

To: [REDACTED]
From: Arnie Gundersen
Date: 8/9/96
Subject: NUREG 0637 Appendix C

I have reviewed the subject document and paid special attention to Tables 1-8 in the memo from Lake Barrett attached as an annex to Appendix C. It seems to me that soon after the accident, the NRC had already begun to downplay the significance of the releases from TMI.

Specifically, Barrett calculates the curies required to produce measured exposures off site. The methodology uses time average X/Q data and the cumulative exposure to a series of TLD's as described on page 22 of Appendix C. However, he then averages the release, which has the net effect of downplaying some rather significant releases. In order to use averages, one must assume that the mid point of the plume produced the maximum exposure for each TLD scattered around the points of the compass. This underlying assumption is totally erroneous and has no basis in meteorology. It is unlikely that any of the TLD's happened to be under the center of the plume, yet Barrett assumes that all of them were placed to achieve maximum exposures.

If you assume that only one TLD saw the maximum exposure on each day, and that the main plume brushed the other TLD's, an entirely different picture emerges. (Note the it is still very likely that higher exposures did occur elsewhere and were not measured by the TLD's, as described by Verginer and our other experts.)

Barrett	Table #	Dates	Maximum Curies
	2	3/28-3/29	14,000,000
	3	3/29-3/31	5,600,000
	4	3/31-4/1	9,800,000
	5	4/1-4/2	1,100,000
	6	4/2-4/3	4,300,000
	7	4/3-4/4	162,000
	8	4/4-4/5	1,100,000
TOTAL			<u>36,000,000</u>

This interpretation of Barrett's own data indicates that releases were three times higher than Barrett calculates. It is also getting close to values which Blanch and I discussed in our depositions. We both feel that releases exceeded 50,000,000 curies. Note that I have used Barrett's time averaged X/Q's, which I am sure are different than Dr. Verginer's.

The above table is interesting, in that it predicts that 38% of the releases occurred on the first day. This is relatively close to Daniel's prediction. It also clearly shows that the plume must have missed all of the TLD's on April 3-4, which confirms my underlying assumption.

Rather than developed a separate invoice for this effort, please accept this memo as an invoice for 3 1/2 hour of analysis @ \$50/ hour, for a total invoice of \$175.00.

Arnie 8/9/96