

# Jersey Central Power & Light Company



MADISON AVENUE AT PUNCH BOWL ROAD • MORRISTOWN, N. J. 07960 • 539-6111

May 30, 1972

Mr. A. Giambusso  
Deputy Director for Reactor Projects  
Directorate of Licensing  
United States Atomic Energy Commission  
Washington, D. C. 20545

Dear Mr. Giambusso:

Subject: Docket 50-219  
Oyster Creek Station  
Change in Stack Gas  $\bar{E}$

The purpose of this letter is to report to you, as a matter of interest, an observed change that occurs in the average gamma energy of the stack gas activity ( $\bar{E}$ ) during station startup as compared to the average energy of the stack gas activity that existed during normal full power operation just prior to a shutdown and the subsequent restart.

On April 13, 1972, the reactor scrammed at approximately 1:55 p.m. On April 14, 1972, during a normal plant startup, the steam seals and the condenser vacuum were being established. Steam was supplied to seals and the mechanical vacuum pump was started. As a consequence of this operation, the noncondensables in the condenser were drawn out through the mechanical vacuum pump and released to the stack via an approximately 2-minute holdup line. The gross noble gas release at the stack increased to 0.34 Ci/sec based on an  $\bar{E}$  determination that was made on April 12, 1972 during normal power operation.

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The maximum stack release rate of gross activity, except iodines and particulates with half lives longer than 8 days, is limited by our Technical Specifications to 0.21/ $\bar{E}$  Ci/sec. On April 12, 1972, prior to the scram, the off gas was determined to be 179,000  $\mu$ Ci/sec at the air ejectors which resulted in a release rate of 77,500  $\mu$ Ci/sec at the stack. This analysis is typical of equilibrium steady-state operation where the  $\bar{E}$  equaled 0.74 and the permissible stack release rate would be 0.28 Ci/sec. At this time, the percentage of longer lived activity was 18% of the total as determined by grab sample activity shortly after sampling compared to the activity present 24 hours later.

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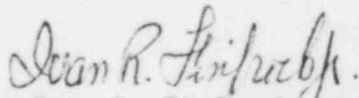
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On Friday evening, April 14, 1972, some 22 hours after the startup began, a grab sample of off gas was collected which showed the long lived activity to be 51.7% of the total. Three days later on April 17, the percentage had decreased to 16.5% which corresponded to normal equilibrium composition prior to the scram. This observation leads one to the conclusion that the gaseous activity initially released on this startup was comprised of the longer lived iodine daughter products of  $^{133}\text{Xe}$  and  $^{135}\text{Xe}$ . The  $\bar{E}$  associated with such a mixture would range between .073 to 0.25 and the resultant stack limit would be between 2.88 to 0.84 Ci/sec.

The reactor again scrammed on April 24, 1972 and during the restart, several gas samples were collected from the condenser and mechanical vacuum pump discharge line. The data results show that the activity present in these areas for a period of several days is predominantly  $^{133}\text{Xe}$  and  $^{135}\text{Xe}$ . The  $\bar{E}$  for the mixture is  $0.10 \pm .01$  which supports our assumption that the value of  $\bar{E}$  ranges from 0.073 to 0.25 during these periods.

We are enclosing 25 copies of this letter.

Very truly yours,



Ivan R. Finfrock, Jr.  
Manager, Nuclear Generating Stations

IRF/pk

Enclosures

cc: Mr. J. P. O'Reilly, Director  
Regulatory Operations, Region I