

May 7, 1980

DOCKET NUMBER

PETITION RULE PRM 51-6
(45 FR 25557)

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J. M. Felton, Director
Division of Rules and Records
Office of Administration
U. S. Nuclear Regulatory Commission
Washington D. C. 20555

Re: PRM 51-6 "GENERIC ENVIRONMENTAL IMPACT OF HIGH BURNUP
NUCLEAR FUEL" (Pollution & Environmental Problems, Inc.)

COMMENT

I join this group, supporting a requirement for an Environmental Impact Statement or Generic Environmental Impact Statement on the use of fuel beyond the technical specifications of 38,000 Megawatt days/tonne of Uranium in the Zion-II Nuclear Plant. My reasons are:

- (1) Zion-II is a poor place for any what are essentially experiments with reactor fuel. More than 1,250,000 persons live within a 30 mile radius of its emission stack. This plant, among the other two plants of the same name, has been designated by the NRC in other actions as requiring additional training and other acoutrements, because it contributes such a high percentage of the total probability of injuring the public due to the high population surrounding it.
- (2) There is much data* which show that the fuel rod rupture threshold decreases with fuel rod burnup. This indicates a significant increase in the potential for accidental doses to persons outside the power plant site, and thus qualifies this action for the EIS process under 10 CFR 51.5(a)(10).

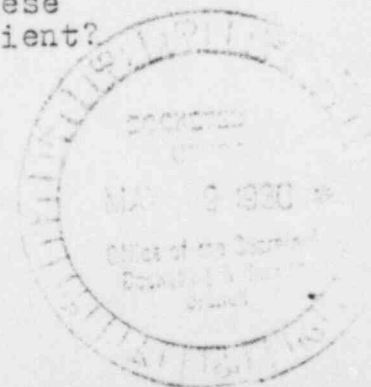
While the NRC Division of Operating Reactors may have felt the use of 4 fuel assemblies make these risk de minimus, the presentation of the reasons for a de minimus conclusion should be presented for agency and public comment. There are questions that should be answered about the effect of having these four peripheral (?) assemblies that need consideration in view of reason (2) above. For example, what will be the effect on the balance of the core of these four assemblies in event of a severe pressure transient?

*See short bibliography on Page 2.

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acknowledged by card 5/2/80 mdu.

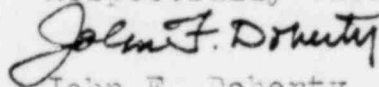
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For the above reasons, I support Ms. Quigg's and PEP's petition.

There is another item with regard to de minimus and fuel of high burnup which is an important question. If indeed there is simply not enough high burnup fuel involved in the Zion-II, then surely there is a threshold of high burnup fuel in a reactor in which the characteristics of the fuel change so much that an Environmental Statement must be prepared.

Respectfully submitted,



John F. Doherty
Intervenor in Allens Creek CP proceedings
(50-466)*

Bibliography on Fuel burnup and fuel rod integrity.

- 1 IN-IEC 113, July 1970. "The Effects of Burnup on Fuel Failure Part I," R. W. Miller.
- 2 IN-1370 "Irradiate UO₂ Fuel Tests", R. W. Miller.
- 3 NUREG/CR-0269
- 4 RE-S-76-187 "Fuel Behavior Program Description for Light Water Reactor: Reactivity Insertion Accident Fuel Behavior Experiment Requirements, Idaho National Engineering Laboratory, 1976.
- 5 IN-IEC-113 "The Effects of Burnup on Fuel Failure", 1970.