

NORTHEAST UTILITIES



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

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August 20, 1985

Docket Nos. 50-245

50-336

50-423

A04910

A05027

Director of Nuclear Reactor Regulation

Attn: Mr. E. J. Butcher, Chief
Operating Reactors Branch #3
Mr. J. A. Zwolinski, Chief
Operating Reactors Branch #5
Mr. B. J. Youngblood, Chief
Licensing Branch #1

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

- References: (1) B. J. Youngblood letter to J. F. Opeka, dated May 20, 1985.
- (2) W. G. Counsil letter to J.R. Miller/J.A. Zwolinski/B.J. Youngblood, dated January 2, 1985.
- (3) B. J. Youngblood letter to J. F. Opeka, dated July 1, 1985.
- (4) L. O. Giuffrida (Director, FEMA) letter to the Honorable W. A. O'Neill (Governor of Connecticut), dated October 9, 1984.

Gentlemen:

Millstone Nuclear Power Station, Unit Nos. 1, 2 and 3

Response to NRC Staff's Requests for Additional Information Regarding
Draft 2 to Revision 0 of the Millstone Nuclear Power Station Emergency Plan

Enclosure 2 to Reference (1) contained a request for additional information resulting from the NRC Staff's review of Draft 2 to Revision 0 of the Millstone Nuclear Power Station Emergency Plan (MNPSEP), which was submitted in Reference (2). This additional information is included in Attachment 1. Subsequent to our receipt of Reference (1), Reference (3) was issued by the NRC Staff containing two additional comments pertaining to the NRC Staff's review of our emergency plan. Responses to these comments can be found in Attachment 2.

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The NRC Staff conducted an Emergency Preparedness Appraisal on behalf of Millstone Unit No. 3 on July 22-26, 1985. As a result of this appraisal, additional NRC Staff concerns were identified. A meeting was held on August 1, 1985 at Region I (NRC Staff representatives from the Emergency Preparedness Branch in Bethesda, Maryland, were also present) to discuss several of these concerns. Our responses in this submittal reflect, where applicable, the resolutions reached at that meeting. Attachment 3 contains our responses to those appraisal items related to the MNPSEP but not already discussed in Attachment 1.

To expedite the closure of all remaining NRC Staff concerns associated with the MNPSEP, draft responses were discussed during a meeting with members of the NRC Staff's Emergency Preparedness Branch on August 6, 1985 in Bethesda, Maryland. Our draft responses have been revised to be consistent with those discussions.

Several of our responses indicate that we will address the NRC Staff's concern in the next revision to the MNPSEP. Revision 0 of the MNPSEP is scheduled to be submitted to the NRC Staff by September 13, 1985 and implemented on October 15, 1985.

One item which warrants discussion is that the MNPSEP is not intended to be an operational document, but rather represents a planning document. The Emergency Planning Implementing Procedures (EPIPs) are, by definition, the means by which the emergency plan is implemented. In addition, the Corporate Organization for Nuclear Incidents (CONI) Procedures govern the actions to be taken by the Corporate Emergency Organization. As such, the emergency plan is general in nature, leaving the detailed implementation information to the EPIPs and CONI procedures. Accordingly, in several instances, the detailed information which the NRC Staff has requested to be included in our emergency plan is already included in one or more of our existing EPIPs and/or CONI procedures. However, in most cases, a brief description of such information either already exists in the MNPSEP or will be included in the next revision of the MNPSEP.

The MNPSEP and the emergency plans for the State of Connecticut and the local communities have been prepared in an integrated fashion. As such, items which are clearly within one organization's responsibility are only discussed in detail in that organization's emergency planning documents. Therefore, several of the items requested by the NRC Staff to be included in our emergency plan are already adequately addressed in either the State or local emergency plans. We do not believe it is appropriate to revise our plans and include this additional detail. In most cases, however, the information requested by the NRC Staff will be included in summary fashion in the next revision to the MNPSEP. We note that the State of Connecticut Radiological Emergency Response Plan (CRERP) has been approved by the Federal Emergency Management Agency (FEMA). This approval is conditioned, however, upon FEMA's findings on the adequacy of the public alerting and notification system around the Millstone site. FEMA's approval of the CRERP was documented in Reference (4).

It is our understanding that this submittal will satisfactorily resolve, at least conceptually, all outstanding NRC Staff concerns related to the MNPSEP. We also understand that these concerns cannot be completely closed until the NRC Staff has reviewed the next revision to the MNPSEP.

NORTHEAST NUCLEAR ENERGY COMPANY
et. al.

BY NORTHEAST NUCLEAR ENERGY COMPANY
Their Agent

J. F. Opeka
J. F. Opeka
Senior Vice President

By: C. F. Sears
Vice President

cc: T. L. Harpster (NRC Region I)
F. Kantor (NRC Emergency Preparedness Branch)

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me C. F. Sears, who being duly sworn, did state that he is Vice President of Northeast Nuclear Energy Company, a Licensee and Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Licensee and Applicants herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Lerraine J. D'Amico
Notary Public

My Commission Expires March 31, 1988

Docket Nos. 50-245

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Attachment 1

Millstone Nuclear Power Station, Unit Nos. 1, 2 and 3

Responses to NRC Staff's Request for
Additional Information Dated May 20, 1985
Regarding Draft 2 to Revision 0 of the
Millstone Nuclear Power Station Emergency Plan

August, 1985

Responses to NRC Staff's Request for Additional Information
Dated May 20, 1985 Regarding Draft 2 to Revision 0 of the
Millstone Nuclear Power Station Emergency Plan (MNPSEP)

810.1:

Assignment of Responsibility (Organizational Control)

Item A.1:

The plan should more clearly illustrate the interrelationships of each state and local organization having an operational role in both the plume and ingestion exposure Emergency Planning Zones. (A.1.C)

Response:

Figure 1-1 and Table 2-1 of the MNPSEP identify the significant state and local emergency organizations having an operational role in the plume and ingestion exposure pathway emergency planning zones. The MNPSEP, including Figure 1-1 and Table 2-1, will be revised to better illustrate their operational interrelationships.

On-Site Emergency Organization

Item B.1:

Additional clarification of the line of succession for the Director of Station Emergency Operations and specific criteria for assuming this position should be provided. (B.3)

Response:

Sections 5.2.1 and 5.3.1.a of the MNPSEP identify how replacements of the Director of Station Emergency Operations are scheduled and who is qualified to assume this position. Qualified replacements are listed in Table 5-1 of the MNPSEP.

Item B.2:

Clearly specify which responsibilities of the Director of Station Emergency Operations may not be delegated to other elements of the emergency organization. (B.4)

Response:

The MNPSEP will be revised to indicate the responsibilities which cannot be delegated by the Director of Station Emergency Operations.

