

Environment Protection Licence

Licence - 21379

Licence Details

Number:	21379
Anniversary Date:	05-August

Licensee

AURIZON OPERATIONS LIMITED

GPO BOX 456

BRISBANE QLD 4001

Premises

ROLLING STOCK OPERATED ON A LICENSED RAIL NETWORK

MAYFIELD NSW 2304

Scheduled Activity

Railway activities - rolling stock operations

Fee Based Activity

Scale

Rolling stock operations

Any annual capacity

Region

Metropolitan South - Sydney

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PARRAMATTA NSW 2150

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Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

AURIZON OPERATIONS LIMITED
GPO BOX 456
BRISBANE QLD 4001

subject to the conditions which follow.

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1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Railway activities - rolling stock operations	Rolling stock operations	Any annual capacity

Objectives of this licence

A1.2 It is an objective of this licence to control and progressively reduce noise and air quality impacts from the operation of rolling stock on any Licensed Rail Network.

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
ROLLING STOCK OPERATED ON A LICENSED RAIL NETWORK
MAYFIELD
NSW 2304
ROLLING STOCK, INCLUDING LOCOMOTIVES AND WAGONS, OPERATED ON A LICENSED RAIL NETWORK THAT ARE UNDER THE MANAGEMENT OR CONTROL OF THE LICENSEE, INCLUDING ROLLING STOCK OWNED OR LEASED BY THE LICENSEE.

A3 Information supplied to the EPA

A3.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998;

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and

b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Limit Conditions

L1 Pollution of waters

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.

L2 Locomotive class register

L2.1 The licensee must only operate locomotives on a Licensed Rail Network that are in a class of locomotive listed on the Locomotive Class Register on the EPA's website, unless otherwise provided for in this licence.

L3 Noise limits

Approval for new classes of locomotive (noise)

- L3.1
- If the licensee intends to operate a New Locomotive Class on a Licensed Rail Network, the licensee must obtain written approval from the EPA in accordance with Condition L3.2 prior to operating a locomotive of that class, unless otherwise provided for in this licence.
 - Where the class designation of locomotives of an Existing Locomotive Class has changed (e.g. transfer of ownership), those locomotives are not considered to be a New Locomotive Class and approval for that locomotive class is not required under Condition L3.1(a).
 - If the licensee intends to operate locomotives of an Existing Locomotive Class pursuant to Condition L3.1(b), the licensee must, at least seven days before operating the locomotives, advise the EPA of the new class designation of the locomotives.

Note: The terms "New Locomotive Class" and "Existing Locomotive Class" are further defined in the Special Dictionary at the end of this licence.

Process for approval of new locomotive classes (noise type testing)

- L3.2 An application for the approval of a new class of locomotive must be made in writing to the EPA and be accompanied by:
- a written report which, in accordance with the relevant requirements of section 11 of AS2377-2002 for reporting, must include:
 - the results of the noise type testing carried out in accordance with Condition L3.7, and
 - an assessment of compliance with Conditions L3.5 and L3.6; and
 - an electronic spreadsheet of the results of the noise type testing in a form nominated by the EPA.

Alternate approval for new classes of locomotive (noise)

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- L3.3 a) If the locomotive the subject of the approval sought under Condition L3.1 does not meet the limits in Conditions L3.5 and L3.6, the licensee must obtain written approval from the EPA in accordance with Condition L3.2 prior to operating that class of locomotive on a Licensed Rail Network.
- b) The application for approval must demonstrate that:
- all measures for minimising any non-compliance with the prescribed limits in Conditions L3.5 and L3.6 have been investigated and those that are identified as feasible and reasonable have been implemented; and
 - any non-compliance with the prescribed limits in Conditions L3.5 and L3.6 will not result in unacceptable environmental impacts.

Noise type testing limits for locomotive class approvals

- L3.4 To obtain approval under Conditions L3.1 and L3.3, the licensee must undertake noise type testing in accordance with Conditions L3.5, L3.6 and L3.7.

