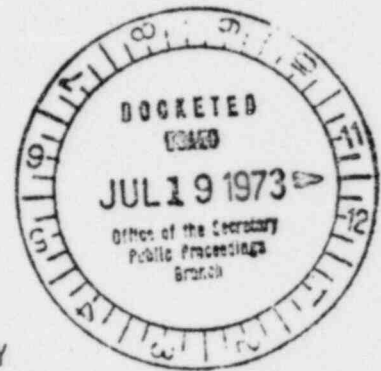


SUPPLEMENTAL TESTIMONY
 TO FINAL ENVIRONMENTAL STATEMENT
 related to construction of
 DAVIS-BESSE NUCLEAR POWER STATION
 TOLEDO EDISON COMPANY and
 CLEVELAND ELECTRIC ILLUMINATING COMPANY



Docket No. 50-346

Issue 4

The value of 0.25% of failed fuel used in the staff's source term calculation is assumed to be that fraction of the fuel releasing fission products to the primary coolant. This is an average value based on operational experience with zircaloy clad fuel in pressurized water reactors. The data upon which this value is derived are as follows:

<u>Facility</u> ⁽¹⁾	<u>MWt</u>	<u>EFPD</u> ⁽²⁾	<u>% Failed Fuel</u>
Ginna	1300	280	0.4
NOK (Beznau-1)	1142	413	0.7
KEP (Konsai Elec. Co.)	215	215	0.03
Point Beach	1518	100	0.003
H. B. Robinson	2300	75	0
		Average	0.23

The table shows that a value as high as 0.7% has been reported. If this value were assumed rather than the average value of 0.25%, the annual dose to a child's thyroid due to iodine would be approximately 3.6 mrem which is well within acceptable limits.

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The Technical Specifications for the plant will delineate the limits for the controlled releases of radioactive effluents to the environment.

NOTES:

- (1) The reactors listed are limited to those which have reported "percent failed fuel."
- (2) EFPD means "effective full power days."

It is the staff's evaluation that the threat of radioactivity to farm animals, products and lands has not been underestimated. The terrestrial organisms of Navarre Marsh, listed in FES Table 5.1, receive maximum dose of 0.8 to 5.6 mrem/yr. Such dose rates, even when prolonged over the lifetime of the organism, have failed to show deleterious effects either in man, or in other biota. (FES Section 5.6, page 5-17)

These low doses to organisms in the marsh arise chiefly from proximity to the liquid waste discharge, a pathway not open to local farms. The maximum doses for man, animal or plant would be less than 0.05 mrem/yr at the northeast boundary of Station, and much less beyond that. (FES Section 5.7, page 5-17) Such dose rates constitute less than 0.04% of the natural background in the area. This corresponds to an increase

in dose rate that one would experience by changing one's elevation less than a foot, as in going up the front steps of one's house. Even if the percent of fuel failure were increased by a factor of 10, to 2.5%, dose rates would be less than 0.5 mrem/yr which remains far below those at which some threat or hazard might reasonably be expected.

When values are expressed in dose (e.g., mrem) man is the most radio-sensitive organism known. First of all, he belongs to the most sensitive radiotaxon, and he is its most sensitive member. Secondly, his very long life span permits the expression of damage that would not be observable in shorter-lived species. Finally, his concern for his own well-being extends to effects that could not be considered significant in other species. Thus, if a given dose rate is not considered to constitute a threat to man, it does not constitute a threat to other biota.