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M. M. Mann
R. S. Boyd
L. Kornblith, CO (2)
F. W. Karas
bcc: J. R. Buchanan, ORNL

January 7, 1969

Docket No. 50-289

Metropolitan Edison Company
P.O. Box 542
Reading, Pennsylvania 19603

Attention: Mr. R. E. Neidig
Vice President

Gentlemen:

This is in reply to your letter of December 10, 1968 in which you state that the control rod drives for the Three Mile Island Nuclear Station will be hermetically sealed, synchronous motor-driven roller-nut units instead of the rack-and-pinion units as previously described.

You have referenced your proposed new design to information contained in the Oyster Creek Unit No. 2 Application, Amendment 4 (Docket 50-320). We have not completed our review for the construction permit for Oyster Creek Unit 2 and therefore have not formed a conclusion as to the adequacy of design for that application.

In reviewing the control rod drive aspects of the Three Mile Island Preliminary Safety Analysis Report, our safety evaluation of the Three Mile Island application, and the transcript of the Three Mile Island public hearing, the following points of difference appear to exist between the two rod drive systems:

1. The roller-nut system no longer has the capability to drive in a "stuck rod" equivalent to a 400-lb weight.

2. The roller-nut system has a run speed of 30 inches/minute, compared to 25 inches/minute for the rack-and-pinion system.

3. The roller-nut system has no seal water injection.

4. The rod drive position indication system has been changed to a more indirect means of inferring rod position.

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5. As stated in our safety evaluation, upward motion without a rod withdrawal signal is denied by a unidirectional clutch in the rack-and-pinion system. It is not clear whether this feature has been retained in the roller-nut system.

In consideration of these points we plan to reevaluate the adequacy of the design of the control rod drives. Our concerns will include: reanalysis of the startup accident, (as a result of a faster nominal drive speed); reevaluation of rod ejection accident, (as a result of the change in housing design); examination of quality assurance programs associated with the procurement and fabrication of the rod drives; examination of the revised relationship of the control rod drive power system and position indication systems as related to the control and protection system; and a comprehensive review of any additional criteria expressed in the record on Three Mile Island Station.

In our opinion, evaluation of the change in control rod drive can properly be deferred until your application for a provisional operating license is filed. We believe, however, that potential delays in the operating review might be avoided by an early response to the concerns expressed in this letter.

Sincerely yours,

/s/

Peter A. Morris, Director
Division of Reactor Licensing

cc:
George F. Trowbridge, Esq.
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