Report

Annual Report for Moomba Wilton Pipeline 2019

Pipeline Licence 7

Reporting period 30 June 2018 to 29 June 2019

East Australian Pipeline Proprietary Limited

ABN 33 064 629 009

Document No		MWP.2373-RP-AM-0002	
Rev	**Date**	**Status**	**Public Version**
1.1	30/09/2020	Revised	
1.0	15/04/2020	IFU	G. Platt Senior Regulatory Specilaist
0.1	30/08/2019	IFR	G. Platt Senior Regulatory Specilaist

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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 in FY15/16. 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 2020.

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

The MWP (PL7) 864mm OD pipeline was inspected for SCC in May 2018 with an EMAT tool which identified features for targeted inspection as part of the ongoing SCC management program on the MWP.

4.2 Pipeline integrity

237 digs were conducted in section 1 of the MWP (Section 1 is 162km long with 101km in SA) during the reporting period, with a total of 59 requiring pipeline repair.

During the reporting period the MAOP of section 1 of the MWP was increased from 5.5MPa to 5.7Mpa. In accordance with s29 of the *Petroleum and Geothermal Energy Regulations 2013*, the MAOP upgrade was carried out in accordance with the relevant requirements of *AS2885 Pipelines—Gas and liquid petroleum* with notification to DEM of this increase provided on 23/05/2019.

The process taken to upgrade the MAOP was in line with the requirements of the current version of AS2885.3 with the following formal reviews conducted in support of the upgrade:

- A review was conducted on the impact of the MAOP upgrade on the primary and secondary location classes, risk to the public, property and environment, and on the protection measures (both physical and procedural) required against third-party damage. This review was documented in *MWP.2373-RP-R-0005 – "Safety Management Study Review Report, Moomba to Wilton Natural Gas Pipeline (Section 1 MAOP Change)"*.
- A fitness for purpose assessment was conducted reviewing the physical characteristics of the pipeline, and the physical condition of the pipeline. This assessment considered surveys and condition monitoring activities

undertaken and any identified changes in the pipeline condition since the 2017 RLR and 2016 MAOP review. This assessment has been documented in *MWP.273-RP-L-0004 – "Moomba to Wilton Pipeline Fitness for Purpose Assessment: Section 1 MW00 to MW162"*

- The upgrade of the MAOP for section 1 of the MWP is being managed through APA's formal Management of Change process, and in accordance with APA's *AS2885 Approvals Matrix (320-MX-AM-0001)*

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. Cross bonds are installed between the 864mm and 660mm pipelines to provide protection to these two pipelines. The associated CP units operated reliably during the report period.

Approval activities continued for a new CP installation at MW95 during the reporting period. Construction is not yet scheduled to commence.

4.4 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.

4.5 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.

4.6 Emergency Response

A desktop emergency response exercise is scheduled to be conducted at Fyswick, Canberra, NSW in October 2019. The exercise will simulate response and reinforce Emergency Response Team (EMT) roles for potential incidents on the MWP and the the Moomba Sydney Ethane Pipeline system.

Note: In an emergency on SA portion of the MWP covered by PL7, ERT personnel from the Cobar Region (NSW) would be directly involved in responding.

4.7 Pipeline Construction

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

4.8 Landowner and emergency services activities

The annual landowner liaison program was undertaken during FY18. 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.

4.9 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.

4.10 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.

4.11 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) were submitted to the Department of State Development in December 2015. Next review is to be completed by 25th November 2020.

An assessment of compliance against 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, where operational regulatory compliance is discussed in an open manner.

Changes in legislation are tracked and communicated through the Technical Regulatory Manager.

APA maintains a compliance register, which track 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.

APA Group 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 Energy Resources Division, and would be raised at the quarterly compliance meetings held between the Energy Resources Division and APA.