Item B.3:

Illustrate in a block diagram the interface between the onsite functional areas of emergency activity, such as radiological monitoring, assessment and protective action decision making, and state (Connecticut, New York and Rhode Island) and

local government response organizations (Connecticut, DEP, OCP, etc.). Include the location of these activities (TSC, EOF, OSC, etc.). (B.6)

Response:

The MNPSEP will be revised to more clearly reflect the interface between onsite and offsite functional areas of responsibility.

Item B.4:

Provide information on shift staffing augmentation capability and, if significant differences from the staffing objectives of Table B-1 of NUREG-0654 (also Table 2 of Supplement 1 to NUREG-0737) exist, provide justifications and possible compensating measures. (B.7)

Response:

Information on shift staffing augmentation capability exists in Table 5-1, which is currently being revised to better illustrate our capabilities. The on-shift staff is augmented within sixty (60) minutes (Station Staff) and ninety (90) minutes (Corporate Staff) of the declaration of an Alert emergency or above.

Emergency response staffing for Millstone Unit No. 3 is identical to the staffing for Millstone Unit Nos. 1 and 2. The subject of emergency response staffing was raised by the NRC Staff during its January, 1982 Emergency Preparedness Appraisal for Millstone Nuclear Power Station, Unit Nos. 1 and 2, and documented in References (1), (2) and (3). We responded to the NRC Staff's concerns in References (4), (5) and (6) by justifying any deviations from the staffing criteria contained in Table B-1 of NUREG-0654, Revision 1, and by providing information regarding compensating measures. These items (82-01-07 and 82-01-39) were closed by the NRC Staff in Reference (7).

Similar information to that previously provided to the NRC Staff on behalf of Millstone Unit Nos. 1 and 2 is contained in Attachment No. 4 for all three Millstone units. As can be seen from reviewing this information, the staffing criteria contained in Table B-1 in NUREG-0654 (and similarly Table 2 in Supplement 1 to NUREG-0737) are met or exceeded in most cases. For those instances where the criteria are not met, appropriate justification and compensating measures are provided.

It is important to recognize that Supplement 1 to NUREG-0737 has established these staffing criteria as goals. In addition, Supplement 1 to NUREG-0737 indicates that reasonable exceptions to these goals for the number of additional staff personnel and response times for their arrival should be justified and will be considered by the NRC Staff. We believe our staffing levels more than adequately address these goals. In fact, we currently have a total of forty-four (44) persons on-call at the site for Millstone and 16 more on-call at the corporate EOC, which significantly surpasses the amount identified by the NRC Staff. Some examples of on-call personnel not identified in Table B-1 in NUREG-0654 are the Manager of Operational Support Center, Manager of Engineering Support and Manager of Onsite Resources. We believe that our current staffing levels are reflective of a concerted effort to establish the necessary levels of qualified personnel both on-shift and on-call to adequately protect the public health and safety.

The effectiveness of our emergency response organizations and our ability to adequately protect the public health and safety have been satisfactorily demonstrated to the NRC Staff during three (3) full-scale exercises at Millstone since 1981. Our response is clearly representative of what would be expected in the event of an emergency at Millstone Unit No. 3 since our emergency preparedness program and the MNPSEP is station, not unit, oriented. In addition, our emergency response organizations were shown to be fully adequate specifically for Millstone Unit No. 3 during the May 15, 1985 drill.

Item B.5:

Illustrate the interfaces between onsite and corporate functional areas and local services support, contractor and private organizations. (B.6, B.8)

Response:

The MNPSEP will be revised as requested. More detailed information regarding these interfaces is provided in Appendix B (letters of agreement) of the MNPSEP, EPIP 4006, EPIP 4001, and CONI 6.01.

Emergency Response Support and Resources

Item C.1

Specify the person by title authorized to request federal assistance and the process of requesting that assistance. (C.1.a)

Response:

NNECO will not request federal assistance with the exception of the local office of the U.S. Coast Guard. However, the State of Connecticut may request federal assistance. Section 1.0 of the MNPSEP states that, "The Director of the Connecticut Office of Civil Preparedness (OCP) is responsible for and authorized to request assistance from federal agencies as appropriate." Section 112.2 of the Connecticut Radiological Emergency Response Plan (CRERP) states the process for requesting federal aid. The MNPSEP will be reviewed and revised as necessary to clarify this item and assure consistency within the plan. In addition, the MNPSEP will include information regarding how the Station and Corporate Emergency Organizations are informed when the State of Connecticut requests federal assistance. In the event that federal resources arrive on-site, the Manager of Resources will provide logistical assistance.

Item C.2

Specify the federal resources expected from the EPA and FDA and the expected times of arrival of all federal response. (C.1.b)

Response:

See our response to Item C.1.

Item C.3

Describe the utility resources available to support the federal response. (C.1.c)

Response:

NRC office space is available within the Emergency Operations Facility (EOF), the Technical Support Center (TSC), and the Corporate Emergency Operations Center (EOC). FEMA office space is available at the EOF. These facilities were utilized by NRC and FEMA during the 1983 full-scale exercise at Millstone which included NRC and FEMA participation. These work spaces basically consist of furniture, communications and supplies. In addition, CONI 6.01 discusses actions which will be taken in the event other federal agencies arrive onsite during an emergency.

Section 401.2.C of the CRERP states that "The OCP Administrative Officer will provide for the comfort and amenities that would be needed by external emergency response personnel."

Item C.4:

Identify the assistance which may be provided by Yale University and Production Operation Services Laboratory (POSL) and provide letters of agreement to support that assistance. (C.4)

Response:

The assistance to be provided by Yale New Haven Hospital is stated in the Lawrence and Memorial (L&M) Hospital's Radiological Emergency Response Plan. A letter of agreement with Yale New Haven Hospital identifying this assistance will be included in the next revision to the MNPSEP.

The assistance which may be provided by the POSL is specified in Section 3.1.1 of EPIP 4213 and in Sections 6.4.5 and 6.4.6 of CONI 4.02. POSL is located at the Northeast Utilities (NU) Middletown Station and is part of NU. Therefore, no letter of agreement is required. The MNPSEP will be revised to identify that POSL is part of NU.

