



SCT Logistics – Annual rollingstock performance report

Locomotive noise testing

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).

| LOCO ID | LOCO Class | Engine manufacturer | Engine Model | Date of overhaul | Noise testing completed Y/N | Noise testing compliant Y/N |
|---------|------------|---------------------|--------------|------------------|-----------------------------|-----------------------------|
| CSR006 | CSR | MTU Germany | 20V4000R53 | 10/10/2022 | N | TBD |
| CSR007 | CSR | MTU Germany | 20V4000R53 | 13/06/2022 | N | TBD |
| CSR008 | CSR | MTU Germany | 20V4000R53 | 22/02/2022 | N | TBD |
| SCT005 | SCT | EMD | 710 | 18/02/2022 | N | TBD |
| SCT012 | SCT | EMD | 710 | 05/09/2022 | N | TBD |
| SCT015 | SCT | EMD | 710 | 16/05/2022 | N | TBD |

| Non-compliant locomotive | In Service locomotive noise testing (Excludes Legacy Locomotives) 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, provide details of the management plan below: | | | |
|--------------------------|---|---|---|-------------------------------|
| | Proposed feasible and reasonable noise mitigation measures to reduce noise emissions from the locomotive to comply with Conditions L3.5 and L3.6 | Timeframe to implement noise mitigation measure | Date Mgmt Plan submitted for EPA Approval | Date plan approved by the EPA |
| Nil | | | | |

We were unable to conduct noise tests on Locomotives CSR006, CSR007, CSR008, SCT005, SCT012 & SCT015 due to the below:

- SCR locomotives being out of service awaiting parts



- No adequate test facility in house where rail and road traffic noise don't interfere with readings
- Locomotive availability for testing, SCT locomotives do not enter the Penfield maintenance facility where Engineering is based.
- Loss of Engineering staff
- Derailments
- Floods with locomotives stuck in WA

EPA NSW – Angle of Attack – AoA (Noise) – Wagon Information & Performance Report

Re: SCT EPA NSW Licensee No. – 21401
January 2023

The following are details of SCT's train performance with regards to AoA exceedances reported from the Sydney Trains monitoring station at Beecroft. Also included are SCT's initiatives for reducing AoA exceedances and hence noise levels during the last 12 months.

The raw AoA data was analysed for the period between January to December 2022; refer to Attachment A and the following was determined:

Overall, the number of reported exceedances were less than those reported during 2021.

- In 2021 over 2200 individual axle exceedances were reported
- 2022 approx. 1600 individual axle exceedances were reported.
- to note however SCT Train services were interrupted approx. 1 month due to fires and floods during 2022.
- This still represents 20% less exceedances.

1. From the axle exceedances analysed (Noting some wagons listed were not part of SCT's fleet) two or more axle exceedances were noted on the same wagon on the same train approximately 50% of the time. It was also evident the lead axle had the worst AoA exceedance level followed by the trailing axles. Hence 1600 axle exceedances translated to approximately 800 wagons exceeding the limit during 2022.
2. A review of the wagons by class determined the following:



Chart 1 – Exceedances by Class

| Class | Wagon AoA Exceedances by Class | AoA Exceedances above ± 20 (Allowable < 15) |
|---------------|--------------------------------|--|
| PBGY | 52% | 73% |
| ABSY | 13% | 10% |
| PBSY | 12% | 11% |
| PQIY | 7% | 2.5% |
| PQQY (5-Pack) | 4% | 3% |
| PQKY | 1% | 0% |
| QQCY (5-Pack) | 1% | 0% |

3. What is evident from Chart 1 is that the principle SCT wagons that trigger the AoA exceedance levels are the older wagons in SCT's fleet – the PBGY wagons. SCT is introducing more new wagons into their fleet including six new 5-Pack wagons (equivalent to 30 wagons) these are fitted with the latest bogies with polymer centre liners to reduce the AoA and hence minimise rail squeal.

SCT Initiatives

SCT with their maintenance provider have introduced an inspection procedure for wagons with repeated AoA axle exceedances

The following is an extract of SCT's maintenance Provider's procedure for monitoring and managing wagons that have repeated exceedances for Angle of Attack (AoA) as reported by NSW.

Title: AoA Work Instruction – Document Ref: GEM OPWI.0046 – Wagons Exceeding Angle of Attack Tolerances dated 24-03-22

Section 4. Inspection Procedure

4.1. Repeat offenders

The Maintenance Planner or Service Manager is to confirm that wagons identified as exceeding angle-of-attack tolerances are repeat offenders.



For the purposes of this document, a repeat offender constitutes the same axle on a wagon being highlighted as out of tolerance more than three (3) times within a short period of time of approximately 4 weeks.

4.2. Green Card Repeat Offenders

If the wagon is deemed a repeat offender, the Maintenance Planner or Service Manager is to place a Green card on this wagon so that it can be inspected at the next Service location.

4.3. Inspection

The Service Depot is to visually inspect the following wagon components for signs of excessive wear, damage, out of tolerance, or if missing:

- *Bolster Gibs*
- *Sideframe gibs*
- *Friction Wedges*
- *Twistlocks (if a container wagon)*
- *Wagon centre plate (without lifting)*
- *Bogie centre bowl (without lifting)*
- *Bogie Springs*
- *Bearing Adaptors*
- *Wheel flanges*

“It is important to note that wagons with new wheels and newly overhauled bogies may cause out of tolerance angle-of-attack readings.”

Findings to Date

It is important to note that the procedure for inspecting and managing wagons identified with repeated AoA exceedances was only released in the first half of 2022 however the following has been found with regards to the AoA inspections in the later part of the year:

- There were approximately 28 wagons identified as having repeated AoA exceedances within a month.
- For 50% of these – no significant issues could be found with the wheelset or bogies on the infringing bogies.



Adelaide, SA | Brisbane, QLD | Broadwater, NSW | Melbourne, VIC | Parkes, NSW | Perth, WA |
Sydney, NSW | Wodonga, VIC

- Approximately 25% of those reported for AoA exceedances were after wheel changeout – i.e., newly profiled wheels until bedded in will potentially not steer optimally which impacts on AoA and other wheel monitors i.e., WILD detectors.

SCT and their wagon maintainer are further working together to gain more experience and information regarding wagons with repeated AoA exceedances.

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