PIPELINE PL57 ENVIRONMENT PLAN SUMMARY

Sodium Cyanide Manufacturing Facility

Rev 0, July 2020

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1.0 INTRODUCTION

This document summarises the Environment Plan for the gas pipeline (PL57) which was submitted to the Department of Mines, Industry and Safety (DMIRS) on 10 July 2020. The Sodium Cyanide Manufacturing Facility (SCMF) is supplied with natural gas which serves as feed-stock for the production of sodium cyanide. Natural gas is primarily supplied via the existing gas pipeline (PL57), which extends from the Kleenheat Gas Production Facility (KHGPF) to the SCMF. PL57 is 3.42 km in length, of which approximately 3.3 km is buried underground. The above ground sections of the pipeline are located entirely within the boundaries of the KHGPF and the SCMF. The pipeline is operated on a continuous basis during routine operations. PL57 is licensed as a petroleum pipeline under the *Petroleum Pipelines Act 1969* (Western Australia) (PP Act) and is subject to the Petroleum Pipelines (Environment) Regulations 2012 (PP(E) Regulations).

1.1 OPERATOR

CSBP Ltd (CSBP) operates the Sodium Cyanide Manufacturing Facility (SCMF), which is located at CSBP's Kwinana operations facility in Kwinana, Western Australia. The SCMF is owned by the unincorporated Kwinana Sodium Cyanide Joint Venture (KSCJV) which is in turn managed by AGR Pty Ltd (AGR). The KSCJV is a joint venture between CSBP (75%) and Coogee Chemicals Pty Ltd (25%), with the shareholdings in AGR reflecting ownership in the joint venture. CSBP has been appointed by AGR as the operating and sales agent for the joint venture. CSBP is owned by Wesfarmers Chemicals, Energy and Fertilisers (WesCEF). As such, CSBP and the SCMF operate in accordance with the policies and management systems of WesCEF.

PL57 is licensed under the PP Act, with the licence held by AGR.

PL57 is operated by CSBP, which is responsible for the overall management and operation of the pipeline. The contact details for the operator are:

Attn: SCMF Production Manager
Telephone: 6378 5777
Email: environment@csbp.com.au
Address: Australian Gold Reagents Pty Ltd
PO Box 345
KWINANA WA 6966

1.2 LOCATION OF PL57

Location of CSBP and PL57 within the Kwinana Industrial Strip

2.0 EXISTING ENVIRONMENT

2.1 Regional Setting

The pipeline is located within the Kwinana Industrial Area (KIA), which is the State's premier heavy industrial precinct. It is located approximately 40 km south of Perth city centre, adjacent to the sheltered waters of the Cockburn Sound. The KIA is an area of approximately 120 km^2, and has evolved since the construction of a single oil refinery to now encompass a diverse range of industrial activities across a large area. The area is now highly modified, retaining little of its pre-development environmental factors, and contains roads, railways, large hardstand areas for a range of industries, including power stations, cogeneration plants, air separation plants, port facilities, desalination and wastewater treatment plants.

2.2 Physical Environment

2.2.1 Topography and Geomorphology

The site is relatively flat with an elevation ranging from 9 m Australian Height Datum (AHD) at the pipeline's northern end to 4 m AHD at the pipeline's southern end.

The pipeline area is part of the coastal fringe of the Swan Coastal Plain and is associated with the northern end of the Rockingham-Becher Plain, which consists of a succession of beach ridges parallel to the beach (Davidson 1995).

2.2.2 Geology / Soils

The site is within the Perth Basin and Warnbro group (Geological Survey of Western Australia 2008) and its geology reflects the area's history of coastal deposits and coastal dunes.

Soils on the site comprise calcareous sands and form part of the Safety Bay Sand complex (Qhs) (Gozzard 1983). These soils are typified by limesand with high permeability, low to medium erosion potential, medium slope stability and high ease of excavation.

