

# PUBLIC SUBMISSION

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## Submitter Information

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## General Comment

Radiation Protection

ID: NRC-2009-0279-0098

Q= Questions

R= Responses

Q1-1 to 1-2:

TED vs. TEDE: R: For these & for all standards, the ones which are most protective of worker & public health must be used. If not, you are externalizing the true cost of operations upon the individual, insurance companies & taxpayer.

"Q1-3: How should the calculations of effluent concentration ... be modified to reflect advances in modeling that are now available? In particular, the NRC is interested in preliminary views on the age and gender averaged approach."

R: EFFLUENT CONCENTRATION IS MEANINGLESS. YOU MUST HAVE TRUE EFFLUENT LIMITS and model these. The limit should be none at all. Short-lived radionuclides can be held in tanks until they are non-radioactive, as sometimes the case already. The rest must be held until they are no longer radioactive. The world is a closed system. You cannot continue to pretend that the radiation is no longer there because you flush it downstream or downwind. It is still there. It just moved.

"Q1-4: Should the public dose limit of 0.5 mSv (50 mrem) continue to be the basis for the effluent concentration limits for the radionuclides in 10 CFR part 20, appendix B, Table 2, Columns 1 and 2? Should it be reduced or otherwise modified?"

R: You have the limit as 1 mSv online. The EPA has 0.25 mSv. Effluent concentration is meaningless. These dose limits are too high. 0.5 mSv allows 1 in 200 & 1 mSv allows 1 in 100 exposure induced cancer risks, according to BEIR VII, if they were true limits. But, they are not

true limits because the radiation accumulates in the environment. BEIR VII was US govt. funded. You must not keep ignoring it.

ICRP103 (2007) p. 116 says that for long-lived radionuclides the limit should be 0.1 mSv. This is still too high, allowing 1 in 1000 exposure induced cancer risks for the public. Who pays for these sick people? The taxpayer will. YOU MUST ALLOW THE AMERICAN PUBLIC TO VOTE ON HOW MANY CANCERS THEY FIND ACCEPTABLE. HOW WILL THEY BE PAID FOR? Medicare is being cut.

YOU MUST STOP EXTERNALIZING THE RISK-COST OF THE NUCLEAR INDUSTRY UPON THE PUBLIC. THEY MUST PAY THE ENTIRE COST.

Q2-1: Eyes

R: The FDA, the Nat. Cancer Institute, & the ICRP point out that there may be a zero threshold for radiation-induced cataract and that visible damage starts at 200 mSv, which may be cumulative. Thus, visible damage starts at 16 months under your 150 mSv. As pointed to by the HPS, protection exists. Eye protection over work career is comparable in price to cataract surgery. The taxpayer or insurance pays for the surgery. Once again, you are allowing true op costs to be externalized.

Q 2-1 R: Why would you compare blindness or surgery to cancer?

Q 2-3 R: To keep cumulative exposure below the 500 mSv you can lower the worker limit to 10 mSv & use protective eye gear/in-room shielding.

Q2-6 R: It is not your job to find out the operational costs to industry. It is your job to protect workers & public.

"Q3-1: Are there any significant anticipated impacts associated with reducing the dose limit to the embryo/fetus of a declared pregnant woman, including operational impacts? What are the potential implementation & operational costs?"

R: "There is no threshold dose. In other words, genetic changes may be expected at any dose, no matter how small" (W. Russell, ORNL, 1950) What of the costs-impacts of caring for disabled children? You should make female workers be on birth control & men vasectomies.

Q3-2, Q3-3. R: Overall dose for fetus/embryo must be a fixed 1 mSv. There can be no radiation exposure once pregnancy is declared. You must lower worker exposure rate from 50 mSv to 20 mSv, or less, to help protect until pregnancy is declared.

Cancer increase is visible with 5 to 10 mSv in utero exposure.

Q4-1 to 4.8

R: ALARA should only examine costs to taxpayers & society. If safety is too costly then the nuclear industry must be shut down. Stop externalizing social & economic costs upon individuals, insurance & taxpayers. While dose rates-risk should consider wt. & gender, ALARA should be as low as possible, period. All exposure from all work sites should be counted to protect nuclear & medical "nomads". States must be allowed to protect workers if you will not. MRI, ultrasound, & renewable energy make use of ionizing radiation unnecessary except maybe bone x-ray. Nuclear waste must be dealt with as safely as possible for perpetuity.

Q5-1 to 5.3, R: Both sets of units should be used initially. At least 4 significant digits must be used regardless.

Q 6, R; All categories should submit exposure reports.

CARDIO-CEREBROVASCULAR IMPACTS MUST BE INCLUDED FROM ICRP 118. 1% risk starts at 500 mSv. YOU MUST REDUCE SKIN EXPOSURE TO BODY MAX. IONIZING RADIATION CAUSES SKIN CANCER.

MAY THE EVIL NRC THING WHO WROTE THESE QUESTIONS BE INFERTILE & DIE PAINFULLY FROM CANCER WHILE BLIND AND ALONE