Emergency Classification System

Item D.1:

The containment high range radiation monitor is a fundamental indicator of plant/core conditions. Readings from these monitors should be used as part of the emergency classification and action level scheme, in particular as an indicator of extensive core damage that would be associated with a General Emergency and the need for offsite protective actions. However, unless the relationship of the containment monitor readings to a range of core conditions has been predetermined, they would provide little useful information. A review of your emergency plan and procedures indicates that such information has not been provided. Therefore, we request that you provide the relationship of the containment high range radiation monitor readings for Millstone 3 to the radioactivity dispersed in the containment for a range of degraded core condition

source terms such as 100% coolant activity, 20% and 100% gap activity and 10% meltdown release fraction. Selected values from this relationship should be used as emergency action levels (EALs) to categorize the severity of a radiological incident. (D.1)

Response:

The next revision of the EAL tables will include EALs which utilize data obtained from containment high range radiation monitor readings. Procedurally, the relationship of containment monitor readings to the fraction of core inventory released exists in EPIP 4212. Various cladding and fuel conditions can be inferred on a case-by-case basis from data derived in this procedure and the core damage estimate procedure EPIP 4226. It should be recognized that the specific core status information requested by the NRC Staff cannot be accurately obtained in that the various degraded core condition types cannot be detected discretely. However, "ballpark" estimates can be useful in determining core status in terms of percent core inventory and resultant classification.

Notification Methods and Procedures

Item E.1:

Section 6.1 discusses notification of a General Interest Event. This classification is not consistent with Section 4, Classification System. (E.1)

Response:

The State of Connecticut has required that all General Interest Events be reported to the State. 10CFR50.72 requires that any event reported to the State must also be reported to the NRC. For this reason, we have included General Interest Event notification requirements within Section 6.1 of the MNPSEP as a point of information.

Guidance concerning the action levels of General Interest Events is contained in EPIP Form 4701-4, however, this information had been intentionally omitted from Section 4 of the MNPSEP as it is not one of the NRC emergency classifications (i.e., they are only public interest events). We intend to revise Section 4 of the MNPSEP to briefly discuss General Interest Events.

Item E.2:

The information provided in the Incident Report Form, EPIP Form 4112-4, for initial emergency messages does not include the potentially affected population and areas, whether a release is taking place or whether protective measures may be necessary. The information concerning protective actions and the release would have to be determined by referring to the Protective Actions and the Radiological Criteria corresponding to the State Posture Codes. These extra activities may be too time-consuming especially if the supplemental reference material was not immediately available. (E.3)

Response:

EPIP Form 4112-4, which is the radiopager message, is not the Incident Report Form. The Incident Report Form is EPIP Form 4112-1. In general, the

notification documentation system was developed in response to the State of Connecticut and local community requirements and needs for notification and information. This system has evolved operationally over the years. EPIP Form 4112-4 has been proven adequate in providing utility, State, and local emergency response personnel with enough information to initiate their response. Follow-up information is provided on EPIP Form 4112-1 via the call-back recorder system.

Offsite emergency response personnel are trained annually in using the information contained in these forms so that they may take discrete preplanned action in accordance with the State classification scheme posture codes. It has been demonstrated during three full-scale exercises that offsite officials had sufficient information and knowledge to make prudent protective action decisions. In fact, this system of pre-planned protective actions accelerates protection action response.

The MNPSEP will be revised to more clearly describe the utilization of EPIP Forms 4112-4 and 4112-1.

Item E.3:

The information provided in the Incident Report Form, EPIP Form 4112-1, for follow-up messages does not include information on the type of radioactive release, the quantity released, the release point or height, the chemical and physical form of the released material, the projected dose rates at the site boundary and at 2, 5 and 10 miles, the affected sector(s), an estimate of any surface contamination, utility response actions, recommended emergency actions, or prognosis of event. (E.4)

Response:

As stated in our response to Item E.2, EPIP Form 4112-1 is used to provide additional information to emergency response personnel. Additional information on release type, quantity released, the release point/height, form of the release, projected dose rates, affected sectors, contamination, response action, and prognosis is provided to the State DEP representative, who is designated by State/local authorities as the point of offsite technical analysis in the site EOF to the State EOC. The Corporate Manager of Radiological Consequence Assessment provides additional information to the State EOC on data, comparison of calculational results, and on sampling of radioactive releases. In effect, this technical information is communicated promptly to those responsible for predicting offsite effects. We intend to revise Section 6.1 in the MNPSEP to better describe the means of providing follow-up information to emergency response organizations.

Item E.4:

The Overall Concept of Operations Section of the plan briefly describes the public notification system. However, the plan should include an adequate description of the administrative and physical means for prompt alerting of all individuals, resident and transient, in the plume exposure EPZ. (E.6, J.10.c)

Response:

Section 108.1 of the CRERP addresses the administrative and physical means for prompt alerting of all individuals, residents and transients, in the plume exposure pathway EPZ. The control of the activation of the public alerting system is wholly under local and State control. The CRERP is referenced in Section 1.0 in the MNPSEP. The MNPSEP will be revised to briefly describe the prompt notification system and the decision-making process utilized prior to activation of the system, with the primary emphasis being on our role in that process.

Item E.5:

Although the Connecticut State Radiological Emergency Response Plan (RERP) contains messages intended for the public, either the messages or sufficient detail describing their contents should be included in the plan. (E.7)

Response:

Predetermined emergency broadcast messages are contained in Section 402.4 of the CRERP. In conjunction with Items E.2 and E.3, the MNPSEP will be revised to discuss how we provide adequate information to offsite response agencies to allow them to issue messages to the public. The cooperation and level of communications exhibited between the State EOC, Corporate EOC, and Station EOF has been demonstrated to federal observers during the plant emergency preparedness exercises to be adequate to allow State officials to prepare timely and specific messages for the public.

Emergency Communications

Item F.1:

A complete listing of organizational titles and alternates for both ends of the communications links (i.e., licensee and state/local/private) should be provided. This should include completion of Table 5-3. (F.1)

Response:

EPIP Form 4112-1 contains a complete listing of organizational titles of communications links. Section 401 of the State and local RERPs contain titles of individuals and alternates for notification in each organization. In addition, the "alternate" column in Table 5-3 will be completed.

Item F.2

The provisions for communications between the utility and the states of Rhode Island and New York are unclear. It appears that the only link is by non-dedicated telephone lines through the State of Connecticut Office of Civil Preparedness. (F.1.a)

Response:

Communications with contiguous states are coordinated through the State EOC in Hartford, Connecticut, which is in agreement with interstate planning

agreements. Section 402.2 of the CRERP states that for incident class Alert or above, the State of Connecticut will notify contiguous states and will coordinate with them on ingestion exposure pathway actions, if necessary. The State of Connecticut will not only rely on telephones for this communication link, but also on the NAWAS Teletype System. The MNPSEP will be revised to include this information.

Item F.3

The communication links between the utility and the local EOCs, with the exception of Waterford, East Lyme, and New London, are inadequate in that there is a single means of communication with no backup. (F.1.d)

Response:

As stated in Section 6.0 of the MNPSEP, communication between the utility and local EOCs is accomplished by way of the radiopager system. This system has a very high degree of reliability due to the fact that there are three redundant consoles at the Millstone Station from which messages can be sent and there are five redundant transmitter towers throughout the State of Connecticut from which broadcasts can be made. Each console and four of the five transmitters have alternate power supplies. Dedicated phone lines connect the consoles to each of the transmitters.

