

# NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY  
THE HARTFORD ELECTRIC LIGHT COMPANY  
WESTERN MASSACHUSETTS ELECTRIC COMPANY  
NEW YORK WATER POWER COMPANY  
NORTHEAST UTILITIES SERVICE COMPANY  
NORTHEAST NUCLEAR ENERGY COMPANY

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November 21, 1979

Docket Nos. 50-213

50-245

50-336

Office of Nuclear Reactor Regulation  
Attn: Mr. H. Denton, Director  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

- References:
- (1) D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979.
  - (2) W. G. Council letter to D. G. Eisenhower dated October 18, 1979.
  - (3) H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Gentlemen:

Haddam Neck Plant  
Millstone Nuclear Power Station, Unit Nos. 1 and 2  
Discussion of TMI Lessons-Learned Short-Term Requirements

In Reference (1), Connecticut Yankee Atomic Power Company (CYAPCO) and Northeast Nuclear Energy Company (NNECO) were requested to respond by providing commitments to comply with each of the requirements of Enclosure 6 of that Reference. In Reference (2), CYAPCO and NNECO responded with a detailed position for each NUREG-0578 item for each of the three operating units. In Reference (3), the Staff provided additional clarification for each of these items, and requested further review of the scheduler commitments, and a detailed description and justification for any deviation from the Staff requirements. Reference (3) was further supplemented by conference calls with the appropriate NRC project review team. During these calls, areas requiring further information from CYAPCO/NNECO were identified.

In response to that request, CYAPCO hereby provides Attachment 1, and NNECO hereby provides Attachments 2 and 3 for Millstone Unit No. 1 and Millstone Unit No. 2, respectively, to address each of the short-term lessons learned on an item-by-item basis. It is noted that in the same sense that Reference (3) did not change the intent of Staff requirements of NUREG-0578 and Reference (1), the attached material does not alter the intent or supersede Reference (2). Unparalleled engineering efforts remain in progress in an attempt to comply with the Staff requirements as they apply to the three operating units.

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indicated in the Attachments, CYAPCO and NNECO fully intend to implement the Category A recommendations by January 1, 1980 where so stated. However, please recognize that this schedule is quite optimistic considering manpower limitations, hardware availability, etc. If in any instance full compliance by January 1, 1980 is recognized to be not feasible, the Staff will be notified to that effect promptly.

The above commitment is also applicable to those short-term implementation requirements which were indicated to be effected by the Systematic Evaluation Program (SEP) in Reference (2). The impact of SEP is not felt for any short-term implementation requirement, with the exception of Item 2.1.6.b as outlined in Attachments 1 and 2. During one of the above-mentioned conference calls, the Staff stated that their decisions regarding deferral of certain long-term lessons-learned recommendations would not occur until after Staff review of the information which will be docketed on or before January 1, 1980. CYAPCO and NNECO endorse this approach; therefore, elaboration of the impact of the SEP on certain long-term requirements is not provided in Attachments 1 and 2, but will be included with the January 1, 1980 material. The impact of the SEP can and will be much more succinctly provided once the ongoing design reviews and evaluations are completed. The logic inherent in the above approach is also applicable to Item 2.1.6.b. During one of the conference calls, the Staff noted that NNECO had not committed to a schedule for implementation of design changes which may result from the shielding review. As stated during the call and in Reference (2), it is inappropriate to commit to a schedule for completing modifications before such modifications are identified.

A specific concern regarding Item 2.2.2.b, the Onsite Technical Support Center, merits attention at this time. The clarification provided in Reference (3) is, in part, contradictory with the guidance being promulgated by the NRC Staff during meetings on Emergency Planning. In the latter case, the Staff has expressed a desire to have two unique support centers, a smaller one (approximately five individuals) in the immediate proximity of the control room, and a much larger one some distance from the control room, outside the security area to allow ready access. This concern was raised during our conference calls, and the Staff agreed to respond with some additional guidance. This guidance is needed promptly to ensure our efforts are devoted to the proper configuration.

