

or the severity of an individual failure. I agree in part with the latter portion of the contention; I do not agree with the first.

There is no safety hazard per se involved with failed fuel. A leaking fuel rod can cause the activity level of the primary coolant to increase, but since the primary coolant system is closed and since the entire primary system is within the containment structure, this higher activity level poses no direct hazard to the public.

The applicant has provided a radiation monitor (R9) on the reactor coolant letdown line. The monitor is a Geiger-Meuller type instrument and is capable of detecting coolant activity levels as low as 1 mr/hr. The Technical Specifications for Kewaunee (Section 3.1.c) require that the total specific activity of the reactor coolant due to nuclides with half lives greater than 30 minutes, excluding tritium, be limited to a maximum level such that the consequences of a postulated rupture of a steam generator tube when the coolant activity is at the maximum limit would result in a dose of less than 0.5 Rem at the site boundary. The time delay in the sensing instrumentation is about one minute. Thus, the radiation monitor on the letdown line is sufficiently sensitive to detect changes in coolant activity levels such that the operator can take appropriate action.

However, the instrumentation is not capable of providing him with data on which fuel elements have failed or how many. Once alerted to a problem, the reactor operator could continue to run the plant if the activity is less than the limit established by the Technical Specifications, or if the activity exceeded the specified limit, he would be required to shut down the plant.

The AEC and the Advisory Committee on Reactor Safeguards have been urging the nuclear industry to develop a system with a rapid response time, which is capable of discriminating against normal activity in the primary system, and which can tell not only which fuel elements have failed but the severity of the failure.

If such a system were developed, it would provide additional information on plant operation, but in my opinion, it would not provide any additional protection to the safety of the public.

On this basis, I have concluded (Safety Evaluation, Section 5.5) that the failed fuel detection system provided for the Kewaunee plant is acceptable.

Lawrence P. Crocker
Lawrence P. Crocker

Subscribed to and sworn before
me this 5th day of February, 1973

Helene Stearns

My Commission expires 7/1/76