L3.5 Limits for noise

Operating Condition	Location of Measurement	Noise Limit
Low idle with air compressor, all cooling fans and air conditioning operating at maximum load occurring at low idle	Stationary 15 metre contour, except end positions (front and rear)	70 dB LAFMax, 30 seconds 85 dB LZFMMax, 30 seconds (Microphone Height: 1.5 Metres Above)
All other throttle settings under self load with air compressor, all cooling fans and air conditioning operating	Stationary 15 metre contour, except end positions (front and rear)	87 dB LAFMax, 30 seconds 95 dB LZFMMax, 30 seconds (Microphone Height: 1.5 Metres Above)

Limits for tonality

- L3.6 For the purposes of testing the noise limits in Condition L3.5, all external noise must be non-tonal. For the purpose of this condition, external noise is non-tonal if the Leq 30s sound pressure level in each Z - weighted one-third octave band does not exceed the level of the adjacent bands on both sides by:
- 5 dB if the centre frequency of the band containing the tone is above 400 Hz; and
 - 8 dB if the centre frequency of the band containing the tone is between 160 and 400 Hz, inclusively; and
 - 15 dB if the centre frequency of the band containing the tone is below 160 Hz.

Noise type testing methods

- L3.7 a) Noise type testing must be carried out in accordance with AS2377-2002 except as otherwise specified in this licence or approved by the EPA.
- b) Persons performing the noise type testing must be Competent Acoustic Practitioners.
- c) The noise type testing must provide all necessary measurement parameters for measuring compliance with the limits in Conditions L3.5 and L3.6.
- d) Where the measurement parameters required in Conditions L3.5 and L3.6 differ from those identified in AS2377 2002, the test procedures, measurement equipment and environmental conditions applied in noise type testing in support of an application to the EPA for approval under Conditions L3.1 and L3.3

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must yield all parameters identified in Conditions L3.5 and L3.6 but are otherwise to be applied in a manner that is consistent with the requirements of AS2377-2002.

e) The 15 metre contour specified in Condition L3.5 is to be represented by the 10 measurement points shown in AS2377-2002, Figure 1.

L3.8 Conditions L3.1, L3.2 and L3.3 do not apply to the operation of a locomotive solely for the purposes of facilitating noise type testing.

L4 Air emission limits

Air emission limit for new classes of locomotive

- L4.1
- From the date of issue of this licence, any New Locomotive Class that is to be operated on a Licensed Rail Network must comply with the US EPA Tier 2 line-haul cycle weighted average exhaust emission limit for particulate matter (PM) of 0.27 g/kWh.
 - The licensee must provide written confirmation of compliance with Condition L4.1(a) in a form nominated by the EPA fourteen days prior to operating any new class of locomotive.
 - Where the class designation of locomotives of an Existing Locomotive Class has changed (e.g. transfer of ownership), those locomotives are not considered to be a New Locomotive Class and Condition L4.1(a) does not apply to that Locomotive class.
 - If the licensee intends to operate locomotives of an Existing Locomotive Class pursuant to Condition L4.1(c), the licensee must, at least seven days before operating the locomotives, advise the EPA of the new class designation of the locomotives.

L4.2 Compliance with the air emission limit specified in Condition L4.1(a) must be supported by air emissions type testing of the class of locomotive or engine in accordance with Condition L4.3.

Air emissions type testing methods

- L4.3
- Air emissions type testing for the purposes of Condition L4.2 must be carried out using equipment and procedures in accordance with either United States Code of Federal Regulations Title 40 part 1033 (CFR 1033), ISO 8178 or EC Regulation 595. The calculation of the cycle-weighted average PM emissions must be undertaken using the weightings in the US EPA line haul duty cycle specified in US CFR 1033.
 - Type testing of the locomotive or engine may be satisfied by evidence provided by the locomotive engine original equipment manufacturer or the supplier of an engine emission upgrade kit.
 - Where type testing of one engine or locomotive class indicates compliance with Condition L4.1(a), such testing will be accepted as evidence of compliance with Condition L4.1(a) of all locomotives fitted with an identically configured engine upon submission to the EPA of evidence of that compliance in a form nominated by the EPA.

