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March 3, 1994

Secretary, U. S. Nuclear
Regulatory Commission
ATTN: Docketing and Service Branch
Washington, DC 20555

Dear Sir or Madam,

I recently obtained a copy of the "staff draft" for development of radiological criteria for decommissioning of most U. S. Nuclear Regulatory Commission (NRC) licensed facilities and would like to take a moment to make general comments regarding the document. First, I applaud your efforts for initiating discussion on this subject and can only hope that this type of rulemaking eventually becomes law to provide consistent guidance for terminating a license. Presently, the process of decommissioning sites with "residual radioactivity" is dependant on the use of a wide range of computer models to determine what activity concentration is allowable and is open to interpretation from a wide range of individuals with varying agendas.

Let me preface my comment by stating that I am a Certified Health Physicist and have been working in the applied radiation protection field for nine years. Five of those years have been worked at depleted and highly enriched uranium fuel fabrication facilities. The past four I have been a consultant providing applied health physics services for radiological characterization and remediation activities at Fernald and the Oak Ridge National Laboratory. (Though these are both DOE facilities, similar regulatory pressures have been implemented.)

My only detrimental comment pertains to the 3 mrem/y release goal and 15 mrem/y release limit (above background). I feel that these numbers are below the level that should be applied for cleanup activities given the current acceptable dose equivalent level for the adjacent population is 100 mrem/y. It is true that at a minimum when decontaminating a facility, the surface radiological contamination must be removed from the facility structures. The necessity of highly destructive or long time horizon methods for decontaminating volumetric contamination should be weighed against the total benefits. It appears that the "green wave" is a major player for this rulemaking, as they should be, but they must not be allowed to impose, as they have in many previous cases involving radiation or radioactive materials, an unrealistic and unjustified approach to

resolving this national problem. It must be accepted by all rational persons who are providing input to this document that the average dose equivalent received in a year by Americans is approximately 360 mrem. The goal and limit are <1% and <5% of this annual average, respectively. **It is my feeling that both the goal and release limits should be on the order of 15 and 50 mrem/y, respectively. These levels are <5% and <15% of average background and are still at least a factor of two less than the population dose limit.**

A major problem that I have with this document and others related to releasing a site, pertains to the determination of background. (Cosmic radiation dose equivalents are known to range from 30 to 130 mrem/y in Hawaii and Wyoming, respectively; as the terrestrial radiation dose equivalents are known to range from 30 to 115 mrem/y in Texas and South Dakota, respectively. In addition, site radiological conditions may fluctuate an order of magnitude and this must be accounted for and used in the site characterization.) The guidance documents should provide definitive and unquestionable direction for a statistical method of setting background levels based on a limited number of background samples. In general, when environmental radiological surveys are conducted to locate "hot spots", a background level is set based on several background measurements and the "hot spots" are noted at a level which is the upper 95% confidence level. Please make these guidance documents objective in that there must be no question with regards to what background level is present at a site.

In closing, I have been providing radiation protection services throughout my career and do not envy the road ahead for getting these proposed regulations into law. But setting these type of limits for releasing sites is crucial to getting licensees to adequately decontaminate and release their facilities. I can be contacted at (615) 220-2248 if you should have comments.

Sincerely,

Kenneth N. Fleming CHP
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