Aurizon Port Services NSW Environmental Management Plan: Operations

18 May 2021

Plan Approval Table

Position	Name	Signature	Date
Operations Manager	Phillip Gilligan		3/6/21

Revision History

Rev	Date	Author	Comments
1	18/05/12	Gwen Wilson (CBH)	Original
2	07/04/16	Gwen Wilson (CBH)	Update
3	26/04/21	Harry Egan	Update following transfer to APSN

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Glossary

Term	Definitions
APSN	Aurizon Port Services NSW
ANZECC	Australian and New Zealand Environment Conservation Council
AST	Above Ground Storage Tank
the Approval	DA316/81
CCR	Community Complaints Register
DPI&E	Department of Planning, Industry and Environment
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPA	Environment Protection Authority
EPL	Environmental Protection Licence
EMPO	Environmental Management Plan
ENV-PRI-001	Enterprise-wide Environmental Management Principle
ERA	Environmental Risk Assessment
LMS	Learning Management System
NCC	Newcastle City Council
OHS	Occupation Health and Safety
PIRMP	Pollution Incident Response Management Plan
PoN	Port of Newcastle
POEO Act	*Protection of the Environment Operations Act 1997*
POL-08	Aurizon's Enterprise-wide Environmental Policy
SAE	Senior Adviser Environment
SERP	Site Emergency Response Management Plan
SHE	Safety, Health and Environmental Management System
the Site	Aurizon Port Services NSW port facility
tph	Tonnes per hour

1.0 Introduction

1.1 Site Description

The Aurizon Port Services NSW (**APSN**) site (**the Site**) is a bulk handling facility designed to handle mineral concentrates for export. The Site has been in operation since 1983 and is located at Dyke 2 on approximately 2.5 ha of sealed harbour frontage land parcels leased from the Port of Newcastle (PoN). The Site is accessible via the PoN access gate off Bourke Street and the rail corridor directly north of the Site.

The Site consists of a rail siding, receival equipment, concentrate storage shed, tippler receival building, administration building, conveyor systems and a ship loader. One above ground storage tank (**AST**) containing diesel fuel is located to the north of the concentrate storage shed.

The concentrate storage shed is located in the centre of the Site and contains large volumes of ore concentrate. Conveyor belt systems are used to transfer the concentrate from the train containers to the ship loader.

The rail corridor operates along the eastern boundary line with the corridor ending at the southern boundary line of the Site. At the northern end, the Site merges into other port serviced rail corridors.

The Site is located on fill from unknown sources potentially including dredged soils, demolition and industrial waste products such as slags, bricks and coal/chitter fines. Land has also likely been subject to contamination from operational processes, inclusive of historical coal handling, and offsite contamination from surrounding industrial activities migrating onsite.

The Site is bound by:

- North – Railway sidings to the wharves, rail unloading facility (containerized).
- South – Minion Enterprises Pty Ltd (importers and distribution of steel products).
- East – BP Oil terminal dyke (unloading of oil) and Hunter River.
- West – Newcastle Agri Terminal Pty Ltd (grain handling facility).

The closest residential property is located to the west in Carrington, approximately 450 m, and across the Hunter River Channel, approximately 700 m.

The Site cadastral boundaries are listed in Table 1 with the Site layout shown in Figure 1 below:

Table 1 - Site Cadastral and Zoning

Lot	DP	Site Zone ID and Description*
16	1190232	SP1 – Special Activities' under the State Environmental Planning Policy (Three Ports) 2013.
220	1195310	

Figure 1 - Site Locality

1.2 Operational Activities

The Site receives, stores and loads metal concentrates for export purposes. Concentrate is transported to Site by rail in sealed containers. Containers are unloaded into the Site tippler bin via forklift and transported to the storage shed via enclosed conveyer.

To load concentrates into the hold of ships (for export), front end loaders collect the concentrate from the stockpile and place it into a hopper. The hopper transfers the concentrate to a conveyor and proceeds to the shiploader via three conveyors and two transfer stations.

Site dust emissions are actively managed through a dust and fume extraction system servicing the Tippler and Concentrate Shed respectively. The systems are active during the unloading of all trains and for a lag period of 15 minutes post completion. All extracted dust is deposited on the Tippler pulsate unit and Concentrate Shed conveyor belt.

The shiploader has a Telescopic Chute which lowers into the hold of the ship where the concentrate is loaded at a maximum rate of 1800 tonnes per hour (tph).

1.3 Regulatory Context

The project was assessed and approved under the *Environmental Planning and Assessment Act 1979 (**EP&A Act**)*. The Site was approved by a delegate for Newcastle City Council (**NCC**) under DA316/81 (**the Approval**), dated 5 January 1982. The following modifications have been subsequently issued:

- Modification 1 – 95/342 granted by NCC 8 December 1995 extension to Concentrate Storage Shed (and to handle copper concentrates).
- Modification 2 – 03/2234 granted by NCC 2 February 2004 extension to Concentrate Storage Shed.
- Modification 3 – 13/011 granted by NPC 31 July 2013 extension to Concentrate Storage Shed.

The Site is subject to the requirements of Environment Protection Licence (**EPL**) 1431, administered by the NSW Environment Protection Authority under the *Protection of the Environment Operations Act 1997*.

The Site is operated under the PoN issued lease and sublease for 16/1190232 and 220/1195310 respectively, with the Approval pertaining to 16/1190232 only). Schedule 2, Condition 10 of both Site leases require APSN to implement a site Environmental Management Plan - Operations (**EMPO**) to manage site activities. This EMPO has been developed with reference to the Guidelines for the Preparation of Environmental Management Plans (Department of Planning, 2004).

1.4 Purpose and Objectives

The purpose of the EMPO is to detail the environmental management activities to be implemented at the Site to ensure compliance with relevant regulatory obligations and approvals is achieved.

