



## **2012 Annual Report**

### **QSN PIPELINE**

Pipeline Licence 18

**Document Number : Q-02-102-AR-G-004.**

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**LIST OF ABBREVIATIONS**

ALARP	As Low As Reasonably Practical
AS2885	Australian Standard 2885 – Pipelines-Gas and Liquid Petroleum
AVT	Accuracy Verification Test
CEMP	Construction Environmental Management Plan
CMMS	Computerized Maintenance Management System (MAXIMO)
CP	Cathodic Protection
DCVG	Direct Current Voltage Gradient
EMS	Environmental Management System
ERE	Emergency Response Exercise
GPS	Geographical Positioning System
HAZOP	Hazard Operability
HELM	Heritage, Environmental and Land Management
HSE	Health Safety and Environment
KP	Kilometre Point
LMS	Land Management System
MAP	Moomba to Adelaide Pipeline
MSP	Moomba to Sydney Pipeline
MLV	Mainline Valve
PIRSA	Primary Industries and Resources of South Australia
PL18	Pipeline Licence Number 18
RCD	Residual Current Device
ROW	Right of Way
SCADA	Supervisory Control and Data Acquisition
SEO	Statement of Environmental Objectives
SMS	Safety Management System
SWQP	South West Queensland Pipeline

## 1 PURPOSE

This report is submitted in accordance with the requirements of Pipeline Licence 18 and the South Australian Petroleum & Geothermal Energy Act & Regulations 2000.

## 2 SCOPE

The QSN and QSNE Link natural gas transmission pipeline system is owned, operated and maintained by Epic Energy.

This report reviews operations carried out during 2012 however it does not include the intended operations for 2013 As this Licence has been transferred to the APA Group.

In accordance with the Petroleum & Geothermal Energy Act & Regulations 2000, a performance assessment is also provided with regard to the Statement of Environmental Objectives, for the QSN Pipeline.

## 3 TECHNICAL ASPECTS

Table 1 provides technical information on the QSN Pipeline. The pipeline runs from the South Australian / Queensland border to Moomba and was constructed in accordance with AS 2885.

**Table 1 QSN Link Pipeline Technical Information**

Date Constructed	2008
Date Commissioned	January 2009
Length	182km
External Diameter	406.4mm
Wall Thickness	
- Normal	8.1 mm
- Heavy Wall (creek beds, roads)	9.7 mm
Pipe Grade	API 5L X70
MAOP	15,300kPa
Fluid	Natural Gas
Coating	3LPE
Main Line Valves	Single MLV at KP 101
Scraper Stations	Scraper facilities installed within Moomba Meter Station
Meter Stations	Single Meter Station at Moomba – provides gas to both MAP & MSP

**Table 2 QSN3 Link Pipeline Technical Information**

Date Constructed	2010/2011
Date Commissioned	2011
Length	182km
External Diameter	457mm
Wall Thickness	
- Normal	9.1 mm
- Heavy Wall (creek beds, roads)	10.8 mm
Pipe Grade	API 5L X70
MAOP	15,300kPa
Fluid	Natural Gas
Coating	8mm 2FBE
Main Line Valves	Single MLV at KP 101
Scraper Stations	Scraper facilities installed within Moomba Meter Station
Meter Stations	Single Meter Station at Moomba – provides gas to both MAP & MSP

## 4 OPERATIONAL & MAINTENANCE ACTIVITIES - 2012

### 4.1.1 Risk Management Review

The QSN Link pipeline was constructed in 2008, and formal risk assessments, reviews and analysis were completed as part of the design, construction and commissioning process, which included participation by Epic Energy Operations and Maintenance personnel (refer to Epic document number Q-02-102-RAE-002). All the action items raised in that original risk assessment were completed. The next formal AS2885 Safety Management Study is due in 2013 and this will be managed by APA Group as the new licence holder.

The QSNE Link pipeline was constructed and commissioned in 2011. Again, the necessary formal risk assessments, reviews and analysis were completed as part of the design, construction and commissioning process, which included participation by Epic Energy Operations and Maintenance personnel (refer Epic document number Q-01-100-RAE-G-001). All the action items raised in that original risk assessment were completed. The next formal AS2885 Safety Management Study is due in 2016, and will be managed by APA Group as the new licence holder.

### 4.1.2 Training

Epic Energy is committed to developing the skills of all employees and contractors to meet the operational and technical needs of its business.

During 2012 staff training was conducted in-house using a number of techniques which included training courses developed specifically for Epic Energy and delivered using self paced modules or as a group presentation using either a training service provider or suitably skilled Epic Energy staff.

In addition to internal training, staff attended a range of external courses, conferences and seminars selected to further enhance their knowledge of the natural gas and liquid hydrocarbon pipeline transmission industry.

The range of training staff attended during 2012 included;

- A Grade Electrical Worker's Licence
- B Grade Electrical Worker's Licence
- 2. Bridge and Gantry Crane
- 4WD Operate Light Vehicle PMASUP236A
- Allen Bradley PLC5 - Maintenance and Trouble Shooting
- Allison Turbine Controls - Operation & Maintenance Training course
- AS 2885.3 Pipelines Gas & Liquid Petroleum - O & M
- Asbestos Training
- AVT Testing
- Backhoe Front-end Loader >= 2L Engine LB
- Basic Fire Training
- Basic Hazop Training
- Blue Card Course in General Safety Induction (Construction Industry)
- Bobcat Licence
- Business Writing Skills
- Caterpillar Gas engines Basic service training
- Caterpillar Adem 3 System & Diagnostics
- Cathodic Protection Advanced
- Certificate IV in Assessment & Workplace Training - BSZ40198
- CGR Software Training
- Chainsaw - Basic Operations & Maintenance
- ChemAlert Public Training Course
- Chemical Use and You
- Class C Drivers Licence Validity

Clock Spring Sleeves Installation  
Combustion Basics  
Compressor Station Gas Systems Training  
Compressor Station Shafer Operator Training  
Confined Space Awareness  
Confined Spaces AS/NZS 2865  
Control & Operation of Centrifugal Gas Compressors  
Control Operation & Design of Reciprocating Gas Compressors  
Control Valves - Instrumentation Modules  
ControlLogix Fundamentals  
Corrosion Control Introduction (BL)  
Corrosion Protection  
CPR & LVR  
Crane Operator Certificate of Competency CV HIAB  
Crane Slewing Mobile Crane <=20T C2  
Cranes - Truck Mounted  
Creating a Safe Workplace  
Crisis Manager Role  
Cultural Heritage  
Dangerous Goods Transport - Road  
Dial Before You Dig - Epic Energy Processes  
Diploma OH&S  
Dogging Certificate DG  
Drug and Alcohol policy  
Dry Creek Induction On Line  
EEHA Installation and Maintenance  
Elevated Work Platform WP  
Emergency Equipment - Familiarisation  
Emergency Pipeline Exercise - SA  
Emergency Pipeline Exercise - South East  
Emergency Pipeline Repairs  
Emergency Response  
Emergency Response - Site coordinator  
Enerflex Natural Gas Engine- Reciprocating Compressor Training  
Environmental Induction - On line  
Epic Field introduction and Familiarazation  
Equal Employment Opportunity, Discrimination, Harassment & Bullying  
ESM Engine System Management  
Excavation of Pipelines  
Excel - Best Practice Essentials  
Excel Advanced  
Excel Intermediate  
Excel Introduction  
External Visual Inspection - Pressure Vessels & Pipes  
Fatigue & Stress Management  
Finance for Non Finance Managers  
Fire Safety Certificate  
Fisher Control Valve Operation & Maintenance  
Fisher Farris PSV Safety Relief Valves Ops & Maintenance  
Fisher ROC Operation/Maintenance  
Food Safety  
Forklift Operator Certificate of Competency LF  
Front-end Loader Engine >2L LL  
FTA Association

