

Interactive comment on “Mercury air-borne emissions from 5 municipal solid waste landfills in Guiyang and Wuhan, China” by Z. G. Li et al.

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The anonymous reviewer raised some questions concerning the English grammar and the data explanation. We revised the manuscript following each of the comment.

Comment 1: Check for types and awkward grammar- The manuscript had been thoroughly checked for the language (including grammar, types) with the help of Dr. Sarah Rothenberg and Dr. Jonas Sommar, now it is more understandable.

Comment 2: p.8 lines 1-7, need some clarification as this makes no sense as presented. The sentence has been rewritten to make it clear, as “Lowest TGM was measured at the closed landfill of X-R-J, where the whole landfill was planted with grass and trees, and this value was close to average TGM concentrations in ambient air in

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Guiyang (8.4 ng m⁻³, from Feng et al., 2004b). Since the landfills were located far from other urban mercury emission sources, TGM in the ambient air was predominantly due to the landfill emissions”.

Comment 3: p.9 lines 19-21, same comment. This sentence has been modified to explain the Hg emissions from the working face area, as “This suggested Hg emissions from working face were correlated with the MSW disposal rate (Table 1), Hg content in MSW (Table 2), and the weather conditions at each landfill (Table 4)”.

Comment 4: Sect 3.3.3 and figures- the diel nature of the Hg emissions are apparent; however, it is not clear what causes these trends. In the US studies, the diel trends were almost entirely the result of cessation of activity at the working face at night, and application of so-called daily cover (a soil cover added to reduce waste losses at night). Is this also the practice in China? For the cause of the surface emission trend, the authors think that, the weather conditions, especially the solar radiation predominately controlled the diurnal pattern of mercury surface-air flux at the non-working face sites, including the soil cover area, planted area, uncovered MSW sites. While at the working face area, or the site influenced by the working face, the mercury flux was sensitive and proportional to the activities of MSW treating at the working face, as observed at operational landfills in Florida, USA (Lindberg et al., 2005b).

Comment 5: p.13, lines 14-17, can the authors include some other estimates of Hg emissions in China for comparison with estimates for LFs? An estimation of Hg emissions in China was referred in this sentence, as “compared to the total emissions of 552-696 tonnes Hg yr⁻¹ from Chinese anthropogenic sources between 1995-2003(Wu et al., 2006)”.

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