented a HSE Management System called Safeguard to comply with the national work health and safety requirements.

Safeguard provides a framework by which the processes relating to the company's Health, Safety and Environment (HSE) activities are written, approved, issued, communicated, implemented and controlled.

Safeguard applies to all HSE-related matters arising out of all activities and operations controlled by APA and its related companies (together the company) and the impact of those activities and operations on employees, contractors, the environment and the communities in which the company operates.

Additionally, Safeguard (Including HSE Policies) is also subject to review and improvement to ensure objectives and obligations are continually satisfied, including:

- Performance, measurement and reporting;
- Management review; and
- Audit and self-assessment.

The above requirements are supported by APA Group procedures. The HSE policy is a controlled document subject to three yearly reviews as a minimum.

4.12. Environment

There were no environmental incidents on the pipeline in South Australia during the reporting period.

The updated Statement of Environmental Objectives (SEO) and Environmental Impact Report (EIR) following feedback from government agencies was submitted on 1st March 2021. The SEO was approved and published in the South Australian Government Gazette on 8th April 2021.

The SEO objectives in regards to ongoing operational activities is included in Appendix 1.

5. Compliance

APA ensures that the pipeline is operated in accordance with the relevant Acts of Parliament, licence conditions and the requirements of AS2885.

APA attends quarterly compliance meetings with the Energy Resources Division of the Department for Energy and Mining (DEM), where operational regulatory compliance is discussed in an open manner.

APA maintains a compliance management system (Vigilant) which tracks legislative compliance throughout the organisation. Obligations are assigned to responsible staff, who must supply evidence that the obligation has been satisfied within a specified time period.

Within Vigilant, APA maintains an action tracking system for improvements to its systems, which is fully traceable through to close out of individual items.

Significant items are reported through to the DEM, and would be raised at the quarterly compliance meetings held between the DEM and APA.

During the reporting period, the 2019/20 Annual Report was submitted late, and therefore considered non-compliant with Regulation 33(1) of the Act.

5.1. Management System Audits

The annual independent Pipeline Management System (PMS) audit conducted by Ken Cameron & Associates was completed and report received August 2020. The audit samples the implementation effectiveness of APA's PMS and general compliance with the requirements of AS2885.3:2012.

While the scope of this audit was the NSW Moomba – Wilton Pipeline System assets, the findings are also applicable to the operation, maintenance and management of the SA portion of the Moomba – Wilton Pipeline (PL7). These reports are made available to DEM.

5.2. Health and Safety Audits

An internal audit schedule of the Safety Management System was maintained during the FY20/21 reporting period.

5.3. Reports

5.3.1. Reports Submitted to DEM

Table 5-1 outlines the reports submitted to the Department for Mining and Energy (DEM) for PL7 during 2020/2021.

Table 5.1 Reports Submitted to DEM, PL7, 2020/2021

REPORT	DUE DATE	SUBMITTED DATE	COMPLIANCE STATUS
MWP (PL 7), MSEP (PL 8) Statement of Environmental Objectives, MSE.2573-PL- HSE-0001	25/11/2020 Resubmission following comments – 1/03/2021	1/03/2021	Compliant
MWP (PL 7) MSEP (PL 8) Environmental Impact Report MSE.2573-PL-HSE-0002	25/11/2020 Resubmission following comments – 1/03/2021	1/03/2021	Compliant
MWP PL 7 Annual compliance report 2020	29/08/2020	17/12/2020	Non- compliant

5.4. Incident Reports

There were no incidents during the reporting period.

5.5. Threat Prevention, Mitigation

Stress Corrosion Cracking (SCC) and metal-loss corrosion are active on the MWP, which requires ongoing management to maintain the integrity of the pipeline. The risk management plan involves the identification of defects through in-line inspection, analysis of the severity of the reported defects and a regular program to excavate, assess and where necessary, repair the SCC either by the installation of pipeline repair sleeves or by recoating.

5.6. Future Work Program

All maintenance operations will continue to be undertaken as scheduled to ensure that the integrity of the pipeline system is appropriately maintained, as well as ensuring the ongoing safety and efficiency of APA Group's operations.