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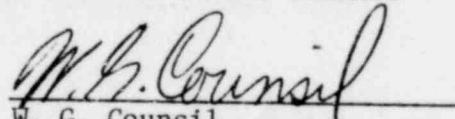
With regard to implementation of the short-term requirements, it is first re-emphasized that completion is targeted for January 1, 1980. Recognizing that conditions beyond CYAPCO's and NNECO's control may preclude this, the matter of system reserve generating capacity during the months of January and February, 1980, has been investigated with the New England Power Exchange (NEPEX). The outage of any of the three nuclear units during the period of January 1 to February 16, 1980 would reduce the system reliability below the NEPEX prescribed level for adequate system reliability. This projection is based upon currently scheduled outages for NEPEX nuclear and fossil units which cannot be readily moved outside this six-week interval. Even if all three NU nuclear units remain operational at full power, it is anticipated that heavy use will be made of number six fuel oil for the NEPEX system fossil steam units and number 2 heating oil for internal combustion units which are not normally required. Pending resolution of the short-term implementation items, additional details regarding system reserve generating capacity will be provided as required.

With the exception of Item 2.1.7.a, which will be the subject of separate correspondence, CYAPCO and NNECO have addressed each NUREG-0578 requirement, as supplemented by References (1) and (3), on two occasions. Therefore, it is our understanding that your request of Reference (3) is fulfilled. Our continuing dialogue with the Staff is expected to supplement the Attached material as the implementation dates approach.

Should any deviations from our implementation program as outlined be identified, the Staff will be so advised promptly.

Very truly yours.

CONNECTICUT YANKEE ATOMIC POWER COMPANY  
NORTHEAST NUCLEAR ENERGY COMPANY

  
W. G. Counsil  
Vice President

Attachments

. 1409 004

ATTACHMENT 1

HADDAM NECK PLANT

FOLLOWUP ACTIONS RESULTING FROM NRC STAFF  
REVIEWS REGARDING THE THREE MILE ISLAND, UNIT 2 ACCIDENT

1409 005

NOVEMBER, 1979

HADDAM NUCLEAR PLANT  
FOLLOWUP ACTIONS RESULTING FROM NRC STAFF  
REVIEWS REGARDING THE THREE MILE ISLAND, UNIT 2 ACCIDENT

Item 2.1.1

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.2

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.3(a)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.3(b)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

The procedures to be used by an operator to recognize inadequate core cooling using existing instrumentation will be developed and implemented by January 1, 1980.

Item 2.1.4

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.5

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

1409 006



Item 2.1.6(a)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.6(b)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

The design review will not include a review for potential degradation of equipment resulting from high radiation. This review cannot be accomplished by January 1, 1980 due to the unavailability of required documentation. This effort continues to be integrated with numerous SEP topics as previously submitted. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.7(a)

CYAPCO continues to conclude that automatic initiation of auxiliary feedwater is unnecessary and not a "lesson learned" from a review of the TMI accident. This topic was most recently discussed with the NRC Staff during conference calls arranged to clarify the intent of H. R. Denton's letter dated October 30, 1979. Although these discussions did not result in substantive changes of opinion of either party, areas meriting additional analyses/clarification were identified. It is currently planned that a docketed submittal, specifically devoted to the topic of automatic initiation of auxiliary feedwater, will be provided to the Staff on or about November 29, 1979. The intent of this submittal is to explain in detail the basis for CYAPCO's position, and elaborate on the complications associated with implementation of this request by January 1, 1980.

Item 2.1.7(b)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.8(a)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979 with the following additional clarifications.

1409 007

Plant design and plant handling and analysis procedures, will be reviewed and modified if possible to allow for the sampling of highly radioactive samples.

Item 2.1.8(b)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

CYAPCO already has procedures in effect for estimating post-accident releases. These procedures include the following steps:

1. Use existing effluent monitor response.
2. If the monitor is off scale, use tables giving predetermined release rates. These release rates are based on the type of accident and time of accident. They are based on Reg. Guide assumptions and plant-specific information. Values for noble gases and iodine are given.
3. Using these release rates and existing meteorological conditions, calculate offsite dose rates and concentrations at specific locations.
4. Take field measurements at these locations.
5. If the field measurements vary significantly from the estimates, readjust the release rate estimates.