The objective of the EMPO is to ensure activities at the Site are undertaken in compliance with all relevant requirements and to prevent harm to the environment or community from operational activities.

1.4 Scope

This EMPO applies to all Site operational activities and any employee or contractor engaged by APSN.

2.0 Environmental Management System

2.1 Safety, Health and Environmental Management System

The Aurizon Enterprise-wide Safety, Health and Environmental (**SHE**) Management System sets the direction across the enterprise and ensures that activities, which have the potential to affect the safety and health of people and /or the receiving natural environment, are planned, organised, implemented and checked in accordance with legislative requirements.

Aurizon's commitment to achieving best practice performance across all its operations as one of Australia's largest transport and logistics businesses is formalised in Aurizon's Enterprise-wide Environmental Policy (**POL-08**) and is given effect via Aurizon's Enterprise-wide Environmental Management Principle (**ENV-PRI-001**). A copy of these documents is included as Appendix A.

This Aurizon Environment Principle sets out requirements for the Organisation to:

- Ensure mechanisms are established to achieve compliance with environmental laws, regulations, Board policies and, corporate directives/principles, applicable industry standards and codes; and
- enable effective management of environmental risks; and
- achieve continual improvement in environmental performance; and
- Give effect to the Environmental Policy.

2.2 Environmental Management Structure and Responsibility

The Site organisational chart and relevant role responsibilities are detailed below in Table 2.

Table 2 - Role responsibilities

Position	Responsibility
General Manager Bulk NSW	• Ensure site / site operations comply with regulatory obligations; and • Report compliance to Board.
Operations Manager	• Ensure that staff and supervisors comply with and fulfil their obligations in relation to the EMPO; • implement Aurizon's Environmental Policy (**POL 08**) and Environmental Management Principle (**ENV/PRI/001**); • effective functioning / management of operations; • communicate information concerning key environmental issues and responsibilities; • ensure site personnel are appropriately trained; • manage incidents, complaints and related investigations; and • Address non-conformances identified through incidents.
Site Supervisor Facilities Coordinator	• Supporting implementation of the EMPO; • communication of the EMPO requirements to site personnel;

Position	Responsibility
	• complete routine site inspections; • manage incidents, complaints and related investigations; • address non-conformances identified through incidents; • adhere to site waste management and record keeping requirements; and • Ensure all staff and sub-contractors are adequately inducted; and trained.
Senior Adviser Environment	• Review of, and supporting implementation of the EMPO; • conduct environmental audits to ensure compliance with EMPO; • facilitating technical studies and expert advice; and • Review of monitoring data and reports to identify non compliances.
Project and Site Personnel	• Adhere to the EMPO

2.3 Approvals, Licencing and Agreements

Relevant legislation that applies to the Site and must be complied with is detailed in Table 3.

Aurizon also holds a number of legally binding licence, approvals and leases that apply to the Site. These are briefly summarised in Table 4.

Table 3 - Relevant Legislation

Relevant Legislation	Approval Body	Section
Environmental Planning and Assessment Act 1979	DPI&E	Part 5.1
Local Government Act 1993	NCC	Section 68
Conveyancing Act 1919	DFSI	Section 88B
National Parks and Wildlife Act 1974	OEH	N/A
Occupational Health And Safety Ac, 2011	Safe Work NSW	N/A
Protection of the Environment Operations Act 1997	EPA	N/A
Contaminated Land Management Act 1997	EPA	N/A
Protection of the Environment and Operations (Waste) Regulation 2005	EPA	N/A
Waste Avoidance and Resource Recovery Act 2001	EPA	N/A
Environmentally Hazardous Chemicals Act 1985	EPA	N/A

Table 4 – Approvals/Licences/Leases

Party	Approval/Licence/Lease
NSW EPA	EPL 1431
Newcastle Council/DPI&E	DA316/81
Newcastle Council/DPI&E	Mod 1 95/342
Newcastle Council/DPI&E	Mod 2 03/2234
Newcastle Council/DPI&E	Mod 3 13/011
PoN	Lease (16/1190232)
PoN	Sub lease (220/1195310)

3.0 Environmental Management Controls

To achieve and maintain Site compliance with the conditions of the Approval, EPL 1431, site leases and relevant regulatory requirements, the development and implementation of the EMPO and supporting management plans was undertaken.

The EMPO and supporting plans were developed with reference to residual risks identified through the completion of a site risk assessment and baseline environment site assessments completed in 2020.

3.1 Environmental Risk Assessment

The Environmental Risk Assessment (**ERA**) (included as Appendix B) has been reviewed during through the development and implementation of this EMPO with reference to the enterprise Safety Risk Management Principle (**PRI/0014/COR**), Aurizon corporate environmental policies and standards and the Aurizon Enterprise Risk Management Framework (**RMT/DIR/0001**).

In line with the Aurizon Change Management Standard (**05-STD-001-COM**), the risk assessment will be reviewed in the following circumstances:

- Upgrade, replacement or decommissioning of old plant or equipment;
- change to business as usual activities; and
- following major environmental incidents.

No change, replacement or alteration of any plant or equipment is permitted if this is likely to substantially increase, the risk of environmental harm.

3.2 Noise and Vibration Management Strategy

3.3.1 Context

No noise conditions are present in either the Site's Approval or EPL nor has a noise complaint been received by the Site since 2003. Regardless, the Site seeks to comply with the Noise Policy for Industry (NSW EPA, 2017).

3.3.2 Noise and Vibration Management Measures

The following management measures as detailed in Table 5 will be implemented.

Table 5 - Noise and Vibration Management Measures

EPL Licence Condition	Aspect	Requirement
N/A	Traffic and access	• All deliveries and heavy vehicles will access the Site during daytime hours where practical. • Vehicle movements restricted to 10 km/h. • Access roads will maintained.
N/A	Operation of plant	• Equipment is well maintained and operated per manufacturers requirements. • Minimise number of plant operating at any one time. • Machinery turned off when not in use.

