

GENERAL  ELECTRIC

RECEIVED

U.S. PUBLIC DOCUMENT ROOM

NUCLEAR ENERGY

PROGRAMS

DIVISION

GENERAL ELECTRIC COMPANY, 175 CURTNER AVE., SAN JOSE, CALIFORNIA 95125

U.S. NUCLEAR REG.
COMMISSION
NMSS MAIL SECTION

DMD-256

Docket No. 70-1308
License SNM-1265

November 9, 1978

Office of Nuclear Material Safety & Safeguards
Attention: Mr. R.E. Cunningham, Acting Manager
Division of Fuel Cycle & Material Safety
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: ADDITIONAL INFORMATION re LACROSSE FUEL ASSEMBLY
STORAGE AT THE MORRIS FACILITY

Reference: Letter to R.E. Cunningham from D.M. Dawson, Response
to Questions re LaCrosse Fuel Assemblies; dated
October 26, 1978

Gentlemen:

As discussed in a telephone conversation between Fleming Empson (NRC), Bob Stevenson (NRC), and Bob Stitt (GE) on November 2, 1978, the following information is submitted to clarify the assumptions used in the reference letter.

The hypothetical extension of the fuel out of a storage basket, in the unlikely event that such a basket is dropped or otherwise tipped over in the unloading pit, is limited to 42 inches by the dimensions of the pit (12 ft x 16 ft). Forty-two inches is determined from a horizontal, diagonal orientation of the basket and extended fuel.

Sketch 1 is a non-scale representation of the attitude of the basket and extended fuel as it rests on the floor of the unloading pit.

FREE EXEMPT

11208

7812180224

- 2 -

The extended fuel is supported (support point) by the basket guide plate 1.2 inches above the floor. The maximum deflection of the free end of the fuel* is 0.5 inches. Because the fuel does not touch the floor, the normal spacing of the fuel is preserved.

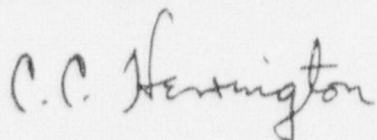
From this analysis we conclude that the one inch reduction in vertical centerline spacing of the fuel over the entire length, assumed in the analysis of k_{eff} , is conservative. Substantial additional conservatism is introduced through the assumption that the fuel is unirradiated whereas the 3.925% enriched LaCrosse fuel has undergone a minimum irradiation of 15 GWD/MTU.

The evaluation of the k_{eff} of this array was made by Battelle Pacific Northwest Laboratories using the KENO-II code. (see attached letter). This is the same method that was used and verified in the GE May, 1975 submittal for Project I (*Criticality Safety Basis for MFRP Project I Fuel Bundle Storage Baskets*, Battelle Pacific Northwest Laboratories, May, 1975).

Please contact either C.C. Herrington or R.K. Stitt if there are further questions regarding these matters.

Respectfully submitted,

GENERAL ELECTRIC COMPANY

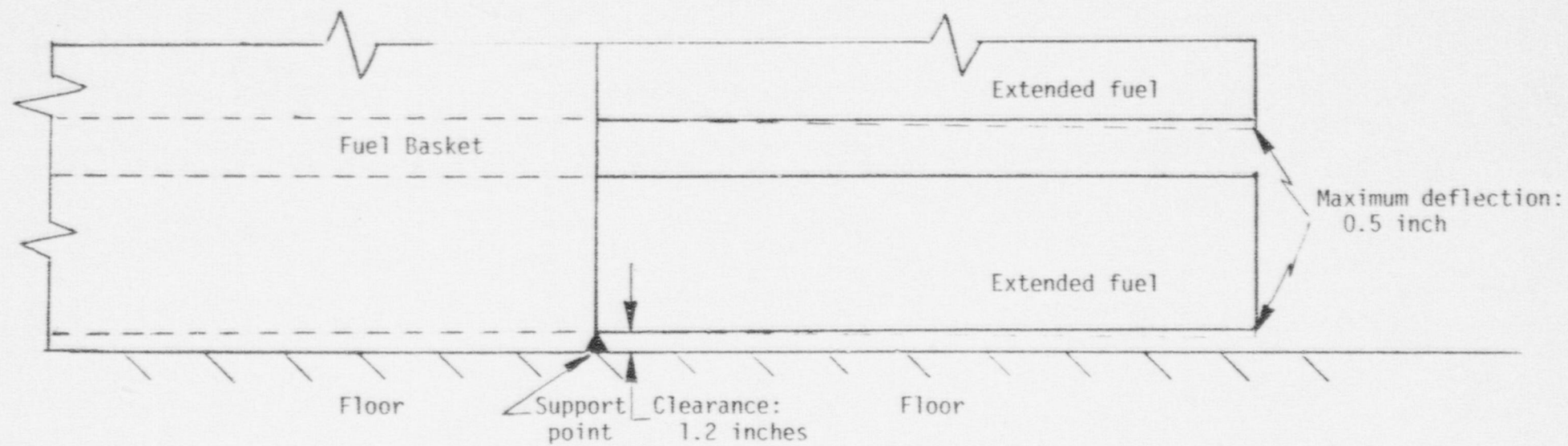


for
D.M. Dawson, Manager
Licensing & Transportation
408*925-6330 MC 861

DMD:RKS:bn

Attachment

* Fuel deflection reported by Dairyland Power Cooperative



SKETCH 1

Tipped fuel basket with fuel extended