The SCC Management program with scheduled dig ups, inspections and repairs will continue in accordance with the program schedule, refer s4.2. Pipeline integrity

6. Expenditure Statement

The South Australian portion (PL7) of the Moomba-Wilton pipeline system is a relatively small component of the entire pipeline and expenditure data is not readily available for this section alone. The expenditure in Commercial in Confidence.

7. Pipeline Operation

The quantity of gas transported (cumulative “southern” and “northern” flows) through the PL7 Moomba-Wilton Pipeline for the year ended 30 June 2021 is shown in Table 7-1 below.

Table 7.1 *Transported Gas Quantities, PL 7 MWP, 2020/2021*

Date of Peak Demand	03/09/2020
Highest daily demand within the reporting period (m ³)	5,769,813
Highest daily demand within the reporting period (GJ)	216,368
Average daily demand for the reporting period (m ³)	4,440,933
Average daily demand for the reporting period (GJ)	166,535
Total amount transported in the reporting period (m ³)	1,620,944,587
Total amount transported in the reporting period (GJ)	60,785,422

Appendix A Statement of Environmental Objectives and Assessment Criteria for Operational Activities

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
1. To maintain soil stability and integrity on the easement	1.1 To remediate erosion or subsidence as a result of pipeline operations in a timely manner	<ul style="list-style-type: none"> Inspections undertaken as part of regular patrols (ground and aerial), following specific works, as per the Aerial Surveillance Procedure (560-PR-QM-0006) and Corridor Condition Inspection Procedure (560-PR-QM-0005). Preventative measures implemented and monitored in susceptible areas. Subsidence and erosion managed as per the Soil and Land Management Procedure (APA HSE EP 13.06.01). 	<ul style="list-style-type: none"> No un-remediated subsidence or erosion The extent of soil erosion on the easement is consistent with surrounding land No excessive erosion on areas adjacent to corridor as a result of easement 0, +1 or +2 GAS Criteria are obtained for borrow pit construction and restoration, as listed in Appendix 4
	1.2 To prevent soil inversion	<ul style="list-style-type: none"> Inspections undertaken as part of the regular patrols to look for success of vegetation return as an indicator. Planning and monitoring of disturbance (i.e. dig-ups) to ensure that top soil/subsoil are stockpiled separately and soil profiles appropriately reinstated following the re-instatement of works/excavations as per the National Excavation Procedure (20-PR-OM-0067). 	<ul style="list-style-type: none"> Vegetation cover is consistent with surrounding land No evidence of soil inversion

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	1.3 To mitigate soil compaction if necessary by remedial action	<ul style="list-style-type: none"> Ripping of identified compacted areas, if impacting vegetation growth, where appropriate to soil type and erosion risk. Inspections undertaken as part of regular patrols of easement including to look for evidence of soil compaction. 	<ul style="list-style-type: none"> No visual evidence of soil compaction along the pipeline easement impacting the regrowth of vegetation (e.g. hard soil, local water pooling)
2. To minimise and manage impacts to water resources	2.1 To maintain current surface drainage patterns	<ul style="list-style-type: none"> Inspections undertaken as part of regular patrols (ground and aerial), following specific works as per the Aerial Surveillance Procedure (560-PR-QM-0006) and Corridor Condition Inspection Procedure (560-PR-QM-0005) Planning and monitoring of disturbance (i.e. dig-ups) to ensure appropriate re-instatement of contours post works/excavations as per the National Excavation Procedure (320-PR-OM-0067) 	<ul style="list-style-type: none"> Surface drainage patterns to be reinstated to pre-existing conditions or better No new water affecting activities as defined under the <i>Landscape South Australia Act 2019</i> (without prior approvals) No unauthorised discharge of waste water (or other liquids) to waterways

