

ANNUALIZATION AND BIAS ADJUSTMENT OF MONITORING DATA

Appendix 12.5 – Annualisation and Bias Adjustment of Monitoring Data

Annualisation

The annualisation process follows the methodology of the Box 7.9 of the Technical Guidance LAQM.TG (16). The annualisation results are presented in Table 12.5.1 – Table 12.5.3. The monitoring sites below have been selected in accordance with the LAQM TG.16 which recommends background monitoring sites within 50 miles are used, which these continuous monitoring sites are.

Table 12.5.1: Average Ratio for Annualisation of DT2

Long Term Site	Annual Mean 2017 (AM)	Period Mean 2017	Ratio AM/PM
Thurrock	28.1	26.9	1.05
Southend-on-Sea	20.1	18.3	1.10
London Bexley	24.5	23.2	1.06
Rochester Stoke	14.7	13.8	1.07
Average (R_a)			1.07

Table 12.5.2: Average Ratio for Annualisation of DT3

Long Term Site	Annual Mean 2017 (AM)	Period Mean 2017	Ratio AM/PM
Thurrock	28.1	26.9	1.05
Southend-on-Sea	20.1	18.3	1.10
London Bexley	24.5	23.2	1.06
Rochester Stoke	14.7	13.8	1.07
Average (R_a)			1.07

Table 12.5.3: Average Ratio for Annualisation of DT4

Long Term Site	Annual Mean 2017 (AM)	Period Mean 2017	Ratio AM/PM
Thurrock	28.1	25.3	1.11
Southend-on-Sea	20.1	17.0	1.19
London Bexley	24.5	22.1	1.11
Rochester Stoke	14.7	13.3	1.11
Average (R_a)			1.13

Bias Adjustment Factors

The diffusion tube survey carried out by PBA included monitoring location DT1 located adjacent to Springfield Road. This diffusion tube has been co-located with the CCC Springfield Road automatic monitoring site to obtain a local bias adjustment factor. However, the data capture for DT1 was only 33% and the diffusion tube data was not considered suitable for obtaining a local bias adjustment factor.

A national bias adjustment factor has therefore been used to adjust the diffusion tube data. The national factor has been obtained from Defra's National Bias Adjustment Factor Spreadsheet (version 03/19). For diffusion tubes analysed by Gradko, 50% TEA in Acetone, the bias adjustment factor for 2017 is 0.96 based upon 25 studies.