



CARBON PRICING MRV SNIPPETS



Issue #7: Common Errors in
Emissions Report (Part 3) – Calculation Errors



DATE:
19 AUG 2026

1. TYPES OF CALCULATION ERRORS



1 FORMULA & MANUAL CALCULATION ERRORS

Errors occur when formulae are not aligned with the latest approved MP or when manual calculations are performed incorrectly.

EXAMPLES



- Formula not aligned with latest approved MP



- Manual calculations in log sheets summed incorrectly.



- Incorrect formula to convert density or flow between standard and process conditions



- Incorrect formula for gas apportionment (e.g., CVD vs Etch processes; NF₃ remote vs non-remote)



- Wrong formula for heel factor and gas usage calculations



2 RAW DATA & PROCESSING ERRORS

Errors occur when raw data or design specifications are used incorrectly or when data gaps are treated inconsistently.

EXAMPLES



- Used negative or zero readings from SCADA/DCS system although equipment was running



- Inconsistent approaches for filling intermittent data gaps across months



- Inaccurate operating days/hours for equipment, especially during leap year



- Incorrect cell referencing leading to wrong gas composition or activity data used in the calculation

2. ROOT CAUSES OF ERRORS



DATA MANAGEMENT

Inadequate version control allowing use of outdated calculation files



QUALITY ASSURANCE

Insufficient cross-checking of calculation files against plant operations and approved MP



TECHNICAL ISSUES

Incorrect interpretation of units (UOM) or misalignment in UOM between data capturing systems (e.g., PHD/DCS/SCADA) and calculation file

3. PREVENTION & MITIGATION – KEY ACTIONS



QUALITY CONTROLS

- Implement a multi-tier review for data collection and calculation
- Establish clear data review procedures and regular review schedules
- Document data collection procedures, UOM, methodologies, assumptions, and how any anomalies are treated
- Maintain version logs for calculation files and MP



AUTOMATION / TECHNICAL SOLUTIONS

- Automate calculations where possible; minimize manual log sheets
- Implement data validation rules to flag inconsistencies
- Cross-check calculation files against raw data sources



TRAINING

- Provide targeted training for staff on data collection, processing and review Cover: relevant meters/methodologies, data extraction & interpretation, data processing, abnormal data handling, data conversion, proper use of established data & calculation files, updates to MP or plant processes



KEY TAKEAWAY

Accurate calculations depend on the right formula, reliable data, and strong quality controls. To minimise errors, consider adopting automation and investing in staff training.