3.4 Air Quality Management Strategy

3.4.1 Regulatory Context

Condition O3 of the EPL requires that the premises must be maintained in a condition which minimises or prevents emissions of dust from leaving the premises.

3.4.2 Air Quality Management Measures

The following management measures detailed in Table 6 will be implemented to ensure air quality management objectives are met.

Table 6 - Air Quality Management Measures

EPL Licence Condition	Condition	Requirements
O3.1	The premises must be maintained in a condition which minimises or prevents the emission of dust from the premises.	• Equipment and infrastructure are well maintained and operated per manufacturer or best practice requirements. • Access roads are well maintained and sealed.
O3.2	All operations and activities occurring at the premises must be carried out in a manner that will minimise the emission of dust from the premises.	• Loading arms, conveyors and storage shed are fully enclosed. • Tipper operates with a negative pressure and curtain system to prevent escape of dust. • Received concentrate moisture levels managed by mine site with exceedances identified by APSN and communicated to mine sites as required. • Loaded product moisture levels maintained between 7% and 11% with concentrate shed and loading arm fogging sprays. • PM_{10} controlling / HEPA filtered dust extraction and fume collection system operate on the Tippler and Concentrate Shed respectively. • Routine vacuum of site infrastructure for general cleaning as per the Site maintenance program. • Gantry doors act as airlocks. • Ship loading restricted during high wind events >35 knots.
O3.3	Trucks entering and leaving the premises that are carrying loads of dust generating materials must have their loads covered at all times, except during loading and unloading.	• Trucks entering the facilities with dust generating loads are covered at all times except when loading and unloading.
O7.1	The licensee must ensure that activities are conducted in an environmentally satisfactory manner. So as to minimise and prevent the pollution of air and water the licensee must:	• All containers leaving the premises are sealed or secured in a manner to prevent materials or waste being deposited on a public road. • Vehicles will be cleaned as required.

EPL Licence Condition	Condition	Requirements
	(a) Ensure that vehicles or containers prior to leaving the premises are clean and sealed in a manner that will not cause materials or wastes used in conducting the activities at the premises to be tracked, thrown from, blown, fall, or cast from any vehicle or container onto a public road.	
L3.1	No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the *Protection of the Environment Operations Act 1997*.	• Above controls as per licence Condition O3.2

3.4.3 Air Quality Monitoring

APSN is a member and contributor to the Newcastle Local Air Quality Monitoring Network as administered by the EPA.

Air quality monitoring may be undertaken following receipt of a community complaint or as direct by a regulatory body as APSN is not required by the EPL to undertake routine air quality monitoring Where monitoring is undertaken the analysis of heavy metals must be done in accordance with:

- AM-15 for Total Suspended Particulate (TSP);
- AS 2800 - 1985, for the preparation of the sample; and
- APHA 3125 (1998, 20th Ed.) and US EPA SW 846 (3rd Ed. Final Update III) 6020 for the measurement of copper, lead and zinc.

3.6 Water Quality Management Plan

3.6.1 Regulatory Context

Condition L1 of the EPL requires that the Site must comply with Section 120 of the POEO Act (prohibits the pollution of waters unless expressly provided by a condition of the Site EPL).

3.6.2 Site Context

The Site contains two operational surface water catchments (STW2 and STW3) as shown in Figure 2 below:

- STW2 – catches run-off from the office building and surrounding surface area which then goes to an on-site sump with an underground pipe connected to a HumeCeptor prior to discharge into the Hunter River. The concentrate storage shed is accessed from the STW2 catchment and tracking of materials outside of the shed area may be a source of catchment contamination for STW2.

- STW3 – catches run-off from the receiver and unloading pad, office roof and surrounding hardstand. Stormwater from the unloading pad is channelled to a retention tank to initially allow solid material to settle. Runoff from the area south of the unloading area and from the railway track flows into a sump, through an underground pipe to a HumeCeptor and is then discharged off-site through STW3 discharge point to the Hunter River.

As the eastern boundary of the Site is only 1-2 metres above high tide and the interceptors are installed in the roadway below the level of this boundary, the discharge outlet pipes are located on the river bank at an elevation that can result in them being inundated by harbour water at high tide (potentially resulting in water flowing up the outlet pipes and into the interceptor).

Figure 2 - Site Stormwater Drainage

Figure 3 - Additional Stormwater Drainage Infrastructure

3.6.3 Water Quality Management Measures

The following management measures as detailed in Table 7 will be implemented to ensure water quality management objectives are met.

Table 7 - Water Quality Management Measures

EPL Licence Condition	Condition	Requirements
L1.1	Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the *Protection of the Environment Operations Act 1997*.	• Equipment and infrastructure is well maintained and operated per manufacturer or best practice requirements. • Stormwater management infrastructure is maintained with the Tippler Pad sump kept at minimum levels via float switch. • Routine vacuum clean-up of site infrastructure and Tippler Pad areas as per the Site maintenance program. • Spill kits are available at high risk areas and well maintained. • Access roads are well maintained and sealed. • Boot exchange system for entry / exit to the CSS. • Vacuum clean-up of spilled products only. No washdown is permitted.

EPL Licence Condition	Condition	Requirements
		• Containment matting placed over rail lines beneath train unloading area. • Ship loading restricted during high wind events >35 knots.
O7.1	(a) Ensure that vehicles or containers prior to leaving the premises are clean and sealed in a manner that will not cause materials or wastes used in conducting the activities at the premises to be tracked, thrown from, blown, fall, or cast from any vehicle or container onto a public road.	• All containers leaving the premises are sealed or secured in a manner to prevent materials or waste being deposited on a public road. • Vehicles will be cleaned as required.