3 Operating Conditions

O1 Activities must be carried out in a competent manner

- O1.1 Licensed activities must be carried out in a competent manner.
This includes:

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- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

- O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:
- a) must be maintained in a proper and efficient condition; and
 - b) must be operated in a proper and efficient manner.

O3 Identification of rolling stock

- O3.1 All rolling stock operated by the licensee on a Licensed Rail Network must be equipped with automatic equipment identification enabling unique identification information of individual rolling stock to be recorded when passing a Wayside Monitoring System.
- O3.2 Automatic equipment identification must comply with the Assets Standard Authority THR 00880 ST or the Australian Rail Track Corporation Engineering standard WOS 01.400, as applicable.

O4 Dust

- O4.1 The licensee must operate and manage the premises such that the generation of dust is minimised.

O5 Refuelling

- O5.1 Refuelling of rolling stock must be undertaken such that any spillage or loss of fuel is minimised.

O6 Idling

- O6.1 The licensee must minimise noise and air emissions and impacts on sensitive receivers from locomotive idling on any Licensed Rail Network.

O7 Horn use

- O7.1 The licensee must minimise noise impacts on noise sensitive receivers from locomotive horn usage on any Licensed Rail Network.
- O7.2 Within 12 months from the date of issue of this licence, all locomotives must be fitted with both a low noise level horn (town horn) and high noise level horn (country horn) in accordance with Assets Standard Authority RSU 350 for locomotives.

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O7.3 For the purposes of Condition O7.2, the requirement to fit a low noise level horn (town horn) does not apply to low usage locomotives.

O8 Braking, bunching and stretching

O8.1 The licensee must minimise noise impacts on noise sensitive receivers from braking, bunching and stretching of freight wagons on any Licensed Rail Network.

O9 Transport of waste

O9.1 For the avoidance of doubt, no condition of this licence permits the licensee to carry out the scheduled activities of 'transportation of trackable waste' or 'waste storage' without a licence issued by the EPA for that activity.

Note: Transportation of trackable waste is a scheduled activity under clause 48 of the Act and refers to both Category 1 and Category 2 trackable waste as described in the Act and the Protection of the Environment Operations (Waste) Regulation 2014.

O10 Environmental awareness

O10.1 All staff, including contractors and subcontractors, involved in the carrying out of the activities authorised by this licence must be aware of their environmental responsibilities relating to the activities regulated by this licence.

4 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

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M2 Recording of pollution complaints

- M2.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M2.2 The record must include details of the following:
- a) the date and time of the complaint;
 - b) the method by which the complaint was made;
 - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
 - d) the nature of the complaint;
 - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
 - f) if no action was taken by the licensee, the reasons why no action was taken.
- M2.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M2.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M3 Telephone complaints line

- M3.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M3.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M3.3 The preceding two conditions do not apply until 3 months the date of the issue of this licence.

M4 Other avenues for complaints

- M4.1 The licensee must have an avenue for complaints, such as an email address, accessible from its website for the purposes of receiving any complaints from members of the public in relation to activities carried out under this licence.
- M4.2 The preceding condition does not apply until 3 months after the date of the issue of this licence.

M5 Other monitoring and recording conditions

Register of rolling stock

- M5.1 The licensee must maintain a list of the rolling stock under the management or control of the licensee that

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it operates on Licensed Rail Networks, including the unique identification number of each item of rolling stock.

Freight wagon unacceptable angle of attack events

M5.2 For each unacceptable angle of attack event identified at a Wayside Monitoring System location for a priority wagon class, the licensee must identify the unique identification number of the wagon involved and the type or class of wagon and bogie involved.

Note: Under Environment Protection Licence Number 12208, the Railway Infrastructure Operator Sydney Trains is required to operate and maintain Wayside Monitoring Systems to undertake wayside angle of attack monitoring of freight wagons operating on the Sydney Trains Network. The Wayside Monitoring Systems must record angle of attack data and the relevant Railway Infrastructure Operator must provide this information or make it accessible to the relevant Rolling Stock Operator.