In the event a local EOC does not acknowledge a radiopager message, one phone call attempt is made in accordance with EPIP 4112. If unsuccessful after one phone call, the State Police via hotline is tasked with their notification. The Millstone site has both a hotline to the Town of Waterford and a backup radio. The backup radio can also communicate with the adjacent towns of East Lyme and New London. A State Police radio is also available for communicating with other local communities.

As demonstrated in various exercises, the local EOCs have worked well with the radiopager information and communication from the State EOC. In addition, the State EOC maintains communications contact with each of the local community EOCs via civil preparedness radios.

The MNPSEP will be revised to include this information.

Item F.4:

Clarification about the communication link between the utility and mobile medical facilities is need. (F.2)

Response:

Due to the close proximity of the plant to the L&M Hospital, mobile medical facilities are not required. However, ambulances are dispatched from and communicate with the Waterford Emergency Communication Center via radio communications. Each ambulance also can communicate to L&M Hospital via radio. Millstone Station communicates directly with the Waterford Emergency Communications Center via hotline and can communicate with L&M Hospital via phone. This information will be included in the next revision to the MNPSEP.

Item F.5:

The frequency of the station and corporate internal communications testing is unclear. (F.3)

Response:

The communications testing program is adequately described in EPIP 4602 and in CONI 10.01.

Public Education and Information

Item G.1

Figure 5-4 indicates two Managers of Public Information, one reporting to the EOF and one to the State EOC. In Table 5-2 under Public Information, a Manager of Public Information in the Media Center is identified. In addition, there is, as indicated in Figure 5-4, a single Corporate Representative at the State EOC and Media Center. Section 5.3 describes corporate representatives who are dispatched to the State EOC and to the Media Center. Section 5.2.2.j, page 5-11, specifies Corporate Managers of Public Information at the Corporate EOC and the State Media Center. The number of individuals, their titles, physical locations, interfaces with offsite organizations, and specific duties as described in Section 5.3 (page 5-14), Section 5.2.2.j (page 5-10), Section 5.3.1 (pages 5-18, 5-19), Table 5-1 under Corporate Manager of Public Information, and Figure 5-4 are confusing. These items should be clarified and all citations checked for consistency. In addition, Table 5-1 discusses communications between "Special Parties" who are not identified and Section 5.3.1.f (page 5-19) discusses a "Public Information Officer" whose position in the emergency organization is not identified.

Response:

Our public information emergency response involves two managers of public information (PI), a PI representative, and an NU management representative. The Manager of PI/EOF reports to the Station EOF and the Manager of PI/Corporate EOC, currently called the Corporate Manager of PI in the MNPSEP, reports to the Corporate EOC. The PI representative, along with the NU management representative (typically an NU Corporate Officer), report to the State EOC, which is where the Media Center is located. The Manager of PI/Corporate EOC is the lead manager in that he receives input from the Manager of PI/EOF, forms press releases which are approved by corporate management, and forwards approved releases to the PI representative in the State EOC for release at the Media Center. This PI representative is also tasked with assisting the NU management representative in preparing for press conferences. The MNPSEP will be revised to ensure this is clearly understood and references to "special parties" in Table 5-1 will be deleted.

Item G.2

The method of dissemination of information to the media, to other utility public information personnel and to other organization public information personnel (i.e., who and where) is not clearly specified. (G.4.a, G.4.b, B.5, B.6, B.7)

Response:

Section 5.3.1.f of the MNPSEP states that the Corporate Manager of Public Information is responsible for disseminating information to the media through the PI representative located in the State EOC and the adjacent Media Center. The Corporate Manager of PI coordinates with other organization public information personnel. (See our response to Item G.1.) Release of information to other utilities is through the AIF and INPO established networks.

Item G.3:

It is not clear who, by title, is the "Official Company Spokesman" designated in Section 5.3.1.a. (G.4.a)

Response:

Section 5.3.1.a of the MNPSEP states that the Director of Corporate Emergency Operations designates the official company spokesperson (typically an NU Corporate Officer) who reports to the State EOC/Media Center. This terminology will be revised to "NU management representative." (See our response to Item G.1.)

Emergency Facilities and Equipment

Item H.1:

Additional description and clarification should be provided on the location, habitability, capabilities, staffing, concept of operations, and interaction of the emergency response facilities. (H.1, H.2, H.4, H.9)

Response:

Some of the information requested currently exists in the MNPSEP. For example, Table 7-1 describes the location of the Emergency Response Facilities (ERFs) and Appendix F contains maps which depict the locations of the Station ERFs. Section 7 of the MNPSEP describes the capabilities and concept of operations of each emergency response facility. Table 5-1 addresses staffing at each ERF. However, the next revision to the MNPSEP will provide a more detailed explanation of the various characteristics of the Millstone ERFs.

Item H.2:

References to the OSC should be consistent. Section 7.1.5 uses "OSC," Section 8.4 uses "Onsite RC" and Table E-4 uses "Assembly Area." It is not clear which assembly area is referenced in Section 6.2.3.d.1 (page 6-9). (H.1)

Response:

All references to the OSC and assembly areas within the MNPSEP will be reviewed and revised in the next revision to the MNPSEP.

Item H.3:

Table H-1 of the plan, a list of radiation process monitors for Unit 3, should include a description of non-radiation process monitors (e.g., pressure, temperature, liquid level, and flow rate) used as emergency action level indicators. (H.5.c)

Response:

Appendix H depicts all the significant radiological monitors (both process and area radiation monitors) for all three (3) Millstone units. For Millstone Unit No. 3, all other significant plant monitors and indications are identified in EPIP 4227, which describes the scope and operation of the Offsite Based Information System (OFIS). The MNPSEP will be revised to include a reference to the existence of EPIP 4227.

Item H.4:

A description should be provided of the Offsite Environmental Radiological Monitoring Program; specifically, the capabilities of the program for acquiring data from offsite monitoring and analysis equipment (to include a description of hydrologic monitors and dose measuring capabilities of the radiation monitors) should be described. (H.6.a, H.6.b)

Response:

A brief description of the program will be included in the next revision to the MNPSEP.

Item H.5:

Describe provisions for approximately 50 TLD stations and 2 TLDs each in 2 rings and at special locations in accordance with the Radiological Assessment Branch Technical Position. (H.6.b)

Response:

The provisions for 22 extra TLD locations (for emergency response purposes) in addition to 17 environmental locations is addressed in Table E-1 of the Radiological Effluent Monitoring Manual. (See our response to Item H.4.) Maps depicting 34 of the 39 TLD locations are presented on pages C-2 and C-3 of the MNPSEP. The remaining 5 locations are beyond 5 miles and mostly consist of background stations. Each location contains 2 TLDs.

