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 RECIPIENT NAME: RECIPIENT AFFILIATION
 KEPPLER, J.G. Region 3, Chicago, Office of the Director

SUBJECT: Submits zero power physics testing, all rods withdrawn
 moderator temp coefficient measured +0.71pcm/F. Average
 value was conservatively obtained from heatup & cooldown
 measurements.

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INDIANA & MICHIGAN ELECTRIC COMPANY

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January 25, 1980

Mr. J.G. Keppler, Regional Director
Office of Inspection and Enforcement
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Operating License DPR-74
Docket No. 50-316

Dear Mr. Keppler:

This report is submitted as required by the Unit 2 Technical Specifications, Section 6.9.2, in relation to Technical Specification 3.1.1.4, Section a.3, Moderator Temperature Coefficient.

During zero power physics testing, the "all rods withdrawn" (ARO) moderator temperature coefficient was measured to be $+0.71 \text{ pcm}/^{\circ}\text{F}$. This value was conservatively obtained from an average of heat up and cool down measurements. Using the slope of the moderator temperature coefficient as a function of Boron Concentration (C_B), it was determined that the ARO, HZP moderator coefficient would be zero at 1494 ppm. Operations has been instructed to so position the rods that the C_B is less than 1480 ppm whenever the reactor is critical. By examining design curves for moderator coefficient as a function of burn-up, and neglecting xenon effects, it has been determined that the moderator coefficient will be negative whenever the reactor is critical after 800 MWD/MT.

Sincerely,

D.V. Shaller
Plant Manager

/bab

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