

## **Response to Reviewer # 1**

**Anonymous Referee #1**

**Received and published: 30 May 2012**

**This paper describes improvements made to the NIES TM model and provides a thorough analysis of the new model outputs against balloon-borne, ground-based insituand TCCON FTS observations.**

**The initial sections introduce the problem being addressed and provide the reader with substantial background into the issues faced. The latter sections then discuss how well these issues have been overcome, with comparisons to various observations used to determine the skill of the model. Where differences/deficiencies do exist, the author is able to provide an explanation as to the reasons (e.g. significant local urban sources close to the Wollongong TCCON site).**

**The paper in general is very well written and proceeds in a logical order. I recommend that this paper is published subject to (very) minor revisions. The only minor comment I have is that it may be useful to contrast some of the results to the previous version of NIES TM. I don't believe this is necessary for publication and will leave it at the author's discretion on whether to include such a comparison.**

Thank you very much for providing paper overview.

**Technical corrections/typos:**

**P8056 L9: I believe the author means "rectifier" not "rectifer"**

We changed the text to correct small error detected by the referee:

P8056 L9: "rectifer" replaced with "rectifier"