In Service locomotive noise testing

- M5.3
- a) The licensee must undertake noise testing in accordance with this condition for each locomotive operating on a Licensed Rail Network (excluding locomotives listed in the Locomotive Class Register as 'Legacy Locomotive Class') after each Major Engine Overhaul.
 - b) The noise testing locations must be the central 15 metre point on either side of the locomotive in accordance with AS2377 for each notch setting under self-load. For clarity, this requires one measurement point on either side of the locomotive, mid-way along the locomotive's length and at 15 metre offset from the track centreline.
 - c) Where a locomotive is not capable of operating under self-load as required by Condition M5.3 b), alternative methods must be approved by the EPA.
 - d) The licensee must compare the noise measurements to the limits in Condition L3.5 and Condition L3.6.
 - e) Where the noise measurements obtained under Condition M5.3(a) exceed the limits in Condition L3.5 by more than 5dB and/or exhibit tonality in accordance with Condition L3.6, the licensee must prepare a plan of management that:
 - i) proposes feasible and reasonable noise mitigation measures to reduce noise emissions from the locomotive to comply with Conditions L3.5 and L3.6;
 - ii) includes timeframes to implement identified noise mitigation measures; and
 - iii) must be submitted to the EPA for approval within 6 months of undertaking the noise testing in Condition M5.3(a).

5 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,

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5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.

At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.7 Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

R2 Notification of environmental harm

R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

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R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
- b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- a) the cause, time and duration of the event;
- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

R4 Other reporting conditions

Complaints register reporting

R4.1 a) Within 10 business days of the end of each calendar month, the licensee must submit a report to the EPA, in a form nominated by the EPA, that provides details of all pollution complaints, including noise and vibration complaints, received on the telephone complaints line (Condition M3) or through other avenues (Condition M4) or referred to the licensee in regards to the activities authorised or controlled by this licence.

The report must include:

- i) a unique identifier number for each complaint;
- ii) the details required by Condition M2.2

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- iii) the unique identification number of the rolling stock which is the subject of the complaint, if known; and
- iv) the class of locomotive, where relevant.
- b) The licensee is not required to submit a report for any calendar month during which no complaints were received by or referred to the licensee.
- c) The preceding conditions do not apply until 3 months after the date of the issue of this licence.

Annual Rolling Stock Performance Report

- R4.2 The licensee must submit to the EPA no later than 28 February of each year an Annual Rolling Stock Performance report for the previous calendar year (1 January to 31 December).
The report must include:
- a) the number of the licensee's locomotives that underwent a Major Engine Overhaul in the calendar year and, for each locomotive:
 - i) the unique identification number of the locomotive;
 - ii) details of the class, type/model, the engine manufacturer and engine model; and
 - iii) the date of the Major Engine Overhaul.
 - b) details of all locomotives identified under Condition M5.3(e) and a summary of the noise mitigation measures in the plan of management required by Condition M5.3(e) that were undertaken and completed during the calendar year, if any.
 - c) details of any unacceptable Angle of Attack event identified for a freight wagon of a priority wagon class within the meaning of this licence during the calendar year for the purposes of Condition M5.2. These details must include:
 - i) the unique identification number of each freight wagon involved and the time and date of any unacceptable Angle of Attack event at a Wayside Monitoring System location;
 - ii) whether the freight wagon identified under Condition R4.2(c)(i) has been rectified in accordance with Condition U5 of this licence, or when rectification is scheduled to occur for the identified freight wagon; and,
 - iii) where a freight wagon of a priority wagon class that has been subject to rectification under Condition U5 has recorded an unacceptable Angle of Attack, the additional measures to ensure the wagon has an acceptable Angle of Attack and timeframes for implementation of those measures.
 - d) the number of freight wagons of a priority wagon class that underwent rectification under Condition U5 during the reporting period and for each freight wagon:
 - i) the unique identification number of the freight wagon;
 - ii) details of the class of the freight wagon; and
 - iii) a summary of the corrective measures undertaken to rectify the freight wagon, including the date of freight wagon rectification.
- R4.3 The licensee must prepare a report, in a form nominated by the EPA, that summarises the information required under Conditions R4.2 (b), R4.2 (c) and R4.2 (d) and must make the report publicly available on the licensee's website no later than 28 February of each year.

6 General Conditions

G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.