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	2.2 To minimise disruptions to third party use of waters	<ul style="list-style-type: none"> Minimising period of disturbance for any excavation or land disturbance and prompt reinstatement of easement in sections of easement intersecting or adjacent to water bodies Installation of subsequent removal of appropriate temporary watercourse/water body protection measures to prevent flow interruptions 	<ul style="list-style-type: none"> No reasonable complaints received from landholders or third party users in relation to their current use of surface waters No new Water Affecting Activities¹ (WWA's) to be undertaken as defined under the <i>Landscape South Australia Act 2019</i>, without prior approval
	2.3 To minimise impacts to riparian aquatic and water dependent flora and fauna	<ul style="list-style-type: none"> Avoid completing works in riparian areas unless unavoidable Planning and monitoring of disturbances (i.e. dig-ups) to ensure sensitive areas are identified and post works/excavations rehabilitation is appropriate as per the National Excavation Procedure (320-PR-OM-0067) and APA HSE EP 13.06.02 –Watercourse Management, and Water Affecting Activity approval (as defined under the <i>Landscape South Australia Act 2019</i>), if required. 	<ul style="list-style-type: none"> No significant or long term impact to riparian aquatic and water dependent flora and fauna Riparian areas in a condition consistent with adjacent land No reduction in water quality as a result of operations

¹ Constructing or enlarging dams or structures to collect or divert water, building structures in, obstructing or depositing solid materials in a watercourse lakes or floodplain, excavating material from a watercourse, lake or floodplain, destroying vegetation in a watercourse, lake or floodplain, draining or discharging water or brine into a watercourse or lake, drilling, deepening and back filling wells, bores and groundwater access trenches.

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
3. To avoid land or water contamination	3.1 To prevent spills and if they occur minimise their impact	<ul style="list-style-type: none"> A Pipeline Integrity Management Plan has been prepared and implemented in line with the requirements of AS 2885.3, to ensure continued pipeline integrity. Inspections undertaken as part of regular patrols (ground and aerial), following specific works as per the Aerial Surveillance Procedure (560-PR-QM-0006) and Corridor Condition Inspection Procedure (560-PR-QM-0005) All chemicals managed as per APA HSE EP 13.04.01 Chemical Spill Management <ul style="list-style-type: none"> Chemical register Chemical storage Spill response equipment Appropriate spill response equipment Ensure personnel are trained in chemical management and spill response procedures Compliance with waste, fuel and hazardous waste standards Bunded areas in compliance with EPA guidelines 080/16 Bunding and Spill Management, SDSs, Australian Standard AS 1940 and the Australian Dangerous Goods Code (ADG) 	<ul style="list-style-type: none"> No soil or water contamination as a result of pipeline activities Compliance with Environment Protection Act 1993 No new water affecting activities as defined under the NRM Act (without prior approval) Any escape of petroleum, processed substance, chemical or fuel is either immediately contained and removed or assessed in accordance with NEPM guidelines and remediated in accordance with relevant SA EPA guidelines in a timely manner Pipeline integrity actions as defined in the Pipeline Integrity Management Plan, are completed in line defined timeframes / frequencies

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	3.2 To ensure that rubbish and waste material are disposed of in an appropriate manner	<ul style="list-style-type: none"> Resources purchased and waste managed as per APA HSE EP 13.05.01 Regulated Waste Management, APA HSE EP 13.05.02 General Waste Management and APA HSE EP 13.05.03 Wastewater Management Waste disposal records, chemical manifests. Appropriately licensed contractors used for any hazardous waste disposal and records are maintained for all hazardous waste disposal. Regular inspections to look for evidence of rubbish, spills (soil discolouration) 	<ul style="list-style-type: none"> No reported breaches of waste disposal legislation No operations related rubbish or litter on easement or at facilities or on surrounding land Waste material is contained and then disposed of in accordance with APA procedures and disposed of at an EPA licenced facility or via an approved process under the <i>Environment Protection Act 1993</i>. No un-authorized discharge of waste water (or other liquids) to waterways

