

WILGA PARK POWER STATION

Annual Environmental Management Report

Approval 07-0023

For period 1 January 2015 to 31 December 2015

Submitted by Santos NSW (Eastern) Pty Ltd as CSG Operator

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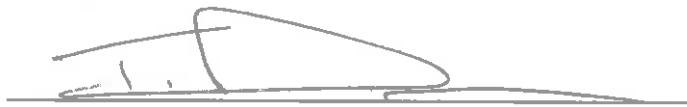
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Declaration

Santos NSW (Eastern) Pty Ltd declares the information contained within this document has been prepared and collated from all relevant information and is, to the best of our knowledge neither false nor misleading.

Submitted by: Todd Dunn, ENSW Manager Production Operations

A handwritten signature in black ink, appearing to read 'Todd Dunn', is written above a horizontal line.

Signature

The date '15/02/2016' is handwritten in black ink above a horizontal line.

Date

1. Introduction

This Annual Environmental Management Report (AEMR) has been prepared for submission to the NSW Department of Planning and Environment (DPE) by Santos NSW (Eastern) Pty Ltd to satisfy commitment 11.7 in the Final Statement of Commitments made by the previous operator Eastern Star Gas (ESG) for the Narrabri Coal Seam Gas Utilisation Project (Project). ESG submitted the original Project Application 07-0023 in early 2007 with the approval being granted by DPE in December 2008 (Approval Doc. No. S07/00277). There was no specific obligation in the conditions of approval for the submission of an Annual Environmental Management Report.

2. Approvals

Wilga Park Power Station was originally constructed and operated pursuant to a development consent granted by Narrabri Shire Council on 14 November 2002 and subsequent modifications. The consent and modifications allowed the power station to operate up to a capacity of 12 megawatts using gas extracted from the Coonarah Gas Field in PPL 3.

On 2 December 2008, the Minister for Planning approved the Narrabri CSG Utilisation Project under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) (MP 07_0023).

The approved project includes:

- construction and operation of gas gathering systems at the Bibblewindi and Bohena Coal Seam Gas Pilots;
- construction and operation of gas compression facilities at the Bibblewindi and Bohena Coal Seam Gas Pilots;
- construction of an approximately 32 kilometre buried gas flow line between the Bibblewindi and Bohena Pilot and the Wilga Park Power Station; and
- the staged expansion and operation of the Wilga Park (base load) gas-fired power station from a capacity of 12 megawatts to 40 megawatts, fuelled by coal seam gas extracted from the Bibblewindi and Bohena Coal Seam Gas Pilots.

Construction works under the Part 3A approval commenced in 2009. Further works continued during 2010-2012. The works which have been undertaken under the approval to date include:

- construction of the gas gathering systems at the Bibblewindi and Bohena CSG Pilots;
- construction of the gas compression facilities for the Bibblewindi and Bohena CSG Pilots;
- construction of the 32 kilometre buried gas flow line between the Bibblewindi and Bohena pilots and the Wilga Park Power Station; and

- installation of 4 x 3MW gas generators at Wilga Park Power Station together with switch room, gas conditioning skid, auxiliary transformers, ventilation fans, substation upgrade and other related equipment.

The Minister for Planning approved a modification to the Narrabri CSG Utilisation Project on 11 February 2011 (MP 07_0023 MOD 1). The modification changed condition of approval (CoA) 2.34 relating to the submission date for the compensatory habitat package required.

A further modification to the project was approved on 14 March 2012 (MP 07_0023 MOD 2) allowing the temporary use of the gas flow line to transfer produced water. The approval for this modification allowed the transfer of water until 28 February 2013.

On 18 July 2014, the Wilga Park Power Station (WPPS) was approved to receive gas from all wells located within PAL 2 and PPL 3 following the application of Santos Narrabri Coal Seam Gas Utilisation Project (MP 07_0023) Modification 3. The approval allowed for:

1. Installation of a riser on the existing buried gas flow line which would allow materials (gas and liquids) to be diverted to the Leewood Produced Water Facility;
2. Use of the gas flow line to transfer liquids (including fresh water, produced water and brine) between the Tintfield ponds and the Bibblewindi Water Transfer facility and to the Leewood Produced Water Facility; and
3. Use of coal seam gas from existing or future wells within PAL 2 or PPL 3 at the Wilga Park Power Station.

