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

P.O. BOX 270
HARTFORD, CONNECTICUT 06101
(203) 666-6911

September 15, 1980

Docket Nos. 50-213
50-245
50-336
B10071

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

References:
(1) TMI-2 Short-Term Lessons-Learned Task Force Report, NUREG-0578.
(2) H. R. Denton letter to All Operating Nuclear Power Plants dated October 30, 1979.
(3) W. G. Counsil letter to H. R. Denton dated August 21, 1980.
(4) W. G. Counsil letter to H. R. Denton dated January 31, 1980.
(5) W. G. Counsil letter to H. R. Denton dated December 31, 1979.
(6) W. G. Counsil letter to D. M. Crutchfield dated August 25, 1980.
(7) W. G. Counsil letter to D. G. Eisenhut dated October 18, 1979.
(8) W. G. Counsil letter to H. R. Denton dated December 18, 1979.
(9) W. G. Counsil letter to D. L. Ziemann and R. Reid dated March 28, 1980.
(10) W. G. Counsil letter to H. R. Denton dated December 6, 1979.
(11) W. G. Counsil letter to R. A. Clark dated May 20, 1980.
(12) W. G. Counsil letter to H. R. Denton dated May 6, 1980.
(13) W. G. Counsil letter to D. L. Ziemann dated March 6, 1980.
(14) W. G. Counsil letter to B. H. Grier dated July 13, 1979.
(15) D. G. Eisenhut letter to All Licensees of Operating Plants and Applicants for Operating Licenses and Holders of Construction Permits dated September 5, 1980.

Gentlemen:

Haddam Neck Plant
Millstone Nuclear Power Station, Unit Nos. 1 and 2
Implementation Status of Category B
Lessons-Learned Requirements

Since the original issuance of the TMI Lessons-Learned requirements, Connecticut Yankee Atomic Power Company (CYAPCO) and Northeast Nuclear Energy Company (NNECO) have expended significant financial and manpower resources in an attempt to comply with these requirements on schedule. Representatives from CYAPCO and NNECO have been participants in numerous industry forums convened to resolve open questions regarding implementation of these requirements. Within the past

several weeks, it became apparent that it would be appropriate to delineate the implementation status of the Category B requirements for all three units to the NRC Staff to specifically identify items where the requirement cannot be met or the schedule is not feasible.

On September 10, 1980, a copy of Reference (15) was provided to my Staff. On the basis of a very brief and preliminary review, this document appears to contain a significant amount of clarification of the requirements. Further, Reference (15) notes that the enclosures are not considered to be in final form until after consideration of comments received from licensees and applicants during the upcoming regional meetings and other correspondence. In the interest of providing relevant comments to the Staff in this regard, CYAPCO and NNECO are hereby providing the implementation status of each of the Category B requirements for the Haddam Neck Plant, Millstone Unit No. 1, and Millstone Unit No. 2, in attachments 1, 2, and 3, respectively. It is emphasized that the Attachments were developed without review of Reference (15). Clearly, some of the TMI requirements which were not compatible with the original Staff schedule will be eliminated. Nonetheless, it is apparent that schedular conflicts will remain for other items. CYAPCO and NNECO representatives will be prepared to identify which items fall into this category during the regional meeting. In the interest of providing input to the Staff prior to the regional meetings, the attached implementation status summary is being docketed.

It is anticipated that an update to this document will be forwarded subsequent to a detailed review of Reference (15) and consideration of the outcome of the regional meetings. We believe that resolution of the scope of the requirements as well as schedular conflicts prior to finalization of Reference (15) will best serve our mutual goals. To that end, additional details regarding the evaluation of the attached status can be provided as required.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

W. G. Counsil
Senior Vice President

Attachment

DOCKET NO. 50-213

ATTACHMENT 1

HADDAM NECK PLANT

IMPLEMENTATION STATUS OF CATEGORY B

LESSONS-LEARNED REQUIREMENTS

SEPTEMBER, 1980

Item 2.1.3(a) - Direct Indication of Valve Position

Reference (5) provided the NRC Staff with a description of the Acoustic Monitor System to be installed at the Haddam Neck Plant. The Babcock & Wilcox Acoustic Monitor System has been installed in fulfillment of the Reference (1) Category A requirements.