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	3.3 To prevent impacts as a result of waste water disposal (i.e. hydro-test water, trench water, wash-down water) by disposing as per legislation requirements	<ul style="list-style-type: none"> Water disposed of in a manner that prevents discharge or runoff to watercourses or environmentally sensitive areas. Clean water only may be discharged onto stable ground, with no evidence of erosion occurring as a result of discharge. Records on source of water and discharge method/location. Investigation of water quality prior to release/disposal of trench water and waste water. Testing of hydro-test water if potentially harmful chemicals added or when testing equipment that has been in-service. Inspection of water disposal sites for evidence of water entering a watercourse or environmentally sensitive area. Discharge water meets appropriate ANZECC and EPA criteria for point of disposal. Manage wastewater as per APA HSE EP 13.05.03 Wastewater Management 	<ul style="list-style-type: none"> No discharge to the environment without appropriate approvals No evidence of impacts to soil, water and vegetation as a result of water disposal (e.g. soil erosion, dead vegetation, water discolouration) Compliance with <i>Environmental Protection (water quality) Policy 2015</i> No un-authorised discharge of waste water (or other liquids) to waterways

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	3.4 To ensure the safe and appropriate disposal of facility wastewater (grey water, sewage)	<ul style="list-style-type: none"> All wastewater to be managed in accordance with the <i>South Australian Public Health (Wastewater) Regulations 2013</i> and comply with the SA Health On-site Wastewater Systems Code or be to the satisfaction of the Department of Health and Wellbeing If treated sewage wastewater is disposed of onto land, it is well away from any place from which it is reasonably likely to enter any waters. 	<ul style="list-style-type: none"> Compliance with <i>Environmental Protection (water quality) Policy 2015</i> Compliance with the <i>South Australian Public Health (Wastewater) Regulations 2013</i> or to the satisfaction of the Department of Health and Wellbeing No un-authorised discharge of waste water (or other liquids) to waterways
4. To minimise adverse impacts to vegetation and fauna	4.1 To promote and maintain regrowth of low growing vegetation on the easement to be consistent with surrounding areas	<ul style="list-style-type: none"> Annual patrolling to assess vegetation rehabilitation and to access level of groundcover on easement (apart from access track) Inspections undertaken as part of regular patrols (ground and aerial) and as per the Aerial Surveillance Procedure (560-PR-QM-0006) and Corridor Condition Inspection Procedure (560-PR-QM-0005). Follow-up rehabilitation work undertaken where natural regeneration is inadequate and not consistent with surrounding areas. 	<ul style="list-style-type: none"> Species abundance and distribution on the easement is reasonably consistent with surrounding areas. Note: assessment of the consistency with surrounding areas will take into account that regrowth is a time and rainfall dependent process.

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	4.2 To minimise additional clearing of native vegetation as part of operational activities	<ul style="list-style-type: none"> • Inspections undertaken as part of regular patrols (ground and aerial) and as per the Aerial Surveillance Procedure (560-PR-QM-0006) and Corridor Condition Inspection Procedure (560-PR-QM-0005). • Manage vegetation as per the Native Vegetation Management Procedure (APA HSE EP 13.02.01). • Restriction of operational activities to the easement, access track and approved work areas • Consideration of sensitive vegetation, including large old trees, during vegetation trimming and/or clearing activities • Obtain any clearance consent required 	<ul style="list-style-type: none"> • Vegetation clearing within the easement or on land adjacent to the easement is limited to previously disturbed areas, unless prior regulatory approval obtained under the <i>Native Vegetation Act 1991</i> • No unauthorised vegetation clearing
	4.3 To ensure maintenance activities are planned and conducted in a manner that minimises impacts to native fauna	<ul style="list-style-type: none"> • In the event of excavations, open trenches monitored regularly and left open for the minimum time practical • Management measures applied for significant fauna species • Provision of fauna ramps at regular intervals in open trench • Daily inspection of open trench and removal of trapped fauna by appropriately trained personnel • Fauna management as per APA HSE EP 13.02.02 	<ul style="list-style-type: none"> • Native fauna casualties associated with operations restricted to as low as reasonably practicable • Vegetation clearing within the easement or on land adjacent to the easement is limited to previously disturbed areas, unless prior regulatory approval obtained under the <i>Native Vegetation Act 1991</i> • No unauthorised vegetation clearing conservation significant fauna habitat