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- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.
- G1.4 For the purpose of Condition G1.1 the premises is defined as the principal office of the licensee.
- G1.5 For the purpose of G1.3 "available for inspection" includes inspection via electronic means.

G2 Contact number for incidents and responsible employees

- G2.1 The licensee must provide the EPA with up to date contact details to enable the EPA:
 - a) to contact either the licensee or a representative of the licensee who can respond at all times to incidents relating to the premises, and
 - b) to contact the licensee's senior employees or agents authorised at all times to:
 - i) speak on behalf of the licensee, and
 - ii) provide any information or document required under the licence.
- G2.2 The contact details required by Condition G2.1 above must include:
 - a) the full name and title of the authorised representatives and the scope of their respective authorisations; and
 - b) the direct telephone number, mobile number, email address and postal address for contacting each authorised representative.

7 Pollution Studies and Reduction Programs

U1 Pollution Study - Locomotive Operation Report – Idling

- U1.1 The licensee must prepare a report which describes the actions and practices undertaken by the licensee to prevent or minimise noise and air emissions, and impacts on sensitive receivers, from locomotives idling on any Licensed Rail Network.

Note: This report may be used to develop a Pollution Reduction Program to further investigate potential improvements to current actions and practices and develop a management plan to minimise the impacts of idling where appropriate and as requested by the EPA.

- U1.2 In the report, the licensee must:
 - a) include relevant information regarding idling, including but not limited to:
 - i) a review of the complaints it has received regarding idling;
 - ii) categorisation of the complaints by cause and location and identification of the number of complaints for each category; and
 - iii) details of all actions and practices that were identified and/or implemented by the licensee to address the complaints; and
 - b) details of any actions, practices or possible improvements that the licensee could make to minimise impacts on sensitive receivers from locomotives idling on any Licensed Rail Network.

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U1.3 The licensee must provide the EPA with the report within 12 months of the date of issue of this licence.

U2 Pollution Study- Locomotive Operation Report - Horn use

U2.1 The licensee must prepare a report which describes the actions and practices undertaken by the licensee to prevent or minimise noise impacts on noise sensitive receivers from locomotive horn use on any Licensed Rail Network.

Note: This report may be used to develop a Pollution Reduction Program to further investigate potential improvements to current actions and practices and develop a management plan to minimise impacts of locomotive horn use where appropriate and as requested by the EPA.

U2.2 In the report, the licensee must:

- a) include relevant information regarding horn use, including but not limited to:
 - i) a review of the complaints it has received regarding horn use;
 - ii) categorisation of the complaints by cause and location and identification of the number of complaints for each category; and
 - iii) details of all actions and practices that were identified and/or implemented by the licensee to address the complaints; and
- b) details of any actions, practices or possible improvements that the licensee could undertake to minimise impacts on noise sensitive receivers from locomotive horn use on any Licensed Rail Network.

U2.3 The licensee must provide the EPA with the report within 12 months of the date of issue of this licence.

Note: Condition O7.2 requires all locomotives to be fitted with both a low noise level horn (town horn) and a high noise level horn (country horn) in accordance with Assets Standard Authority RSU 350 for locomotives within 12 months from the date of issue of this licence. The requirement to fit a town horn does not apply to low usage locomotives.

U3 Pollution Study - Operation Report - Braking, bunching and stretching

U3.1 The licensee must prepare a report which describes the actions and practices undertaken by the licensee to prevent or minimise noise impacts on noise sensitive receivers from braking, bunching and stretching of freight wagons on any Licensed Rail Network.

Note: This report may be used to develop a Pollution Reduction Program to further investigate potential improvements to current actions and practices and develop a management plan to minimise impacts from braking, bunching and stretching of freight wagons where appropriate and as requested by the EPA.

U3.2 In the report, the licensee must:

- a) include relevant sources of information regarding braking, bunching and stretching, including but not limited to:
 - i) a review of the complaints it has received regarding noise impacts associated with braking, bunching and stretching of freight wagons;
 - ii) categorisation of the complaints by cause and location and identification of the number of complaints for each category;
 - iii) details of all actions and practices that were identified and/or implemented by the licensee to address

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the complaints; and

b) details of any actions, practices or possible improvements that the licensee could undertake to minimise noise impacts from braking, bunching and stretching of freight wagons on any Licensed Rail Network.