Item 2.1.8(c)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

CYAPCO already complies with these requirements as follows:

1. The Connecticut Yankee Power Facility has several gamma ray spectrometers which may be used for accurately determining airborne iodine concentrations during post-accident conditions. This equipment is capable of identifying and calculating activities for all iodine isotopes of interest (I-131 through I-135). Identification of other significant isotopes present in the sample is also possible.
2. The calibration and operation of this equipment for gamma analysis of charcoal filters is specified within station procedures. Instructions for operation of portable air sampling equipment is also delineated within the station procedures.

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3. Station procedures require that the charcoal filters are analyzed on the gamma ray spectrometers if detectable activity is observed. The samples will be analyzed off-site (within 30 minutes by car) in the event that background levels of radiation cause unacceptably large counting errors which cannot be controlled through the use of ventilation and shielding. The off-site analyses will utilize gamma energy spectrum analysis for accurate measurement of airborne iodine concentrations.

Item 2.1.9

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Counsil letter to D. G. Eisenhower dated October 18, 1979.

Additional Instrumentation, Containment Pressure, Containment Water Level and Hydrogen Monitors to Follow the Course of the Accident

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Installation of Remotely Operated High Point Vent in Reactor Coolant System

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.2.1(a)

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.1(b)

1409 009

CYAPCO intends to implement this requirement for additional accident assessment capability by adding an additional licensed operator to each shift and upgrading the training of a senior reactor operator on each shift to include the general technical education, and additional transient and accident response training requirements as discussed in Enclosure (2) to D. G. Eisenhower's letter of September 13, 1979. The senior reactor operator on each shift designated as the Shift Technical Advisor would have no assigned line functions while performing the Shift Technical Advisor function. The addition of a licensed reactor operator to the control room shift complement will enable the STA to be detached from controls manipulation and supervision of operators during an event. This provision is considered critical to our intended method of implementation since the primary deficiency noted in the Staff's discussion regarding this alternative was the need for involvement of each of the current shift complement of three operators in satisfying the demands for prompt control and supervisory actions. Implementation of the STA requirement in



this way also prevents dilution of command authority during an accident situation which was noted as not desirable in Enclosure (2) to D. G. Eisenhower's letter of September 13, 1979. CYAPCO feels that this method represents the optimum alternative for implementation of the STA requirement. However, as discussed in Enclosure (2) referenced above, the completion of the additional general technical education and transient and accident training requirements may take two years or more to fully implement depending on the scope and content of the training requirements as finally established. Therefore, in the interim period while the designated operators are off-shift or off-site receiving the required training, CYAPCO intends to implement an interim method of providing the additional accident assessment capability.

The interim method which CYAPCO intends to implement by January 1, 1980 is to provide immediate on-call assistance to the control room by designated senior personnel from the plant staff available on-site in approximately 30 minutes. The majority of designated individuals will have a Bachelor's Degree in science or engineering and all will have a current Senior Reactor Operator License on the designated unit. These individuals will also receive short-term supplemental training and retraining in plant transient and accident response. As an additional interim measure, CYAPCO will also provide an on-call group of experts with experience and technical backgrounds in the various technical areas important to safety including mechanical, electrical, and fluid systems; reactor physics, chemistry, and metallurgy. This group would consist of individuals from both the plant staff and our Northeast Utilities Service Company (NUSCO) engineering staff. Due to the close geographical proximity of the NUSCO engineering support group, this on-call team of experts will be available on-site within approximately one hour of an event.

CYAPCO continues to believe that the long-term and interim measures described above are the most effective means of implementing the required Shift Technical Advisor coverage.

Item 2.2.1(c)

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.2(a)

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.2(b)

CYAPCO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979. Additional clarification is required as noted in the cover letter.

Item 2.2.2(c)

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhut dated October 18, 1979.

Item 2.2.3

CYAPCO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhut dated October 18, 1979.

