

Lost CEMs Data Events

Events:

- 23/09/25 – 41369 – Loose Wiring.
- 03/10/25 – 41592 – During Maintenance Works.
- 21/11/25 – 43451 – During Maintenance Works.
- 27/11/25 – PTFE Tubing.
- 01/12/25 – 42901 – PTFE Tubing.
- 24/12/25 – 43432 – Comms Lost between CEMs and CDAS.
- 07/02/26 – 45358 – Computers Rebooting.
- 19/02/26 – 45611 – During Maintenance Works.
- 03/03/26 – Nitrogen Supply.
- 11/03/26 – 46041 – Computers Rebooting.

Loose Wiring Event.

23/09/25 13:00 – 13:29 Line 1.

Root Cause:

The event occurred due to a process condition that was not fully captured within the existing verification and monitoring arrangements

Summary of Events:

Planned servicing of the Line 1 Duty CEMS analyser was carried out with the system in standby and manual mode. During the work, additional cleaning was undertaken due to excessive dust build-up within the CEMS shelter. While vacuuming, wiring on the standby analyser rack was inadvertently disturbed, affecting the heated sample line temperature controller and causing the analyser to enter a fault condition. As the duty analyser was already offline, both analysers were temporarily unavailable, resulting in the loss of one half-hourly emissions reading. The issue was identified after approximately 15 minutes, the loose connection was resecured, and normal operation was restored once temperatures recovered.

Actions Taken to Rectify:

The loose wiring connection to the heated sample line temperature controller was identified and resecured, restoring correct electrical continuity. The system was then allowed to recover as the sample line temperature returned to its required operating range, after which the standby analyser resumed normal operation. The system was monitored to confirm stability and correct data reporting, and site supervision was informed of the issue to ensure appropriate review and follow-up.

Events during Qual 3s.

03/10/25 09:30 – 09:59, 10:00 – 10:29 Line 1.

21/11/25 09:00 – 09:29 Line 1.

19/02/26 12:00 – 12:29, 12:30 – 12:59 Line 2 VOC Only.

Root Cause:

The root cause was a failure to verify the operational status of the standby analyser prior to changeover during the Qual 3 calibration. This resulted in switching to a system that was already in fault, leading to a loss of monitoring capability.

Summary of Events:

During Qual 3 calibration activities, the standby analyser was switched into service while it was already in a fault condition. The status of the standby system was not identified prior to changeover, resulting in a temporary interruption to monitoring. The calibration was paused, the duty analyser reinstated, and the standby system reviewed before resuming work. A process improvement has been added to ensure status verification is completed before future changeovers.

Summary of Events Actions Taken to Rectify:

The Qual 3 calibration was immediately suspended and the duty analyser was returned to measuring mode to restore emissions monitoring. The standby analyser fault was identified for further investigation, and checks were reinforced to ensure analyser status is confirmed prior to any future changeovers.

PTFE Tubing Events.

27/11/25 07:30 – 07:59 Line 1.

01/12/25 09:30 – 09:59, 10:00 – 10:29 Line 1.

Root Cause:

The PTFE tubing on the standby oxygen probe had reached the end of its service life, resulting in a small oxygen leak that affected vacuum and atmospheric pressure readings. The tubing was replaced and system conditions returned to normal. A planned action is in place to replace equivalent tubing on both duty systems during the next outage to maintain consistent reliability.

Summary of Events:

During Qual 3 calibration works on the duty, the system was manually switched to the standby analyser for monitoring. While in operation, degradation of the PTFE tubing on the standby system caused an oxygen leak, leading to increased oxygen concentrations, loss of vacuum, and abnormal atmospheric pressure readings. This impacted analyser performance during the calibration period.

Actions Taken to Rectify:

Actions Taken to Rectify The degraded PTFE tubing on the standby system was replaced, and the air supply to the cabinet was reinstated, restoring correct oxygen levels, vacuum conditions, and atmospheric pressure. The standby analyser was confirmed to be operating correctly, allowing the Qual 3 calibration to be successfully completed. A follow-up action was raised to replace PTFE tubing on both Line 1 and Line 2 Duty systems during the next planned shutdown.

Lost Comms between CEMs & CDAS.

24/12/25 10:30 – 10:59, 11:00 – 11:29, 11:30 – 11:59 Line 1, 2 & Standby.

Root Cause:

A temporary communication mismatch occurred between the CEMS/CDAS system and the Emerson DCS, preventing emissions data from transferring correctly. Joint investigation by both system specialists resolved the interface issue, and communication was restored. System performance was monitored to confirm stable data transfer.

Summary of Events:

A loss of communication occurred between the CDAS and DCS systems, resulting in the failure to record emissions data across Line 1, Line 2, and the standby CEMS. The issue was identified as a system interface problem affecting data transfer between the CEMS/CDAS and DCS platforms.

Actions Taken to Rectify:

Both CEMS/CDAS and DCS specialists were brought to site to jointly investigate the issue. The communication fault was diagnosed as a conflict between the two systems and resolved through coordinated troubleshooting. Communication was successfully restored, data transfer re-established, and system performance monitored to confirm stable operation.

Computers Rebooting.

07/02/26 02:30 – 02:59 Line 1 & 2.

11/03/26 16:30 – 16:59 Line 1 & 2.

Root Cause:

Both CDAS computers initiated Windows updates at the same time, which temporarily interrupted communication with the DCS. The systems were rebooted and normal operation restored. Update scheduling has been adjusted to ensure updates occur during supported hours and in a controlled sequence, with further improvements planned through hardware upgrades.

Summary of Events:

A loss of CDAS computers occurred resulting in the need for system reboots and C&I remote intervention. During this period, emissions data was not recorded on the daily report. The issue was caused by both CDAS computers initiating Windows updates at the same time after update requests had previously been deferred, leading to a loss of communication with the DCS.

Actions Taken to Rectify:

The CDAS computers were rebooted and communication with the DCS was restored. Update settings were adjusted to ensure update requests occur during daytime hours when EC&I support is available. Operational teams were instructed to carry out updates as prompted and in a controlled sequence (standby first, followed by master) to prevent simultaneous downtime. A further action has been raised to replace the CDAS computers to improve system reliability.

Nitrogen Bottle.

03/03/26

09:00 – 09:29 Line 1 & 08:00 – 08:29, 08:30 – 08:59, 09:00 – 09:29 Line 2.

Root Cause:

The nitrogen supply pressure was not aligned with the required operating setpoint following bottle replacement, which led to the system operating outside its normal parameters.

Summary of Events:

Following replacement of a nitrogen bottle, the pressure setting did not align with the required operating parameters. The setpoint was corrected and system conditions normalised. Operational checks have been strengthened to ensure gas supply settings are verified after bottle changes.

Actions Taken to Rectify:

The nitrogen bottle pressure was adjusted to the correct setpoint, restoring normal system operation. Operations teams were instructed to carry out more frequent checks of gas pressures and bottle volumes to ensure correct setup and prevent recurrence.

Summary of Actions Moving Forward.

- Regular cleaning to prevent build-up of dust in CEMs cabin.
- PPM set up to include visual checks of standby system before Qual 3 is undertaken.
- PPM set up to include Nitrogen bottle checks and replacement by Operational Team.
- PTFE tubing replaced on standby system – plan in place to do the same on line 1 & line 2 in our September Outage
- Replacement of new PC by C&I – processer and hard drive.
- Continually monitoring memory usage of the PC by C&I.
- Training to be delivered by C&I on Qual 3's.
- Training undertaken by relevant people on EN14181.