2.2.3 Hydrology and Hydrogeology

2.2.3.1 Groundwater Resources

The pipeline is located within the Wellard and Valley sub areas of the Cockburn Proclaimed Groundwater Area as gazetted under the *Rights in Water and Irrigation Act 1914*. In this area, licences need to be obtained to extract groundwater, if allocation

allowances are available. Groundwater in this groundwater area comprises an unconfined superficial aquifer, Rockingham Sand aquifer (present in places), the Leederville aquifer (semi-confined) and the Yarragadee (confined) aquifer (Department of Water 2007b).

The maximum groundwater elevation for the alignment is between 2.5 and 3.0 m AHD as indicated on the Department of Water's (Now DWER) Perth Groundwater Atlas. Groundwater beneath the site flows from east to west, with the depth to maximum groundwater approximately 1 to 6 m below ground level.

2.2.3.2 Groundwater Quality

The Department of Water (now DWER) (2007b) reported that there is no evidence of groundwater salinity increasing on a regional scale for the aquifers in the Cockburn Proclaimed Groundwater Area. Private monitoring data (submitted through licence conditions) and department data collected and collated from the Cockburn Saltwater Interface (CSI) bores (CSI-1/97, 2/97 and 3/97) indicate the seawater interface is about 500 m onshore, within the Kwinana Industrial Area, where abstraction from the superficial aquifer is concentrated. The mean total dissolved salts concentration of groundwater in the Cockburn Proclaimed Groundwater Area was 812 mg/L with a maximum of 1,815 mg/L and a minimum of 330 mg/L (Department of Water (now DWER) 2007b).

2.2.3.3 Wetlands and Surface Water

The drainage across the pipeline alignment area is currently managed through drainage swales and sumps. There are no notable surface water features in the vicinity of the PL57 pipeline corridor and no areas within the flood way or flood plain.

2.3 Biological Environment

2.3.1 Vegetation and Flora

2.3.1.1 Biogeography

The site is located in the Swan Coastal Plain bioregion, one of 85 bioregions recognised under the Interim Biogeographic Regionalisation for Australia. The bioregion comprises two sub-regions: the Dandaragan Plateau and the Perth subregions. The pipeline alignment is located in the mid-western portion of the Perth sub-region which is defined as:

The coastal plain is a 30 km wide strip on the Indian Ocean coast, directly west of the Darling Scarp uplands running from Cape Naturaliste in the south to above the City of Perth. The plain mainly consists of fairly infertile sandy soils along with coastal sand dunes,

river estuaries and a number of wetlands separated from the sea by the dunes. A number of rivers cross the plain from east to west from the Darling Scarp towards the sea including the Swan and its main tributary, the Canning. The sediments of the Perth basin are Tertiary and Quaternary in age immediately below Perth and include incompletely consolidated sedimentary rock, limestones deposited by mineral springs and sandy limestones with abundant shelly material. Perth is situated on a set of sand dunes formed during the Pliocene-Pleistocene during the last ice age. The dune topology results in an extensive north-south oriented chain of wetlands which are located in dune swales.

2.3.1.2 Vegetation

There is no significant vegetation within the pipeline corridor for PL57. Small, isolated strips/patches of vegetation exist adjacent to the pipeline corridor. Most of the vegetation consists of grass, weeds and small to medium shrubs. The vegetation in the area is classified as part of the Rockingham System; Shrublands – Scrub-heath on the Swan Coastal Plain (Department of Environment and Conservation 2012). There is no remnant vegetation along the pipeline alignment, as all vegetation has been cleared in the railway reserve and pipeline easement. New plant growth in the pipeline corridor is routinely cleared to facilitate access and reduce the risk of fire. There is no evidence of rehabilitation subsequent to construction although some of the native vegetation may be regrowth in those isolated areas that have not been subsequently disturbed adjacent to the PL57 corridor.

2.3.1.3 Flora

Given the highly modified nature of the pipeline corridor, the history of disturbance (i.e. routine clearing), and proximity to transport infrastructure (roads, rail) and highly modified environments, introduced plant species (including those considered to be weeds) are expected to be present within the pipeline corridor.