During the reporting period, the 2017/18 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 was conducted by Ken Cameron & Associates during May 2019. The audit sampled the implementation effectiveness of APA's PMS and general compliance with the requirements of AS2885.3:2012. The following was noted from the audit:

- The Pipeline Management System includes consideration of the Asset Management Framework (AMF)
- PMS the operations and maintenance programs seem to have been enhanced by new AMF
- Resource levels assessed previously have been maintained
- The SCC program continues, with the process for the development and review of safe curves demonstrated
- There is evidence of the application of the asset planning process, with an increase in forecast SCC repair program as a result of the review process
- Infrastructure Planning & Protection function confirmed in detail including liaison programs

While the scope of this audit was the NSW Moomba – Wilton Pipeline Sytem assets, the findings are also applicable to the operation, mainatonce and management of the SA portion of the Moomba – Wilton Pipeline (PL7).

5.2 Health and Safety Audits

An internal audit schedule of the Safety Management System was maintained during the FY 2017 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 2018/2019.

Table 5-1: Reports Submitted to DEM, PL7, 2018/2019

Report	Due Date	Submitted Date	Compliance Status
PL7 2018 Annual Report (MWP.2373-RP-AM-0001)	29/08/2018	31/08/2018	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.

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 for 2018-2019 for the operation of PL7, is commercially confidential.

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 2019 is shown in Table 7-1 below.

Table 7-1: Transported Gas Quantities, PL 7 MWP, 2018/2019

Date of Peak Demand	
Highest daily demand within the reporting period (m^3)	11,500,130
Highest daily demand within the reporting period (GJ)	431,255
Average daily demand for the reporting period (m^3)	3,897,979
Average daily demand for the reporting period (GJ)	146,174
Total amount transported in the reporting period (m^3)	1,422,762,304
Total amount transported in the reporting period (GJ)	53,353,386

Appendix 1 Assessment of Compliance against SEO Objectives

Objective	Goal	Assessment Criteria	Objective achieved	Supporting Comment
1. To maintain soil stability / integrity on the easement.	1.1 To remediate erosion or subsidence as a result of pipeline operations in a timely manner.	No unremediated subsidence. 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.	Yes	Soil type in the region is characteristic of arid outback condition with sand dunes and sandy plains. Soil disturbance activities in the past year all within easements and rehabilitated appropriately.
	1.2 To prevent soil inversion.	Vegetation cover is consistent with surrounding land. No evidence of subsoil on surface (colour).	Yes	No soil inversion observed by aerial patrols or field services technicians
	1.3 To mitigate soil compaction if necessary by remedial action	No visual evidence of soil compaction following remediation of pipeline easement (e.g. hard soil, local water pooling)	Yes	No soil compaction observed by pipeline patrols
	1.4 To reinstate soil and terrain as near as practicable to pre-existing contours and conditions	Surface contours consistent with adjacent land	Yes	Ongoing monitoring occurred during routine aerial patrols showing consistency of soil contours.
2. To minimise and manage impacts to water resources.	2.1 To maintain current surface drainage patterns.	For excavations, surface drainage profiles restored. For existing easement, drainage is maintained to pre-existing conditions or better.	Yes	No issues identified during routine aerial patrols.
	2.2 To minimise disruption to third party use of waters.	No reasonable complaints received from landholders or third party users in relation to use of surface waters.	Yes	No complaints were received.
	3.1 To prevent spills occurring and if they	No soil or water contamination as a result of pipeline activities.	Yes	No environmental incidents were recorded.

Objective	Goal	Assessment Criteria	Objective achieved	Supporting Comment
3. To avoid land or water contamination.	occur minimise their impact.	Compliance with *Environment Protection Act 1993*		
	3.2 To ensure that rubbish and waste material are disposed of in an appropriate manner.	No pipeline related rubbish or litter on easement or at facilities or on surrounding land. Waste material is contained and disposed of in accordance with APA approved procedures and *Environment Protection Act 1993*	Yes	No issues identified during site inspections or HSE audit.
	3.3 To prevent impacts as a result of hydrotest water, trench water and waste water (e.g. wash-down water) disposal.	Discharge water meets appropriate ANZECC and EPA criteria for point of disposal. No evidence of impacts to soil, water and vegetation as a result of water disposal (e.g. soil erosion, dead vegetation, water discoloration).	Yes	No waste water was disposed on easement.
	3.4 To ensure the safe and appropriate disposal of camp wastewater (grey water, sewage).	No soil or water contamination as a result of camp wastewater disposal.	Yes	No camp set up and minimal activity on easement
4. To promote and maintain native vegetation cover on the easement.	4.1 To promote and maintain regrowth on the easement to be consistent with the surrounding area.	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.	Yes	Soil type in the region is characteristic of arid outback condition with sand dunes and sandy plains. Re-growth concerns minimal as relatively free of vegetation. Any vegetation management required has been ongoing as part of the easement maintenance program.
	4.2 To minimise additional clearing of native vegetation as part of operational activities.	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 *Native Vegetation Act 1991.*	Yes	Work limited to operational maintenance occurred within the pipeline easement, which has a history of disturbance and is relatively free of vegetation. No clearing required.

