

AUG 20 1975

Thomas M. Novak, Chief, Reactor Systems Branch

DAVIS BESSE UNIT 1, CONTAINMENT PURGING TO ACCOMMODATE SINGLE FAILURE
DOCKET NUMBER 50-346

We have reviewed the limited information submitted by the applicant and provided with your memo of August 1, 1975, on the inplant and site boundary doses resulting from containment purging after a 140 GPM leak of primary coolant for a 6-1/2 hour period. The inplant exposures should be evaluated by RAB although we suspect they will be unacceptably high compared with the exposure guidelines of Criterion 19. We have checked the site boundary doses based on 1.0% failed fuel isotopic concentrations listed in Tables 11 - 15, Supplement 6 of the FSAR, and a primary coolant value of 1.144×10^4 gallons, a X/Q value of 5.4×10^{-4} sec/meter³ and assuming no iodine spiking and arrived at site boundary doses of 2.6 rem whole body and 19.2 rem thyroid. (The applicant calculated 0.42 and 15.5 rem respectively.) The only reduction credit taken in our thyroid dose calculation was for 50% plateout of iodine. No credit was taken for use of a charcoal filter system as an ESF grade system has not been provided. Iodine spiking as a result of the incident was not considered in the applicant's analysis and could considerably increase the thyroid doses computed. If an iodine spike in the primary coolant existed at the time of the incident (for example as a result of a startup or power transient which occurred a few hours earlier), the computed dose could be increased by as much as a factor of 60.

We therefore recommend that an ESF filtration system which meets the criteria of Regulatory Guide 1.52 be required if containment purging is accepted as a means of meeting the single failure criterion. The spiking source term should also be used in evaluating containment entry exposure.

KS
Brian K. Grimes, Chief
Accident Analysis Branch
Division of Technical Review
Office of Nuclear Reactor Regulation

cc: F. Schroeder
TR A/D's
G. Mazetis
L. Engle
R. Baer

DISTRIBUTION: Central File ✓
AAB/Reading NRR/Reading

OFFICE	J. Kastner	AAB/SS/TR	AAB/SS/TR		
SURNAME	C. Block	C. Ferrell/vg	B. Grimes		
DATE	C. Ferrell	8/20/75	8/20/75		

8002050739