2.3.2 Fauna

Terrestrial fauna may occur within the PL57 corridor, however the corridor has been extensively modified from its natural state. Anecdotally, there is limited evidence of native fauna being present in and around the vicinity of the pipeline. The most common fauna encountered include foxes, cats, rabbits, birds and reptiles (snakes, skinks and lizards). CSBP holds a Reptile Removalist licence and has a number of trained personnel that are able to capture and relocate reptiles.

3.0 DESCRIPTION OF THE ACTIVITY

3.1 Pipeline Characteristics

The pipeline alignment is located within the Kwinana Industrial Area (KIA). The pipeline corridor is adjacent to the rail line, road reserve and industrial property boundaries. The alignment of the pipeline travels underground through properties under the control of other organisations and other pipelines within the corridor, including:

- Alinta
- APT-Parmelia
- BOC Gas
- BP Kwinana refinery
- Brookfield Rail
- Coogee Chemicals
- Landcorp
- Nickel West
- Telstra
- Water Corporation
- Western Power.

PL57 was installed in 1997 to provide high purity natural gas from the KHGPF to the SCMF. The pipeline was constructed in accordance with Australian Standard AS 2885, and was assembled using 154 mm internal diameter cathodically protected carbon steel pipeline.

Any planned venting of gas will occur through the vent pipe above the relief valve in the SCMF gas plant. This pipe is 200 mm diameter and opens 8.5 m above the ground. Planned venting only occurs when required to safety conduct maintenance work on the pipeline; planned venting is an uncommon event.

PL57 was originally commissioned in 1997 with a maximum allowable operating pressure (MAOP) of 1,750 kPa. In early 2000, CSBP acquired a gas purification plant to increase the purity of the lean gas by removal of impurities such as carbon dioxide. This plant required a higher gas pressure to allow it to operate effectively and as such, it became necessary to re-rate the pipeline to cater for the higher operating pressure. This work was completed in 2001. The new MAOP was set at 3,740 kPa, with a normal operating pressure of 2,250 kPa. The current PL57 licence was approved on 15 October 2001.

There are currently no planned decommissioning, extension or additional tie-ins for PL57. As such, the EP considers only the environmental risks and impacts from the operation and maintenance of PL57 (routine operations, maintenance and emergency scenarios) for the period in which this EP will be in force (five years). Access to the pipeline corridor is via an established access track which runs parallel to the existing

freight rail line that extends alongside the corridor for the majority of its length. This access track is operated by Brookfield Rail, which also operates the rail line. This track is used by CSBP during routine inspections of the pipeline.

The underground section of the pipeline has a series of clearly visible warning markers in place to facilitate identification of the pipeline location (average interval ~115 m).

4.0 STAKEHOLDER CONSULTATION

CSBP engages with stakeholders on a regular basis through the forums referenced below:

- Participation in Kwinana Industries Council (KIC) activities including representation on a number of committees.
- Regular representation at Kwinana Communities & Industries Forum (CIF) meetings, which are held every three months.
- Public availability of relevant reports and documents via the company website (www.csbp.com.au), local libraries and government authorities (e.g. Department of Environment Regulation, Town of Kwinana).
- Contact details on the company website (www.csbp.com.au) for community members and other stakeholders.

CSBP routinely consults with internal stakeholders involved in the operation of the pipeline. CSBP maintains an adjacent services register, with descriptions of other underground infrastructure (pipelines and underground cables) within the pipeline corridor that PL57 occupies (Appendix 3). This register contains contact details for service providers within the pipeline corridor, which are used by CSBP to inform other operators when CSBP's activities may affect other operators.

Given that the pipeline has been in operation for a considerable number of years, there are no records available of specific consultation undertaken with regard to the approval and construction of PL57.

