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January 9, 1981 IPN-81-2

Director of Nuclear Reactor Regulation U. S. Nuclear Regulatory Commission Washington, D. C. 20555

Attention: Mr. Steven A. Varga, Chief Operating Reactors Branch No. 1 Division of Licensing

Indian Point 3 Nuclear Power Plant Subject: Docket No. 50-286 Shift Technical Advisor Training Program

Dear Sir:

This letter provides a description of the Shift Technical Advisor (STA) training program in accordance with our December 30, 1980 response (IPN-80-117) to NUREG-0737, item I.A.1.1(3).

The attachment is a description of that program, which equals the NRC endorsed INPO recommendations. A day-by-day breakdown of each phase of training is available for review at the Indian Point Unit 3 should you desire more detailed information.

Very truly yours, Bayn Senior Vice President Nuclear Generation

cc:

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Mr. T. Rebelowski Resident Inspector Upp S. Nuclear Regulatory Commission P. O. Box 38 Bachanan, New York 10511



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## DESCRIPTION OF STA TRAINING PROGRAM

The STA training program was divided into four phases. Phase I, II, and III was presented in the training facility at the Indian Point Unit 3 Site, while Phase IV, Simulator Training was at the Sequoyah Plant Simulator located in the TVA Power Production Training Center near Soddy-Daisy, Tennessee.

Phase I - Basic Academic Phase (6 weeks)

This portion of the program was a condensed version of the course normally presented to candidates for the reactor operator's license.

The overall objective was to provide the student a basic understanding of the scientific and engineering principles of reactor plant operation.

## Phase II - Plant Systems Phase (8 weeks)

Plant systems training included instruction on major plant safety-related systems. In addition the eighth week of this phase included a discussion of human factors and administrative controls. The systems phase serves to bring the STA to a level of knowledge and experience in which he understands plant systems. Emphasis was placed on those systems which play an important role during the accident/transient analysis phase. المحادرين وينبعه بالم

Phase III - Transient/Accident Analysis

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The transient/accident analysis phase was designed to challenge the prospective STA by requiring him to utilize his academic knowledge and understanding of plant systems in the analysis of transients and accidents which have occurred at other plants or may occur at his plant. The training program is therefore unified by a discussion of several important historical transients and their applicability to the STA's plant, combined with the analysis of the accident outlined in the IP-3 FSAR. The STA was instructed on the method of analysis to be used during an accident or abnormal transient, and those actions necessary to mitigate reactor core damage during an accident.

This phase was designed to develop competence and experience in the safety analysis of systems, the assessment of operating experience, and the assessment of accident response. In this regard the STA became familiar with:

> Methodology of analyzing and components as per the Code of Federal Regulations (10 CFR 50, Appendix A) and the Final Safety Analysis (FSAR) for the plant.

Inherent reactivity effect of the reactor core, Heat transfer, fluid flow and thermodynamics concepts focusing on the essential parameters that indicate the status of the core and the reactor coolant boundary.

Review of reactor transients and significant events that have occurred at various PWR facilities and which have an impact on reactor safety and operational procedures.

Review of the TMI-2 incident.

Introduction to Reactor Accidents.

Outline basic methodology which could be incorporated in Accident Analysis.

Review of postulated reactor accidents for the plant as per the FSAR and plant vendor data.

Mitigation of Reactor Core Damage - Training Material presented as per NRC directive of March 28, 1980.

Phase IV - Simulator Training Phase

Training on a full scale pressurized water reactor simulator was conducted by General Physics Corporation, Chattanooga, utilizing the Sequoyah simulator. The ten day program included four hours of classroom instruction and four hours of "hands-on" simulator training each day. The students were introduced to normal plant operation during week 1. Week 2 featured transients of Moderate Frequency along with special emphasis on Infrequent and Limiting Faults. Included during the final week were special insights into the Lessons Learned from Three Mile Island.

Phase V - Leadership and Management

This phase consisted of 80 hours of management seminars designed to satisfy all of the recommendations in NUREG-0737, Appendix C, paragraph 6.3.