As noted in Reference (9), the Babcock & Wilcox Monitor System is not expected to be environmentally qualified before April, 1981, hence the Category B requirement will not be fully met by January 1, 1981. The existence of alternative means to determine valve position indication, as discussed in Reference (5), provides adequate justification for this circumstance.

Item 2.1.3(b) - Instrumentation for Detection of Inadequate Core Cooling
- Subcooling Meter

CYAPCO has installed a subcooling meter at the Haddam Neck Plant in fulfillment of the Category A requirements of References (1) and (2). The presently installed thermocouples cannot be qualified. A qualified thermocouple is not expected to be available before 1982. Therefore, CYAPCO is unable to comply with the Category B requirement by January 1, 1981. As noted to the Staff via Reference (3), alternative means to detect inadequate core cooling already exist at the Haddam Neck Plant which have been determined to be adequate.

Item 2.1.3(b) - Instrumentation for Detection of Inadequate Core Cooling
- Additional Instrumentation

Reference (3) provided the NRC Staff with CYAPCO's position on installation of a Reactor Vessel Water Level Monitoring System. CYAPCO has performed the necessary analyses and evaluated advantages of various instruments to monitor water level in the reactor vessel, as documented by Reference (4). CYAPCO has determined that none of the available instruments have demonstrated the ability to provide an unambiguous indication of reactor vessel water level during all transients. Therefore, CYAPCO has deferred plans to install additional instrumentation to monitor reactor vessel fluid level.

Based upon the above information, it is concluded that the Haddam Neck Plant has fulfilled the written Staff requirements for Item 2.1.3.b, Category B, of Reference (1) in their entirety.

Item 2.1.5 - Dedicated H_2 Control Penetrations

The Haddam Neck Plant is equipped with dedicated Hydrogen Control penetrations and is, thus, in full compliance with this Category B requirement.

Item 2.1.6(b) - Plant Shielding Review

Reference (5) identified modifications which would be necessary to comply with Item 2.1.6(b) of Reference (1). CYAPCO anticipates completing implementation of the modifications identified to date early in 1981. It appears that Reference (15) may necessitate reevaluation of the scope of this requirement.

Item 2.1.7(a) - Automatic Initiation of Auxiliary Feedwater

In fulfillment of the Category A requirements of References (1) and (2), a control-grade system for Automatic Initiation of Auxiliary Feedwater, as described in Reference (10), has been installed at the Haddam Neck Plant. This system is currently defeated pending future NRC correspondence. Upgrading of the system to safety grade requires receipt of new safety grade components which are not expected to be received by January 1, 1981. Therefore, this Category B requirement will not be fulfilled by January 1, 1981. More detailed correspondence on this subject is planned.

Item 2.1.7(b) - Auxiliary Feedwater Flow Indication

CYAPCO has installed the control grade system as described in Reference (8). Qualified equipment necessary to upgrade the system to safety grade has been purchased and is scheduled for delivery by December, 1980. Implementation to meet the January 1, 1981 date is dependent on timely delivery of these items. If qualified equipment is not delivered by December, 1980, this Category B requirement will not be met by January 1, 1981.

Item 2.1.8(a) - Post-Accident Sampling Capability

The post-accident sampling system described in Reference (12) is being installed at the Haddam Neck Plant. CYAPCO intends to make this system operational by January 1, 1981, thus, fulfilling this Reference (1) Category B requirement. However, equipment required has not yet been received and this delay may preclude operability of the system by January 1, 1981.

Item 2.1.8(b) - High-Range Radiation Monitors

In References (5) and (7), CYAPCO committed to install at the Haddam Neck Plant redundant containment area monitors. Purchase Orders have been placed for required equipment, which has been scheduled for delivery so as to allow sufficient time for installation. CYAPCO intends to implement this requirement by January 1, 1981; however, equipment required has not yet been received, and this delay may preclude operability of the system by January 1, 1981.