U3.3 The licensee must provide the EPA with the report within 12 months of the issue of this licence.

U4 Pollution Study - Data collection and analysis of locomotive noise levels

U4.1 The licensee must attain noise data accessed from or provided to it by the relevant Railway Infrastructure Operator from the Wayside Monitoring System (Noise) on the Sydney Trains Network at Beecroft for a period of one month.

U4.2 The licensee shall process and augment the data to derive the following parameters:

- a) Time, date and direction of travel of each locomotive pass-by;
- b) Class of locomotive and unique locomotive identifier including whether the locomotive is a 'Legacy Locomotive Class' within the meaning of the licence;
- c) Whether the locomotive was operating in a contiguous consist of locomotives or otherwise;
- d) The LAFmax, dB and LZfmax, dB level from the locomotive at or normalised to 15m from the centreline of the track at the time the tag reader identified the pass-by of the locomotive; and
- e) The operational configuration of the locomotive at the time of pass-by including notch setting and operation of dynamic braking system where practical.

U4.3 Within two months of the licensee attaining the data per Condition U4.1, the licensee must supply a report to the EPA that includes the following data:

- a) The number and class of all locomotives operated by the licensee on the Licensed Rail Network for the period stipulated in Condition U4.1;
- b) The percentage of the licensee's locomotive fleet that passed by the Wayside Monitoring System (Noise) at Beecroft for the period stipulated in Condition U4.1;
- c) All locomotive data outlined in Condition U4.1 for each locomotive that passed by the Wayside Monitoring System (Noise) at Beecroft between the period stipulated in Condition U4.1;
- d) Where a locomotive passed the Wayside Monitoring System (Noise) at Beecroft on more than one occasion, the arithmetic mean of the LAFmax, dB and LZfmax, dB of all pass-bys of that locomotive, the standard deviation from the mean of all pass-bys for the locomotive and the number of pass-bys recorded for that locomotive; and
- e) Where a class of locomotive passed the Wayside Monitoring System (Noise) at Beecroft on more than one occasion, the arithmetic mean of the LAFmax, dB and LZfmax, dB of all pass-bys of that class of locomotive, the standard deviation from the mean of all pass-bys of that class of locomotive and the number of pass-bys of that class of locomotive.

U4.4 The data collection, processing and reporting requirements under Conditions U4.1 – U4.3 may be dispensed with for a locomotive class operated by the licensee after the collection and processing of data fully satisfying the requirements of Conditions U4.1 – U4.3 for at least 20 pass-bys of that locomotive class.

Note: Under Environment Protection Licence Number 12208, the Railway Infrastructure Operator Sydney Trains is required to operate and maintain Wayside Monitoring Systems to undertake wayside angle of attack monitoring of freight wagons operating on the Sydney Trains Network. The Wayside Monitoring Systems

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must record angle of attack data and the relevant Railway Infrastructure Operator must provide this information or make it accessible to the relevant Rolling Stock Operator.

U5 Pollution Study - Freight wagon steering performance rectification program

- U5.1 To reduce the noise impacts associated with wheel squeal from freight wagons, the licensee must ensure within five years of the date of issue of this licence, or otherwise as agreed by the EPA, that the wheelsets of any non-compliant freight wagons of priority wagon classes operated by the licensee have an acceptable Angle of Attack.
- U5.2 The licensee must, within six months of the date of issue of this licence, provide a list of all non-compliant freight wagons of priority wagon classes operated by the licensee to the EPA together with a report that outlines the licensee's proposed measures and progressive milestones, including timeframes, for achieving Condition U5.1.
- U5.3 The licensee must notify the EPA within 21 days of any changes to the list of non-compliant freight wagons of priority wagon classes operated by the licensee as required under Condition U5.2.