Item H.6:

It is not clear which of the emergency kits listed in Appendix E is intended for offsite EMT kits as referenced in Section 6.2.3.f. (H.7)

Response:

The MNPSEP will be revised to clarify this item.

Item H.7:

The plan should provide additional information describing the OSC's physical capacity as an assembly area. (H.9)

Response:

The MNPSEP will be revised accordingly.

Accident Assessment

Item I.1:

Criterion I.1 will be evaluated upon satisfactory completion of Planning Standard D.

Response:

Although no response is required, we intend to revise the EALs to include plant system and effluent parameter values characteristic of accident conditions.

Item I.2:

Paragraph 2.7.3, EPIP 4229X, Revision 0 states that the effects of an overhead finite cloud are not included in the computerized dose assessment tool for determining whole-body dose. Since whole-body dose may be seriously underestimated near the plant, especially for stable conditions, the applicant should specify how doses will be corrected for these conditions. (I.4)

Response:

To determine accurate doses from an overhead plume, EPIP 4223 (EPIP 4224 is not the applicable procedure) will be revised to include a statement that, under appropriate conditions, calculations should be performed using the existing hand calculation dose procedure EPIP 4201. Effects of an overhead finite cloud are included in the empirical formulations used to develop EPIP 4201 methodology. Moreover, correction factors are available at the Corporate EOC for adding the finite dose to the computerized dose calculation results.

Item I.3:

EPIP 4201X, Revision 0 Instruction 3.3 specifies a default value of 130 uCi/sec per cps as a release rate for estimating whole-body doses when the MPI Stack Monitor is offscale. Worksheet #1, EPIP Form 4201-1X, specifies a default value of 100 uCi/sec per cps. The applicant should resolve this difference. (I.6)

Response:

Instruction 3.3 of EPIP 4201, Revision 0, will be revised to specify the correct Millstone Unit No. 1 stack conversion factor of 100 uCi/sec per cps, as specified on Worksheet #1, EPIP Form 4201-1.

Item I.4:

Instruction 3.6 and Worksheet #4, EPIP Form 4201-4X model an elevated finite plume through a series of correction factors to the noble gas release rate. The applicant should provide the technical justification for this type of modeling. (I.6)

Response:

The correction factors in Worksheet #4 of EPIP Form 4201-4 to model a finite plume of noble gas are based on empirical formulas. These formulas were developed using actual measured data from a high pressure ion chamber located permanently at the northeast corner of the Millstone site boundary. The measured data was obtained during the mid-1970s when relatively high releases (though within Technical Specifications) from the Millstone Unit No. 1 stack existed prior to the installation of the augmented off-gas treatment system. Release isotopic mixes were typical of a 30 minute to 1 hour decay after shutdown. The dose rates measured were noted to depend on atmospheric stability conditions and wind speed.

Item I.5:

In paragraph 6.2.3.e the applicant describes the environmental monitoring program to be implemented during an emergency. This program has omitted cow and goat milk sampling in the vicinity of the plant. Cow and goat milk sampling should be included in the program. (I.7)

Response:

The sampling of cow and goat milk is addressed in CONI 4.06 and the State of Connecticut - Ingestion Pathway Procedures. The cow and goat milk sampling program will be generally discussed in the next revision of the MNPSEP.

Item I.6:

The applicant should provide the technical justification for the guidance on Survey Direction found in Table 4, EPIP 4229X. (I.7)

Response:

The guidance given in Table T-4 of EPIP 4223 (we believe this EPIP is the correct reference, not EPIP 4229) is based upon the examination of 10 years of wind speed and wind direction variance readings recorded by the Millstone site meteorological tower. The guidance is site specific, reflecting the tendencies that have been observed.

Item I.7:

The means for relating the various measured parameters to dose rates for the key isotopes shown in Table 3, page 18, NUREG-0654 and gross radioactivity measurements should be discussed in the plan. (I.10)

Response:

The methods for calculating the dose from inhalation and ingestion of the potentially significant isotopes is addressed in CONI 4.07 and the State of Connecticut - Ingestion Pathway Procedures. Iodine 132, 134, and 135 have not been addressed because they have very short half-lives and are therefore not significant compared to I-131 and I-133. Gross radioactivity measurements would not be utilized in determining dose rates; isotopic measurements would be performed. The methods for calculating inhalation and ingestion doses will be generally discussed in the next revision of the MNPSEP.

Protective Response

Item J.1:

Evacuation routes for onsite individuals and alternatives in case of inclement weather, high traffic density, or radiological conditions should be described. Figure F-1, Appendix F of the plan fails to designate evacuation route(s) to an offsite location. A map clearly showing evacuation routes by quadrants should be included in the plan. (J.2)

Response:

Figure F-1 in the MNPSEP will be changed to more clearly depict the station evacuation routes designated to take station evacuees to the site boundary. Once at the site boundary, station evacuees are in the care of the Town of Waterford and follow the same RERP procedures as any resident in the Town of Waterford. As there is only one road out of the station, quadrant evacuation is not possible. The planning concept for a station evacuation is specifically addressed in the Director of Station Emergency Operations' emergency procedure (EPIP 4001).

Item J.2:

The specific sites where decontamination will be performed should be identified in the plan. (J.4)

Response:

Depending on the severity and location of an accident, the Manager of Radiological Consequence Assessment decides whether normal plant decontamination centers will be utilized or the EOF emergency decontamination center is to be activated. During all significant emergencies, the primary decontamination location is the EOF. The Haddam Neck Plant EOF decontamination center is an alternate decontamination location. The MNPSEP will be revised to more clearly indicate that the EOF is the primary decontamination location during emergencies.

Item J.3:

Section 6.4.1.e is unclear as to whether, after an initial evacuation, security will provide continuous accountability of remaining emergency personnel. (J.5)

Response:

The DSEO controls access to the station during an emergency through the Manager of Security. Continuous accountability of personnel in the protected area is achieved by means of the security computer, which receives its information from key card readers located at each access point and within each onsite ERF and from other card readers located throughout the protected area. This information will be included in the next revision to the MNPSEP.