CYAPCO also committed in References (5) and (7) to install high-range effluent monitoring instrumentation. The required equipment has been purchased, however, delivery is not expected until June, 1981. Hence, CYAPCO will not meet the January 1, 1981 implementation requirement.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Containment Level

Reference (13) provided the Staff with details of the proposed modifications to the Haddam Neck Plant to comply with this requirement. Reference (13) stated that because of the small sump volume and the fact that a narrow range indication already exists, only a wide range indicator would be installed. Delivery of required equipment is expected close to the end of this calendar year. This delay may preclude operability of the system by January 1, 1981.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Containment Pressure

CYAPCO has ordered the necessary equipment and received a commitment for delivery allowing sufficient time for installation. CYAPCO intends to comply with this requirement by January 1, 1981; however, equipment required has not yet been received, and this delay may preclude operability of the system by January 1, 1981.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Hydrogen Monitor

CYAPCO will not have a Hydrogen Monitoring System operable at the Haddam Neck Plant by January 1, 1981. CYAPCO intends to comply with this requirement, however, an accurate an reliable system will not be in operation by the January 1, 1981 Category B implementation date.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Reactor Coolant System Venting

Details of the Reactor Coolant System vents proposed for the Haddam Neck Plant were provided to the Staff via Reference (5). The vent system was installed during the recent refueling outage. Procedural details must be developed to fulfill the Category B requirements of Item 2.1.9 for RCS venting.

Item 2.2.1(b) - Shift Technical Advisor

CYAPCO intends to comply with this requirement; however, due to the level of training required and time limitations on the STA personnel, full training will not be completed by January 1, 1981. CYAPCO will complete implementation of this requirement as soon as possible, considering scheduling constraints. The Shift Technical Advisor requirement is being proposed to be incorporated into the Technical Specifications for the Haddam Neck Plant.