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	4.4 To comply with all legal and regulatory requirements pertaining to vegetation clearing	<ul style="list-style-type: none"> • Clearance of native vegetation is undertaken in accordance with Regulation 14 of the Native Vegetation Regulations 2017 (i.e. it is undertaken in accordance with a management plan approved by the Native Vegetation Council (NVC) that results in a significant environmental benefit; or payment is made into the Native Vegetation Fund of an amount considered by the Council to be sufficient to achieve a significant environmental benefit • SEB requirement determined using the methodology outlines in the relevant guidelines published by the NVC and in particular the 'Guide for a Significant Environmental Benefit for the clearance of native vegetation associated with the Minerals and Petroleum Industry' • Assess requirement for approval when undertaking vegetation management as per APA HSE EP 13.02.01 Native Vegetation Management. 	<ul style="list-style-type: none"> • Regulatory approval obtained under the Native Vegetation Act 1991 for vegetation clearing (if required). • SEB approved by DEM (where delegated authority applies) or Native Vegetation Council • SEB obligation satisfied / implemented

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
5. To avoid the spread of weeds, pests and pathogens	5.1 To avoid the introduction or spread of weeds, pests and pathogens and undertake controls where required.	<ul style="list-style-type: none"> Inspections undertaken as part of regular patrols (ground and aerial) to identify the presence of weeds and pathogens as per the Aerial Surveillance Procedure (560-PR-QM-0006) and Corridor Condition Inspection Procedure (560-PR-QM-0005). Regular patrols undertaken to look for evidence of weeds on easement and adjacent land (if weeds on easement but not adjacent land, must implement control to prevent spread) Implementation of control measures of weeds, pests and pathogens on easement in consultation with the regional Landscape Board and the landholder, as necessary. Records of any outbreaks found, weed control activities and photo- monitoring of significant outbreaks recorded in Safeguard + Vehicle cleaning/wash-down register. Management as per APA HSE EP 13.02.03 Pest Disease and Weed Management 	<ul style="list-style-type: none"> The presence of weeds on the easement is consistent with or better than adjacent land No new outbreak or spread of weeds, pests or pathogens as a result of pipeline activities
	5.2 To comply with all legal and regulatory requirements pertaining to weed and pest control	<ul style="list-style-type: none"> Inspections undertaken as part of regular patrols (ground and aerial) to identify the presence of declared weeds as per Corridor Condition Inspection Procedure (560-PR-QM-0005). Weeds managed as per APA HSE EP 13.02.03 Pest, Disease and Weed Management Procedure). Inspections undertaken as part of regular patrols (ground and aerial) to identify the presence of declared pests as per Corridor Condition Inspection Procedure (560-PR-QM-0005). 	<ul style="list-style-type: none"> Weeds managed as per the <i>Landscape South Australia Act 2019</i> Declared pests managed as per the relevant regulations.