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Gas Chromatograph Operation & Maintenance - Basic  
Gas Chromatograph Operation & Maintenance - Intermediate  
Gas Detection - Santos (Epic SA)  
Gas Engine Maintenance WAUKESHA  
Gas Turbine Inspection & Maintenance  
GIS & GBM  
Greening Australia  
Hazard And Incident Reporting  
Hazard Area Installation & Maintenance  
Hazard Identification and Control  
Hazardous Materials (MSDS)  
HAZOP Leader  
Health & Safety Representative Level 1 - SA  
Health & Safety Representative Training Course  
Health and Safety Representative Level 2 - SA  
Heat Stress - Santos (Epic SA & Qld)  
Hot Tap & Stopple Plugging Equipment Training  
Hot Tap & Stopple Training  
Hot-Tapping of Pipelines, Practices and Procedures  
How to Effectively Manage Multiple Locations  
HR Class Licence - Heavy Rigid 8t-9t  
Human Resources Induction  
Hydrocarbon Properties & Principles  
ICam - Incident investigation  
Incident Commander  
Industrial Type B Appliance training  
Introduction To Gas Pipelines  
Introduction to Pigging  
Introduction to Public Relations  
Introduction to Turbine Engines  
Isolation - SSOW  
JHA - SSoW  
Land Access Code & Cultural Heritage  
Lubrication  
Maintenance Planning Course  
Manual Handling  
MAP Gas Engine Alternator Ops  
Maximo 7.1  
Mercury Awareness  
Microsoft Project - Introduction  
MR Class Licence - Medium Rigid  
Natural Gas Engine & Compressor Training  
Natural Gas Filtration Introduction  
NEBOSH International Technical Certificate in Oil & Gas Operational Safety  
Nipping Problems in the bud and complaint handling  
Odorant Station Operation  
Operations Field Induction On Line  
Osborne - Regulator & Meter Station Familiarisation  
Outdoor Safety  
Over Pressure/Relief Valve Systems  
Pelican Point Power Limited Induction - SA Zone 4  
Penrice Induction Online  
Permit to Work - SSOW  
Personal Protective Equipment

Personnel Movement Tracking  
Pipe Location - General Epic Module  
Pipeline Compression Basics  
Pipeline Integrity Risk Management  
Pipeline Surveillance  
Pipeline Voice Communications  
PLC - Advanced  
PLC Basics - Instrumentation Modules  
Pole Top Rescue Training course and Ladder Use  
Power Tool Safety  
Powerpoint - Intermediate  
Preventing Discrimination & Harassment  
Principles of Flow Measurement  
Professional Presentations  
Project Management  
Reciprocating compressor Training  
Rehabilitation & Return to Work Coordinator  
Responsible Officer  
Restricted Electrical Workers Licence (NREL)  
Rigging - Intermediate RI  
Rigging -Basic RB  
SCADA and Control Systems Basics  
Security Awareness  
Senior First Aid + SA  
Service Safety Inspection & Testing of Electrical Equipment 30239QLD  
Snake awareness  
Solar Gas Turbine & Centrifugal Gas Compressors  
Solar Turbines Operation & Maintenance Course - NPS  
STTM Reporting Procedure  
Sunsmart - Working Safely in the Sun  
Swagelok training  
SWER Training  
Test & Tag Training  
The Atmosphere & Working With Gases  
Third Party Works  
Time Management  
Trade Certificate  
TRU Energy Torrens Island Induction  
Ultrasonic Flow Measurement  
Valve Training  
Water Bath Heater Operation  
Waukesha Gas Engine Technology  
Welding Inspection for Pipeline Systems  
White Card - National OHS Common Industry Induction  
Work in accordance with an issued permit  
Working at Heights - Awareness  
Working in Remote Locations  
Workzone Traffic Management  
X-Info & GBM(gps) Training  
Xinfo Connect - Land Management System



## 4.2 OPERATIONS AND MAINTENANCE ACTIVITIES

Epic Energy operates and maintains the QSN natural gas transmission pipeline and its associated facilities in accordance with AS2885.3 and other relevant standards.

All Preventative, Corrective and Reactive maintenance can be identified in Epic Energy's CMMS and are scheduled by this system which generates work orders for maintenance staff to complete. Some of the key items in the maintenance schedule include:

- Pipeline surveillance (Aerial/road)
- Two monthly CP system transformer rectifier unit inspections
- Six monthly CP system full line surveys
- DCVG surveys
- Six monthly inspection and servicing of all portable fire extinguishers
- Six monthly mechanical inspections, operational checks & servicing of equipment at all MLV and scraper station sites
- Six monthly Pig vessel maintenance and checks
- Quarterly, six monthly and annual meter station and MLV servicing covering:
  - pressure reduction regulators
  - relief valves,
  - Isolation valves and their associated actuators,
  - filter inspection/changes. (Generally based on condition)
  - SCADA system pressure, flow and temperature instrumentation calibration
  - un-interruptible power supply and battery maintenance
  - fire and natural gas detection equipment testing and calibration
  - Pressure vessel inspections (using suitably accredited external contractors)
  - Meter station emergency shutdown system testing.
  - Routine electrical hazardous area equipment inspections and maintenance.
  - Routine electrical appliance and equipment testing with timings as per the relevant Australian standards
- Annual communications system un-interruptible power supply and battery maintenance
- Routine meter station custody transfer equipment AVT calibrations and checks with frequencies determined by the relevant contracts.
- Annual Emergency response equipment inspections
- Land owner pipeline awareness visits

A description of the Operations and Maintenance activities for 2012 is provided below.

### 4.2.1 Pipeline Patrol Activities

In 2012 routine helicopter patrols and the scheduled annual roads patrol were completed on the QSN Pipeline in accordance with the maintenance plan, additional unscheduled helicopter patrols were carried out due to the project and these were used to collect data on the current line and easement. Patrols were completed in accordance with AS 2885.3 requirements ensuring the following:

- Signage is in suitable condition and if not, repairs are affected as soon as is practically possible. Any issues not addressed during the patrol are fed back into the CMMS.
- There are no leaks occurring at any of the pipeline facilities or along the pipeline route.
- All sites are secure and kept in a good, clean and tidy state.
- Maintenance activities including inspections of above ground pipe coating condition, fences, gates, padlocks, signage, fire extinguishers, weeding and other housekeeping activities are addressed at the meter station and pressure reduction facility associated with the pipeline.

Additional resources were engaged during 2012 as Permit to Work Issuing Officers to allow the completion of the project activities within near proximity to the QSN Link pipeline and above ground facilities. The primary role of these persons was to monitor construction activities and ensure the existing pipeline and above ground facilities were monitored and protected from non routine operational activities.

#### **4.2.2 Leakage Detection**

Epic Energy monitors the QSN pipeline for leakage remotely from TSCC and during the routine ground patrols as staff travel along the pipeline. Field staff looks for signs of gas leakage such as dust plumes, the sound of escaping gas and dead or dying vegetation while staff at TSCC monitors the system pressures, flows and alarms which have been set and fine tuned to indicate leaks in the system.

If a significant leak occurred on the QSN pipeline system a leak detection model used by the Epic Energy Control Room would detect the loss allowing isolation of the pipeline in a timely manner.

During 2012 there were no instances of any leaking valves or equipment on the QSN Link pipeline.

#### **4.2.3 Coatings**

A DCVG was carried out late 2012 and into early 2013. All indications are that no coating damage was detected. A report will be issued by the APA Group as new Licencee.

#### **4.2.4 Cathodic Protection**

The original CP system including CPUs and ground-beds on the QSN Link pipeline was installed in 2008. As part of the construction project for the QSNE a new integrated cathodic protection system was commissioned. Seven (7) twin output 5A/20V CPUs along with new test post facilities to monitor both the QSN & QSN3 Link pipelines. It was determined the existing anode ground-beds were sufficient to provide adequate capacity to accommodate the new integrated design.

In August 2012 a CP validation survey was carried out in order to remediate some inconsistencies between field data and SCADA. Recommendations were issued and further validation and tuning is to be carried out in 2013. Full line survey was deferred in 2012 until the data validation exercise was completed in order to have better use of SACA monitoring system.

Based on site readings taken during the validation survey, the pipeline is considered to be satisfactorily protected.

#### **4.2.5 Electrical & Instrumentation Maintenance Activities**

Accuracy Verification Tests were carried out in line with Epic's maintenance management system. There was one significant electrical instrumentation fault reported in 2011 related to the Ultrasonic Flow Meter (USM) installed at site. It was discovered that the meter had issue's with both the communications fuse boards as well as the run 3 I/O Central Processing Unit (PCU) board failed. In 2012 the USM was removed and sent to America for repairs and recalibration. This unit was returned, installed and commissioned without issue.

Electrical compliance testing was carried out on all portable electrical equipment and residual current devices (RCD's) at all sites.

Routine six monthly meter station maintenance was carried out in this reporting period. This involved calibration of all non-billing transmitters, testing all remotely operated valves, calibration of all switches and testing of all associated systems.

#### **4.2.6 Mechanical Maintenance activities**

All routine mechanical maintenance activities were completed as scheduled on the QSN Pipeline system. This work involved MLV servicing, station dust filter inspection/replacement, vessel door closure maintenance, coalescing filter inspection/maintenance and pig launcher/receiver maintenance.

Routine inspection and maintenance was carried out on the pressure regulation/pressure relief systems and ESD valves at all Meter Stations on a 6 monthly basis. Maintenance tasks for the pressure control systems consisted of the inspection/overhaul of regulator seats, pilots and instrumentation filters to ensure correct operation of set points of the active/monitor and bypass regulation systems.

Pressure Safety Valves were also checked to confirm correct set point, operation and alarming functions. Where applicable, overpressure isolation valve functions are tested to ensure satisfactory operation. All routine 6 monthly maintenance is documented via Epic Energy's computerized asset management system (Maximo) and file copies are located within the central filing system.