8 Special Conditions

E1 Rolling Stock Operations Licence Dictionary

- E1.1 In this licence, unless the contrary is indicated, the terms below have the following meanings:

Term	Defintion
angle of attack (AoA)	the rolling stock wheelset alignment relative to the rail and is measured in milliradians.
acceptable angle of attack	is defined as being less than a value given by the following equation: $ AoA = 2.5 \times Bwb/R$ Where AoA = angle of attack (radians) Bwb = bogie wheel base (m) R = radius of track curvature (m) is the absolute value operator Note: The Acceptable Angle of Attack at Beecroft Wayside Monitoring System (AoA) is equivalent to 15 milliradians.
AS2377-2002	Australian Standard AS2377-2002 Acoustics – Methods for the measurement of railbound vehicle noise.
Assets Standard Authority THR 00880 ST	Transport for NSW, (T HR RS 00880 ST) – Standard – RSU Appendix H – Automatic Equipment Identification, Version 1.0. Issue Date: 19/12/2014. Reconfirmed: 9/7/2019.

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Assets Standard Authority RSU 350	Assets Standard Authority RSU 350 Transport Assets Standards Authority (T HR RS 00300 ST) – Standard – RSU 300 Series – Minimum Operating Standards for Rolling Stock – Locomotive Specific Interface Requirements. Version 2.0. Issue Date: 10 April 2019.
Australian Rail Track Corporation Engineering standard WOS 01.400	Australian Rail Track Corporation Engineering Standard – NSW Rolling Stock Freight Vehicle Specific Interface Requirements WOS 01.400.
bogie	a structure incorporating suspension elements and fitted with wheels and axles, used to support rail vehicles at or near the ends and capable of rotation in the horizontal plane. It may have one, two or more wheel sets, and may be the common support of adjacent units of an articulated vehicle.
competent acoustic practitioner	<p>a competent acoustic practitioner must satisfy one or more of the following:</p> <ul style="list-style-type: none"> • have qualifications and/or experience sufficient to fulfil the requirements of ‘member’ grade of the Australian Acoustical Society • undertake the duties of an acoustics consultant on behalf of a consultancy firm that is a member of the Association of Australasian Acoustical Consultants <ul style="list-style-type: none"> • have a recognised tertiary qualification in a discipline pertinent to acoustics • demonstrate competence through professional experience and/or technical expertise to the satisfaction of the EPA.
Existing Locomotive Class	means for the purposes of noise limits in Condition L3.1 and air emission limits in Condition L4.1 a class of locomotive that has operated on a Licensed Rail Network and listed on the EPA’s Locomotive Class Register before the date of the issue of this licence.
freight wagon	a railway vehicle that is used or intended to be used to transport freight for reward, but does not include a locomotive.
g/kWh	grams per kilowatt hour.
high noise level horn	a high noise level horn or “Country Horn” as defined in Section 10.9 of Assets Standard Authority RSU 350 for locomotives.
identically configured engine	<p>an identically configured engine is one in which the components that impact on the emissions performance of the engine have the same part numbers as an engine that has previously been demonstrated to be compliant with Condition L4.1(a) of this licence. These components are listed in the Emissions Parts List in the New Locomotive Class worksheet of the EPA’s “Locomotive Air Emissions Compliance Reporting Workbook”, and include all components comprising</p> <p>a Power Assembly as defined in the U.S. Code of Federal Regulations Title 40 Part 1033 section 1033.901, and engine electronic control unit (ECU) and ECU firmware version, and other significant components listed as defining an engine to belong to a specific engine family as listed in U.S. Code of Federal Regulations Title 40 Part 1033 section 1033.230 (b).</p>
LAFMax	means A-weighted maximum noise level, fast weighting.