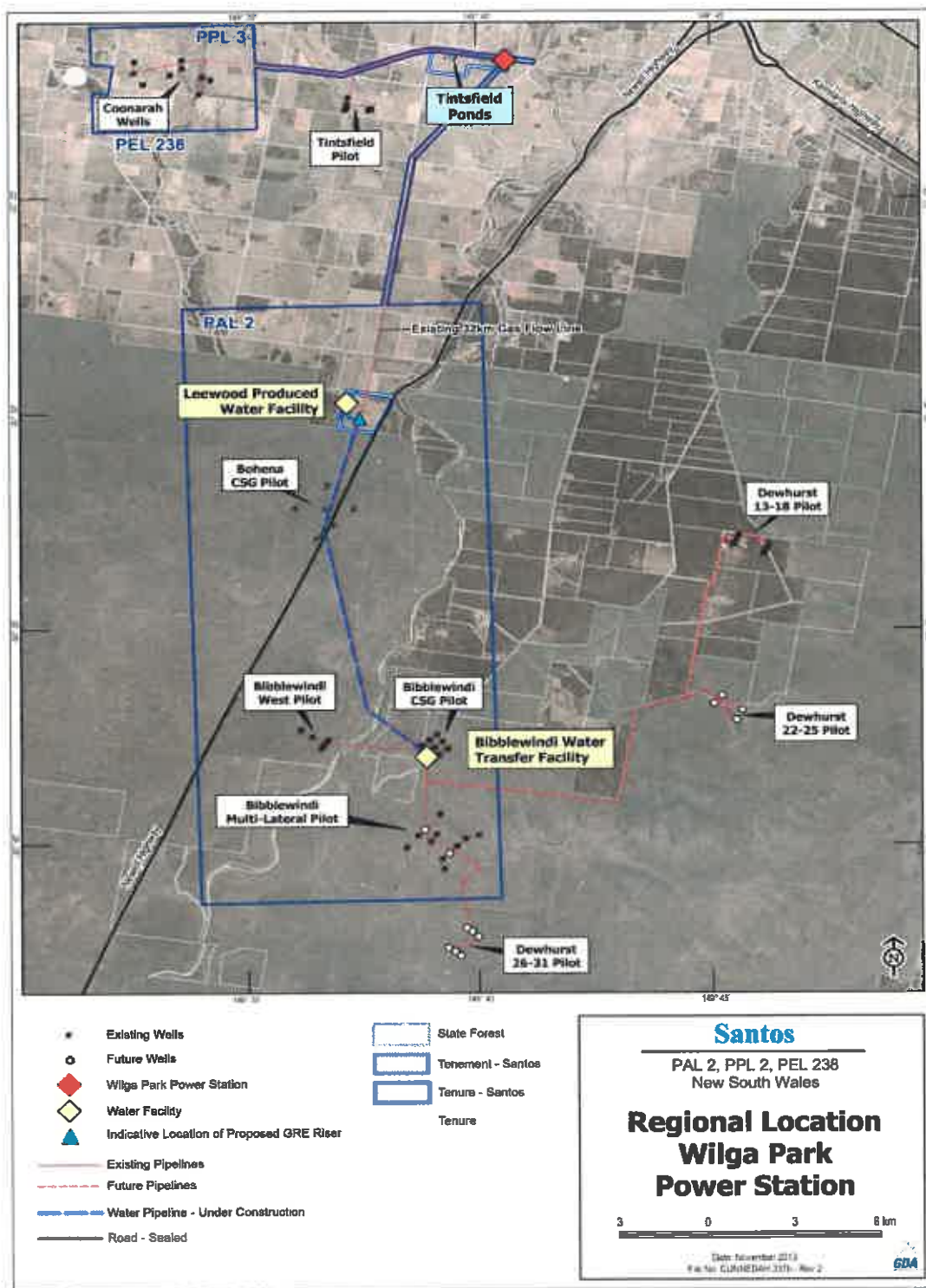


Figure 1: Location of the Wilga Park Power Station and Pipeline including CSG infrastructure

3. Gas Production, Water Management. and Power Outputs

As described in previous reports, the Wilga Park Power Station ceased operating in March 2012 and became fully operational again in October 2014. In the period covered by this report, it operated continuously until 24 November 2015 when works commenced on the installation of the riser on the buried gas line as approved on 18 July 2014. The power station remained shut down for the remainder of the reporting period.

