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Docket No. 50-331

JAN 19 1973

Roger S. Boyd, Assistant Director for BWR's, L
 THRU: Walter R. Butler, Chief, BWR-1, L

SUMMARY OF MEETING WITH IOWA ELECTRIC LIGHT AND POWER COMPANY (IELP) TO DISCUSS DUANE ARNOLD ENERGY CENTER'S (DAEC) GASEOUS EFFLUENT LIMITS FOR IODINE - 131

On January 15, 1973 representatives of IELP and its contractors met with the staff to discuss the Duane Arnold Energy Center's gaseous effluent limits for iodine - 131.

The meeting attendance is attached.

DISCUSSION

IELP reviewed with the staff the complete calculational model used by the applicant to determine the child's thyroid dose via the nearest real cow. Based upon this model, the annual child thyroid dose resulting from the grass - cow - milk chain was calculated to be 0.85 millirem per year. The model used by the applicant took into account three reduction factors: (1) F_d to account for depletion of the iodine concentration, due to deposition of iodine, during its traverse from the release point to the location of the cow; (2) F_f to account for the ratio of grass to total food intake of the cow; and (3) F_g to account for the grazing period of cow. The factor F_d was calculated for the DAEC site to vary between 0.85 and 0.13 depending on the percentage of time that a ground release is assumed. This cloud depletion factor for ground release, F_d , has not been included in the present staff model. However, the Radiological Assessment Branch is currently developing a staff model which will take this reduction factor into account.

The applicant will submit a letter describing the calculations, analytical model, and results by January 22, 1973 and will file an amendment to the FSAR containing this information at a later date.

The applicant discovered some goats approximately 3 miles NNE from the plant during its review of the area around the DAEC site. DAEC also indicated that these goats have been included in the milk monitoring program.

OFFICE ►									<i>Memo</i>
SURNAME ►									
DATE ►									

DAEC will submit, around March 1, 1973, an amendment to the FSAR describing the alternatives considered for reduction of iodine - 131 released from the plant, the reduction factor for each alternative, and the cost estimates for installing each alternative.

In the letter, which applicant IELP will submit on January 22, 1973, a commitment will be made that if the iodine - 131 thyroid dose from the grass - cow - milk chain results in a dose greater than 5 mrem per year as determined by the DAEC milk monitoring program the applicant will adopt one of the alternatives to be described in its March, 1, 1973 amendment cited above, to reduce the dose so that the 5 mrem per year limit is satisfied.

CONCLUSION

On the basis of the above cited discussion, staff considers that its current licensing requirements, for plants already built, regarding the thyroid dose from the iodine - 131, grass - cow - milk chain, are satisfied. The following is the wording which will be used in the DAEC staff Safety Evaluation and Final Environmental Statement.

"The applicant will take appropriate measures through monitoring, administrative measures and/or design changes to insure that the thyroid dose to critical segments of the general population through the grass - cow - milk chain does not exceed 5 mrem per year."

Original signed by
Raymond R. Powell

Ray Powell, Project Manager
for Boiling Water Reactors Branch 1
Directorate of Licensing

OFFICE ▶	L: BWR-1	L: BWR-1	L/AD/BWR		
SURNAME ▶	R. Powell:ln	W. Butler	R. S. Boyd		
DATE ▶	1/19/73	1/19/73	1/ /73		

MEETING ATTENDANCE

DUANE ARNOLD ENERGY CENTER (IELP)

January 15, 1973

AEC

V. Benaroya
T.H. Essig
R. Powell
F.A. St.Mary

GE

N.R. Horton

IELP

D. Arnold, Jr.
C.W. Sandford
D. Flanagan
J. Ward

NR&A

J. Newman