All buildings and structures are inspected and maintained as part of routine maintenance procedures and confirmed in sound condition.

No significant issues were reported or other significant maintenance was carried out during this period, minor reactive faults were tended to as soon as practicable without incident.

#### **4.2.7 Communications**

All pipeline facilities control and monitoring functions are communicated to the central control system located in Melbourne Victoria, the communications link is essential for the safe monitoring and control of the pipeline.

During the reporting period, a number of minor system faults restricted site communications for short periods associated with SCADA across the pipeline. All issues were addressed by the maintenance staff with no significant interruptions to the SCADA system data acquisition from the site, and no effect on operational safety.

### **5 INCIDENT REPORTING**

There have been no reportable incidents in relation to PL18 during the 2012 reporting period.

### **6 LAND MANAGEMENT**

#### **6.1 Land Owner Liaisons**

There is eight land parcels owned by four individual landowner and occupier along the QSN Link pipeline. An additional resource was engaged during 2012 to communicate project activities and approvals with the landowners.

As part of Epic Energy's continuous improvement programs for pipeline awareness each landowner was posted one letter and one postcard during the year containing information on pipeline safety and their responsibilities as landowners. An Epic Energy 2013 calendar reminding the landowner of pipeline safety was also forwarded in December 2012.

#### **6.2 Pipeline Safety Awareness**

Epic Energy implements a Community Awareness Program, which entails holding regular meetings with relevant parties along the pipeline route.

The presentations focus on the general properties of natural gas, the process of gas transmission by pipeline, location of Epic Energy's high pressure gas pipelines in the regions concerned, correct procedures when working within gas pipeline easements, pipeline threats and dealing with emergency situations. Only one presentation, delivered to the Park Ranger Innamincka Reserve, was held along the South Australian section of this pipeline during 2012.

### 6.3 Pipeline Location and Referral services

Epic Energy provides a free “dial before you dig” service which third parties can call to locate any pipeline infrastructure prior to undertaking any digging. The service is primarily used by other companies and third parties carrying out civil works in the vicinity of the pipelines. There were no dial before you dig enquiries during 2012.

Potholing and depth of cover checks were provided for a new Santos crossing and extra cover was added at a number of points for new crossings for Beach Energy.

## 7 ENVIRONMENTAL MANAGEMENT

During the reporting period all environmental requirements as detailed in the Statement of Environmental Objectives were complied with.

### Monitoring

PL18 has been completely reinstated following construction of the QSN3. There are 14 environmental monitoring points along the SA portion of the QSN3. Ongoing assessment of these sites is intended to demonstrate that effective rehabilitation has occurred along the pipeline route. The most recent monitoring round occurred in July 2012 as part of a broader audit. The audit findings are summarized below.

### Audit

A reinstatement audit of the South Australian portion of the QSN3 project was conducted by Epic Energy in July 2012. The purpose of the audit was to assess the success of reinstatement activities along the pipeline construction easement.

The audit involved an inspection of the QSNL portion of the QSN3 project ROW between KP 182.795 (Moomba Compound) and KP 91.000 (near South Australia Queensland border). The temporary camp site at Innamincka and sections of the ROW at Sandy Creek (KP 87.300 to KP 85.985) and on the western side of the Cooper Creek (KP 69.800 to KP 68.700) were also inspected.

The standard of reinstatement along the sections of inspected ROW was generally very high. There was little evidence of surface profile changes over the trench (i.e. a crown or extensive subsidence) and topsoil has been evenly re-spread.

Some erosion and subsidence was present at a number of sites but the majority of the ROW appeared stable despite a number of heavy rainfall events occurring in the region earlier in the year.

Only three watercourses were inspected during the audit. These watercourses had been adequately reinstated and, despite some subsidence at some sites, were generally stable following large flow events earlier in the year.

Vegetation regrowth has commenced along the majority of the ROW following a significant rainfall event in early March 2012. A mixture of colonising annual and longer-lived perennial plant species were observed to be growing on the ROW.

Vehicle movement along the ROW since the completion of reinstatement seems to have generally been confined to one or two vehicle tracks, either between both pipelines or to the south.

The subsidence and erosion issues identified from the audit are being managed with contractor's already engaged to perform remediation works. Vulnerable sites will be monitored as part of Epic's broader SWQP Environmental Monitoring Program.

### Control documentation and training

Environmental procedures and work instructions continue to be reviewed and updated as necessary. In early 2012, the online environmental training module was completed and implemented. This induction provides an overview of environmental risks, control measures and responsibilities. All Epic Energy employees and contractors entering the field are required to complete the training.

## Risk

A review of the environmental risk register was conducted in January 2012. A systematic approach was taken to reviewing existing environmental risks and updating the risk register. The risk assessment included the following steps:

- Reviewing and updating the aspects, impacts, ratings and control measures in the existing environmental risk register;
- Determining progress made against recommendations in the environmental risk register; and
- Documenting new activities and associated aspects, impacts, ratings, control measures and residual risk as required.

## Projects

A CEMP has been submitted setting out the environmental management practices and procedures to be implemented during construction of the Moomba Compressor Station to meet the environmental requirements of the Project. These requirements are documented in:

- the QSN Link Pipeline Statement of Environmental Objectives (SEO)
- the *Moomba Compression Project Supplementary Information to the QSN Link Environmental Impact Report* and the QSN Link Environmental Impact Report

## 8 EMERGENCY RESPONSE

The Petroleum and Geothermal Energy Regulations require that an Emergency Response Exercise is to be conducted on the QSN Pipeline once every two years, and that a set of Emergency Response procedures is to be developed and maintained. These procedures are detailed in Epic Energy's "Emergency Response Manual".

Epic Energy and South East Australia Gas Pty Ltd (SEA Gas) carried out a joint desk top emergency response exercise "Exercise Vulcan" on the 23<sup>rd</sup> June 2012 and forwarded a report to DMITRE on the 1<sup>st</sup> August 2012. The exercise was carried out in accordance with "The Regulations Under the Petroleum & Geothermal Energy Act 2000" and the requirements of Pipeline License No1& 18. An emergency drill is required every two years to test emergency procedures and a report is to be submitted to the regulator (DMITRE.) within 60 days of the drill.

Exercise Vulcan was a collaborative desktop exercise between South East Australia Gas Pty Ltd and Epic Energy, held on 21 June 2012. The exercise was also attended by representatives from the Department for Manufacturing, Innovation, Trade, Resources and Energy (DMITRE) – Petroleum and Geothermal Energy Group, Office of the Technical Regulator (OTR) and APA Group.

The exercise was designed to identify the impact to Adelaide's gas supply from a pipeline failure due to unauthorized third party activities, which affected both the Moomba to Adelaide natural gas transmission pipeline (MAP) and the Port Campbell to Adelaide natural gas transmission pipeline (PCA).

*The exercise was prefaced with an overview of:*

- *emergency response, incident management and incident control criteria;*
- *exercise preamble, aims and objectives;*
- *National and international security intelligence status;*
- *PCA and MAP operating status; and*
- *Exercise weather.*

The incident site was located to the north of Adelaide where the PCA and MAP cross each other with minimal vertical separation. The failure of the PCA as a result of unauthorised third party activities resulted in heat damage to the MAP, requiring independent isolation of each pipeline.

The exercise highlighted that both SEA Gas and Epic Energy were capable of jointly responding and managing an incident which simultaneously impacted both pipelines. The importance of ongoing communication and coordination between SEA Gas and Epic Energy, including coordinated media management in consultation with emergency services and statutory authorities was identified as being critical to the effective management of the incident and post recovery repair.

Effective initial incident site response; joint assessment of isolation, repair and recovery strategies; and sharing repair equipment and resources, were identified as common areas that would lead to improved response and repair strategies being developed.

Overall the exercise successfully attained the stated aims and objectives and provided a basis for improved emergency coordination between SEA Gas and Epic Energy; there were 10 recommended actions as a result of the exercise which have been reviewed and actioned appropriately.

Three (3) additional emergency response drills were conducted by Epic Energy during 2012 to further enhance the skills of its employees. Although the drills were not directly related to PL18, the employees that participated were the same employees that would respond to an emergency incident related to PL18.

## **9 REGULATORY COMPLIANCE**

Epic Energy ensures that design, manufacture, construction, operation, maintenance and testing of all appropriate facilities is carried out in accordance with the relevant Acts of Parliament, licence conditions and the requirements of AS2885.

Epic Energy attends quarterly compliance meetings with DMITRE, where operational regulatory compliance is discussed in an open manner.

Changes in legislation are tracked and communicated through a legal compliance committee which meets on a monthly basis.

Epic Energy maintains a compliance database, Safety Wise, 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.