3.6.4 Water and Sediment Quality Monitoring Network and Program

Condition P1.3 of the EPL requires the establishment and operation of a water quality monitoring network. To supplement EPL water quality monitoring requirements, APSN will undertake annual monitoring of sediment as agreed to with PoN. Sediment monitoring will be used to develop a baseline data of sediment quality adjacent to the Site.

Water quality sampling will be taken from the stormwater discharge point, or if this is submerged, at the next accessible point in the stormwater management system. The water quality and sediment monitoring network are detailed in Table 8 and shown in Figure 4 respectively.

Guidance criteria for water quality trigger levels are outlined in the Australian and New Zealand Environment Conservation Council (**ANZECC**) guidelines for fresh and marine water quality (ANZECC, 2000) and the Marine Water Quality Objectives for NSW Ocean Waters, Hunter and Central Coast (DECC, 2000).

Indicative water quality performance criteria are detailed in Table 9 and will be subject to a review in 2022 following completion of baseline monitoring in 2021.

Table 8 - Water Quality Monitoring Network

EPA/APSN Id	Type	Analyte	Measure	Frequency
EPL Point 5 / STW3BDY EPL Point 6 / STW2BDY	Stormwater	pH Total Suspend Solids Copper (dissolved and total) Lead (dissolved and total) Zinc (dissolved and total)	mg/L	During first monthly discharge event able to be sampled.
SED-01* SED-02* SED-03*	Sediment (grab dredge sample)	Copper Lead Zinc	mg/kg	Annual (December)

EPA/APSN Id	Type	Analyte	Measure	Frequency
SED-04*				
SED-05*				
SED-06*				

* Non EPA required monitoring. Implemented as part of the Deed of Agreement with PoN for purchase of APSN executed in 2020.

Table 9 - Indicative Water Quality Criteria

Analyte	Criteria1 (mg/L) Annual Average
pH	6.5 – 8.5
Copper (Cu)	0.0013
Lead (Pb)	0.0044
Zinc (Zn)	0.015

Figure 4 - Sediment and Stormwater Monitoring Points

3.7 Dangerous Goods Management

3.7.1 Regulatory Context

The storage and management of all dangerous and hazardous goods, as defined by the Australian Dangerous Goods Code, will be stored and handled strictly in accordance with:

- All relevant Australian Standards;
- for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and
- the *Environment Protection Manual for Authorised Officers: Bunding and Spill Management*, technical bulletin (EPA, 1997).

3.7.2 Site Context

Key operational activities requiring management of dangerous goods and hazardous materials will be primarily associated with the storage and handling of goods listed in Table 10 below.

Table 10 - Dangerous Goods

Pollutant	Uses	Maximum Total Stored	Storage Location
Diesel	Forklift, loaders, vehicles, pumps.	5000L	Bunded diesel tank
Lubricants	Moving mechanical parts	250L	Store container
Waste Oil	Recycled	100L	Store container
Acetylene	Maintenance	4 standard size bottles	Locked cage
Weed Poison	Weed killer	5lts	Store container

3.7.3 Dangerous Goods Management Measures

The following management measures as detailed in Table 11 will be implemented to ensure dangerous and hazardous goods storage objectives are met.

Table 11 - Dangerous Goods Management Measures

Requirement	Aspect	Requirement
05.1 Relevant Australian Standards	All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.	• Any hazardous materials will be stored and disposed of in accordance with WorkCover Authority requirements and relevant Australian Standards. • For storage of liquids, a minimum bund volume requirement of 110% of the volume of the largest container. • Goods will be managed in accordance with the *Environment Protection Manual for Authorised Officers: Bunding and Spill Management*, technical bulletin (EPA, 1997) and relevant Australian Standards. • Storage and transportation of dangerous goods is to be in accordance with the *Occupational Health and Safety (OHS) Act 2000, OHS Regulation 2001 and Road and Rail Transport (Dangerous Goods) Act 1997*. Licences will be obtained as required for

Requirement	Aspect	Requirement
		storage and/or transport of prescribed quantities of dangerous goods. • Relevant licences will be obtained for use or disposal of any environmentally hazardous chemicals in accordance with the *Environmentally Hazardous Chemicals Act 1985*. • All hazardous substances and dangerous goods stored on-site are to be included and risk assessed via Aurizon's ChemAlert register.
O5.2	Bunds must: a) have walls and floors constructed of impervious materials; b) be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed); c) have floors graded to a collection sump; and d) not have a drain valve incorporated in the bund structure, or be constructed and operated in a manner that achieves the same environmental outcome.	• For storage of liquids, a minimum bund volume requirement of 110% of the volume of the largest container. • Goods will be managed in accordance with the *Environment Protection Manual for Authorised Officers: Bunding and Spill Management*, technical bulletin (EPA, 1997) and relevant Australian Standards.
N/A	Operation and maintenance of fixed and mobile plant.	• Areas where mobile equipment is used are concreted and water run-off is directed to sumps. • Drip/catchment trays are installed on the diesel tank, hydraulic pumps and ship loader transformer. • Hoses are inspected for leaks and cracks as part of the inspection schedule. • The front end loaders are refuelled in the storage shed where diesel is transferred via steel pipelines. • Where hydrocarbons are stored in fixed plant limit switches are fitted and are automatically activated in the event of release to minimise any spillage volume. • Maintenance is conducted on mobile plant in bunded areas to avoid hydrocarbon spills to waterways. • Non-hazardous degreasing agents are used to clean down mobile equipment and bio-degradable oil is used on all ship loader hydraulic equipment.
N/A	General	• Hazardous substances are registered and safety data sheets (SDSs) are available. The Register and SDSs are located at the front desk.

3.8 Waste Management

3.8.1 Regulatory Context

Condition L2 and O6 of the EPL prescribe the Site waste management requirements.