APPENDIX 1: SUMMARY OF ENVIRONMENTAL PERFORMANCE OBJECTIVES AND STANDARDS

Sources of Risk (Hazards)	Environmental Performance Objectives	Environmental Controls	Environmental Performance Standards
Vegetation clearance	Minimise spread of weeds Minimise loss of fauna habitat. Minimise potential for injury or death of fauna.	All routine clearing activities including weed management are to be carried out in accordance with the permit to work system.	All clearing activities to have a valid permit in place under CSBP permit to work procedure prior to commencing.
		Clearing contractors to receive site induction outlining the emergency response procedures in place.	All clearing contractors to receive site induction outlining emergency response measures prior to commencing work.
		Injury to conservation significant fauna to be treated as a recordable incident, with injured conservation significant fauna treated by veterinarian / animal rescue.	Any injury to conservation significant fauna to be treated as recordable incident with the fauna treated by veterinarian / animal rescue.
		Vehicles to have fire extinguishers on hand for use in the event of a fire.	All vehicles within pipeline corridor to be equipped with a fire extinguisher.
Pipeline inspections and maintenance	Minimise the generation of wastesspread of weeds, dust and atmospheric	Any grit / sand blasting operations will be on small section of pipeline.	Generation of dust during sandblasting to be reduced as much as practicable.

Sources of Risk (Hazards)	Environmental Performance Objectives	Environmental Controls	Environmental Performance Standards
	emissions. No impacts to fauna.	All ground excavations that are in place and unsupervised (e.g. left unfilled overnight) will have the means for fauna to escape entrapment. All maintenance activities including weed management are to be carried out in accordance with the permit to work system.	All unsupervised excavations to have a means for entrapped fauna to escape (e.g. sloped wall to allow access, climbing rope). The risk of CSBP machinery spreading weeds during excavations is negligible, however targeted weed spraying will be conducted during vegetation clearing activities.
		Any planned venting of the pipeline will occur through the vent pipe above the relief valve.	All planned venting of gas to be released through vent pipe.
		All wastes generated during the activity will be stored and disposed of appropriately in accordance with CSBP procedures (including hazardous wastes).	All wastes generated to be disposed of appropriately, with hazardous wastes handled in accordance with Environmental Protection (Controlled Waste) Regulations 2004.
		All planned inspections and maintenance will be carried out in accordance with CSBP's Permit to Work System.	All planned inspections and maintenance activities to have a valid permit in place under CSBP permit to work procedure prior to commencing.
		Any entrapped fauna in excavation pits will be released as soon as practicable.	Entrapped fauna to be recovered and released as soon as practicable.
Vehicle Movements	Minimise the occurrence of soil compaction, spread of weeds,	All vehicle refuelling to take place at service stations.	All vehicle refuelling to take place at service stations.

Sources of Risk (Hazards)	Environmental Performance Objectives	Environmental Controls	Environmental Performance Standards
	erosion and dust generation from vehicle movements. Minimise potential for injury or death of fauna.	CSBP to consider dust suppression if vehicle movements routinely generate high levels of dust.	Dust control measures to be implemented if dust generation poses a risk to other users.
		Reduce vehicle speeds along the pipeline corridor to <40 km/hr.	Vehicle movements within pipeline corridor not to exceed 40 km/h.
		Vehicle movements are to use existing tracks within the pipeline corridor.	Vehicle movements to use existing tracks within the pipeline corridor.
Generation of wastes	Minimise generation of non-hazardous and hazardous wastes. No contamination from non-hazardous and hazardous wastes.	Waste volumes to be reduced where practicable.	Where possible, the generation of wastes shall be minimised.
		Preference for recyclable materials where practicable.	Where possible, recyclable materials will be used.
		Suitable waste bins to be available for waste disposal.	Suitable waste storage facilities to be available on site.
		All wastes stored and handled in accordance with CSBP Waste Management Plan - CSBP-GM-ENV-060-01.	All wastes to be handled in accordance with CSBP Waste Management Plan - CSBP-GM-ENV-060-01.
		Segregation of wastes for recycling, waste bins will be labelled.	Hazardous waste, non-hazardous waste and recyclable waste bins to be clearly labelled.
		All staff to be provided with waste management information during site inductions.	All staff and contractors to receive induction, providing information on waste management procedures.
		Regular inspections of work areas for litter, with work areas cleaned as required.	Routine workplace inspections for litter to be carried out.