Epic Energy is not aware of any regulatory non compliance for this pipeline, and believes it is fulfilling its obligations in relation to the following requirements:

- The Petroleum & Geothermal Energy Act & Regulations 2000
- Pipeline Licence (PL18)
- The Statement of Environmental Objectives

Epic Energy 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 DMITRE, and would be raised at the quarterly compliance meetings held between DMITRE and Epic Energy.

There have not been any significant regulatory compliance issues during this reporting period.

## **10 HAZARD IDENTIFICATION AND RISK MANAGEMENT**

### **Overview of Risk Management**

Epic Energy South Australia (EESA) is currently establishing Safety Procedures specific to its operations, subsequent to the acquisition of the larger Epic Energy brand late in 2012.

The EESA manages risk through a combination of a Risk Management Framework and a Safety Management System (SMS) which operate on the philosophy that risk is minimised through:

- a) Ensuring personnel carrying out EESA operations are trained and competent;

- b) Ensuring EESA operations are conducted in accordance with procedures that are safe and have been approved by competent personnel; and
- c) Proactively identifying and resolving hazards in EESA operations.

Epic Energy has implemented a framework to identify and control hazards that could result in Risk to EESA objectives and the safety of personnel.

The Risk Management Manual (RMM) describes the Risk Management framework within Epic Energy and outlines the methodology of how risk is managed within Epic Energy. Additionally, it ensures that EESA meets its responsibilities under the standards and applicable laws governed by the following:

- a) Epic Energy's pipeline license obligations, which require meeting the obligations of State based pipeline specific legislation;
- b) Relevant Australian Standards, particularly the AS2885 suite (for Pipeline Operations) and AS/NZS ISO 31000 (the International Standard for Risk Management); and

### **Safety Specific Hazard Management**

EESA Safety Management is based around the philosophy of identifying and resolving Hazards to reduce safety risk to personnel and the public.

Within the wider Risk Management framework, there is a safety – specific risk framework, designed to identify and resolve (mitigate) hazards that may result in a Safety Risk.

Hazards in EESA operations that may result in safety risk can arise from:

- a) Direct WHS issues in the working environment (i.e. slips, trips, and falls);
- b) Issues arising from the technical realm (i.e. maintenance or engineering system issues); and
- c) Issues arising from interaction with third parties (i.e. land stakeholder management).

As a result, EESA safety hazards are classified as either:

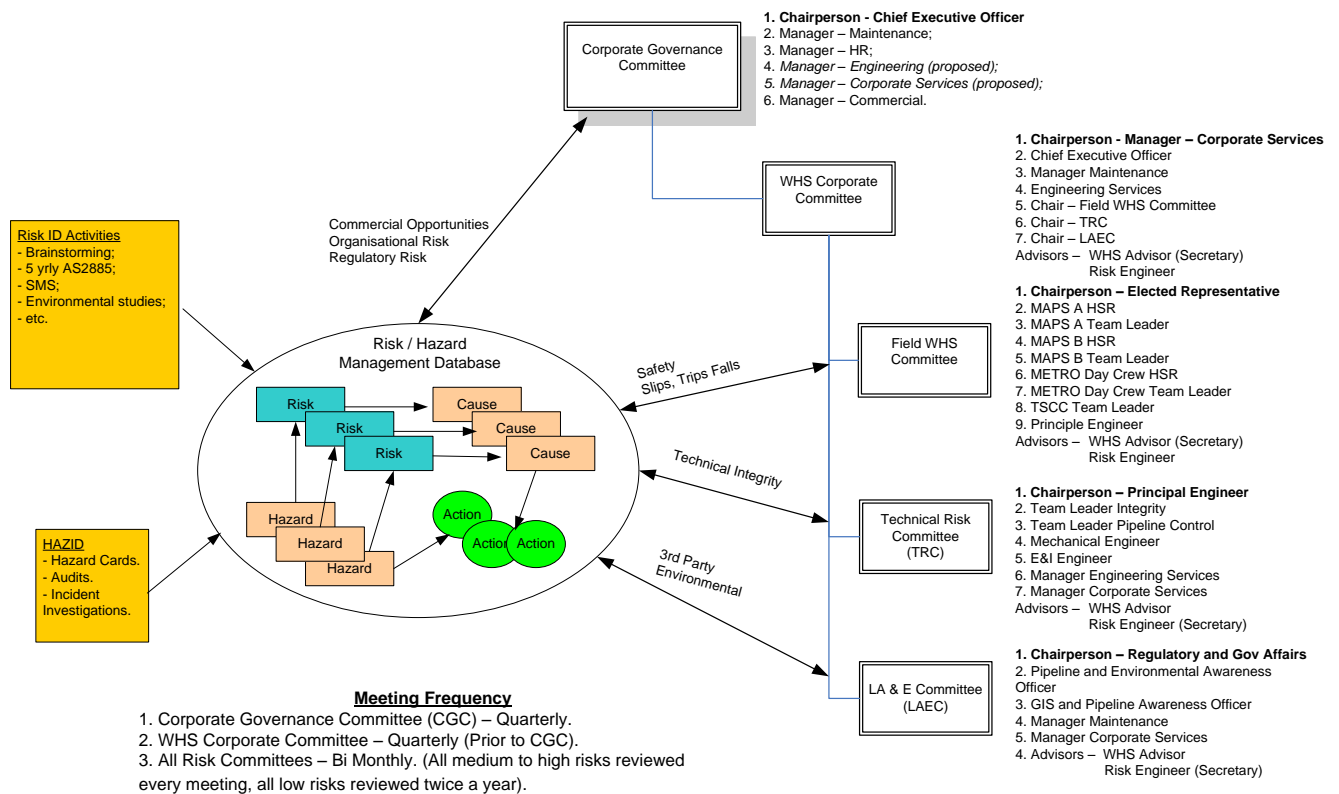
- a) Safety;
- b) Technical; and
- c) LA&E.

### **Structure and Responsibility**

A committee structure ensures that the relevant skills and expertise are available to resolve hazards of each classification.

An online Risk Management Database (named Corporate Governance Risk (CGR)) is used as a tool to manage all hazards and their risks, and maintain an effective audit trail of actions taken to mitigate risks.

The committee structure is depicted below.



## 11 MANAGEMENT SYSTEM AUDITS

### 11.1 Health and Safety

A complete external audit of the Safety Management System, including all 16 standards, was completed during 2012.

Overall the audit found that Epic Energy has in place:

- applicable health, safety and environmental requirements were in compliance with statutory and Safety Case Requirements
- clearly defined roles and responsibilities documented within the Safety Management System
- a comprehensive Occupational Health and Safety Management (SMS) systems and
- That the Epic Energy SMS is being appropriately implemented

The audit found 4 non-conformances being noted by the auditor and 31 recommendations for improvement. Epic will review the recommendations and implement an improvement plan for short term and long term priorities.

### 11.2 Management Audit

Epic Energy completed a number of management audits during the year. These were a combination of Epic's internal audit program and external audits by industry experts initiated by Epic Energy.

The following topic areas were subject to audit during 2012;

- Safety Critical Device Audit
- SWER Maintenance Plan Audit
- Vehicle Driving Audits
- Life Saver Control Audits
- Drawing Audits for TSCC and Wasleys



- Personnel Tracking Movement Audits
- Aerial Surveillance Audit
- Peterborough Depot Soils & Samples Audit
- Compliance with NGERs Reporting
- Aviation Audits
- AS 2885.3 Readiness Review
- Review of STTM Compliance Systems

The auditing program offers the opportunity to identify and promote continual improvement within Epic Energy and completion of these audits is recognized as a key performance indicator by the board of directors.

## **12 REPORTS GENERATED DURING THE REPORTING PERIOD**

The following reports were generated and forwarded to DMITRE during the reporting period;

- PL18 2011 Annual Report
- QSN3 project temperature control at Moomba basis of design
- QSN3 project cathodic protection functional description
- QSN3 project hazardous area verification dossier for Moomba MPRS - general instrumentation
- QSN3 project hazardous area verification dossier Moomba MPRS gas analyser
- QSN3 project AS2885 safety management study report
- QSN3 project SIL determination report
- QSN3 project SIL verification study
- Operations and maintenance gas venting report
- Epic energy workplace health and safety glossary of terms
- Epic Energy SMS audit tool
- Environmental risk register review report
- Corporate workplace health & safety annual business plan 2012 January monthly report
- Corporate workplace health & safety annual business plan 2012 February monthly report
- Epic Energy's perspective on the pacific gas and electric company's gas transmission pipeline rupture and fire in San Bruno
- APIA pipeline operator's group activity report (October 2011 to April 2012)

## **13 VOLUME OF PRODUCT TRANSPORTED**

15,243 TJ of natural gas was transported through the QSN pipeline during the 2012 period.

## **14 PROPOSED OPERATIONAL ACTIVITIES FOR 2013**

Any one off additional activities other than the routine scheduled maintenance works for the QSN Pipeline System in 2013 is to be advised by the new pipeline owner.