DOCKET NO. 50-245

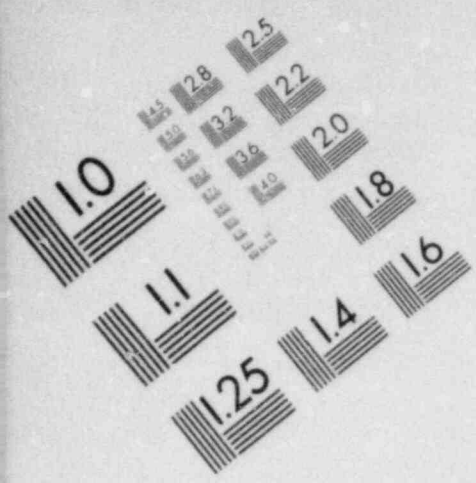
ATTACHMENT 2

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 1

IMPLEMENTATION STATUS OF CATEGORY B

LESSONS-LEARNED REQUIREMENTS

SEPTEMBER, 1980



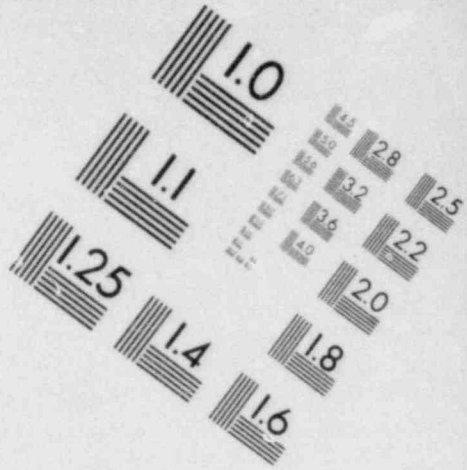
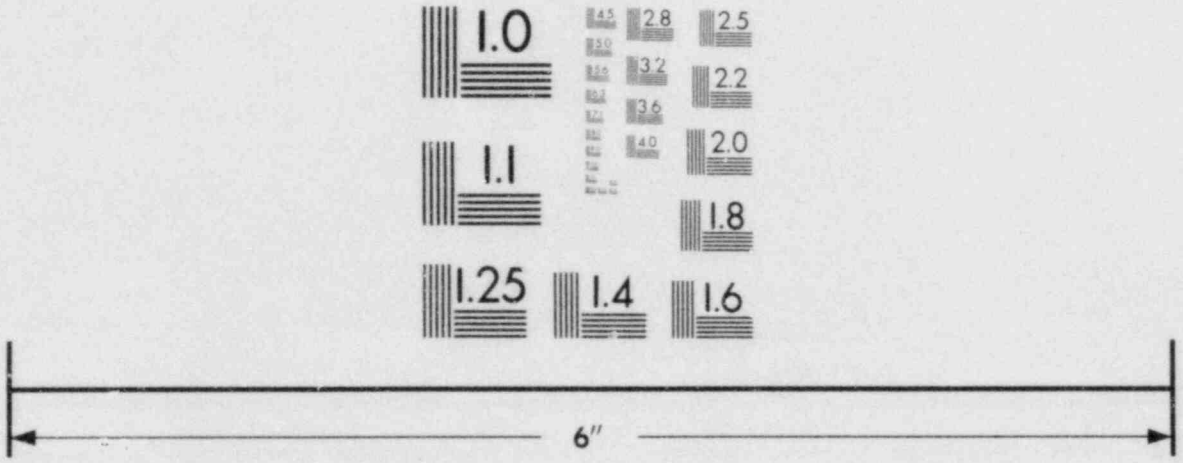
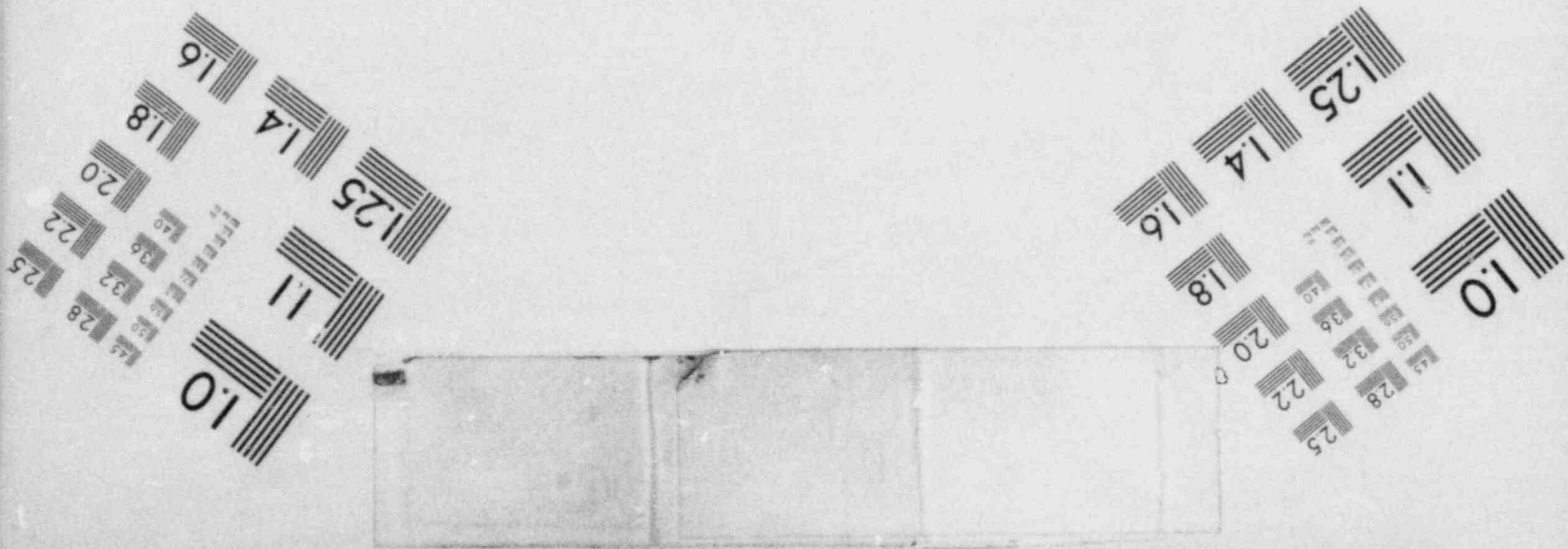
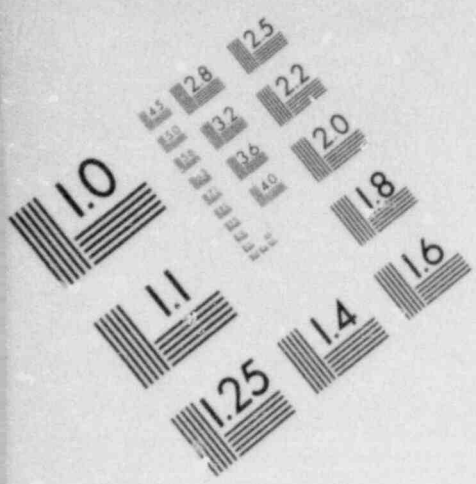