Prior to the riser installation works commencing, the gas flow pipeline was purged of methane and filled with nitrogen. Once the riser was installed, 7ML of produced water from Tintsville Pond 1 was transferred to Santos' Leewood Water Management Facility. This occurred between 4 December 2015 and 24 December 2015. On 30 December 2015 Santos cleaned the gas pipeline using a foam pig and any residual water in the line was returned to Tintsville Pond 1.

3.1 Gas

Gas produced from the PAL 2 pilots is consumed by onsite power generation for surface equipment (minor) with the remaining gas either being flared at the Bibblewindi Flare or discharged into the Bibblewindi-Wilga Park pipeline which connects to the Wilga Park Power Station.

The riser, as approved with the modification in July 2014, was installed in the reporting period. The purpose of the riser is to provide gas to the generators for the Leewood Phase 2 project (a reverse osmosis water treatment plant).

Bibblewindi West pilot operated throughout the reporting period with 519,421 MSCFD of gas being lifted for appraisal activities in 2015. Bibblewindi East pilot also operated throughout 2015 with 572,383 MSCFD of gas being lifted for appraisal activities.

No gas was lifted from the Bohena, Bibblewindi or the Coonarah Pilots in 2015.

3.2 Power

In 2015, the Wilga Park Power Station generated 79.3 GWh of electricity from the gas produced in PAL2. The power generation never exceeded 12MW at any time.

4. Compliance

Santos has in place a compliance management system to monitor its performance against conditions of approval. Inspections are scheduled through a corporate database (ComTrack). Results of inspections are also recorded in this database and any corrective actions tracked through to completion.

Conditions which are triggered once the Power Station output reaches 12 megawatts are outlined in the Santos Compliance Tracking tool – ComTrack. Planning and scheduling for these actions is underway even though the triggering of this threshold is not anticipated in the near future. WPPS has not exceeded threshold of 12MW which triggers a number of environmental conditions within Approval 07_0023.

In September 2014, approval was sought from DPE to nominate a new Independent Environmental Representative – Mr Les Bevis of Lodestone Environmental Services. Approval for this nomination was received from DPE in October 2014. Mr Bevis undertook a compliance review during the reporting period and has provided advice on the environmental performance of the project.

As required under the condition of approval of the 2012 Hazard Audit, Santos engaged Planager Pty Ltd (the approved 2012 Hazard auditor) to undertake a verification audit in 2015. This was undertaken in October 2015.

4.1 Operation Environmental Management Plan

In 2014 Santos updated the previous Operation Environmental Management Plan. This was reviewed by the approved Independent Environmental Representative, Mr Les Bevis of Lodestone Environmental Services.

Vehicle access tracks are being maintained along the Right of Way (ROW) with the remainder of the ROW under re-vegetation. The ROW runs from the Bibblewindi Facilities Area to the WPPS. In the section of the ROW from Bibblewindi to Leewood, installation of a water flowline commenced in September 2013, and was completed in 2014. These works were approved on 19 March 2013 following submission of a Review of Environmental Factors for the Leewood Water Management Facility. This installation required the ROW to be cleared of all vegetation. It has since been reinstated as per the requirements of the Operations Environmental Management Plan (OEMP). In accordance with the OEMP, an environmental inspection of the ROW is conducted once every quarter. Any corrective actions such as weed management are then initiated.

The native tree plantation located on the western boundary of the Wilga Park property was originally planted in April 2012 to create visual screen for the neighbouring residence. General maintenance and watering was

conducted on the native tree plantation in 2014 with the objective of developing a self-sustaining vegetation community to give an enduring screen.

4.2 Environmental Incidents

There were no reportable environmental incidents during 2015 for the power station and the gas pipelines. Minor subsidence along the pipeline was detected during inspections, and were subsequently repaired.

END OF REPORT