1409 011

ATTACHMENT 2

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 1

FOLLOWUP ACTIONS RESULTING FROM NRC STAFF  
REVIEWS REGARDING THE THREE MILE ISLAND, UNIT 2 ACCIDENT

1409 012

NOVEMBER, 1979

Millstone Nuclear Power Station Unit 1  
Followup Actions Resulting From NRC Staff Reviews  
Regarding the Three Mile Island, Unit 2 Accident

Item 2.1.1

NNECO response remains unchanged from previous submittal. Reference W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.2

The BWR Owners Group is evaluating and formulating a program for testing of the Safety Relief valves. NNECO intends to support the Owners Group effort.

Item 2.1.3(a)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.3(b)

NNECO response remains unchanged from previous submittal. Reference W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.4

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.5(a, b & c)

NNECO response remains unchanged from previous submittal. Reference W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.6(a)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.6(b)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979 with the following additional clarification.

• 1409 013

The design review will not include a review for potential degradation of equipment resulting from high radiation. This review cannot be accomplished by January 1, 1980 due to the unavailability of the required documentation. This effort continues to be integrated with numerous SEP topics as previously submitted. Reference, W. G. Counsil letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.7(a)

NNECO response remains unchanged from previous submittal. Reference W. G. Counsil letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.7(b)

NNECO response remains unchanged from previous submittal. Reference W. G. Counsil letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.8(a)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979 with the following additional clarifications.

Plant design and plant handling and analysis procedures, will be reviewed and modified if possible to allow for the sampling of highly radioactive samples.

Item 2.1.8(b)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

NNECO already has procedures in effect for estimating post-accident releases. These procedures include the following steps:

1. Use existing effluent monitor response.
2. If the monitor is off scale, use tables giving predetermined release rates. These release rates are based on the type of accident and time of accident. They are based on Reg. Guide assumptions and plant-specific information. Values for noble gases and iodine are given.
3. Using these release rates and existing meteorological conditions, calculate offsite dose rates and concentrations at specific locations.
4. Take field measurements at these locations.
5. If the field measurements vary significantly from the estimates, readjust the release rate estimates.

1409 014



Item 2.1 8(c)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. P. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

NNECO already complies with these requirements as follows:

1. The Millstone Nuclear Power Facility has several gamma ray spectrometers which may be used for accurately determining airborne iodine concentrations during post-accident conditions. This equipment is capable of identifying and calculating activities for all iodine isotopes of interest (I-131 through I-135). Identification of other significant isotopes present in the sample is also possible.
2. The calibration and operation of this equipment for gamma analysis of charcoal filters is specified within station procedures. Instructions for operation of portable air sampling equipment is also delineated within the station procedures.
3. Station procedures require that the charcoal filters are analyzed on the gamma ray spectrometers if detectable activity is observed. The samples will be analyzed off-site (within 30 minutes by car) in the event that background levels of radiation cause unacceptably large counting errors which cannot be controlled through the use of ventilation and shielding. The off-site analyses will utilize gamma energy spectrum analysis for accurate measurement of airborne iodine concentrations.

Item 2.1.9

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Additional Instrumentation, Containment Pressure, Containment Water Level and Hydrogen Monitors to Follow the Course of the Accident

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Installation of Remotely Operated High Point Vent in Reactor Coolant System

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.1(a)

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

1409 015

Item 2.2.1(b)

NNECO intends to implement this requirement for additional accident assessment capability by adding an additional licensed operator to each shift and upgrading the training of a senior reactor operator on each shift to include the general technical education, and additional transient and accident response training requirements as discussed in Enclosure (2) to D. G. Eisenhower's letter of September 13, 1979. The senior reactor operator on each shift designated as the Shift Technical Advisor would have no assigned line functions while performing the Shift Technical Advisor function. The addition of a licensed reactor operator to the control room shift complement will enable the STA to be detached from controls manipulation and supervision of operators during an event. This provision is considered critical to our intended method of implementation since the primary deficiency noted in the Staff's discussion regarding this alternative was the need for involvement of each of the current shift complement of three operators in satisfying the demands for prompt control and supervisory actions. Implementation of the STA requirement in this way also prevents dilution of command authority during an accident situation which was noted as not desirable in Enclosure (2) to D. G. Eisenhower's letter of September 13, 1979. NNECO feels that this method represents the optimum alternative for implementation of the STA requirement. However, as discussed in Enclosure (2) referenced above, the completion of the additional general technical education and transient and accident training requirements may take two years or more to fully implement depending on the scope and content of the training requirements as finally established. Therefore, in the interim period while the designated operators are off-shift or off-site receiving the required training, NNECO intends to implement an interim method of providing the additional accident assessment capability.