## **15 STATEMENT OF EXPENDITURE**

The approximate operational expenditure for QSN Link is commercial in confidence.

## 16 KEY PERFORMANCE INDICATORS

The following key performance indicators have previously been established to monitor performance of operations and maintenance activities on the QSN Pipeline.

	2012 Target	2012 Actual	2012 Comment
<b>Cathodic Protection</b>			
Percentage of the pipeline protected as required by AS2885.3-2012 and more specifically AS 2832.1-2004	100%	100%	This represents a satisfactory level of protection over the entire length of the pipeline. To be validated in 2013.
<b>Third Party Incident</b>			
Number of times pipeline is damaged	0	0	No damage occurred to the pipeline during the reporting period
Number of near misses (digging within 1m of pipeline)	0	0	No activities of this nature that involved Epic Energy, the owner or a third party were identified during the reporting period
Exposure of pipeline due to washout and wind erosion	0	0	During the reporting period, there were no instances of the pipeline cover being eroded due to wind or water
<b>SCADA and Leak Detection</b>			
Reliability of SCADA and Leak Detection System	100%	100%	No significant SCADA outages were reported or recorded for the QSN pipeline
<b>Environmental</b>			
Number of uncontrolled hydrocarbon releases	0	0	No uncontrolled Hydrocarbon releases were recorded during the reporting period
<b>Earth Tremor Surveillance</b>			
Vehicular surveillance immediately after an earth tremor or flood	100%	100%	Additional patrols were required on several occasions after heavy rains and flooding to access the pipeline and easement. The patrols were conducted as soon as vehicle access was available to each area.

## 17 CONCLUSION

The maintenance and inspection programs carried out on the QSN Pipeline in 2012 have indicated the pipeline is in sound condition and is capable of operating at set parameters with no restrictions.

The CP Survey results indicate the protection levels are adequate to provide suitable protection for the pipeline.

The pipeline is considered to be in good working condition and well maintained.

The APA Group will be responsible for the planned and preventative maintenance during 2013 as the new licence holder.

## **Appendix A – Assessment of Declared Objectives**



**ASSESSMENT OF DECLARED OBJECTIVES****PL 18 QSN Pipeline Objectives and Assessment Criteria<sup>1</sup>**

During the reporting period all activities were undertaken in accordance with Epic Energy's Environmental Management System, the Construction Management Plan, Environmental Line List and Procedures.

<b>Objective</b>	<b>Goal</b>	<b>Guide to How Objectives Can Be Achieved<sup>2</sup></b>	<b>Assessment Criteria</b>	<b>Achieved/Not Achieved</b>	<b>Comments</b>
1. To avoid or minimise adverse impacts on soils and terrain	1.1 To minimise soil erosion and sedimentation as a result of pipeline construction	<p>Alignment selection to avoid or minimise impacts on erodible soils and steep terrain</p> <p>Construction Environmental Management Plan (CEMP) contains environmental work procedures (EWP) that specify soil management and reinstatement requirements</p> <p>Implementation specific requirements based on soil type and erosion risk e.g. in gibber, minimise gibber disturbance, roll areas rather than clearing where traffic levels will not be high, carefully stockpile gibber and replace in reinstatement</p> <p>Preventative measures implemented and monitored in susceptible areas</p> <p>Erosion and sedimentation control structures installed and maintained in susceptible areas</p> <p>Records of induction/training regarding CEMP/EWP requirements</p> <p>Regular inspections of construction areas undertaken to look for evidence of erosion</p>	The extent of soil erosion on the easement is consistent with surrounding land 0, +1 or +2 GAS criteria are obtained for borrow pit construction and restoration	Achieved	The pipeline was completely reinstated following completion of construction. Following a severe weather event in early 2012 some minor patches of subsidence and erosion occurred. These are in the process of being managed. Refer to Section 7 for additional information.

<sup>1</sup> Assessment criteria have been developed to be "black and white". Professional judgement is required to assess whether non-compliance is minor or major. It is necessary to ensure that adequate information is available to enable this judgement to be made.

<sup>2</sup> This column is provided for information only. Under the *Petroleum Act 2000*, only objectives and assessment criteria are approved.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	1.2 To prevent soil inversion	CEMP/EWP requirements include separate stockpiling of topsoil and sub-surface material during excavation Records of induction/training regarding CEMP/EWP requirements Reinstatement of stockpiles in appropriate order during backfill	No evidence of subsoil on surface (colour)	Achieved	Backfill of trench spoil meant that inversion was largely avoided. There are some sites of subsidence which are being managed.
	1.3 To mitigate soil compaction if necessary by remedial action	Ripping of identified compacted areas where appropriate to soil type and erosion risk (i.e. generally avoid ripping in gibber) Regular inspections undertaken of easement and construction areas to look for evidence of soil compaction	No visual evidence of soil compaction following remediation of pipeline easement (e.g. hard soil, local water pooling)	Achieved	No evidence of compaction.
	1.4 To reinstate soil and terrain as near as practicable to pre-construction contours and conditions	Implement reinstatement requirements specified in CEMP and EWP Records of induction/training regarding CEMP/EWP requirements Regular inspections undertaken of easement and construction areas Installation and monitoring of photo points (environmental monitoring points)	Surface contours consistent with adjacent land 0, +1 or +2 GAS criteria are obtained for borrow pit restoration	Achieved	An Environmental Audit conducted in 2012 shows that reinstatement has occurred along the length of the pipeline route. Surface countours are consistent with adjacent land.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
2. To minimise and manage impacts to water resources	2.1 To minimise short term, and prevent long-term, interruption or modification to surface drainage patterns	<p>Alignment selection to minimise impacts to water resources e.g. select watercourse crossing locations that minimise erosion potential and impacts to the watercourse</p> <p>Management requirements specified in CEMP/EWP</p> <p>Records of induction/training regarding CEMP/EWP requirements</p> <p>Installation and subsequent removal of appropriate temporary watercourse crossing measures</p> <p>Regular inspections undertaken of easement and construction areas specifically to look at watercourse crossings</p> <p>Installation and monitoring of photo points (environmental monitoring points)</p>	<p>No adverse impacts (for example to downstream ecology or land use) resulting from watercourse flow reductions or diversions as a result of pipeline construction activities</p> <p>No evidence of altered watercourse flows following reinstatement</p> <p>No evidence of project related erosion of watercourses intersecting or adjacent to the pipeline easement</p> <p>Surface drainage profiles restored</p> <p>Drainage is maintained to pre-existing conditions or better</p>	Achieved	<p>There are 3 creek crossings which require erosion remediation:</p> <ul style="list-style-type: none"> <li>-Strezlecki Creek (KP120.4) Remediation required at sections of subsidence on the ROW on the banks between the main and western channels of the creek</li> <li>- Sandy Creek (87.23) Subsidence remediation required on eastern bank of creek. Replace eroded material over trenchline in bed of creek.</li> <li>-Cooper Creek (68.75) Subsidence remediation required over trenchline on western bank of western channel and overflow area.</li> </ul> <p>Remediation works is planned for late December 2012/early January 2013.</p>

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	2.2 To minimise the amount of sediment entering surface water features	CEMP/EWP specify management requirements including: No stockpiling of materials in watercourses/flow lines (note: trench spoil may be stockpiled in dry watercourse beds for very short periods e.g. less than a day) Use of appropriate sediment and silt capturing devices Installation of permanent berms on slopes Minimising period between clearing and reinstatement at or near watercourses Stabilisation and reinstatement of watercourses and drainage lines Records of induction/training regarding CEMP/EWP requirements	Compliance with EPA <i>Environment Protection (Water Quality) Policy 2003</i>	Achieved	Permanent erosion controls have been installed where appropriate to manage sedimentation issues.
	2.3 To minimise disruption to third party use of surface waters	Alignment selection to avoid or minimise disturbance to third party uses e.g. stock watering points Liaison with third party users regarding potential disruptions Minimising period of disturbance and prompt reinstatement in sections of easement intersecting or adjacent to water bodies Installation and subsequent removal of appropriate temporary watercourse/water body protection measures to prevent flow interruptions	No reasonable complaints received from landholders or third party users in relation to use of surface waters	Partial Compliance	Ongoing third party liaison continued in 2012 and records have been documented. There have been no complaints recorded for 2012.



Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
3. To avoid land or water contamination	3.1 To prevent spills occurring and if they occur minimise their impact	<p>Regular inspections for evidence of soil or water discolouration, vegetation or fauna death</p> <p>Incident / Spill reports</p> <p>Use of spill protection methods where work is completed within or adjacent to environmentally sensitive areas</p> <p>Spill response/cleanup procedures, requiring spills to be:</p> <p>reported</p> <p>contained</p> <p>cleaned-up</p> <p>cause investigated and corrective and/or preventative action implemented</p> <p>Spills/contamination remediated in consultation with regulatory agencies and landholder</p> <p>Ensuring personnel are trained in spill response procedures</p> <p>Appropriate spill response equipment is available on site</p> <p>Compliance with fuel and hazardous waste standards</p> <p>Containment of all fuel, oil, hazardous substances and liquid waste in appropriate vessels/containment areas (e.g. polythene lined, bunded areas or on bunded pallets)</p> <p>Bunded areas must have sufficient freeboard (e.g. to hold a 1:100 year, 24hr rainfall event)</p> <p>Bunded areas in accordance with EPA guidelines <i>080/07 Bunding and Spill Management</i></p>	<p>No soil or water contamination as a result of pipeline activities</p> <p>Compliance with Environment Protection Act</p>	Achieved	There were no reported spill incidents in SA in 2012.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	3.2 To ensure that rubbish and waste material are disposed of in an appropriate manner	<p>Waste management requirements specified in CEMP/EWP, including:</p> <p>Provision of covered bins for the collection, storage and transport of wastes</p> <p>Waste disposal at an approved waste facility</p> <p>Regular inspection to look for evidence of rubbish, spills (soil discolouration)</p> <p>Waste disposal records, chemical manifests. Appropriately licensed contractors used for any hazardous waste disposal and records are maintained for all hazardous waste disposal</p>	<p>No pipeline related rubbish or litter on easement or at facilities or on surrounding land</p> <p>Waste material is contained and disposed of in accordance with Environment Protection Act</p>	Achieved	<p>Waste is managed in accordance with Epic's Waste Management Procedures. Hazardous waste is collected by licensed carriers and Waste Transport Certificates filed.</p>
	3.3 To prevent impacts as a result of hydro-test water, trench water and waste water (e.g. wash down water) disposal	<p>Water disposed of in a manner that prevented discharge or runoff to watercourses or environmentally sensitive areas</p> <p>Water discharged onto stable ground, with no evidence of erosion as a result of discharge</p> <p>Records on source of water and discharge method/location</p> <p>Investigation of water quality prior to release/disposal of trench water and waste water. Testing of hydrotest water if potentially harmful chemicals added.</p> <p>Inspection of water disposal sites for evidence of water entering a watercourse or environmentally sensitive area</p>	<p>Discharge water meets appropriate ANZECC and EPA criteria for point of disposal</p> <p>No evidence of impacts to soil, water and vegetation as a result of water disposal (e.g. soil erosion, dead vegetation, water discoloration)</p>	Achieved	<p>No wastewater was disposed to land in 2012.</p>

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	3.4 To ensure the safe and appropriate disposal of camp wastewater (grey water, sewage)	<p>All wastewater disposed in accordance with the <i>Public and Environmental Health (Waste Control) Regulations 1995</i> (i.e. the waste water disposal system must either comply with the <i>Standard for the Construction, Installation and Operation of Septic Tank Systems in SA</i> or be operated to the satisfaction of the Department of Health)</p> <p>Treated sewage wastewater disposed of onto land, well away from any place from which it is reasonably likely to enter any waters</p>	No evidence of non-compliance with local or state government regulations	Achieved	All wastewater is disposed of by a licensed carrier.
4. To minimise adverse impacts to vegetation and fauna	4.1 To minimise clearing of remnant vegetation	<p>Alignment selection to minimise crossings of drainage lines and ephemeral wetlands and avoid or minimise impacts to vegetation with high habitat values (e.g. large trees)</p> <p>CEMP and alignment sheets identify remnant vegetation requiring management / avoidance</p> <p>Flagging/marketing of remnant vegetation requiring management / avoidance</p> <p>Retain trees on ROW where possible</p> <p>Trim vegetation in lieu of removal where possible</p> <p>Restrict disturbance to the ROW and approved access and work areas</p> <p>Reduction of ROW width during construction in identified significant areas</p> <p>Obtain any permits / clearance consent required</p>	<p>Vegetation clearing is in accordance with the <i>Native Vegetation Act 1991</i></p> <p>Vegetation clearance minimised</p> <p>No unauthorised clearance of flora identified to be retained</p> <p>0, +1 or +2 GAS criteria are obtained for borrow pit construction and restoration</p>	Achieved	There was no vegetation clearance in 2012.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	4.2 To minimise disturbance to fauna	<p>Implement previous measures to minimise impacts to native vegetation</p> <p>Identification and flagging of significant fauna habitats (e.g. large trees) that require management/avoidance during construction and implementation of management requirements</p> <p>Alignment selection to minimise/avoid impacts to important habitats</p> <p>Provision of fauna ramps at regular intervals in open trench</p> <p>Daily inspection of open trenches and removal and identification recording of trapped fauna by appropriately trained and experienced biologists</p> <p>Prompt reinstatement of easement</p> <p>Borrow pits are restored to minimise water holding capacity where agreements are not in place with stakeholders</p> <p>No domestic pets allowed at camps or worksites</p> <p>No feeding of wildlife (e.g. dingoes)</p>	Native fauna casualties associated with construction restricted to as low as reasonably practical	Achieved	No impacts to fauna from activities in 2012.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	4.3 To appropriately rehabilitate the easement to pre-construction condition, as reasonably practical	Implement reinstatement requirements specified in CEMP and EWP Timely response to rehabilitation Installation and monitoring of photo points (environmental monitoring points)	Vegetation on the easement is reasonably consistent with the surrounding areas Note: assessment of the consistency with surrounding areas will take into account that regrowth is a time and rainfall dependent process 0, +1 or +2 GAS criteria are obtained for borrow pit restoration No complaints received from landholders in relation to regrowth of vegetation on the easement	Achieved	Environmental photo monitoring points were installed at 14 locations along the QSN Link. There is evidence of vegetation regrowth along the length of the ROW. A mixture of colonising annual and longer-lived colonising annual perennial species was observed during the Environmental Audit in July.
	4.4 To achieve a significant environmental benefit for native vegetation clearance	Work (or payment to Native Vegetation Fund) undertaken to achieve a significant environmental benefit, as required by Native Vegetation Regulation 5(1)(zd) Significant environmental benefit requirement either: determined using the "Methodology for calculating total SEB requirements" outlined in the Guidelines <sup>3</sup> , or negotiated with the Native Vegetation Council where SEB calculation differs from the standard methodology in the Guidelines. (Note: The Guidelines have provision for case-by-case assessment of significant environmental benefit by the NVC in some circumstances e.g. where SEB capping or additional mitigation measures apply)	Significant environmental benefit approved by PIRSA (where delegated authority applies) or Native Vegetation Council Significant environmental benefit obligation satisfied / implemented	Achieved	There was no vegetation clearance in 2012.

<sup>3</sup> Guidelines For a Native Vegetation Significant Environmental Benefit Policy For the clearance of native vegetation associated with the minerals and petroleum industry

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
5. To avoid the spread of weeds and pathogens	5.1 To avoid the introduction or spread of weeds and pathogens and undertake control where required	<p>Vehicles and machinery cleaned and inspected before entry to project area</p> <p>Identification of weeds and pathogens on easement and adjacent land</p> <p>Implementation of control measures of weeds and pathogens on easement and liaison with the regional NRM Board and the landholder as necessary</p> <p>Records of outbreaks found, weed control activities and photo-monitoring of significant outbreaks</p> <p>Vehicle cleaning/wash down register</p>	<p>The presence of weeds on the easement is consistent with or better than adjacent land</p> <p>No new outbreak or spread of weeds or pathogens as a result of pipeline activities</p>	Achieved	No weed outbreaks have been identified on the QSN Link.
6. To minimise and manage impacts to heritage sites and values during construction	6.1 To ensure that identified heritage sites are not disturbed	<p>Alignment selection to avoid heritage sites, including archaeological and ethnographic heritage, built heritage and culturally significant vegetation</p> <p>Identification of known heritage sites on easement prior to construction</p> <p>Measures undertaken to protect heritage sites on or near the easement</p> <p>Implement appropriate protocols for dealing with accidental discovery of cultural heritage material during construction</p> <p>Obtain all necessary approvals in the event of an accidental/unavoidable site disturbance</p> <p>Seek advice from relevant authorities for remediation of site, if required</p> <p>Induction/training to include heritage management requirements</p> <p>Incident reports</p>	<p>No impact to known sites without approval under the <i>Aboriginal Heritage Act 1998</i> or the <i>Heritage Places Act 1993</i></p> <p>Any new sites identified are reported to appropriate authority and recorded</p> <p>0, +1 or +2 GAS criteria are obtained for borrow pit construction and restoration</p>	Achieved	<p>There are a number of cultural heritage sites on the QSN Link. Flagging and signage at known heritage sites adjacent to the easement was removed in 2012.</p> <p>An electronic management system was developed and implemented to ensure sites are protected from harm. Field personnel received face to face, intensive training regarding cultural heritage responsibilities and control measures.</p> <p>There have been zero cultural heritage breaches.</p>

