



Annual Rollingstock performance report. (2023)

EPA NSW License number 21401.

SCT Logistics

(R4.2) Major engine overhaul

R4.2 a)

Between January 1, 2023, and December 31, 2023, SCT conducted 6 major engine overhauls.

Unique ID	Loco class	Engine manufacturer	Engine model	Date of engine overhaul	Noise testing due date	Noise test complete
CSR005	CSR	MTU Germany	20V4000R53	18/04/2023	18/10/2023	N
SCT014	SCT	EMD	710	15/04/2023	15/10/2023	N
CSR014	CSR	MTU Germany	20V4000R53	24/04/2023	24/10/2023	N
SCT009	SCT	EMD	710	11/05/2023	11/11/2023	N
CSR006	CSR	MTU Germany	20V4000R53	12/10/2023	12/04/2024	Not due yet
CSR009	CSR	MTU Germany	20V4000R53	17/10/2023	17/04/2024	Y

R4.2 b)

SCT only complete noise testing on CSR009 which were obtained under condition M5.3(a) and did not exceed the limits of in condition L3.5.

SCT did not complete the noise testing post each major engine overhaul because of the below reasons:

- Extreme operational constraints
- Our service engineer was involved in a fatal accident outside of work
- Yard and access limitations (shunting, yard track works)
- Engineering Staff on leave.

R4.2 C)

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 calendar year 2023. The raw AoA data was analysed for the period between January to December 2023; refer to Attachment A and the following was determined:

1. Overall, the number of reported exceedances were less than those reported during the previous years; 2021 and 2022.

- a. 2021 - 2200 individual axle exceedances were reported
 - b. 2022 - 1600 individual axle exceedances were reported
 - c. 2023 - 1027 Individual axle exceedances were reported This represents over 36% less overall exceedances during the calendar year 2023.
2. As identified in previous years 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.
 3. A review of the wagons by class determined the following:

Chart 1 – Exceedances by Class

Wagon Class	Wagon AoA exceedances by class
PBGY	70%
ABSY	8%
PBSY	10%
PQIY	4%
PQQY	6%
Other classes	2%

4. As noted previously the principle SCT wagons that trigger the AoA exceedance levels are the older wagons in SCT's fleet – the PBGY wagons. These wagons do account for approximately 70% of all exceedances, however overall, the PBGY exceedances are significantly improved as compared to previous years as overall the SCT exceedances have improved 10%. (i.e., PBGY – 2022 had approx. 800 exceedances vs 719 in 2023)

SCT Initiatives

1. The overall exceedances have improved as more newer wagons are operated on SCT Trains.
2. The maintenance and inspection regime introduced by SCT and their maintenance provider for wagons identified with repeated AoA axle exceedances is highlighting a number of bogies that need attention.

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.

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
- Wagon centre plate
- Bogie centre bowl
- 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

- There were 26 wagons identified and brought in for inspection after having repeated AoA exceedances within a month during the 12 months monitored in 2023. Of these 26 only 20 wagons are in the 2-priority class PBGY, ABSY wagons.
- For the 26 wagons with repeated exceedances, 19% had significant bogie, spring or wear issues that needed attention whilst approximately 12% 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 will keep monitoring and working with their maintenance teams to ensure continuous improvements with regards to minimising AoA.

Appendix A – Repeat offenders

Date	Wagon number	Wagon class	Event	Comments
29-Mar	PBGY0064S	PBGY	AOA	GC in RS 29/03 - Inspected and no fault found
4-Apr	PBGY0142Y	PBGY	AOA	GC in RS 04/04 - Inspected and no fault found - New Wheels
3-May	ABSY4416	ABSY	AOA	GC in RS 03/05 - Inspected and no fault found
3-May	PBGY0162	PBGY	AOA	GC in RS 03/05 - Bogie A end close to condemn - replace at next RC - 06/05
3-May	PBGY0064	PBGY	AOA	GC in RS 03/05 - Broken inner bogie spring - Completed 31/05
23-May	PBSY0021	PBSY	AOA	GC in RS 23/05 - B end bogie realigned - Completed 01/06
23-May	PBGY0080	PBGY	AOA	GC in RS 23/05 - Inspected and no fault found- New Wheels
30-May	PBGY0083	PBGY	AOA	GC in RS 30/05 - Inspected and no fault found
30-May	PBGY0017	PBGY	AOA	GC in RS 30/05 - Inspected and no fault found
30-May	PBGY0021	PBGY	AOA	GC in RS 30/05 - Inspected and no fault found
30-May	PBGY0094	PBGY	AOA	GC in RS 30/05 - Inspected and no fault found
30-May	PBGY0117	PBGY	AOA	GC in RS 30/05 - B end friction wedges worn - 14/06
6-Jun	PBGY0012	PBGY	AOA	GC in RS 06/06 - Inspected and found no fault - 15/06/23

6-Jun	PQQY50016	PQQY	AOA	GC in RS 06/06 - Wear plates for friction wedges on bogie 5 to be replaced - Bogie Required
4-Jul	PBSY0016	PBSY	AOA	G/C in R/S 04/07 - Inspected and no fault found
4-Jul	PBGY0102	PBGY	AOA	G/C in R/S 04/07 - Inspected and no fault found
25-Jul	PBGY0134	PBGY	AOA	G/C in R/S 25/07 - Inspected and no fault found
22-Aug	PBSY0005	PBSY	AOA	G/C in R/S 22/08 - Inspected and no fault found
29-Aug	PBGY0081	PBGY	AOA	G/C in R/S 29/08 - Inspected and no fault found
12-Sep	PQIY0010	PQIY	AOA	G/C in R/C 12/09 - Inspected and no fault found
25-Sep	PBGY0130	PBGY	AOA	G/C in R/C 25/09 - Inspected and no fault found
25-Sep	PQQY50001	PQQY	AOA	G/C in R/C 25/09 - Inspected and no fault found, wagon has new bogies
14-Nov	PBGY0093	PBGY	AOA	G/C in R/S 14/11 - Inspected and no fault found- New Wheels
5-Dec	PBGY0041	PBGY	AOA	G/C in R/S 05/12 - Inspected and no fault found
5-Dec	PBGY0092	PBGY	AOA	G/C in R/S 05/12 - Inspected and no fault found
12-Dec	PBGY0049	PBGY	AOA	G/C in R/S 12/12 - Inspected and no fault found