IMAGE EVALUATION
TEST TARGET (MT-3)



MICROCOPY RESOLUTION TEST CHART





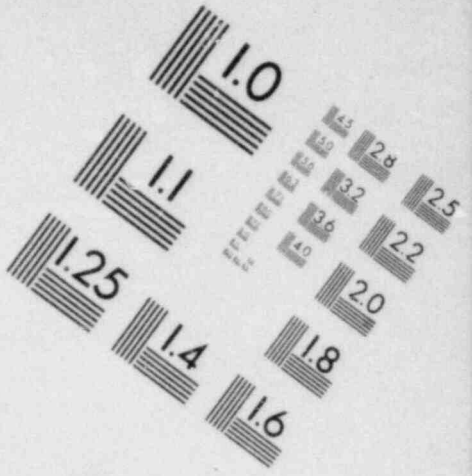
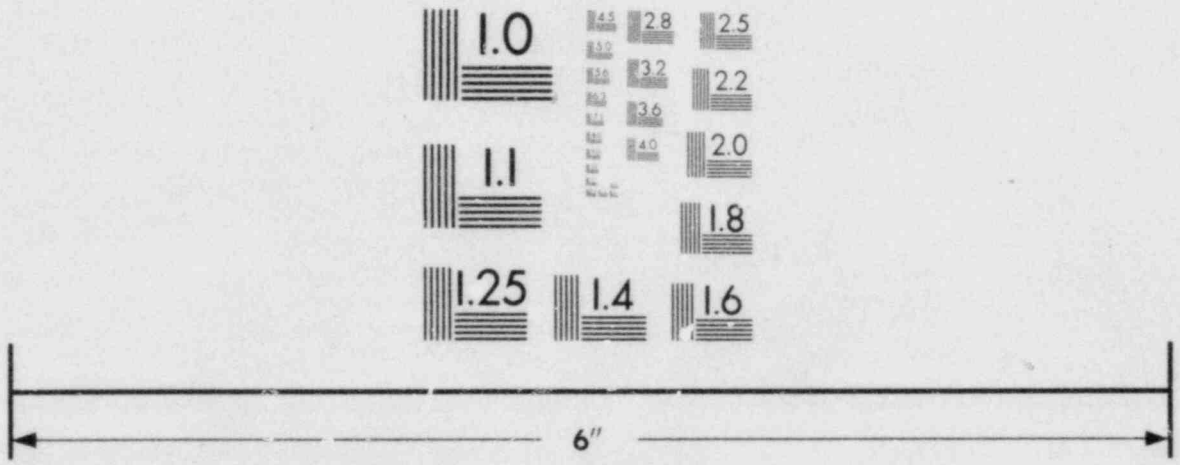
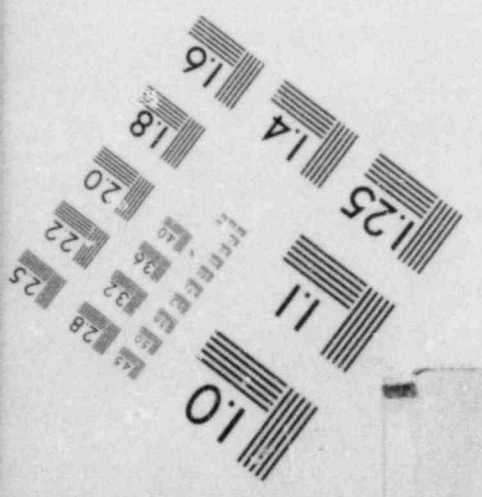
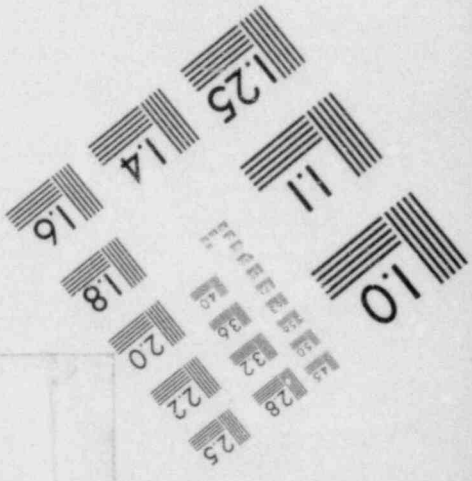


