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To: "CAG@nrc.gov" <CAG@nrc.gov>, "Mr. Frank Akstulewicz" <FMA@nrc.gov>
Date: 8/20/01 5:38AM
Subject: Comments on Draft Regulatory Guide DG 1110 (Proposed Revision 1 to RG 1.174) and SRP Chapter 19

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I had received a copy each of the **Draft Regulatory Guide DG - 1110, 'An Approach for using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant Specific changes to the Licensing Basis' and 'Standard Review Plan Chapter 19'**. Here I am sending my response.

(i) The **'Policy Statement'** of NRC in point V Guidelines for Regulatory Implementation states that *'Consistant with the traditional -----, the over all mean frequency of large release of radioactive materials to the environment from a reactor accident should be less than 1 in 1,000,000 per year of reactor operation'*. It is this figure that a common member of general public can understand and this is the basis for my comments. **I have noticed that this particular indicator is not mentioned in the text in an explicit manner in the Draft RG and in SRP Chapter 19.**

(ii) The Draft RG states, in foot note 5 on page 8, that *'LERF is being used as surrogate for early fatality QHO'*. QHO has the same numerical value as given in the **'Policy Statement'** which is *'---small fraction (0.1%) of other risks to which public is exposed. The foot note refered too in this observation indicates what NRC means by LERF, it is defined with respect to evacuation possibility. LERF is a frequency and not a magnitude. Where as QHO, which is a magnitude and depends on the population density, exclusion zone size and magnitude and nature of release of radioactive material. How LERF can be used as surrogate for early fatality QHO is not very clear in the Regulatory Guide or in SRP Chapter 19.*

(iii) Even if one accept that NRC has adequate basis for using LERF as surrogate for QHO, the possibility for 'Large Release' in the **'Policy Statement'** is *1 in 1,000,000 per year of reactor operation*. It is not very clear **how this attribute of the 'Policy Statement' is sustained in region II of the figure 4 given on page 9 of the Draft RG**, where the change is to be considered if it can be reasonably shown that the total LERF is less than 1/100,000 per reactor year (refer first bullet on page 20 of Draft RG), which is nearly an order of magnitude greater than what is mentioned in the **'Policy Statement'**. Here I have taken that this 'Large Release' is to the open atmosphere i.e. environment.

(iv) The **'Policy Statement'** is written in singular and not in plural. May be with single reactor at a site in view. It is because of this reason the parameters in the **"policy Statement"** are in terms of 'per year of reactor operation'. As far as members of public are concerned, what happens at the boundary of exclusion zone of a site and beyond is of importance, no matter what are the types and number of nuclear facilities within this exclusion zone. I am of the opinion that **all the parameters of concern to the members of the public including LERF, CDF etc, should be on 'per site-year' and not on 'per reactor-year' basis in the Draft RG and in SRP Chapter 19.**

(v) A doubt comes to my mind. Should there be no **confidence level** associated with the risk estimates based on probabilities?

(vi) I am of the opinion that there is a need to bridge the gap (as stated above) between what is stated in the Draft RG/SRP and the **'Policy Statement'**. **NRC may consider insisting on Level**

3 PRA for all Risk-Informed Decision Making and thus bridge the gap.

(vii) At the numerical value for the possibility/chance of Large Release given in the 'Policy Statement' (1 in 1,000,000 per year of reactor operation), individuals in the general public may tend to ignore the risk. Yet the risk from 'Nuclear Facilities' should be distinguished from that arising due to flying in 'Aircraft'. In air travel the passengers keep changing, where as, due to the operation of Nuclear Power Plants at a given site, the same population beyond the exclusion zone is at risk. As a result the 'Policy Statement' should be re-interpreted and taken as - per year of operations at site and not as per year of operation of reactor. This is in the interest of Public Health and Safety.

I am addressing this communication to CAG@nrc.gov and FMA@nrc.gov, as my observations on the 'Draft Regulatory Guide DG1110' and 'Standard Review Plan Chapter 19' are more or less similar.

With regards

A.S. Hunjan

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