Where waste cannot be avoided, reused, recycled or recovered, it will be classified and appropriately disposed of. Waste generated by operations will be classified in accordance with the *Waste Classification Guidelines (EPA, 2014)* (the Guidelines)

If a material is re-used on site it is not classified as a waste. If a material is being disposed of, waste classification is required as per the Guidelines.

3.7.2 Site Context

The Site generates various liquid and solid waste associated with operational activities. All waste is disposed of by a licenced waste contractor.

3.7.3 Waste Management Measures

The following management measures as detailed in Table 12 will be implemented to ensure dangerous and hazardous goods storage objectives are met.

Table 12 - Waste Management Measures

Requirement	Aspect	Requirement
L2.1	The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.	• No waste will be received at the premises.
O1.1	Licensed activities must be carried out in a competent manner. This includes: b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.	• All waste will be classified and stored appropriately. • Waste will be removed from site by a licenced waste contractor.
O6.1 Waste Management	The licensee must ensure that any liquid and/or non-liquid waste generated and/or stored at the premises is assessed and classified in accordance with the EPA's Waste Classification Guidelines as in force from time to time.	• All waste will be classified in accordance with the Guidelines and stored appropriately.
O6.2	The licensee must ensure that waste identified for recycling is stored separately from other waste.	• All waste will be classified in accordance with the Guidelines and stored appropriately.

4.0 Compliance and Reporting

4.1 Monitoring and External Reporting Requirements

Aurizon's external regulatory reporting requirements for the Site are detailed in Table 13 below. Section 66.6 of the POEO Act requires pollution monitoring data that is required to be collected by a licence condition to be published on the licensee's web site. Data must be uploaded within 14 business days of being sampled.

Table 13 - Reporting Requirements

Report	Frequency (Due)	Responsible person/s	Requirement	Authority
Stormwater Monitoring Report	Monthly	SAE	Section 66.6 of the POEO Act	EPA
Annual Return	Annually by the 12 February	SAE	Condition R1 EPL 1431	EPA
NPI Reporting	Annual by the Sept 30	SAE	POEO (General) Regulation, 2009	OEH
Energy and GHG emissions reporting.	Annual by the Oct 30	SAE	NGER Act, 2007	CER

4.2 Auditing and Inspections

Internal audits and inspections will be completed in accordance with *17-STD-003-COM SHE Auditing* to ensure compliance with relevant legislation, approvals/licence and leases. This will require.

- The audit and inspection programs derive their content from the risk assessment, EMPO, and organisational/external requirements.
- Internal audits shall be undertaken at a minimum every 12 months with site inspections conducted monthly.
- Outcomes are to be initially managed by local SHE and site management forums and reflected as such within the relevant risk register and escalated as required.
- All auditors must be appropriately experienced and qualified.
- Aurizon's Safety, Health and Environment Management, Environmental Compliance tool (SHEM EC) is the key mechanism for logging and tracking potential non-conformances.
- Aurizon's audit tracking tool iN-Gauge is the key mechanism for tracking and closing out audit and inspection items.

Environment inspection and auditing requirements for the Site are detailed in Table 14 below. Maintenance and associated inspections are undertaken as per the Site maintenance programme.

Table 14 - Inspection and Audit Requirements

Audit/Inspection	Frequency	Responsible person/s	Requirement	Authority	Reference
Internal Audit	Annual	SAE	*17-STD-003-COM SHE Auditing*	Aurizon	N/A
Site and Surrounds	Monthly	Site Management	EMPO	Aurizon	N/A
PIRMP Test	Annual, prior to 15 December	SAE	Refer PIRMP	EPA	Refer PIRMP

4.3 Document Control and Record Management

Requirements for the identification, collection, indexing, access, filing, storage, maintenance and disposition of environmental documents and records are defined in Aurizon Document Control Arrangements and Information Management Principle (PRI-0006-COR). This principle provides direction for ensuring all information remains current, valid, endorsed and readily available to all employees and other stakeholders where applicable.

This principle requires as a minimum that documents / management systems:

- Provide clear accountability and ownership of all specific information;
- are capable of applying appropriate security, document retention, review scheduling and subsequent updating of all information as it relates to the EMS; and
- Are accessible and controlled by all relevant stakeholders.

Environmental documentation associated with the Site is summarised in Table 15. Environmental records must be kept for a minimum period of 5 years in an electronic format.

All environmental records must be available for presentation to the regulator upon request.

Table 15 - Document Control and Record Management

Record Type	Location
Environmental Awareness Training	LMS
Spill Management Training	LMS
Contaminated Site Notification	NSW EPA
Waste Tracking Certificates	Local Records/Waste Contractor Portal
Site Inspection Checklists	Local Records
Emergency Drills	Local Records
Incidents and Investigation Correspondence	SHEM

Record Type	Location
Sewage System Maintenance Record	ERE
Environmental Audits	Intranet
Environmental Reports	Intranet
Environmental Risk Assessment	Intranet
APSN EMPO	Intranet
Environmental / Safety Meeting Minutes / Communications	Local Records
EMPO/EMPC	Intranet/Site

4.4 Corrective Action

Identified non-conformances with this EMPO, legislative or other requirement will be managed in accordance with *BSEMS-STD25 Operational Non Conformance & Incident Reporting*. This procedure requires that:

- The reporting of non-conformances is promoted as a desired behaviour;
- Aurizon's Safety, Health and Environment Management system (SHEM) is the key tool by which environmental hazards, incidents and non-conformances are reported;
- the reporting of non-conformances include the identification and documentation of all the factors and underlying causes that contributed to the incident, the controls that were intended to prevent it and analysis of any failures in the controls; and
- Information gathered from non-conformances is reported to improve performance and systems and manage risk.

Records of all non-conformances will be kept in accordance with document control procedures and communicated to relevant parties.