Sources of Risk (Hazards)	Environmental Performance Objectives	Environmental Controls	Environmental Performance Standards
		All wastes that may contain hazardous materials will be stored in sealed containers (e.g. bins with lids) and disposed of at an appropriate facility by a licensed waste contractor.	All hazardous wastes to be stored and disposed of in accordance with CSBP Waste Management Plan - CSBP-GM-ENV-060-01.
		In the event of waste contamination, CSBP will take remedial actions to remove the waste material. If the waste was considered hazardous, CSBP will undertake investigations to determine if hazardous materials are still present and treat the material in accordance with good practice.	All known occurrences of waste contamination to be remediated, with contaminated materials disposed of appropriately.
Atmospheric emissions	Minimise emissions to atmosphere.	Any planned venting of the pipeline will occur through the vent pipe above the relief valve.	All planned venting to be released to atmosphere through vent pipe in SCMF.
		All vehicles and equipment will be maintained in accordance with the manufacturer's specifications.	Routine maintenance program implemented for all vehicles and equipment.
		The planned release of gas from PL57 will be minimised as much as practicable.	No unnecessary venting of gas from PL57.
Loss of gas containment	No uncontrolled release of gas.	Design and engineering consistent with AS2885 and industry standard practice.	PL57 pipeline design and construction to be consistent with AS 2885.

Sources of Risk (Hazards)	Environmental Performance Objectives	Environmental Controls	Environmental Performance Standards
		Gas shut off systems engineered into pipeline design.	Gas shut off systems to be in place and operational at all times during pipeline operations.
		Routine inspection and maintenance program.	Routine maintenance program implemented for PL57 in accordance with the Pipeline Management Plan.
		Flammable gas detection equipment carried during pipeline inspections.	Staff to use flammable gas detectors during routine inspections of the pipeline.
		KHGPF and SCMF staff to shut off gas supply in the event of an uncontrolled release that poses a risk to safety, assets or the environment.	Gas supply to PL57 to be shut off in the event of an uncontrolled release.
		Implementation of the ERP in the event of an uncontrolled release, including emergency services.	ERP to be implemented in the event of an uncontrolled release that poses a risk to safety, assets or the environment.
Fire (excluding uncontrolled release of gas)	No occurrence of fire during operation of PL57	Smoking restricted to designated areas.	No smoking beyond designated smoking areas.
		Routine clearing of vegetation to reduce fuel loads.	Vegetation within pipeline corridor to be cleared as required to reduce fuel load.
		Fire fighting equipment is to be available in all vehicles working in the pipeline corridor (e.g. extinguishers in vehicles).	All vehicles within pipeline corridor to be equipped with a fire extinguisher.
Hydrocarbon spill	No loss of hydrocarbons to the environment	All vehicle refuelling to take place at service stations.	All vehicle refuelling to take place at service stations.
		Portable equipment using hydrocarbon fuels to be filled before use to reduce the need to refuelling.	All portable equipment to be fuelled prior to mobilising equipment for works on PL57.
		Appropriate spill kits to be on hand	Spill kits to be available on hard during all refuelling operations.

Sources of Risk (Hazards)	Environmental Performance Objectives	Environmental Controls	Environmental Performance Standards
		during refuelling, with any spills cleaned up using the spill kit. Contaminated material (e.g. absorbents) are to be disposed of appropriately following clean up of the spill, with any contaminated soil to be remediated or removed.	In the event of a spill, all contaminated spill response equipment and soil to be disposed of appropriately as per CSBP waste management procedures.