<p>6. To avoid disturbance to Aboriginal and historic heritage sites and values during operations and maintenance</p>	<p>6.1 To ensure that Aboriginal and European heritage sites are appropriately managed during pipeline operations activities and as per legislative requirements</p>	<ul style="list-style-type: none"> • Management of cultural heritage as per APA HSE EP 13.07.02 Aboriginal Cultural Heritage and APA HSE EP 13.07.01 Natural and Built Heritage • Incident management system • Consultation with relevant heritage groups before undertaking ground disturbance works. • Implementation of the Part G52 Heritage Management and Native Title. • Site examined for cultural heritage material prior to work involving disturbance outside known surveyed areas by appropriately qualified personnel (e.g. NT group, anthropologist, relevant Traditional Owner group). • Records of site locations in GIS • Induction/training to include heritage management requirements • Measures undertaken to protect known heritage sites on the easement. • Implement appropriate protocols for dealing with accidental discovery of cultural heritage material during operations; <ul style="list-style-type: none"> • If suspected cultural heritage material is discovered during operations, immediately stop any further work in the area, secure the site and ensure no further ground disturbing activity takes place in the immediate area. • Contact the Department of the Premier and Cabinet - Aboriginal Affairs and Reconciliation Division, and the relevant Traditional Owner community, in this case the Yandruwandha Yawarrawarka 	<ul style="list-style-type: none"> • In the event the conditions of a cultural heritage clearance are not complied with, the incident is appropriately reported, investigated and remediated in consultation with the relevant Aboriginal heritage group. • Damage, disturbance or interference to any Aboriginal sites, objects and remains (all as defined under the <i>Aboriginal Heritage Act 1988</i>) is avoided unless authorisation has been obtained under the <i>Aboriginal Heritage Act 1988</i>; • Any Aboriginal Heritage sites, objects and remains discovered during operations have been appropriately reported and responded to, consistent with the <i>Aboriginal Heritage Act 1988</i>; • Non-Aboriginal heritage sites protected under the <i>Heritage Places Act 1993</i> identified and avoided,
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Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
		<p>Traditional Land Owners Aboriginal Corporation (YY), to identify an appropriate course of action. Options include risk managing the area with YY's assistance or seeking authorisation under section 23 of the <i>Aboriginal Heritage Act 1988</i> (SA) where damage to Aboriginal heritage cannot be avoided'.</p> <ul style="list-style-type: none"> Any Aboriginal heritage sites, objects and remains discovered during operations will be appropriately reported and responded to, consistent with the <i>Aboriginal Heritage Act 1988</i>. Discoveries of potential historic archaeological artefacts will be managed in accordance with the provisions of s27 of the <i>Heritage Places Act 1993</i> and the <i>APA stops works procedure for unexpected heritage discoveries</i>. 	<p>unless approval has been obtained under the <i>Heritage Places Act 1993</i></p>
7. To minimise noise due to operations	7.1 To ensure operations comply with noise standards	<ul style="list-style-type: none"> Facilities designed to meet the noise requirements under the <i>Environment Protection Act 1993</i> Regular maintenance of vehicles and equipment Incident management system Implement the APA HSE EP 13.03.02 Noise and Vibration Management 	<ul style="list-style-type: none"> No reasonable landholder complaints received. Activities and operations comply with noise regulations under the <i>Environment Protection (Noise) Policy 2007</i>.

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
8. To minimise atmospheric emissions	8.1 To minimise controlled and uncontrolled atmospheric emissions	<ul style="list-style-type: none"> Implementation of maintenance procedures as per the Pipeline Management System Compliance with the HSE Protocol 018 Air Quality and Dusts 	<ul style="list-style-type: none"> No uncontrolled atmospheric emissions (e.g. due to malfunction or miss-operation). Compliance with the <i>Environmental Protection Act 1993</i>.
	8.2 To minimise the generation of dust	<ul style="list-style-type: none"> Compliance with the APA HSE EP 13.03.01 Gas, Dust and Light Management Maintain ground cover across the easement. 	<ul style="list-style-type: none"> No reasonable landholder complaints received.
9. To avoid unnecessary disturbance to third party infrastructure, landholders or land-use.	9.1 To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided.	<ul style="list-style-type: none"> Compliance with the Permit to Work Procedure (320-PR-HS-0005). Notify adjacent landholders / third parties prior to and during maintenance work. Records of communications with adjacent landholders / third party prior to and during maintenance work. Landholder contact records. Management of fuel, oil and spills (if they occur) to meet landholder requirements for Quality Assurance programs (e.g. Cattlecare, Organic certification). Under take Dial Before You Dig enquiry before excavation activities. Submission of a DIT road works portal application before maintenance works within Strzelecki Track or other DIT maintained road 	<ul style="list-style-type: none"> Where disturbance is unavoidable or accidental, infrastructure or land use is restored to as near as practicable to undisturbed condition. Duration of disturbance does not exceed agreed timeframe No reasonable complaints received No disturbance outside pre-disturbed areas unless having completed DBYD No disturbance within Strzelecki Track or other DIT maintained road without approval from DIT