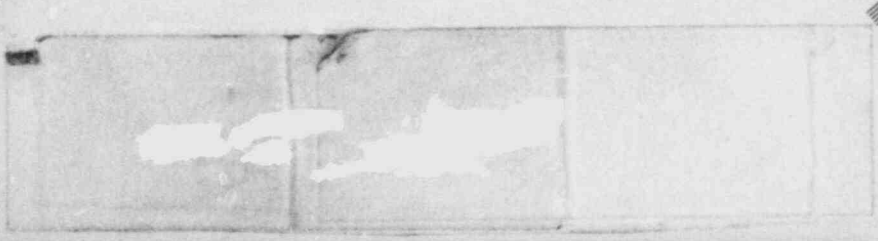
IMAGE EVALUATION
TEST TARGET (MT-3)



MICROCOPY RESOLUTION TEST CHART







Item 2.1.3(a) - Direct Indication of Valve Position

Reference (5) provided the NRC Staff with a description of the Acoustic Monitor System to be installed at Millstone Unit No. 1. The Babcock & Wilcox Acoustic Monitor System has been installed in fulfillment of the Reference (1) Category A requirements.

As noted in Reference (9), the Babcock & Wilcox Monitor System is not expected to be environmentally qualified before April, 1981, hence the Category B requirement will not be fully met by January 1, 1981. The existence of alternative means to determine valve position indication, as discussed in Reference (5), provides adequate justification for this circumstance.

Item 2.1.3(b) - Instrumentation for Detection of Inadequate Core Cooling
- Additional Instrumentation

NNECO reiterates the Reference (5) position that sufficient instrumentation already exists to detect inadequate core cooling. No further action on this item is planned in meeting the NRC Category B requirements.

Item 2.1.5 - Dedicated H_2 Control Penetrations

This requirement is not applicable to Millstone Unit No. 1 as per Clarification 1 of Reference (2).

Item 2.1.6(b) - Plant Shielding Review

The NRC Staff was informed via Reference (6) that NNECO had procured a single motor-operated valve (MOV) which was to be upgraded to ASME-III, Safety Class 2 in order to facilitate compliance with this item by January 1, 1981. NNECO has since been notified that the subject MOV lacks sufficient documentation and cannot be upgraded to ASME-III, Safety Class 2 status. Therefore, implementation of this requirement will require that a new valve be manufactured. Expedited delivery of the new valve results in receipt in mid-1981. Thus, full compliance with this requirement will not occur by January 1, 1981.

Item 2.1.8(a) - Post-Accident Sampling Capability

NNECO intends to install the post-accident sampling system described in Reference (12) at Millstone Unit No. 1. The System will be operational by January 1, 1981, fulfilling the Category B requirement. However, equipment required has not yet been received, and this delay may preclude operability of the system by January 1, 1981.

Item 2.1.8(b) - High-Range Radiation Monitors

In References (5) and (7), NNECO committed to install at Millstone Unit No. 1 redundant containment area monitors. Purchase Orders have been placed for required equipment, which has been scheduled for delivery so as to allow sufficient time for installation. NNECO intends to implement this requirement by January 1, 1981, however, equipment required has not yet been received, and this delay may preclude operability of the system by January 1, 1981.

