Reviewer's report

Title: Predicting the Burden of Injuries and Fatalities due to Public Exposure to Engineering Technologies - A Public Safety Regulator's Initiative

Version: 1 Date: 13 November 2012

Reviewer: Ronan Lyons

Reviewer's report:

All my comments relate to Major Compulsory Revisions

1. Is the question posed by the authors new and well defined?

There is no real question defined. The authors discuss a conceptual approach which is never clearly defined and then state it could be viewed as an advancement without providing any quantitative metrics to back up this assertion. I think I understand where they are coming from and sympathise with the difficulties of working in this field but more clarity is needed.

2. Are the methods appropriate and well described, and are sufficient details provided to replicate the work?

The methods could be defined more clearly. I had to read the manuscript twice before I grasped what they were attempting to do. I am still not absolutely certain so I will describe what I think has been attempted. As I understand their methodology they applied a modified DALY approach to data collected on safety of lifts in Canada and used the results to decide whether or not a threshold of 1 fatality equivalent per year was exceeded. That threshold would be used to inform the frequency of safety inspections. This is indeed a novel approach but I struggled to follow exactly what they had done.

They divided the reported non-fatal injuries into categories developed by the AIHW and then applied AIHW disability weights to allow them to calculate the years lived with disability component of DALYs, but very little data are provided on well this worked or not.

They then made some allowances for under-reporting injuries which are difficult to follow with use of an equation (2) in which not all of the variables are defined. I assume r stands for random occurrence rate but the justification of choices of r=1 or 10 are never discussed.

Combining the Years of Life Lost and YLDs created DALYs (no data shown on how this was achieved but it seems to have involved some MC simulations which produce an output in figures 8-12 which are poorly described and so it is difficult to interpret what they mean. It is not clear how DALYs were then turned into fatality equivalents. As some of the results shows predicted DALY mean exceeding 100 this is interpreted as exceeding the pre-set threshold (never
stated it pre-set) and justify the conclusions.

3. Are the data sound and well controlled?
   Uncertain

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   I don't think so

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   I don't think enough detail has been provided to say this is the case. The conclusion states that Monte Carlo simulation can be used to predict DALYs and this has been demonstrated by applying it to the elevating devices programme in Ontario. Whilst these statements are true they hardly constitute a conclusion.

6. Do the title and abstract accurately convey what has been found?
   No

7. Is the writing acceptable?
   I think it needs to be clearer in relation to methodology and how the results justify the conclusions drawn.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

'I declare that I have no competing interests’