Reviewer’s report

Title: Risk assessment for Thai population: Benchmark dose of urinary and blood cadmium levels for renal effects by hybrid approach of inhabitants living in polluted and non-polluted areas in Thailand

Version: 1 Date: 2 April 2014

Reviewer: Paul Scott

Reviewer’s report:

Major Compulsory Revisions

Methods Section: The authors need to add some discussion on why they evaluated males and females separately for the BMD analysis. They need to either discuss that past studies have indicated gender differences or discuss in the Results that their results indicate gender differences.

Methods Section, Statistical analysis: The authors need to justify the assumption of linearity used for the dose-response model. They should either point to past Cd studies or the analysis of their own data set to justify this assumption.

Minor Essential Revisions

On page 4 second paragraph, the line “compared with zero background exposure. ... BMD” should be revised to read: “compared with the response at zero background exposure. ... BMD”

On page 5 second paragraph, it appears the authors may mean to state the opposite of what the sentence says. Currently the sentence states: “Typically, BMD and BMDL estimates based on the hybrid approach have been conducted for urinary Cd and not blood Cd in previous studies because blood Cd has been considered the most valid marker of recent exposure [6, 20].” but the context indicates that it should say “blood Cd has not been considered...”

Page 5, last paragraph to page 7, it appears that several paragraphs have been repeated from earlier in the introduction and these copied paragraphs need to be deleted.

Page 13, second paragraph, last line, this should read “decrease Cd exposure are necessary...” rather than decrease Cd exposure is necessary...” because the verb needs to agree with “Efficient measures” in the previous line.

Page 18, first paragraph,

Discretionary Revisions

I would suggest using the abbreviation “Creat” instead of “Cr” for creatinine because this paper discusses metal toxicology and many readers are hard wired
to thinking chromium when they see Cr.

In the Discussion section, the authors may want to discuss the impact of having 5 to 9 times more individuals in the study population compared to the referent population on the statistical analysis.

In Table 1, adding a statistical comparison of the non-polluted and polluted populations would be helpful for this table to demonstrate similarities in demographics and differences in Cd concentrations and the response variables.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I have no competing interest with respect to this paper, its research, or its authors.