Objective	Goal	Assessment Criteria	Objective achieved	Supporting Comment
	4.3 To ensure maintenance activities are planned and conducted in a manner that minimises on native fauna.	Native fauna casualties associated with operations restricted to as low as reasonably practical.	Yes	Limited to operational maintenance with minimal easement disturbance
5. To avoid the spread of weeds and pathogens.	5.1 To ensure that weeds and pathogens are controlled at a level that is at least consistent with adjacent land.	The presence of weeds on the easement is consistent with or better than adjacent land. No new outbreak or spread of weeds or pathogens as a result of pipeline activities.	Yes	The EMP states that "*If weeds are identified on the pipeline easement prior to works, they will be removed and disposed of (weeds should not be of a higher density on the easement than the surrounding landscape). Vehicles and equipment will be checked and cleaned as required to minimise the introduction and spreading of weeds*." No issues were reported or complaints received.
6. To adequately protect heritage sites and values during operations and maintenance.	6.1 To ensure that identified heritage sites are not disturbed.	No impact to known heritage sites without approval under the *Aboriginal Heritage Act 1988* or the *Heritage Places Act 1993.* Any new sites identified are reported to appropriate authority and recorded.	Yes	There was no disturbance to heritage sites during pipeline operation and maintenance
7. To minimise noise due to operations.	7.1 To ensure operations comply with noise standards.	No reasonable complaints received.	Yes	No complaints were received
8. To minimise atmospheric emissions.	8.1 To minimise controlled and uncontrolled atmospheric emissions.	No uncontrolled atmospheric emissions (e.g. due to malfunction or mis-operation).	Yes	No uncontrolled emissions occurred.

Objective	Goal	Assessment Criteria	Objective achieved	Supporting Comment
	8.2 To minimise the generation of dust.	No reasonable complaints received.	Yes	No complaints were received.
9. To avoid unnecessary disturbance to third party infrastructure, landholders or landuse.	9.1 To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided.	Where disturbance is unavoidable or accidental, infrastructure or land use is restored to the satisfaction of the landholder or as near as practicable to undisturbed condition. Duration of disturbance does not exceed agreed timeframe. No reasonable complaints received.	Yes	Due to remoteness of operation, disturbance to third party was minimal. No complaints were received.
	9.2 To minimise disturbance to landholders.	No reasonable landholder complaints. Landholder activities not restricted or disturbed as a result of pipeline activities unless by prior arrangement.	Yes	Due to remoteness of operation, disturbance to third party was minimal. No complaints were received.
10. To minimise the risk to public health and safety.	10.1 To adequately protect public safety during operations.	No injuries or incidents involving the public.	Yes	No public injuries of incidents occurred during pipeline operation
	10.2 To avoid fires associated with pipeline maintenance activities.	No pipeline related fires.	Yes	No pipeline related fires occurred.
	10.3 To prevent unauthorised activity on the easement that may adversely impact on the pipeline integrity	No unauthorised activity on the easement that has the potential to impact on the pipeline integrity.	Yes	The area is very remote. Dial before You Dig, Landowner consultation and aerial patrols have not identified any unauthorised activity on the easement.

Appendix 2 Abbreviations and Acronyms

Abbreviation	Description
AEMO	Australian Energy Market Operator
APA	APA Group
AS	Australian Standard
AS2885 AS2885.1 AS2885.3	Pipelines – Gas and Liquid Petroleum - Design and construction - 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