The interim method which NNECO intends to implement by January 1, 1980 is to provide immediate on-call assistance to the control room by designated senior personnel from the plant staff available on-site in approximately 30 minutes. The majority of designated individuals will have a Bachelor's Degree in science or engineering and all will have a current Senior Reactor Operator License on the designated unit. These individuals will also receive short-term supplemental training and retraining in plant transient and accident response. As an additional interim measure, NNECO will also provide an on-call group of experts with experience and technical backgrounds in the various technical areas important to safety including mechanical, electrical, and fluid systems; reactor physics, chemistry, and metallurgy. This group would consist of individuals from both the plant staff and our Northeast Utilities Service Company (NUSCO) engineering staff. Due to the close geographical proximity of the NUSCO engineering support group, this on-call team of experts will be available on-site within approximately one hour of an event.

NNECO continues to believe that the long-term and interim measures described above are the most effective means of implementing the required Shift Technical Advisor coverage.

1409 016

Item 2.2.1(c)

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.2(a)

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.2(b)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979. Additional clarification is required as noted in the cover letter.

Item 2.2.2(c)

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.3

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

1409 017

ATTACHMENT 3

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

FOLLOWUP ACTIONS RESULTING FROM NRC STAFF  
REVIEWS REGARDING THE THREE MILE ISLAND, UNIT 2 ACCIDENT

1409 018

NOVEMBER, 1979

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2  
FOLLOWUP ACTIONS RESULTING FROM NRC STAFF  
REVIEWS REGARDING THE THREE MILE ISLAND, UNIT 2 ACCIDENT

Item 2.1.1

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.2

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.1.3(a)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.3(b)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

The procedures to be used by an operator to recognize inadequate core cooling using existing instrumentation will be developed and implemented by January 1, 1980.

Item 2.1.4

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.5

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979. 1409 019



Item 2.1.6(a)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.6(b)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.7(a)

NNECO continues to conclude that automatic initiation of auxiliary feedwater is unnecessary and not a "lesson learned" from a review of the TMI accident. This topic was most recently discussed with the NRC Staff during conference calls arranged to clarify the intent of H. R. Denton's letter dated October 30, 1979. Although these discussions did not result in substantive changes of opinion of either party, areas meriting additional analyses/clarification were identified. It is currently planned that a docketed submittal, specifically devoted to the topic of automatic initiation of auxiliary feedwater, will be provided to the Staff on or about November 29, 1979. The intent of this submittal is to explain in detail the basis for NNECO's position, and elaborate on the complications associated with implementation of this request by January 1, 1980.

Item 2.1.7(b)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.1.8(a)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979 with the following additional clarifications.

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Plant design and plant handling and analysis procedures, will be reviewed and modified if possible to allow for the sampling of highly radioactive samples.

Item 2.1.8(b)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

NNECO already has procedures in effect for estimating post-accident releases. These procedures include the following steps:

1. Use existing effluent monitor response.
2. If the monitor is off scale, use tables giving predetermined release rates. These release rates are based on the type of accident and time of accident. They are based on Reg. Guide assumptions and plant-specific information. Values for noble gases and iodine are given.
3. Using these release rates and existing meteorological conditions, calculate offsite dose rates and concentrations at specific locations.
4. Take field measurements at these locations.
5. If the field measurements vary significantly from the estimates, readjust the release rate estimates.

Item 2.1.8(c)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979, with the following additional clarifications.