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
7. To minimise noise due to construction	7.1 To minimise noise impacts associated with the movement and operation of construction vehicles and equipment	Regular maintenance of construction vehicles and equipment Incident reports	No reasonable complaints received	Achieved	No reasonable complaints received in relation to noise management during the project.
8. To minimise atmospheric emissions	8.1 To minimise the generation of dust	Management requirements specified in CEMP/EWP including use of water trucks and sprayers if necessary Records of induction/training regarding CEMP/EWP requirements Incident reports	No reasonable complaints received	Achieved	No reasonable complaints received in relation to dust management in 2012.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
9. To minimise disturbance to third party infrastructure, landholders and land use	9.1 To minimise disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided	<p>Alignment selection to avoid or minimise impacts to infrastructure / land use and visual impact</p> <p>Formal easement agreements outlining the legal responsibilities of Epic Energy and landholders</p> <p>Management requirements specified in CEMP/EWP</p> <p>Restrict disturbance to the ROW and approved access and work areas</p> <p>Identification of utilities present on or near the easement on alignment sheets</p> <p>Records of communications with landholders / third party prior to and during construction activities</p> <p>Incident reports</p> <p>Compliance with the <i>National Parks and Wildlife Act 1972</i> and Regulations pertaining to correct conduct in a Regional Reserve</p> <p>No pets or firearms brought into Regional Reserve</p> <p>Management of fuel, oil and spills (if they occur) to meet landholder requirements for Quality Assurance programs (e.g. Cattle care)</p>	<p>Where disturbance is unavoidable or accidental, infrastructure or land use is restored to the satisfaction of the landholder/owner or as near as practicable to undisturbed condition</p> <p>Duration of disturbance does not exceed agreed timeframe</p> <p>No disturbance outside the ROW and approved access and work areas</p> <p>No reasonable complaints received</p> <p>Adverse impacts to Innamincka Regional Reserve operations or conservation values are minimised</p>	Achieved	<p>Records of ongoing liaison with landholders maintained.</p> <p>There have been no reported spill incidents.</p>
	9.2 To minimise disturbance to landholders	<p>Restrict disturbance to the ROW and approved access and work areas</p> <p>Landholder activities not restricted as a result of pipeline activities</p> <p>Records of communications with landholders / third party prior to and during construction activities</p>	<p>No reasonable landholder complaints</p> <p>Landholder activities not restricted or disturbed as a result of pipeline activities unless by prior arrangement</p>	Achieved	<p>Records of ongoing liaison with landholders maintained. No reasonable complaints received.</p>



Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	9.3 To appropriately reinstate and rehabilitate the easement to allow continuation of current land use activities post-construction	<p>Management requirements specified in CEMP and property line list</p> <p>Reinstatement of easement in accordance with CEMP/EWP</p> <p>Records of communications with landholders prior to and during construction activities</p> <p>Installation and monitoring of photo points (environmental monitoring points)</p>	<p>Species abundance and distribution on the easement is reasonably consistent with surrounding areas</p> <p>Note: assessment of the consistency with surrounding areas will take into account that regrowth is a time and rainfall dependent process</p>	Achieved	An audit of the QSN Link demonstrates effective reinstatement and rehabilitation. There is evidence of vegetation regrowth along the length of the ROW.
10. To minimise the risk to public health and safety	10.1 To adequately protect public safety during construction	<p>Job Hazard Analysis</p> <p>Records of communications with adjacent landholder and third parties prior to and during construction work including advice of the nature and schedule of activities</p> <p>Use of signage or bunting to identify all potentially hazardous areas</p> <p>Site induction program for all personnel / visitors</p> <p>Adequate implementation of traffic management practices</p> <p>Records of Fitness for Purpose Reports, Risk Assessment and inspections</p> <p>Records demonstrating compliance with AS2885</p> <p>Records of emergency response plan induction/training for construction personnel</p> <p>Incident Reports</p>	No injuries or incidents involving the public	Achieved	Established safe systems of work including the use of approved work instructions and procedures, job hazard analysis, permit to work and experienced staff all contributes to Epic Energy meeting this objective
	10.2 To avoid fires associated with pipeline construction activities	<p>Records of regular fire safety and emergency response training for construction personnel</p> <p>Appropriate fire prevention/control equipment on site</p> <p>Incident Reports</p>	No pipeline construction related fires	Achieved	There were no fires along the pipeline system during the reporting period. Epic Energy has a Bushfire Management Procedure in place which describes preventative and response measures.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
11. To maintain soil stability / integrity on the easement	11.1 To remediate erosion or subsidence as a result of pipeline operations in a timely manner	<p>Timed photo points or regular land survey, specifically to look at evidence of erosion, subsidence, vegetation loss on easement &amp; compare to adjacent land</p> <p>Inspections undertaken as part of regular patrols, following specific works, following significant storm events</p> <p>Preventative measures implemented and monitored in susceptible areas</p>	<p>No un-remediated subsidence</p> <p>The extent of soil erosion on the easement is consistent with surrounding land</p> <p>No excessive erosion on areas adjacent to corridor as a result of easement</p> <p>0, +1 or +2 GAS criteria are obtained for borrow pit restoration</p>	Achieved	Areas of soil erosion and subsidence have been identified and documented. These are in the process of being managed.
	11.2 To prevent soil inversion	<p>Annual land survey to look for soil discoloration, success of vegetation return as an indicator.</p> <p>Disturbance checklist signed off to indicate top soil/subsoil are stockpiled separately and soil profiles appropriately reinstated following the re-instatement of works/excavations</p>	<p>Vegetation cover is consistent with surrounding land</p> <p>No evidence of subsoil on surface (colour)</p>	Achieved	Easement cleared for project activities and fully restored to original status on completion
12. To minimise and manage impacts to water resources	12.1 To maintain current surface drainage patterns	<p>Regular patrols and survey undertaken to look for evidence of erosion, windrow development, abnormal vegetation growth or death or any changes to the easement which could change surface hydrology conditions, particularly in the Strzelecki Creek wetland area</p> <p>Observations also to be undertaken following significant storm events</p> <p>Use of disturbance checklist and photo points before, during &amp; after excavations, CP installation, construction activities, etc</p>	<p>For excavations, surface drainage profiles restored</p> <p>For existing easement, drainage is maintained to pre-existing conditions or better</p>	Achieved	No excavations were carried out in 2012.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	12.2 To minimise disruption to third party use of surface waters	<p>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</p> <p>Installation and subsequent removal of appropriate temporary watercourse/water body protection measures to prevent flow interruptions</p>	No reasonable complaints received from landholders or third party users in relation to use of surface waters	Achieved	During the reporting period there were no complaints from landholders or third parties in relation to the use of surface water.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
13. To avoid land or water contamination	13.1 To prevent spills occurring and if they occur minimise their impact	<p>Prevention program including pigging, intelligent pigging and pipe maintenance</p> <p>Regular patrols undertaken to look for evidence of soil or water discolouration, vegetation or fauna death</p> <p>Incident / Spill reports</p> <p>Use of spill protection methods where work is completed within or adjacent to environmentally sensitive areas</p> <p>Spill response/cleanup procedures, requiring spills to be:</p> <ul style="list-style-type: none"> <li>reported</li> <li>contained</li> <li>cleaned-up</li> </ul> <p>Use investigated and corrective and/or preventative action implemented</p> <p>Spills/contamination remediated in consultation with regulatory agencies and landholder</p> <p>Ensuring personnel are trained in spill response procedures</p> <p>Appropriate spill response equipment is available on site</p> <p>Compliance with fuel and hazardous waste standards</p> <p>Containment of all hazardous substances and liquid waste in appropriate vessels/containment areas</p> <p>Bunded areas in accordance with EPA guidelines 080/07 Bunding and Spill Management</p>	<p>No soil or water contamination as a result of pipeline activities</p> <p>Compliance with Environment Protection Act</p>	Achieved	There have been no reported spills associated with the QSN Link during the reporting year.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	13.2 To ensure that rubbish and waste material are disposed of in an appropriate manner	<p>Regular patrols or annual survey undertaken to look for evidence of rubbish, spills (soil discolouration)</p> <p>Waste disposal records, chemical manifests. Appropriately licensed contractors used for any hazardous waste disposal and records are maintained for all hazardous waste disposal</p> <p>Use of photo points before, during &amp; after excavations, CP installation, construction activities etc</p>	<p>No pipeline related rubbish or litter on easement or at facilities or on surrounding land</p> <p>Waste material is contained and disposed of in accordance with Epic approved procedures and Environment Protection Act</p>	Achieved	<p>Regular inspections and monitoring have been undertaken to ensure that waste materials been disposed of.</p> <p>The environment audits and close out report confirmed the removal of rubbish waste material.</p>
	13.3 To prevent impacts as a result of hydro test water, trench water and waste water (e.g. wash down water) disposal	<p>Water disposed of in a manner that prevented discharge or runoff to watercourses or environmentally sensitive areas</p> <p>Water discharged onto stable ground, with no evidence of erosion as a result of discharge</p> <p>Records on source of water and discharge method/location</p> <p>Investigation of water quality prior to release/disposal of trench water and waste water. Testing of hydrotest water if potentially harmful chemicals added.</p> <p>Inspection of water disposal sites for evidence of water entering a watercourse or environmentally sensitive area</p>	<p>Discharge water meets appropriate ANZECC and EPA criteria for point of disposal</p> <p>No evidence of impacts to soil, water and vegetation as a result of water disposal (e.g. soil erosion, dead vegetation, water discoloration)</p>	Achieved	<p>No activities were undertaken by Epic Energy on the QSN Link that would cause any impact on land or water resources quality on the pipeline during the reporting period</p>