Corrective and preventative actions arising from non-conformances will be managed in accordance with *BSEMS-STD05 Effectiveness of Corrective & Preventative Actions*. This document requires that:

- All actions or activities identified to further mitigate or reduce an operation risk exposure have been given specific timeframes and accountabilities for their effective implementation;
- a systematic review of the effectiveness of such activities is undertaken at appropriate timeframes proportionate to the level of risk exposure;
- governance of the effective implementation of the preventative actions identified must be completed through systematic organisational hierarchy sign-off process;
- a systematic process to ensure unresolved activities identified to reduce risk exposure are escalated to appropriate organisational levels to ensure resolution; and
- Audit processes external from the business unit are also used to review the effectiveness of risk mitigation actions.

Records of all corrective and preventative actions will be kept in accordance with document control procedures and communicated to relevant parties.

5.0 Incidents

Aurizon is committed to effectively managing all environmental incidents via the Enterprise-wide framework *RD/SAF/0012/COM/Guide001 Incident Management Framework* and the ASPN Pollution Incident Response Management Plan (**the PIRMP**). These documents collectively set out the minimum requirements for Aurizon's businesses for incident notification, injury management, incident investigations and reporting.

All environmental incidents will be managed via the SHEM system. The SHEM system provides an electronic system for recording, reporting, monitoring and close-out of all environmental incidents.

5.1 Notifiable Incidents

Where a *Pollution Incident* has been assessed as having potential or actual *Material Harm* to the environment as per *S147 POEO Act 1997* immediate notification of relevant authorities is required. The terms *Pollution Incident* and *Material Harm* are defined as follows:

- *Pollution Incident*

  "Pollution Incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It does not include an incident or set of circumstances involving only the emission of any noise."

- *Material Harm*

  "(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

  (ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

  (2) It does not matter that harm to the environment is caused only in the premises where the pollution incident occurs."

5.2 Incident Notification

Where a notifiable environmental incident occurs the initial notification process will be undertaken with reference to the PIRMP.

The PIRMP details the requirements for undertaking immediate notification of regulatory authorities in NSW where a *Pollution Incident* which has caused or has the potential to cause *Material Harm* to the environment has been identified. Specific Site contacts to assist with immediate notification have been reproduced below in Table 16.

As required by the PoN lease conditions, the PoN must be notified in writing of any regulatory notifiable environmental incidents which occur on site.

Table 16 – Emergency and Non-Compliance Contacts

Organisation	Role	Name	Phone
Aurizon	General Manager – Bulk NSW	Adrian Brown	0449 858 025
Aurizon	Operations Manager	Phillip Gilligan	O428 211 955
Aurizon	Site Supervisor	Ron Burgoyne	0402 428 716
Aurizon	Senior Advisor Environment	Harry Egan	0439 805 317
Aurizon	Manager Environment	Mark Harris	0419 365 993
Aurizon	Regional Facilities Maintenance Leader	Martin Hedges	0439 557 113
EPA	Regulator	N/A	131 555
DPI&E	Regulator	N/A	02 6575 3405
NCC	Regulator	N/A	02 4974 2000
PoN	Lessor	Emergency Number	02 4929 3890

5.3 Pollution Incident Response Management Plan

Environmental incidents will be managed and responded in accordance with the PIRMP.

The PIRMP details the Site's key personnel, their responsibility and the actions required to address a variety of environmental incidents onsite. The PIRMP also identifies the location of key resources required to effectively respond to an onsite emergency.

5.4 Incident Investigation

For all notifiable incidents an Event Manager is to be nominated. The Event Manager will coordinate all phases of Incident Management. Any incident response phase actions must take priority over any initial investigative actions.

To mitigate against the loss of evidence, advance planning and coordination by the Event Manager with an Incident Commander or local management representatives shall be necessary.

Immediately following the notification of an incident, the nominated Event Manager is responsible for ensuring the appropriate and immediate response activity is enacted.

5.4 Incident Reporting

A written incident report will be issued to the EPA within 7 days of the incident.

6.0 Communications and Training

6.1 Complaints

Complaints received by Aurizon in association with operations shall be managed in accordance with the Aurizon Complaints Management Protocol.

Complaints can be made via the dedicated contact points provided below:

- Telephone: 13 23 32
- Email: community@aurizon.com.au
- Web: aurizon.com.au (Contact Us)

All complaints will be recorded using a combination of databases including the Aurizon Community Complaints Register (CCR). The CCR is a community interactions database system that is used to record community contact including complaints. The databases as a minimum will record the following for each inquiry and complaint:

A. Date and time of complaint/enquiry.

B. Type of communication (telephone, letter, meeting etc.).

C. Name address, contact telephone number of complainant / enquirer.

D. Details of the complaint and enquiry.

E. Actions taken in response including follow up contact with the complainant.

Notice will be provided to PoN of any complaints, notices or directives in relation to the environment or any non-compliance with environmental laws.

6.2 Communications

The contents and requirements of this EMPO will be routinely communicated to Site personnel and management to ensure all staff remain up-to-date with environmental issues. Communication will be delivered by:

- Incident and hazard reports, safety alerts and advices, public distribution lists;
- Senior Leadership Team meetings;
- SHEM database;
- Site Workplace Health Safety & Environment Committees;
- Live Run;
- Daily pre-start meetings, site safety meetings, toolbox talks, safety interactions; and
- Aurizon intranet sites, newsletters.

Communications as they relate to safety and environmental matters will be communicated verbally. Where immediate behavioural change is required communication must be made within 24 hours. Important

information must be delivered within 72 hours. Where an employee is absent the communication must be made at their next shift.

External environmental communication may be conducted via media releases, community meetings and newsletters. Evidence of communications having been delivered will be retained in an electronic format.

6.3 Training and Inductions

All Aurizon staff are required to complete the Site induction including the following Learning Management System (LMS) Modules:

- Environmental Awareness; and
- Aurizon's Code of Conduct.