NNECO also committed in References (5) and (7) to install high-range effluent monitoring instrumentation. The required equipment has been purchased, however, delivery is not expected until June, 1981. Hence, NNECO will not meet the January 1, 1981 implementation requirement.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Containment Level

NNECO has purchased the equipment needed to fulfill this requirement and has received a commitment for delivery in sufficient time to allow for installation. NNECO intends to fulfill this requirement by January 1, 1981, however, this delay may preclude operability of the system by January 1, 1981.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Containment Pressure

NNECO has ordered the necessary equipment and received a commitment for delivery allowing sufficient time for installation. NNECO intends to comply with this requirement by January 1, 1981; however, equipment required has not yet been received, and this delay may preclude operability of the system by January 1, 1981.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Hydrogen Monitor

NNECO will not have a Hydrogen Monitoring System operable at Millstone Unit No. 1 by January 1, 1981. NNECO intends to comply with this requirement, however, an accurate an reliable system will not be in operation by the January 1, 1981 Category B implementation date.

Item 2.2.1(b) - Shift Technical Advisor

NNECO intends to comply with this requi ement; however, due to the level of training required and time limitations on the STA personnel, full training will not be completed by January 1, 1981. NNECO will complete implementation of this requirement as soon as possible, considering scheduling constraints. The Shift Technical Advisor requirement is being proposed to be incorporated into the Technical Specifications for 'llstone Unit No. 1.

DOCKET NO. 50-336

ATTACHMENT 3

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

IMPLEMENTATION STATUS OF CATEGORY B

LESSONS-LEARNED REQUIREMENTS

SEPTEMBER, 1980

Item 2.1.3(a) - Direct Indication of Valve Position

Reference (5) provided the NRC Staff with a description of the Acoustic Monitor System to be installed at Millstone Unit No. 2. The Babcock & Wilcox Acoustic Monitor System has been installed in fulfillment of the Reference (1) Category A requirements.

As in Reference (9), the Babcock & Wilcox Monitor System is not expected to be environmentally qualified before April, 1981, hence the Category B requirement will not be fully met by January 1, 1981. The existence of alternative means to determine valve position indication, as discussed in Reference (5), provides adequate justification for this circumstance.

Item 2.1.3(b) - Instrumentation for Detection of Inadequate Core Cooling
- Subcooling Meter

NNECO has installed a subcooling meter at Millstone Unit No. 2 in fulfillment of the Category A requirements of References (1) and (2). The presently installed Resistance Temperature Detectors (RTD's) cannot be qualified. A qualified RTD is not expected to be available before 1982. Therefore, NNECO is unable to comply with the Category B requirement by January 1, 1981. As noted to the Staff via Reference (3), alternative means to detect inadequate core cooling already exist at Millstone Unit No. 2 which have been determined to be adequate.

Item 2.1.3(b) - Instrumentation for Detection of Inadequate Core Cooling
- Additional Instrumentation

Reference (3) provided the NRC Staff with NNECO's position on installation of a Reactor Vessel Water Level Monitoring System. NNECO has performed the necessary analyses and evaluated advantages of various instruments to monitor water level in the reactor vessel, as documented by Reference (4). NNECO has determined that none of the available instruments have demonstrated the ability to provide an unambiguous indication of reactor vessel water level during all transients. Therefore, NNECO has deferred plans to install additional instrumentation to monitor reactor vessel fluid level.

Based upon the above information, it is concluded that Millstone Unit No. 2 has fulfilled the written Staff requirements for Item 2.1.3.b, Category B, of Reference (1) in their entirety.

Item 2.1.5 - Dedicated H_2 Control Penetrations

This requirement is not applicable to Millstone Unit No. 2 as this unit is equipped with internal Hydrogen recombiners.

Item 2.1.6(b) - Plant Shielding Review

NNECO has determined that implementation of the modifications identified in Reference (5) will require the purchase of new valves and operators. Purchase Orders have been placed for the required components, however, due to the long lead-times for valves, installation will not be complete by January 1, 1981. Implementation is not expected to be possible before the December, 1981 outage.