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Leq 30s	represents the average noise energy during the measurement period which is equivalent to the fluctuating sound level actually occurring over a 30 second period.
Licensed Rail Network	a continuous or connected length of track greater than 30 kilometres that is operated by the same person in New South Wales.
Legacy Locomotive Class	comprising locomotives that were introduced to Licensed Rail Networks prior to the EPA's noise approval process and that have not undergone a noise approval process.
locomotive	a vehicle powered by an internal combustion engine that is primarily intended for hauling freight and/or passenger rolling stock.
locomotive class	a group of locomotives manufactured to a common specification, including being fitted with the same model engine (an 'Identically configured engine') and the same design of cooling system, exhaust system and noise attenuation components and any other components that may materially impact on noise and air/exhaust emissions so as to practically have identical noise and air/exhaust emission characteristics / performance.
Locomotive Class Register	the register of classes of locomotive maintained by the EPA available at the EPA's website, as amended from time to time.
low noise level horn	a low noise level horn or "Town Horn" as defined in Section 10.9 of Assets Standard Authority RSU 350 for locomotives.
low usage locomotives	means those locomotives that have a maximum level of annual locomotive usage up to but not greater than 50,000 km/annum.
LZFMax	means Z-weighted maximum noise level, fast weighting.
maintenance activities	means repair, servicing, upgrading or alteration of rolling stock.
major engine overhaul	means either: A scheduled maintenance procedure that either replaces, or inspects and qualifies each and every power assembly of the locomotive engine. A major engine overhaul will not include unscheduled maintenance to replace these components due to unforeseen failure of engine component(s) prior to scheduled maintenance; or Installation of a remanufactured or freshly manufactured engine into an existing locomotive.
New Locomotive Class	means for the purposes of noise limits in Condition L3.1 and air emission limits in Condition L4.1 any class of locomotive that has not operated on a Licensed Rail Network before the date of the issue of this licence. Note: Italicised terms in this definition have the same meaning as defined in the United States Code of Federal Regulations Title 40 Part 1033 section 1033.901.

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noise sensitive receivers	receiver types and land-uses identified in Table 1, 2 and 3 of the Rail Infrastructure Noise Guideline (EPA, 2013).
noise type testing	a test that determines whether a process, product, or service complies with the requirements of a noise specification, technical standard, contract, or regulation.
non-compliant freight wagon	freight wagons identified as having an unacceptable angle of attack.
pass-by	the passing of an item of rolling stock by a fixed point on the rail network.
priority wagon class	a class of freight wagons, as identified to the licensee by Transport for NSW, requiring rectification in accordance with Transport for NSW's standard titled T HR RS 00400 ST RSU 400 Series – Minimum Operating Standards for Rolling Stock – Freight Vehicle Specific Interface Requirements Version 2.0 Issued date: 24 August 2017, and being one of the following priority wagon classes: RKWY, RQCY, VQCY, RKFX, RRYW, CQWY, RKMV, RKKY, RKBY, RRYK, RKCX, RKHF, VQTY, RQTY, PBGY, ABSY, CQJY, CQGY, CQYY, CQEY, CQPY. The standard and/or Priority wagon classes may be updated from time to time by Transport for NSW.
railway infrastructure operations	means the scheduled activity in clause 33A of Schedule 1 to the Act.
railway infrastructure operator	means a person authorised by an environment protection licence to carry out the scheduled activity of Railway Infrastructure Operations under clause 33A of Schedule 1 to the Act.
rolling stock	has the same meaning as in Clause 33B of Schedule 1 of the Act.
rolling stock operations	means the scheduled activity in Clause 33B of Schedule 1 to the Act.
rolling stock operator	means a person authorised by an environment protection licence to carry out the scheduled activity of Rolling Stock Operations under Clause 33B of Schedule 1 to the Act.
sensitive receiver	a location where people are likely to work or reside; this includes residential dwellings, schools, hospitals, offices or public recreational areas.
trackable waste	Category 1 trackable waste and category 2 trackable waste, which have the same meanings as in clause 3 of the Protection of the Environment Operations (Waste) Regulation 2014.
unacceptable angle of attack	an angle of attack exceeding the acceptable angle of attack.
Wayside Monitoring System (Angle of Attack)	means the systems installed, operated and maintained by the Railway Infrastructure Operators to measure the angle of attack of wheelsets of freight wagons.
Wayside Monitoring System(Noise)	means the systems installed, operated and maintained by the Railway Infrastructure Operators to detect pass-by noise levels of rolling stock.

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wheelset

means an assembly consisting of axle, wheels, bearings and, where applicable associated components including but not limited to brake discs, traction gears, traction motor support bearings and gearbox.

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Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

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flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

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Environment Protection Authority

(By Delegation)

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End Notes