Item J.4:

The plan should describe the capability to account for all individuals onsite at the time of the emergency and ascertain the names of missing individuals within 30 minutes. In a letter from W. G. Counsil to D. G. Eisenhut dated February 13, 1981, it states that the capability to relocate personnel to specified areas within 30 minutes exists. Since accountability is accomplished by computer, it seems reasonable that relocation and accountability can be accomplished within 30 minutes. (J.5)

Response:

At certain times throughout the year (e.g., refueling outages), there will be a significantly large number of people within the protected area at Millstone. As stated in Section 6.4.1.d of the MNPSEP, all non-emergency response personnel from all three (3) Millstone units are to report to the nearest assembly area (i.e., the parking lot just outside each access point) upon hearing the evacuation siren. To do this, one must pass through a portal radiation monitor and drop off their computer ID key card. The guards will not hold up personnel while punching the cards into the reader. Instead, people will be allowed to assemble freely unless contaminated. The key cards will continue to be processed as fast as the computer will accept them. Once this process is completed, security personnel can then question the computer to identify people who are unaccounted for. This can be completed very rapidly; however, due to the potentially large numbers of people involved, it may not be completed within 30 minutes. Because of this, 60 minutes had been established as a more reasonable time limit to expect accountability to be completed.

We have recently evaluated the possibility of establishing forty-five (45) minutes as a goal for the completion of accountability. Since this evaluation resulted in our belief that it is reasonable to establish forty-five (45) minutes as a goal for accountability, the MNPSEP and associated EPIP will be revised accordingly. However, we wish to emphasize that this time limit is a goal, and not a time limit that can be guaranteed to be met at all times. It is expected that the forty-five (45) minute interval will be exceeded in some instances, particularly for worst-case conditions. However, we believe that the establishment of this goal in lieu of the previous commitment for accountability within sixty (60) minutes will expedite accountability as much as practical.

Item J.5:

The emergency plan and emergency procedures are required to contain a mechanism for formulating protective action recommendations for offsite authorities. These guidelines should include predetermined measurable/

observable emergency action levels used to assess the status of core and containment conditions on which offsite protective action recommendations will be made. Tables 4-1a, 4-1b and 4-1c categorize emergency action levels by standard emergency class. Table 4-6 describes protective actions to be taken based upon State of Connecticut Incident Posture Code and Plant Classification. The mechanism for recommending protective actions based directly on measurable/observable emergency action levels is not described in the plan or the implementing procedures. After the relationship between site-specific measurable/observable emergency action levels and core and containment conditions has been established, protection action recommendations should be associated with those emergency action levels. The mechanism for that decision-making process should be clarified. (J.7)

Response:

The State of Connecticut Incident Posture Code System has, as a basis, predetermined protective actions for each emergency action level. This scheme is adequate to serve as an initial response decision-making process. After the station, corporate, state, and local emergency organizations are activated, significant decisions are made only after careful deliberation between these response organizations. A figure will be included in the next revision of the MNPSEP to reflect these decision-making interrelationships. In addition, information regarding our input into the decision-making process will be discussed.

Item J.6:

Maps contained in Appendix C do not show relocation centers in host areas and shelter areas for implementing protective measures in the plume exposure pathway. The plan should include maps illustrating these. (J.10.a)

Response:

Relocation centers and maps depicting the routes to each host community are presented in the State and local Radiological Emergency Response Plans. Detailed derivatives of these maps have been sent to EPZ residents and are now available in local phone directories. Information on host relocation centers will be provided in the next revision of the MNPSEP.

Item J.7:

Maps showing population distribution around the Millstone site by evacuation areas and by sectors should be included in the plan. (J.10.b)

Response:

Tables depicting the population distribution around the Millstone site will be included in the next revision to the MNPSEP.

Radiological Exposure Control

Item K.1:

The maximum exposure limit(s) for providing assessment actions, first aid, personnel decontamination, ambulance service, and medical treatment services should be identified. (K.1.c-g)

Response:

Section 6.5.1 of the MNPSEP addresses the emergency organization's exposure control guidelines. As indicated, expected exposures are evaluated against the significance of the particular task being contemplated. Maximum limits are established as an overall limit which are the same regardless of the specific tasks involved. Additional information is provided in EIPs 4113, 4213, and 4504.

Item K.2:

The plan should provide more information on how the onsite emergency radiation protection program will differ from the normal program. (K.2)

Response:

The radiological protection actions specified in Section 6 of the MNPSEP and the EIPs augment the normal Health Physics (HP) procedures which are still utilized during emergencies, unless superseded by actions identified in emergency response documentation. The next revision of the MNPSEP will include this information.

Item K.3:

The plan should specify the frequency that personnel dose monitoring devices will be read during emergency operations. (K.3.b)

Response:

The Millstone Station radiation protection training course and the emergency plan training for emergency workers likely to receive exposures covers the frequency self reading personnel dose monitoring devices are to be read under various conditions. Due to the wide range of exposure levels possible, specific times should not be predefined in the MNPSEP. However, Section 6.4.1.f and 6.4.5 in the MNPSEP will be reviewed for consistency and revised as necessary. Non-self reading dosimeters such as TLDs will be read as frequently as identified in station H.P. procedures.

Item K.4:

Sufficient information concerning the capability for decontamination of personnel, decontamination of supplies and equipment and waste disposal should be included in the plan in addition to the reference to procedures. (K.5.b)

Response:

Section 6.5.3 of the MNPSEP summarizes how decontamination of personnel is handled. Additional instructions are contained in EPIP 4213. The policy concerning contaminated equipment is stated in Section 6.4.4.a.2.a and in EPIP 4213. The policy concerning the handling and shipment of radiological waste is stated in Section 6.4.4.a.3 and in EPIP 4213. (See also our response to Item J.2.)

Item K.5:

Additional information is needed to describe the onsite contamination control measures for access control and drinking water and food supplies. (K.6.a, K.6.b)

Response:

Onsite contamination control measures are described in EPIP 4002, standardized Health Physics Procedures, Station Health Physics Procedures, and the Radiation Worker Training Program. These control measures would be implemented for area access control, drinking water, and food supplies. We intend to evaluate the need to revise Section 6.4.4 in the MNPSEP.

Item K.6:

The plan should describe the onsite capability to decontaminate skin contaminated with radioiodine. (K.7)

Response:

A similar concern was raised by the NRC Staff as a result of the 1982 Emergency Preparedness Appraisal and documented in Reference (3). We responded to this concern in Reference (8) as follows:

A review of industry literature concerning iodine contamination indicated that no special techniques for iodine decontamination exist that differ from NNECO's normal decontamination procedures. Additionally, a review of possible contamination scenarios combined with our operational experience over the last ten years indicate that any event which would result in iodine contamination would also result in significant contamination from other isotopes. Thus, NNECO believes present station procedures addressing decontamination are adequate.

Based upon our response plus the fact that, if present decontamination procedures were unsuccessful, radioiodine skin contamination would be handled by specially trained individuals, the NRC Staff considered this item (82-01-52) closed in Reference (7).