Item 2.1.7(a) - Automatic Initiation of Auxiliary Feedwater

The control-grade system for Automatic Initiation of Auxiliary Feedwater installed at Millstone Unit No. 2 in fulfillment of the Category A requirements of References (1) and (2) was detailed to the Staff in References (10) and (11) This system is presently defeated pending future NRC correspondence. Upgrading of the system to safety grade will require new components. Implementation of the safety-grade system by January 1, 1981 hinges upon early delivery of safety-grade components, and the Staff evaluation of previous NNECO correspondence. Additional correspondence on this subject is planned.

Item 2.1.7(b) - Auxiliary Feedwater Flow Indication

NNECO has installed the control grade system as described in Refer nce (8). Qualified equipment necessary to upgrade the system to safety grade has been purchased and is scheduled for delivery by December, 1980. Implementation to meet the January 1, 1981 date is dependent on timely delivery of these items. If qualified equipment is not delivered by December, 1980, this Category B requirement will not be met by January 1, 1981.

Item 2.1.8(a) - Post-Accident Sampling Capability

The post-accident sampling system described in Reference (12) is being installed at Millstone Unit No. 2. However, equipment required has not yet been received and this delay may preclude operability of the system by January 1, 1981.

Item 2.1.8(b) - High-Range Radiation Monitors

In References (5) and (7), NNECO committed to install at Millstone Unit No. 2 redundant containment area monitors. Purchase Orders have been placed for required equipment, which has been scheduled for delivery so as to allow sufficient time for installation. NNECO intends to implement this requirement by January 1, 1981, however, equipment required has not yet been received, and this delay may preclude operability of the system by January 1, 1981.

NNECO also committed in References (5) and (7) to install high-range effluent monitoring instrumentation. The required equipment has been purchased, however, delivery is not expected until June, 1981. Hence, NNECO will not meet the January 1, 1981 implementation requirement.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Containment Level

All equipment necessary to fulfill this requirement has been ordered, however, the level transmitters are scheduled for delivery after startup from the current refueling outage. There are no scheduled shutdowns for Millstone Unit No. 2 between startup from this outage and January 1, 1981. Thus, NNECO requests that implementation of this requirement for Millstone Unit No. 2 be delayed until the next outage.

Millstone Unit No. 2 has an existing narrow range sump level monitor and other instrumentation described in Reference (14) which cover the range from the bottom to the top of the sump. NNECO has concluded that this instrumentation is sufficient for the interim period until this requirement can be fully implemented.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Containment Pressure

NNECO has ordered the necessary equipment and received a commitment for delivery allowing sufficient time for installation. NNECO intends to comply with this requirement by January 1, 1981; however, equipment required has not yet been received, and this delay may preclude operability of the system by January 1, 1981.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Hydrogen Monitor

The Hydrogen Monitor described in the Millstone Unit No. 2 FSAR Sections 6.6.2.1 and 7.5.1.4 is being modified to provide hydrogen concentration indication from 0 to 10%. The completion date for this upgrade is dependent upon equipment not yet received and delays may preclude operability of the system by January 1, 1981.

Item 2.1.9 - Instrumentation to Follow the Course of an Accident
- Reactor Coolant System Venting

Details of the Reactor Coolant System vents proposed for Millstone Unit No. 2 were provided to the Staff via Reference (5). The necessary equipment (i.e., piping, spring hangers) has been ordered and is expected to be delivered in time to permit installation during the current refueling outage. It is noted that installation of the RCS vents to meet the January 1, 1981 date is dependent on delivery by outside vendors. Assuming the equipment is delivered on schedule, NNECO intends to meet the hardware portion of this Category B requirement. Procedural details must then be developed to achieve full compliance.

Item 2.2.1(b) - Shift Technical Advisor

NNECO intends to comply with this requirement; however, due to the level of training required and time limitations on the STA personnel, full training will not be complete[1] by January 1, 1981. NNECO will complete implementation of this requirement as soon as possible, considering scheduling constraints. The Shift Technical Advisor requirement is being proposed to be incorporated into the Technical Specifications for Millstone Unit No. 2.