

## ***Interactive comment on “The development and evaluation of airborne in situ N<sub>2</sub>O and CH<sub>4</sub> sampling using a Quantum Cascade Laser Absorption Spectrometer (QCLAS)” by J. R. Pitt et al.***

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After submission of the initial manuscript, the authors discovered that an error was made in the calculation of nominal measurement uncertainties for both CH<sub>4</sub> and N<sub>2</sub>O mole fraction. This calculation involves the summation in quadrature of the uncertainties associated with the water vapour correction, the calibration of the target cylinder to the WMO scale and the in-flight target measurements. Specifically, the mean bias of the in-flight target measurements over the full dataset (0.07 ppb and 0.10 ppb for CH<sub>4</sub> and N<sub>2</sub>O respectively) was used in this calculation, where correctly the 1 $\sigma$  stan-

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dard deviation about this mean (1.71 ppb and 0.42 ppb for CH<sub>4</sub> and N<sub>2</sub>O respectively) should be used.

This has been updated in the amended manuscript, both in Table 4 and in the text. The overall nominal uncertainties are now calculated to be 2.47 ppb (as opposed to 1.81 ppb) for CH<sub>4</sub> and 0.54 ppb (as opposed to 0.35 ppb) for N<sub>2</sub>O. This technical revision does not affect the conclusions of the paper.

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