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SHOREHAM NUCLEAR POWER STATION P.O. BOX 618, NORTH COUNTRY ROAD + WADING RIVER, N.Y. 11792

October 2, 1981

SNRC-625

Mr. Harold R. Denton, Director Office of Nuclear Reactor Regulation U.S. Nuclear Regulatory Commission Washington, D.C. 20555

> Core Damage Mitigation Training (TMI-2 Requirement II.B.4) Shoreham Nuclear Power Station - Unit 1 Docket No. 50-322



Reference: Letter SNRC-622, dated 9/25/81

Dear Mr. Denton:

Enclosed please find fifteen (15) copies of an outline describing Shoreham's Core Damage Mitigation Training Program. The program consists of two phases. This outline supplements and supersedes the outline previously provided via the referenced letter, which only dealt with Phase II of the program.

Discussions on this matter had been held between Mr. Jon Bengston of LILCO and Mr. Paul Collins of your staff on September 29, 1961. If you require additional information or clarification, please call. We believe this submittal provides the basis for closing this item.

Very truly yours,

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B. R. McCaffrey Manager, Project Engineering Shoreham Nuclear Power Station

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Enclosures

cc: J. Higgins P. Collins



Core Damage Mitigation Training

The Core Damage Mitigation Training Program outline which is enclosed describes that portion of the total program which serves to draw together for the participant, specific concepts related to the topic. This forty (40) hour course is considered the second phase of a two (2) phase program. The first phase consists of the classroom and hands-on training provided by in-place Shoreham training programs which support the Core Damage Mitigation Training topic. In order to ensure that adequate support is provided for Phase II by existing Shoreham programs, the following evaluation is provided. This evaluation compares Geidelines for Training to Recognize and Mitigate the Corsequences of Core Damage (INPO Documant Number STG-01; H. K. Denton's letter dated 3/28/80) with the subject matter quantity and content of existing Shoreham training programs. Comparison is made according to INPO suggested topic:

PHASE I

- Core Cooling Mechanics: INPO suggests 12 contact hours in this area. Existing Shoreham programs provide 21 topic contact hours.
- Potentially Damaging Operating Conditions: INPO suggests 16 contact hours in this area. Existing Shoreham programs provide 96 topic contact hours.

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- Gas/Steam Binding Affecting Core Cooling: INPO suggests 10 contact hours in this area. Existing Shoreham programs provide 8 topic contact hours.
- 4. <u>Recognizing Core Damage</u>: INPO suggests 20 contact hours in this area. Existing Shoreham programs provide 14 topic contact hours.
- 5. Core Recriticality: INPO suggests 12 contact hours in this area. Existing Shoreham programs provide 10 topic contact hours.
- Hydrogen Hazards During Accidents: INP() suggests 8 contact hours in this area. Existing Shoreham programs provide 8 topic contact hours.
- Monitoring Critical Parameters During Accident Conditions: INPO suggests 20 contact hours in this area. Existing Shoreham programs provide 10 topic contact hours.
- <u>Radiation Hazards and Radiation Monitor Response</u>: INPO suggests 10 contact hours in this area. Existing Shoreham programs provide 10 topic contact hours.
- 9. Criteria for Operation and Cooling Mode Selection: INPO suggests 20 contact hours in this area. Existing Shoreham programs provide 18 topic contact hours.

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PURPOSE:

The purpose of this program phase is to provide Shift Technical Advisors and operating personnel from the Plant Manager through the operations chain to licensed operators, additional instruction related to degraded core recognition and methods for recovery from the degraded core condition. Managers and technicians in the Instrumentation and Control, Health Physics, and Radiochemistry Sections will participate in the program to a degree commensurate with their responsibilities.

II OBJECTIVE:

The Program objective is to increase participant awareness of the methods available for use in recognizing the degraded core condition. In addition, participants will receive hands on experience in the use of Emergency Procedure Guidelines - a logical approach to core transient and damage mitigation.

III PROGRAM DESCRIPTION:

Day 1: Core Cooling Mechanics/Accident Recognition

- Introduction Adequate Core Cooling
- Heat Sources Residual and Decay
- Core Cooling Mechanism Liquid vs. Vapor Cooling
- Fuel and Core Damage Thresholds Safety Limits
- Imadequate Core Cooling Condition Recognition
 - 1. Critical Parameter Identification
 - 2. Critical Parameter Monitoring Methods
- Accident Recognition Review
- Day 2: Core Damage Mitigation
 - Fixed/Moveable Nuclear Instrument Use
 - · Process Instrument Response in an Accident Environment
 - Alternative Parametric Measurement Methods
 - Degraded Core Effects on Reactor Plant Chemistry (expected contaminant isotopic breakdown)
 - Process/Area Radiation Monitor Response
 - Accident Environment Dose Rate Determination
 - Corrosion effects on materials immersed in reactor coolant
 - Gas Generation Sources and Disposal Techniques

Day 3: Cor: Damage Mitigation

- Review of Core Damage Mitigation Techniques
- Examination
- Examination Review

Core Transient Identification and Damage Mitigation -Use of Emergency Procedure Guidelines

- Affected Systems Identification
- Mitigating Systems Availability

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- Containment Integrity Control
- Action Level Limit Identification
 - 1. Reactor Water Level Control
 - 2. Cold Shutdown Establisiment
 - 3. Containment integrity Control
- Day 4: Core Transient Ilentification and Damage Mitigation -Use of Emergency Procedure Guidelines (continued)
- Day 5: Core Transient Identification and Damage Mitigation -Use of Emergency Procedure Guidelines (continued)
 - Emergency Procedure Guidelines Walkshrough Examination
- Summary: Existing Shoreham programs offer 195 hours of contact in topics related to INPO suggested training in Core Damage Mitigatica. These instructional topics are included within each of the following programs:
 - 1. Cold License Training
 - Cold License Proficiency Maintenance/Requalification Training for licensed Operators
 - Reactor Operator/Senior Reactor Operator Training Programs (proposed)

The proposed Core Damage Mitigation Training Program (Phase 11) offers an additional 40 specific contact hours related to the INPO suggestions. An overall surplus of 107 contact hours exists related to these guide lines.