The Site-specific induction details the key points of the EMPO, relevant lease and EPL conditions, site specific hazards and mitigation requirements. All workers must undertake the induction prior to the commencement of works.

Key environmental related training required to be completed by all Site personnel is listed in Table 17 and consists of:

Table 17 - Training Requirements

Training	Position	Frequency
Site Induction	All	As required
Code of Conduct	All	Annual
Environmental Awareness Training	All	Every 3 years
Spill Management Training	All	Every 3 years
Emergency Drills	All	Annual
High Consequence Activity	Random	Annual

7.0 Document Review

The EMPO and supporting management plans will be routinely reviewed to promote continual improvement as per Table 18 in compliance with *BSEMS-STD04 Governance & Internal Control Arrangements*. The review will be conducted annually by the SAE.

The review should as a minimum consider the following:

- Regulatory agency comments;
- completed consistency reviews;
- audit findings;
- environmental monitoring records;
- complaints received;
- incident and corrective actions;
- changes in organisational structure and operational procedures; and
- Changes in legislation and standards.

All reviewed documents are to be entered into iN-Gauge with the previous document removed.

Table 18 - Document Review Schedule

Document	Review
EMPO	Annually during internal audit or after a major incident
EPMC	Annually during internal audit or after a major incident
PIRMP	Annually following test or an incident
Risk Register	Annually during internal audit or after a major incident

APPENDICIES

APPENDIX A Environmental Policy and Principle

APPENDIX B Environmental Risk Assessment

1	Traffic and Access	A) Noise and vibration emissions from light and heavy vehicle access impacting sensitive receivers. B) Improper use of access by 3rd parties and or impacts to private landholders.	**Elimination** A/B) Site access will be limited to designated access roads managed by PoN security and password protected APSN access gate. A) No adjacent sensitive receivers with no BAU concentrate received via road. **Substitution** Not applied **Isolation** Not applied **Engineering** A) Access roads will be maintained as required. B) All deliveries (oil, fuel etc.) are to access the site using designated access and be unloaded in designated areas. **Administration** A) Operational staff on-site at any one time is approximately 6-12 during normal operating conditions. A) Traffic is to be managed in a manner that meets the noise and vibration management performance criteria as detailed in the EMPO. A) All deliveries and heavy vehicles will access the Site during daytime hours (0730 to 1830) where practical. A) Vehicle movements restricted to 10 km/h. A) All operational staff and contractors will complete an induction communicating key elements prior to accessing the site as required. B) Changes to traffic management regimes and potential hazards shall be communicated to all relevant third parties as soon as practicable after they have been identified. A/B) Operational Environmental Management Plan **PPE** Not applied. **<u>Control Effectiveness:</u>**	**Guidance:** The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. Controls considered but rejected: NIL	**2**	**2**	**L**	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **<u>Control Effectiveness:</u>** SE	**Guidance:** Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.	Operations Manager		26/04/22

			SE									
2	**Provisioning and management of site storages**	A) Spill of hazardous materials to the environment during provisioning of site storages causing environmental harm. B) Failure of bulk storage due to collision of heavy vehicle resulting in impact to the environment.	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** A) All fuel supply contractor vehicles and equipment are to be compliant with relevant AS/NZS standards including AS1940. A) Designated provisioning areas are bunded to capture potential spills and maintain separation of potential spills from the stormwater system. B) Bulk fuel area is separated from roadway. **Administration** A) All fuel supply contractors are to provide Aurizon with a fuelling risk assessment for approval prior to operating on-site. A) Fuel supply contractors maintain compliance with (ADGC). A) All contractors undertaking works on-site or delivering materials will be required to undertake Aurizon's site specific induction; provide evidence of relevant licences / permits and provide	**Guidance:** The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. Controls considered but rejected: NIL	**3**	**2**	**M**	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **<u>Control Effectiveness:</u>** SE	**Guidance:** Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.	Operations Manager		26/04/22

			a SWMS to Aurizon for review prior to entry. A) Provisioning to be completed in accordance with ADGC and AS1940. A) Aurizon Incident Management Framework RD SAF 0012 Guide 001. A) Site EMPO. **PPE** A) Hydrocarbon Spill Kits will be available and ready for mobilisation at key locations across the site including the bulk fuel unloading area. A) All site personnel are to be trained in spill response procedures prior to operating on-site. **<u>Control Effectiveness:</u>** SE									
3	**Storage of spare and damaged parts**	A) Inappropriate storage of spare and damaged parts resulting in impact to the environment. B) Failure of parts resulting in environmental impacts.	**Elimination** Not applied **Substitution** Not applied **Isolation** A) Mechanical parts in contact with any automotive fluid shall be stored in designated areas. **Engineering** A) All work areas are graded into collection sumps. **Administration** A & B) All hazardous materials used on-site are logged in Aurizon's ChemAlert register system and individually risk assessed. A & B) MSDSs for all chemicals in-use are to be on-display and reviewed regularly.	**Guidance:** The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. Controls considered but rejected: NIL	**3**	**2**	**M**	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **<u>Control Effectiveness:</u>** SE	**Guidance:** Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.	Operations Manager		26/04/22

			A & B) Environmental Management Plan. **PPE** A & B) Hydrocarbon spill kits are to be maintained on-site, fully stocked, in readily accessible locations. A & B) Liquid spills are to be cleaned using dry methods. **<u>Control Effectiveness:</u>** SE									
4	**Management of surface and groundwater quality**	A) Spills from provisioning activities and loss if product during operations and maintenance activities reporting to soil, surface and or groundwater resulting in environmental impact.	**Elimination** Not applied **Substitution** Not applied **Isolation** **Engineering** A) Maintenance and operation of plant as per manufacturer's requirements and recommendations. A) Installation of collection mat at rail siding unloading area. A) Routine vacuum of required operational areas to mitigate concentrate deposits available for mobilisation. A) Tippler building and Concentrate Shed dust collection and fume management system. A) Sealing of all available areas to prevent stormwater ingress into soils. A) Concentrate boot wash system. A) All concentrate handling systems and storage areas fully enclosed. A) Fogging system within concentrate shed maintains moisture content of concentrate. A) HumeCeptors collect all runoff. A) Site sumps maintain at designated volume via automatic float switch.	**Guidance:** The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. Controls considered but rejected: NIL	**3**	**2**	**M**	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **<u>Control Effectiveness:</u>** SE	**Guidance:** Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.	Operations Manager		26/04/22

