

# PUBLIC SUBMISSION

<b>As of:</b> 8/25/15 3:24 PM
<b>Received:</b> August 23, 2015
<b>Status:</b> Pending_Post
<b>Tracking No.</b> 1jz-8kq1-6bcf
<b>Comments Due:</b> November 19, 2015
<b>Submission Type:</b> Web

**Docket:** NRC-2015-0057

Linear No-Threshold Model and Standards for Protection Against Radiation

**Comment On:** NRC-2015-0057-0086

Linear No-Threshold Model and Standards for Protection Against Radiation; Extension of Comment Period

**Document:** NRC-2015-0057-DRAFT-0174

Comment on FR Doc # 2015-20722

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## General Comment

LNT has been proven from single cells to the largest cohort studies.

<http://www.bmj.com/content/331/7508/77.full> 1-2% of cancer that nuclear industry workers get are from radiation, proving LNT.

"These data provide direct evidence that a single a particle traversing a nucleus will have a high probability of resulting in a mutation and highlight the need for radiation protection at low doses."

<http://www.ncbi.nlm.nih.gov/pubmed/9108052/>

together about .5 to 1% alphas cause mutation.

From phosphates: max theoretical of only 3 Kt per year. Demand is 65 kt per year now at 2%.

Seems even the IAEA believes there is not enough fuels for nuclear, they predict a deficit in 2028.

They estimate phosphate at 9mt not 22.

[http://www-pub.iaea.org/MTCD/publications/PDF/Pub1104\\_scr.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/Pub1104_scr.pdf) They also conclude seawater not even threoreticly economical.

Right down to a single radioactive track even near a single cell.

We have found that a relatively low dose of alpha-particles can result in the generation of extracellular factors, which, upon transfer to unexposed normal human cells, can cause excessive

SCE to an extent equivalent to that observed when the cells are directly irradiated with the same irradiation dose <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470136/>

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470136/pdf/envhper00330-0103.pdf> alpha causes cancer

<http://www.ncbi.nlm.nih.gov/pubmed/16004188>

A critique of the use of hormesis in risk assessment.

".... At this point, it appears that hormesis is a long way away from common scientific acceptance and wide utility in biomedicine and use as the principal default assumption in a risk assessment process charged with ensuring public health protection."

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1880776/pdf/amjpathol00128-0081.pdf> the result? 1 micron pu causes cancer.

The evidence for Hormiosis is so thin it includes <http://www.probeinternational.org/Ramsar.pdf> Ramsar study used 14 controls and 21 subjects. It never should have passed peer review, of course the HPS organization couldn't survive without nuclear power. The people of are completely biased toward maintaining the myth the radium baths are good for you. It's really sad this has not been caught before.

They admit to using anecdotal evidence of no increased cancer rates.

There was a study of people near metal that was radioactive, but the results changed from supporting LNT to supporting LNT just by changing the assumption in the last edit.