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To: Larry Burnham, Lee Swartz, Dave Lochbaum, Paul Blanch, Norm Aamodt

From: Arnie Gundersen

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Subject: Major Discrepancy between Daniel and Akers data which may increase exposures to support Plaintiff's claims

Below is a comparison of Krypton isotopes from Daniel's 1992 Report and Akers' 1995 Report. Attached also are the complete tables from each report. On Friday March 1, 1996, Paul Blanch noticed the major discrepancy between the two reports for Krypton 83M. Akers value for Kr83M is 1000 times bigger than any other volatile isotope. It is unlikely that Akers made a typographical error in Table A3, because the moles of Kr83M in that table are also very large. It is possible that Daniel "forgot" that Kr83M is a daughter of other fission products.

If Akers is correct, the public received an enormous exposure from the short lived Kr83M on the first day of the accident, from the steam generator leak and just from gas stripped from the reactor coolant by the Letdown/Makeup system which was released up the plant stack. If just one tenth of one per cent of Akers Kr83M was released by the 8 AM Steam Generator leak, this alone would be a 10,000,000 curie release. Akers value for Kr83M supports Lochbaum's assertion that releases were substantially greater than 10,000,000 curies.

We need to get Akers' value of Kr83M into the record to repudiate Daniel and to support Lochbaum's contention. Since we caught the difference after we deposed Daniel (whoops!), our best approach might be to bring it up in our direct examination of Lochbaum this week. I leave that for the legal minds to figure out.

## COMPARISON OF KRYPTON ISOTOPIC INVENTORIES AT SHUTDOWN

ISOTOPE	Daniel's 1992 Report TABLE 3.2 (curies)	Akers 1995 Report TABLE A3 (curies)
Kr83M	11,040,000	9,900,000,000
Kr85M	26,450,000	25,000,000
Kr85	962,800	967,000
Kr87	50,890,000	49,600,000
Kr88	72,050,000	70,000,000
Kr89	92,770,000	NA

## COMPARISON OF DANIEL'S 1992 AND 1996 NOBLE GAS RELEASES

Location of Radioactivity Core	1992 Percent Radioactivity 30.0 %	1992 Curies <sup>1</sup> Radioactivity 52,000,000	1996 Percent Radioactivity 36%	1996 Curies Radioactivity 63,000,000
Containment	(.56 x .7) 39.2%	68,000,000	52%	91,000,000
Reactor Coolant	(.12 x .7) 8.4%	14,000,000	0%	0
Aux. Bldg.	(.22 x .7) 15.4%	26,950,000	0%	0
Environment	(.10 x .7) 7.0%	12,000,000	12%	21,000,000
TOTAL	100%		100%	

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<sup>1</sup>Based on a total noble gas inventory of 175,000,000 curies of noble gas present on April 29, 1979