			A) Site water removed from site or pumped utilised in foggers. A) Refuelling of FEL undertaken via steel pipeline within CCS. A) Telechute fogging system. **Administration** A) Indicative surface quality performance criteria included in the EMPO. A) Routine inspections and maintenance of site and surface water infrastructure undertaken as per EMPO requirements. A) Surface monitoring program and reporting requirements as per EMPO. A) All cleaning of infrastructure is undertaken with vacuum. No washdown is permitted. A) All maintenance of vehicles undertaken in bunded areas. A) Spill kits well stocked and available. A) Loading are operations restricted to occurring when >35 knotts to prevent concentrate from becoming windblown. **PPE** Not applied. **<u>Control Effectiveness:</u>** SE									
5	**Waste management**	A) Improper waste management and disposal resulting in regulatory non-compliances or harm to the environment.	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** A) All waste water, sludge and hazardous material tanks are to be	**Guidance:** The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were	**3**	**2**	**M**	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied	**Guidance:** Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.	Operations Manager		26/04/22

			routinely inspected and serviced as per manufacturer's requirements. A) All tanks are to be pumped out in identified bunded areas. **Administration** A) All waste is to be removed by a licenced waste contractor and disposed of at a licenced facility. A) Cardboard, paper and commingled waste recycling receptacles available in key work areas. A) Hydrocarbon receptacles (for oily rags and oil filters) available if required. A) Secure HAZMAT receptacles available on-site if required. A) Metals / steel / aluminium components recycled where feasible. A) No waste will be received at the facility. **PPE** Not applied. **<u>Control Effectiveness:</u>** SE	considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. Controls considered but rejected: NIL				**PPE** Not applied **<u>Control Effectiveness:</u>** SE				
6	**Community**	A) Onsite operational activities resulting in impacts to community members.	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** A) Operational areas are fully enclosed where possible mitigating noise and dust emissions. **Administration** A) Community complaints management system in place.	**Guidance:** The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control.	**2**	**2**		**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **<u>Control Effectiveness:</u>** SE	**Guidance:** Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.	Operations Manager		26/04/22

			A) Machinery turned off when not in use. A) Trucks entering the facilities with dust generating loads are covered at all times except when loading and unloading. **PPE** Not applied. **<u>Control Effectiveness:</u>** SE	Controls considered but rejected: NIL								
7	**Historical site contamination**	A) Disturbance of historical site contamination from ground disturbance works resulting in impacts to the environment.	**Elimination** Not applied **Substitution** Not applied **Isolation** A) Contamination is managed under a separate EMP (Contamination). Contamination will not be disturbed unless in compliance with the EMP (Contamination). **Engineering** Not applied **Administration** A) Baseline surveys have been undertaken and retained site contamination identified. No disturbance of retained contamination is proposed to occur. A) Contamination is managed under a separate EMP (Contamination). **PPE** Not applied. **<u>Control Effectiveness:</u>** SE	**Guidance:** The selected HOC is justified on the basis that the controls form part of the accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. Controls considered but rejected: NIL	**3**	**3**	**M**	**Elimination** Not applied **Substitution** Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **<u>Control Effectiveness:</u>** SE	**Guidance:** Risk Controls are subject to ongoing due diligence in accordance with the authorised implementation and review timeframes.	Operations Manager		26/04/22
8	**Air Quality**	A) Operational activities resulting in the emissions of dust which impact sensitive receivers.	**Elimination** Not applied **Substitution**	**Guidance:** The selected HOC is justified on the basis that the controls form part of the	**2**	**2**	**L**	**Elimination** Not applied **Substitution**	**Guidance:** Risk Controls are subject to ongoing due diligence in	Operations Manager		26/04/22

		B) Operational activities resulting in diesel emissions impacting sensitive receivers and the environment.	Not applied **Isolation** Not applied **Engineering** B) Equipment is well maintained and operated as per manufactures requirements. B) Machinery is turned off when not in use. A) Maintenance and operation of plant as per manufacturer's requirements and recommendations. A) Routine vacuum of required operational areas to mitigate concentrate deposits available for mobilisation. A) Tippler building and Concentrate Shed dust collection and fume management system. A) All concentrate handling systems and storage areas fully enclosed. A) Fogging system within concentrate shed maintains moisture content of concentrate. B) Refuelling of FEL undertaken via steel pipeline within CCS. A) Telechute fogging system. **Administration** B) NPI and GHG reporting is undertaken as required. A) Vehicle movements are restricted to 10 km/h onsite. A) Loading are operations restricted to occurring when >35 knotts to prevent concentrate from becoming windblown. A/B) Aurizon CMS is in place to record and respond to complaints. Incidents will be managed through SHEM. A/B) APSN is a member of the Newcastle Air Quality Monitoring Network.	accepted safe system of work for the known operating environment and have valid potential to minimise the identified risk. All credible control options were considered within the hierarchy of control (HOC) as applicable to the accountable sphere of control. Controls considered but rejected: NIL				Not applied **Isolation** Not applied **Engineering** Not applied **Administration** Not applied **PPE** Not applied **<u>Control Effectiveness:</u>** SE	accordance with the authorised implementation and review timeframes.			

			A) Trucks entering the facilities with dust generating loads are covered at all times except when loading and unloading. **PPE** Not applied. **<u>Control Effectiveness:</u>** SE									