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	13.4 To ensure the safe and appropriate disposal of camp wastewater (grey water, sewage)	<p>All wastewater disposed in accordance with the Public and Environmental Health (Waste Control) Regulations 1995 (i.e. the waste water disposal system must either comply with the Standard for the Construction, Installation and Operation of Septic Tank Systems in SA or be operated to the satisfaction of the Department of Health)</p> <p>Treated sewage wastewater disposed of onto land, well away from any place from which it is reasonably likely to enter any waters</p>	No evidence of non-compliance with local or state government regulations.	Achieved	All wastewater from the QSN Link was removed by a licensed carrier.
14. To promote and maintain native vegetation cover on the easement	14.1 To promote and maintain regrowth on the easement to be consistent with surrounding area	<p>Annual land survey to assess vegetation rehabilitation and look for evidence of disturbance to vegetation on easement (apart from access tracks)</p> <p>Disturbance Checklist (including timed and photos) signed off to indicate adequate steps taken to facilitate regrowth</p> <p>Follow-up rehabilitation work undertaken where natural regeneration is inadequate</p>	<p>Species abundance and distribution on the easement is reasonably consistent with surrounding areas</p> <p>Note: assessment of the consistency with surrounding areas will take into account that regrowth is a time and rainfall dependent process</p> <p>0, +1 or +2 GAS criteria are obtained for borrow pit restoration</p>	Achieved	<p>Regrowth on the easement is observed to be consistent with the surrounding environment.</p> <p>No borrow pits were utilised during the reporting year.</p>

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	14.2 To minimise additional clearing of native vegetation as part of operational activities	<p>Annual land survey to look for evidence of disturbance to vegetation on easement (apart from access tracks)</p> <p>Use of Disturbance Checklist and photo points before, during &amp; after any excavation or land disturbance activity</p> <p>Vegetation trimmed rather than cleared where possible</p> <p>Consideration of sensitive vegetation, including large old trees, during vegetation trimming and / or clearing activities</p> <p>Obtain any clearance consent required</p>	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	Achieved	There was no additional clearing in 2012 for operational purposes.
	14.3 To ensure maintenance activities are planned and conducted in a manner that minimises impacts on native fauna	<p>Use of Disturbance Checklist and photo points before, during &amp; after any excavation or land disturbance activity</p> <p>In the event of excavations, open trenches monitored regularly and left open for the minimum time practical</p> <p>Procedures or management plans implemented for significant fauna species</p> <p>Provision of fauna ramps at regular intervals in open trench</p> <p>Daily inspection of open trenches in areas adjacent to remnant vegetation</p> <p>Prompt reinstatement of easement</p>	Native fauna casualties associated with operations restricted to as low as reasonably practical	Achieved	During the reporting period no operational activities were undertaken that would cause disturbance to native fauna on the pipeline.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
15. To avoid the spread of weeds and pathogens	15.1 To ensure that weeds and pathogens are controlled at a level that is at least consistent with adjacent land	<p>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)</p> <p>Implementation of control measures of weeds and pathogens on easement in consultation with the regional NRM Board and the landholder as necessary</p> <p>Records of any outbreaks found, weed control activities and photo- monitoring of significant outbreaks</p> <p>Vehicle cleaning/washdown register</p>	<p>The presence of weeds on the easement is consistent with or better than adjacent land</p> <p>No new outbreak or spread of weeds or pathogens as a result of pipeline activities</p>	Achieved	No declared or non declared weed species were observed along the easement.
16. To adequately protect heritage sites and values during operations and maintenance	16.1 To ensure that identified heritage sites are not disturbed	<p>Consultation with relevant heritage groups if operations occurring outside known surveyed areas</p> <p>Site examined for cultural heritage material prior to work involving disturbance outside known surveyed areas</p> <p>Records of site locations in Operations GIS</p> <p>Use of Disturbance Checklist and photo points before, during &amp; after any excavation or land disturbance activity</p> <p>Measures undertaken to protect heritage sites on or near the easement</p> <p>Implement appropriate protocols for dealing with accidental discovery of cultural heritage material during operations</p>	<p>No impact to known heritage sites without approval under the Aboriginal Heritage Act 1998 or the Heritage Places Act 1993</p> <p>Any new sites identified are reported to appropriate authority and recorded</p>	Achieved	During the reporting period no activities were undertaken by Epic Energy off the ROW that would cause any impact to heritage sites and values along the pipeline.
17. To minimise noise due to operations	17.1 To ensure operations comply with noise standards	<p>Design any facilities to meet the noise requirements under the Environment Protection Act</p> <p>Incident reports</p> <p>Monitoring results, where deemed necessary (e.g. frequent complaints)</p>	No reasonable complaints received	Achieved	During the reporting period no operational activities were undertaken that would cause any impact on environmental noise and emissions on the pipeline



Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
18. To minimise atmospheric emissions	18.1 To eliminate uncontrolled atmospheric emissions	Maintenance procedures Incident reports	No uncontrolled atmospheric emissions (e.g. due to malfunction or mis-operation)	Achieved	During the reporting period no operational activities were undertaken that would cause any impact on the environment due to uncontrolled emissions on the pipeline
	18.2 To minimise the generation of dust	Compliance with EMS and operations procedures Incident reports	No reasonable complaints received	Achieved	No incident reports or complaints were received during the reporting period in relation to dust.
19. To avoid unnecessary disturbance to third party infrastructure, landholders or land use	19.1 To minimize disturbance or damage to infrastructure / land use and remediate where disturbance cannot be avoided	Incident reports Records of communications with adjacent landholders / third party prior to and during maintenance work Landholder contact records database Use of Disturbance Checklist (including photo points) or inspection reports, specifically to look at: removal of waste products, re-instatement of soil profiles, adequate re-contouring of surface profile, return of land use Compliance with the National Parks and Wildlife Act 1972 and Regulations pertaining to correct conduct in a Regional Reserve Measures undertaken to minimise third party use right-of-way where necessary No pets or firearms brought into Regional Reserve Management of fuel, oil and spills (if they occur) to meet landholder requirements for Quality Assurance programs (e.g. Cattle care)	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	Achieved	During the reporting period no operational activities were undertaken that would cause any impact on third party infrastructure and landholder on the pipeline. No complaints were received.

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	19.2 To minimise disturbance to landholders	Records of communications with adjacent landholders / third party prior to and during maintenance work Landholder contact records database Landholder activities not restricted as a result of pipeline activities Use of Disturbance Checklist and photo points	No reasonable landholder complaints Landholder activities not restricted or disturbed as a result of pipeline activities unless by prior arrangement	Achieved	During the reporting period no operational activities were undertaken that would cause any impact on landholders on the pipeline
20. To minimise the risk to public health and safety	20.1 To adequately protect public safety during operations	Job Hazard Analysis Records of Annual Reports, Fitness for Purpose Reports, Risk Assessments and inspections Records of communications with adjacent landholder prior to and during maintenance work including advice of the nature and schedule of maintenance activities 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 Incident Reports	No injuries or incidents involving the public	Achieved	During the reporting period there were no operational activities that impacted upon public safety on the pipeline
	20.2 To avoid fires associated with pipeline maintenance activities	Incident reports Records of regular fire safety and emergency response training for all operations personnel and review of procedures Established procedures for minimizing fire risk during maintenance	No pipeline related fires	Achieved	During the reporting period there have been no pipeline related fires

Objective	Goal	Guide to How Objectives Can Be Achieved <sup>2</sup>	Assessment Criteria	Achieved/Not Achieved	Comments
	20.3 To prevent unauthorised activity on the easement that may adversely impact on the pipeline integrity	Inspection / Patrol reports and records 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 unauthorized activity are reported and investigated	No unauthorized activity on the easement that has the potential to impact on the pipeline integrity	Achieved	During the reporting period there have been no incidents of unauthorised activity or encroachments on the pipeline which may adversely impact on pipeline integrity