NNECO already complies with these requirements as follows:

1. The Millstone Nuclear Power Facility has several gamma ray spectrometers which may be used for accurately determining airborne iodine concentrations during post-accident conditions. This equipment is capable of identifying and calculating activities for all iodine isotopes of interest (I-131 through I-135). Identification of other significant isotopes present in the sample is also possible.
2. The calibration and operation of this equipment for gamma analysis of charcoal filters is specified within station procedures. Instructions for operation of portable air sampling equipment is also delineated within the station procedures.

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3. Station procedures require that the charcoal filters are analyzed on the gamma ray spectrometers if detectable activity is observed. The samples will be analyzed off-site (within 30 minutes by car) in the event that background levels of radiation cause unacceptably large counting errors which cannot be controlled through the use of ventilation and shielding. The off-site analyses will utilize gamma energy spectrum analysis for accurate measurement of airborne iodine concentrations.

Item 2.1.9

NNECO response remains unchanged from previous submittal. Reference, W. G. Counsil letter to D. G. Eisenhower dated October 18, 1979.

Additional Instrumentation, Containment Pressure, Containment Water Level and Hydrogen Monitors to Follow the Course of the Accident

NNECO response remains unchanged from previous submittal. Reference, W. G. Counsil letter to D. G. Eisenhower dated October 18, 1979.

Installation of Remotely Operated High Point Vent in Reactor Coolant System

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.

Item 2.2.1(a)

NNECO response remains unchanged from previous submittal. Reference, W. G. Counsil letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.1(b)

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NNECO intends to implement this requirement for additional accident assessment capability by adding an additional licensed operator to each shift and upgrading the training of a senior reactor operator on each shift to include the general technical education, and additional transient and accident response training requirements as discussed in Enclosure (2) to D. G. Eisenhower's letter of September 13, 1979. The senior reactor operator on each shift designated as the Shift Technical Advisor would have no assigned line functions while performing the Shift Technical Advisor function. The addition of a licensed reactor operator to the control room shift complement will enable the STA to be detached from controls manipulation and supervision of operators during an event. This provision is considered critical to our intended method of implementation since the primary deficiency noted in the Staff's discussion regarding this alternative was the need for involvement of each of the current shift complement of three operators in satisfying the demands for prompt control and supervisory actions. Implementation of the STA requirement in

this way also prevents dilution of command authority during an accident situation which was noted as not desirable in Enclosure (2) to D. G. Eisenhower's letter of September 13, 1979. NNECO feels that this method represents the optimum alternative for implementation of the STA requirement. However, as discussed in Enclosure (2) referenced above, the completion of the additional general technical education and transient and accident training requirements may take two years or more to fully implement depending on the scope and content of the training requirements as finally established. Therefore, in the interim period while the designated operators are off-shift or off-site receiving the required training, NNECO intends to implement an interim method of providing the additional accident assessment capability.

The interim method which NNECO intends to implement by January 1, 1980 is to provide immediate on-call assistance to the control room by designated senior personnel from the plant staff available on-site in approximately 30 minutes. The majority of designated individuals will have a Bachelor's Degree in science or engineering and all will have a current Senior Reactor Operator License on the designated unit. These individuals will also receive short-term supplemental training and retraining in plant transient and accident response. As an additional interim measure, NNECO will also provide an on-call group of experts with experience and technical backgrounds in the various technical areas important to safety including mechanical, electrical, and fluid systems; reactor physics, chemistry, and metallurgy. This group would consist of individuals from both the plant staff and our Northeast Utilities Service Company (NUSCO) engineering staff. Due to the close geographical proximity of the NUSCO engineering support group, this on-call team of experts will be available on-site within approximately one hour of an event.

NNECO continues to believe that the long-term and interim measures described above are the most effective means of implementing the required Shift Technical Advisor coverage.

Item 2.2.1(c)

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.2(a)

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.2(b)

NNECO intends to implement by January 1, 1980 the Category A recommendations of NUREG-0578 as required by D. G. Eisenhower letter to All Operating Nuclear Power Plants dated September 13, 1979 and as clarified by H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979. Additional clarification is required as noted in the cover letter.

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Item 2.2.2(c)

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

Item 2.2.3

NNECO response remains unchanged from previous submittal. Reference, W. G. Council letter to D. G. Eisenhower dated October 18, 1979.

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