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	9.2 To minimise disturbance to landholders.	<ul style="list-style-type: none"> Records of communication with adjacent landholders / third party maintained Landholder contact records database Landholder activities not unreasonably restricted as a result of pipeline activities Inspections undertaken as part of regular patrols (ground and aerial) as per the Aerial Surveillance Procedure (560-PR-QM-0006) and Corridor Condition Inspection Procedure (560-PR-QM-0005). 	<ul style="list-style-type: none"> No reasonable complaints received Landholder activities not unreasonably restricted as a result of pipeline activities unless by prior arrangement
10. To minimise the risk to public health and safety.	10.1 To adequately protect public safety during operations.	<ul style="list-style-type: none"> Job Hazard Analysis completed for operational activities. Records of Annual Reports, Fitness for Purpose Reports, Risk Assessments and inspections. Records of communications with landholders maintained Assess public safety in Safe Work Method Statement. Adequate implementation of traffic management practices. Records demonstrating compliance with AS2885 Use of signage or bunting to identify all potentially hazardous areas. Records of regular emergency response training for employees and review of procedures. 	<ul style="list-style-type: none"> No injuries or safety incidents involving the public. No injuries or health impacts to the public from regulated activities that could have been reasonably prevented.

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
	10.2 To avoid fires associated with pipeline maintenance activities.	<ul style="list-style-type: none"> Records of regular fire safety and emergency response training for all operations personnel and review of procedures. Compliance with HSE Protocol 012 Fire Prevention and Control and the Permit to Work Procedure (320-PR-HS-0005). Established procedures for minimising fire risk during maintenance. Ensure personnel are trained in fire response procedures as per 320-MN-ER-0001 Transmission National Emergency Response Field Manual. 	<ul style="list-style-type: none"> No pipeline related fires
	10.3 To prevent unauthorised activity on the easement that may adversely impact on the pipeline integrity.	<ul style="list-style-type: none"> Regular ground and aerial surveillance of the easement. Inspections undertaken as part of regular patrols (ground and aerial) to identify unauthorised third party works as per the Aerial Surveillance Procedure (560-PR-QM-0006) and Corridor Condition Inspection Procedure (560-PR-QM-0005). Comprehensive landholder liaison program and records of communications with landholders. Community education program and 'Dial before you dig' number available and widely advertised. Clear identification of the pipeline by signs installed in accordance with AS2885. All reports of unauthorised activity are reported and investigated as per the Unauthorised Encroachment Management Procedure (560-PR-QM-0007). 	<ul style="list-style-type: none"> No unauthorised activity on the easement that potential to impact on the pipeline integrity

Objective	Goal	Guide to How Objectives Can be Achieved	Assessment Criteria
11. To ensure that security of natural gas supplies are maintained to gas consumers	11.1 To minimise the potential for significant disruption of gas supply to customers in line with contractual agreements	<ul style="list-style-type: none"> • Prevention program including pigging, intelligent pigging and pipeline maintenance • Ensure personnel are trained in emergency response procedures • Emergency response equipment and materials readily available • Remote satellite monitoring of pipeline 	<ul style="list-style-type: none"> • No unplanned loss of gas supply

Appendix B Abbreviations and Acronyms

Abbreviation	Description
AEMO	Australian Energy Market Operator
APA	APA Group
AS	Australian Standard
AS2885	Pipelines – Gas and Liquid Petroleum
AS2885.1	- Design and construction
AS2885.3	- Operation and maintenance
DPC	South Australian Department of the Premier and Cabinet
EAPL	East Australian Pipeline Proprietary Limited
EIR	Environmental Impact Report
EMAT	Electromagnetic Acoustic Transducer
ERT	Emergency Response Team
GJ	Gigajoule (10 ⁹ joules)
FY18	2017-2018 Financial year
HSE	Health, Safety and Environment
ILI	Inline Inspection
IOC	Integrated Operations Centre
km	kilometre
LTI	Lost Time Injury
m ³	Cubic metres
MIP	Moomba Interconnect Pipeline
MFL	Magnetic Flux Leakage
mm	millimetre
MOP	Maximum Operating Pressure
MTI	Medical Treatment Injury

Abbreviation	Description
MSEP	Moomba Sydney Ethane Pipeline
MW	Moomba Wilton (km marker)
MWP	Moomba Wilton Pipeline
NSW	New South Wales
OD	outside diameter
PMS	Pipeline Management System
QLD	Queensland
RLR	Remaining Life Review
SA	South Australia
SCADA	Supervisory control and data acquisition
SCC	Stress Corrosion Cracking
SEO	Statement of Environmental Objectives
SMS	Safety Management Study