Medical and Public Health Support

Item L.1:

The plan should address the capability of medical personnel in the evaluation of radiation exposure and uptake of radioactive materials by contaminated individuals. (L.1)

Response:

Medical personnel at the L&M Hospital are trained regularly in evaluating radiation exposure and uptake by experts in the field from Yale University who have been retained for this purpose and for the purpose of consultation during an emergency. A letter of agreement stating this will be included in the next revision to the MNPSEP. In addition, the Health Physics Section of the Corporate Radiological Assessment Branch has the capability of making dosimetry evaluations.

Recovery and Reentry Planning and Post-Accident Operation

Item M.1:

General plans (i.e., criteria) and procedures for reentry and recovery are not discussed nor is the decision-making process to relax protective measures described. Both of these concerns should be discussed in the plan considering existing and potential conditions. (M.1)

Response:

Recovery and reentry operations are discussed, in general, in Section 9 of the MNPSEP. Furthermore, as a result of 1982 Emergency Preparedness Appraisal, NNECO was requested to develop a procedure "to implement the transition from an emergency classification to a recovery mode, including specific criteria upon which the emergency classes will be downgraded and provisions for notifying Federal, State and local officials prior to entering a recovery mode." We informed the NRC Staff in Reference (9) that a corporate (CONI 12.01) and site (EPIP 4210) procedure had been developed and made effective. The NRC Staff considered this item (82-01-55) closed in Reference (7). We intend to revise the MNPSEP to specifically reference these procedures.

Item M.2:

Section 9.1 states that the Recovery Organization will replace the emergency organizations in situations where the recovery phase involves extensive resources and/or will last months to years. It then states that the Recovery Organization is activated and terminated by the Director of CEO. Section 9.2 states that once the Recovery Organization is activated, it replaces both the SEO and the CEO. It is unclear whether the SEO and CEO remain in situations where the recovery phase does not involve extensive resources and/or is of short duration. It is also not clear how the Director of CEO terminates the Recovery Organization if the CEO is not in existence. (M.2)

Response:

Section 9.1 of the MNPSEP will be revised to clearly indicate that the DCEO and DSEO stay active until either relieved by the Director of Recovery Operations or until the incident is terminated in the case of minor incidents.

Section 9.1 will also be changed to indicate that once the Recovery Organization is activated, it can only be terminated by the Senior Vice President, Nuclear Engineering and Operations.

Item M.3:

More detail is needed describing the means of notifying members of the onsite and offsite response organizations that recovery has been initiated. (M.3)

Response:

EPIP 4001 states that the DSEO shall notify onsite and offsite personnel upon entering the recovery phase of an emergency by issuing a public address announcement over the station page system and via the radiopager/call back system. (See also our response to Item M.1.)

Item M.4:

The plan does not specifically commit to periodic estimating of total population dose. (M.4)

Response:

The Corporate Emergency Organization (CEO) maintains the capability to periodically project population doses by the use of NRC models (i.e., GASPAR and LADTAP). These are routinely used to calculate semiannual population dose estimates for the Semiannual Effluent Reports. Environmental measurements (TLDs, milk samples, etc.) may be used to verify these dose estimates. Section 9.0 in the MNPSEP will be revised to indicate that this capability does exist during the recovery phase.

Exercises and Drills

Item N.1:

The plan should address varying the elements of the scenario, varying the starting times of the exercise, conducting exercises under varied weather conditions, and beginning some exercises unannounced. (N.1.b)

Response:

A general explanation of the schedule and scope of planned emergency plan exercises is stated in Section 8.2.2.g of the MNPSEP. It is most appropriate to recognize that since 1981 we have conducted three (3) full-scale emergency preparedness exercises on behalf of Millstone Unit Nos. 1 and 2, including one exercise in which the NRC and FEMA participated. All three (3) of these exercises have been successful and consistent with the requirements of 10CFR50, Appendix E, and the guidance contained in NUREG-0654. We have worked with the NRC Staff and FEMA (through the State of Connecticut) to adequately develop exercise scenarios. It is our understanding that more than sufficient information has been provided to the NRC Staff in a timely manner regarding the exercise scenario. We are not aware of any NRC Staff concerns regarding the current mechanisms for developing exercise scenarios and/or conducting exercises. As such, we believe the existing plan and procedures adequately address this item. Nonetheless, a brief summary description will be included in the next revision of the MNPSEP. (See also Items 82-01-58 and 82-01-63 in Reference (7).)

Item N.2:

The plan should describe how exercises and drills are to be carried out to allow free play for decision-making. (N.3)

Response:

See our response to Item N.1.

Item N.3:

The information which is to be included in exercise scenarios is not described in the plan. (N.3.a-e)

Response:

See our response to Item N.1.

Item N.4:

A description of the arrangement for providing advance materials to official observers is not included in the plan. (N.3.f)

Response:

See our response to Item N.1.

Item N.5:

The plan should establish the means for evaluating observer and participant comments on areas needing improvement. The plan should also discuss the provisions for assigning responsibility for corrective actions in these areas. (N.5)

Response:

See our response to Item N.1.

Radiological Emergency Response Training

Item O.1:

More information concerning training for personnel of offsite organizations should be provided in the plan (see footnote 1, page 75 of NUREG-0654). This information should be specific for each offsite organization and include notification, site access and the position and title of the individual in the onsite emergency organization who will control the organization's support activities. (O.1.a)

Response:

A discussion similar to that presented in footnote 1, page 75 of NUREG-0654, will be included in the next revision of the MNPSEP. Additional information is contained in Nuclear Training Department (NTD) Procedure EP-01.

Item O.2:

The plan should indicate that the training for individuals assigned to licensee first aid teams, as described in Section 5.2.3.e, is at least equivalent to Red Cross multimedia training. (O.3)

Response:

Section 6.5.4 of the MNPSEP states that shift personnel trained in multimedia first aid are available onsite at all times.

Item O.3:

The plan should indicate that the emergency response training program provides for training of personnel responsible for protective action decision-making, accident assessment, police security functions, repair and damage control/correctional action, Civil Defense/Emergency Services, medial support, and transmission of emergency information and instruction. Scope, nature and retraining frequency should be specified. (O.4 a-j)

Response:

As stated in Section 8.1 of the MNPSEP, emergency plan training is provided by the NUSCO Director of Nuclear Training. Nuclear Training Department Procedures NTD-01 and NTD-02 specify the scope, nature and frequency of all onsite and corporate emergency preparedness training and selected offsite agency training as per the letters of agreement section of the MNPSEP.

These procedures specify the type of training provided to the above personnel. Lesson plans also exist within the Nuclear Training Department which provide greater detail on the courses provided.

The next revision of the MNPSEP will include more discussion on the various functional types of training provided, and on the scope, nature and retraining frequency of the overall program.

Responsibility of the Planning Efforts: Development, Periodic Review and Distribution of Emergency Plans

Item P.1:

The plan should clearly designate which Emergency Planning Coordinator is responsible for coordinating the update of the MNPSEP with other response organizations. (P.3)

Response:

Section 8.0 in the MNPSEP will be revised to indicate that the Manager, Radiological Assessment Branch is responsible for coordinating the update of the MNPSEP with the State/local plans.

