

Gas
Transmission

Flow Weighted Average CV Calculation

1st June 2020

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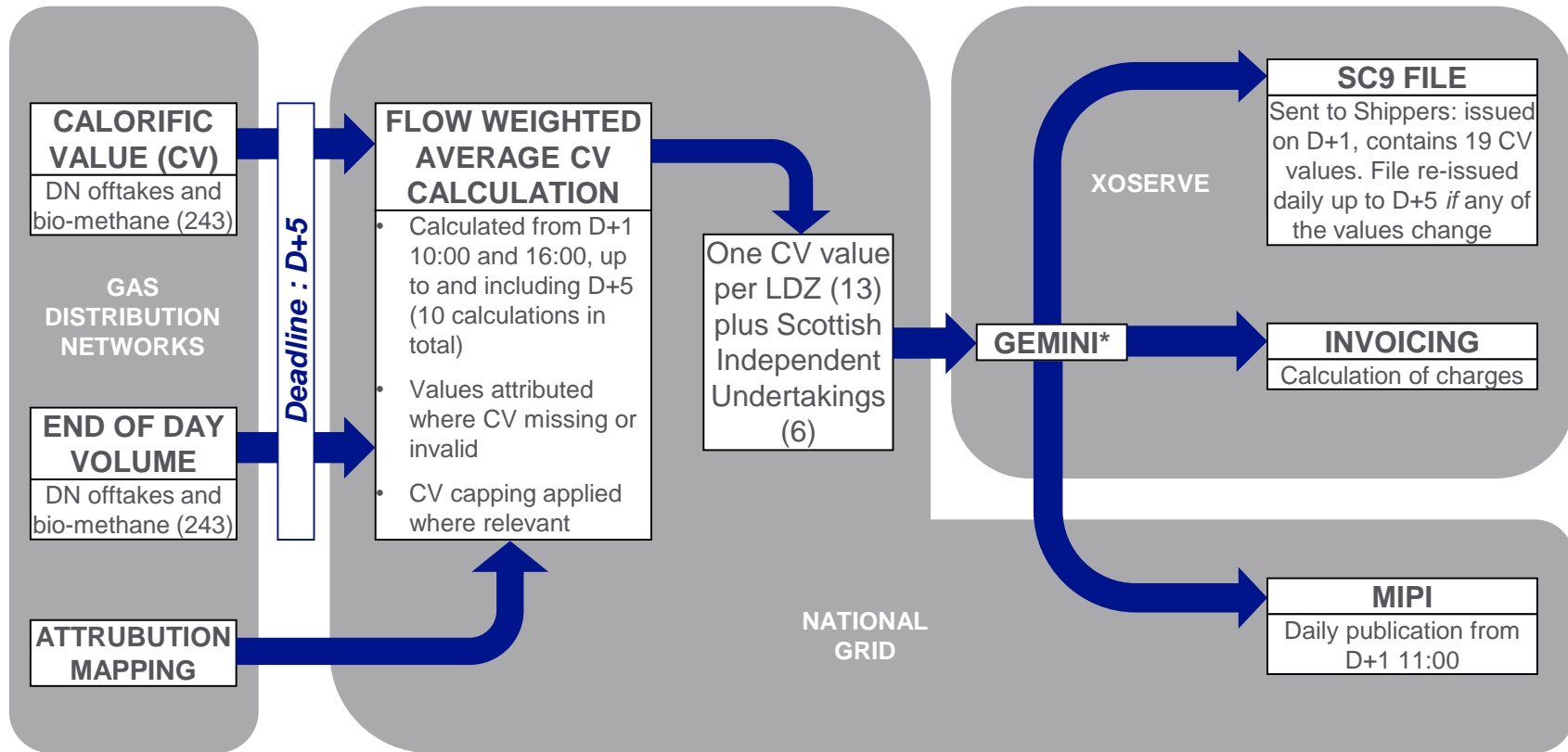
nationalgrid



Introduction

- OFFTAKE ARRANGEMENTS DOCUMENT SECTION F
“DETERMINATION OF CALORIFIC VALUE”
- 4 Arrangements for Determination of Daily CVs
 - 4.1 Determination of Daily CVs
 - 4.1.1 Subject to paragraphs 4.1.2 and 4.1.3, National Grid NTS agrees to determine daily CVs for each charging area within the area of the DNO's System on behalf of each DNO.

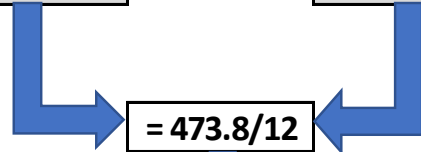
Daily CV Process



FWACV Calculation

| Measurement Point | Volume (mcmd) | CV (Mj/m ³) | Energy (Mj) |
|-------------------|---------------|-------------------------|--------------|
| A | 5 | 39.6 | 198 |
| B | 4 | 40.1 | 160.4 |
| C | 2 | 38.6 | 77.2 |
| D | 1 | 38.2 | 38.2 |
| | 12 | | 473.8 |

> 5 * 39.6
 > 4 * 40.1
 > 2 * 38.6
 > 1 * 38.2



= 473.8/12

| | |
|--|-------------|
| FWACV | 39.5 |
| Capped CV (lowest source CV + 1Mj/m ³) | 39.2 |
| Lower of above two values | 39.2 |

Manpower Requirement

- National Grid currently operates the process 7 days a week, 365 days a year
- Up to two FTE staff
- Tasks include:
 - Ensuring completeness and validity of CV measurements
 - Contacting DNs to secure full datasets by D+5
 - Checking for, and reviewing instances of, capping
 - Processing 'Loss of Records' (LORs) if metering equipment fails
- Process could be operated on Business Days only
 - However, if manual intervention is necessary, this limits days to process data

| | Sat | Sun | Mon | Tue | Wed | Thu | Fri | Sat | Sun | Mon | Tue | Wed |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Sat | D | +1 | +2 | +3 | +4 | +5 | | | | | | |
| Sun | | D | +1 | +2 | +3 | +4 | +5 | | | | | |
| Mon | | | D | +1 | +2 | +3 | +4 | +5 | | | | |
| Tue | | | | D | +1 | +2 | +3 | +4 | +5 | | | |
| Wed | | | | | D | +1 | +2 | +3 | +4 | +5 | | |
| Thu | | | | | | D | +1 | +2 | +3 | +4 | +5 | |
| Fri | | | | | | | D | +1 | +2 | +3 | +4 | +5 |

Attribution Usage

- Analysis period: 12 months between January 2019 and January 2020
- Over 45,000 measurements across 13 LDZs and 4 DNs
- When assessed per LDZ and per DN over the analysis period, in terms of the percentage usage of attributed CV values:
 - the overall usage was 7.5%
 - the highest individual LDZ usage was 18.3%
 - the lowest individual LDZ usage was 0%
 - the highest individual DN usage was 14.4%
 - the lowest individual DN usage was 3.7%