

## ***Interactive comment on “Monitoring compliance with sulphur content regulations of shipping fuel by in-situ measurements of ship emissions” by L. Kattner et al.***

**Anonymous Referee #2**

Received and published: 9 June 2015

Page 11035, Line 9: abbreviation of ft is not clear. Page 11036, line 10: What is mean by ‘certified instruments’? Page 11036, line 23: unclear what is meant by: difference of total NO . should it be NO<sub>x</sub> ?, .. and NO without conversion? Page 11037, line 15 – 22: Why the AIS data is not used to identify all peaks? Page 11037, line 22-25: It seems difficult to calculate the peak area since the response times of SO<sub>2</sub> analyzer and the CO<sub>2</sub> analyzer are so different and the data collection frequency is 1 min<sup>-1</sup> i.e. the response time of the SO<sub>2</sub>-analyzer, frequency of the data collection and the duration of the peak concentrations are of the same order of magnitude. Please explain more details how the peak areas are calculated? Page 11037, line 23: How

C3371

to define the background with respect of the peaks? Page 11039, line 4: There are uncertainty sources that has different contribution for different analyzers: moisture, cross interferences by other chemical species. How, e.g. the contribution of NO on SO<sub>2</sub> measurements has been taken into account? Page 11039, line 16: How to end up the uncertainty of measurements of 15 %. This may be too low estimation especially at the range of 10 ppb. Page 11040 line 10. Rounding the 0.1 % limit up to 0.15 % may be speculation and cause a 50 % increase from the limit. Please explain is this assumption in consistent with the legislation? Page 11041 line 14-15. The reader gets very easily the idea that 95.4 % of ships follows the rules for sulphur content of ship engine fuel while you were able to measure 10 to 40 % of the whole ships? Please clear the sentence. Does this method apply if the ship is using different fuel (LNG,), use heavy oil but scrubbing technique. Please discuss this issue.

---

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 11031, 2015.

C3372