Emergency Action Levels

EAL Responses

General Comment - We have reviewed the recommended changes to the EALs and will be modifying the EALs as identified below. The changes will be incorporated in the next revision to EPIP Form 4701-3 and the MNPSEP. Specific responses to each NRC request are given below.

Unusual Event

Plan Initiating Condition - Barrier Failure A (ECCS Initiated and Discharge to Vessel). The EAL set is adequate for this condition, however, the applicant should consider revising the EAL set to include indications of flow in one or more of the ECCS systems (e.g., the high pressure injection system or low pressure injection system).

Response:

The need to add flow indications for ECCS is being evaluated.

Plan Initiating Condition - Loss of Power C (Loss of Assessment Capability). The EAL presented is inconsistent with NUREG-0654 example Initiating Condition 11 and appears to be inappropriate for an Unusual Event declaration. The Emergency Response Facilities are not usually activated prior to an Alert declaration (EOFs or TSC). The applicant should consider changing the EAL set to read "Indications or alarms on process or effluent monitoring system parameters not functional in Control Room to an extent requiring plant shutdown, or other significant loss of communication capability offsite, or loss of radiological assessment capability, e.g., loss of plant computer, loss of all meteorological instrumentation, or loss of the process or radiation monitoring system."

Response:

The NRC suggested EAL will be incorporated into the equipment failure section. The present EAL will be more appropriately reclassified as a one-hour non-emergency reportable event pursuant to 10CFR50.72(b)(1)(v).

NUREG-0654 Example Initiating Condition No. 17 (Rapid Depressurization of PWR Secondary Side) was not addressed by the applicant.

Response:

Rapid depressurization will be included in the appropriate EAL.

ALERT

Plan Initiating Condition - Barrier Failure G (Fuel Damage Accident). The applicant should consider dropping the EAL "direct observation of fuel handling accident," since it may not always be possible to make such an observation even though fuel damage has occurred. Instead a "Shift Supervisor's opinion" EAL could be added to take into account such observations as well as false alarms or

radiation releases from other events that could give the same instrument readings.

Response:

This EAL will be modified.

Plan Initiating Condition - Equipment Failure D (Loss of Safety Systems). The initiating condition and the EAL set appear to be in error. Loss of safety systems or compromise of functions of safety systems constitutes a Site Area Emergency. See NUREG-0654 Example Initiating Condition 11.

Response:

The existing EAL will be revised to address this comment.

SITE AREA EMERGENCY

Plan Initiating Condition - Barrier Failure C (Degraded Core). The EAL set proposed by the applicant is adequate but appears to be incomplete. The applicant should consider changing the EAL set to read (core damage) core uncovered, or inadequate subcooling margin, or high core temperature, or gap activity in the primary coolant, and (possible loss of coolable geometry), Shift Supervisor's opinion or no temperature drop across the core, or temperature drop across the core increasing.

Response:

This EAL will be revised.

Plan Initiating Condition - Barrier Failure E (LOCA). The EAL set proposed by the applicant is incomplete. The applicant should consider changing the EAL set to conform to the set derived from Westinghouse Owners' Group Guidelines pertaining to diagnosis of LOCAs. Recommended EALs are: "A pressurizer low pressure reactor trip or reactor coolant system pressure decrease uncontrollably" indicate either a loss of primary fluid or overcooling, and "changes in reactor building conditions (e.g., pressure, sump level, humidity, or radiation)" to indicate either a steamline break or a LOCA, and "absence of a difference in the pressures between steam generators" eliminates all events except a LOCA. Since subcooling meters are being installed on all PWRs, another EAL set could be: "Decrease in reactor coolant system pressure," and "Loss of subcooling margin."

Response:

This EAL will be changed to "leakage in excess of normal makeup capacity." This is a more conservative EAL than the one suggested by NRC Staff and is more amenable to operator recognition.

Plan Initiating Condition - Barrier Failure E1 (Steam Generator Tube Rupture). The initiating condition proposed by the applicant is inconsistent with NUREG-0654 Example Initiating Condition 3. It should read "Rapid failure of steam generator tubes (several hundred gpm leakage) with loss of offsite power." The

corresponding EAL set should read "Under voltage alarms on IDA and IDB busses and reactor trip on low pressure, or reactor pressure decreasing uncontrollably, and steam generator blow-down high alarm or condenser exhaust high alarm, and no significant increase in reactor building pressure, sump level, or reactor building air high alarm." "A Shift Supervisor's opinion," could also be used as a adequate EAL.

Response:

The language will be changed. The choice of EALs will be improved.

Plan Initiating Condition - Barrier Failure G (Major Damage to Spent Fuel). The EAL set proposed by the applicant is adequate but incomplete. The applicant should consider adding the following EALs: "Water loss from the spent fuel pool to below fuel level or Shift Supervisor's opinion."

Response:

The EAL will be changed to address the comment.

Plan Initiating Condition - Radioactive Releases A (Radioactive Effluent Discharge). The proposed initiating conditions and EALs are inconsistent with the requirements of NUREG-0654 Example Initiating Conditions 13.a, b, and c. The applicant should consider changing the Initiating Conditions to correspond to the Initiating Conditions of NUREG-0654 and the EALs to reflect the appropriate dose rates for the whole-body and thyroid at the site boundary for adverse meteorological conditions as stated in NUREG-0654.

Response:

Due to a potential release from the Millstone stack (i.e., elevated release point), site boundary readings are not an appropriate indicator under all conditions. The EAL dose rates are in accordance with the State of Connecticut Incident Classification Scheme. These are relatively comparable to the NUREG-0654 13.a, b, and c conditions.

Plan Initiating Condition - Equipment Failure C (Loss of Alarms). The applicant's proposed EAL is inadequate. The applicant should consider changing the EAL set to read "All alarms lost for 15 minutes and Shift Supervisor's opinion that transient has occurred or is in progress." The large number of possible transients makes a "Shift Supervisor's opinion" EAL mandatory.

Response:

The EALs will be revised to address this comment.

Plan Initiating Condition - Security Threat A (Security Threat). The applicant's proposed EAL set is incomplete. The applicant should consider changing the EAL set to read "Notification by security of a physical attack on the plant involving imminent occupancy of the Control Room, auxiliary shutdown panels, or other vital areas as defined in the station modified amended security plan."

Response:

The EALs will be revised to address this comment.

Plan Initiating Condition - Other Hazards B (Control Room Evacuation). The initiating condition and the EAL set should be the same, namely "Evacuation of Control Room and control of shutdown systems not established from local stations in 15 minutes."

Response:

The EALs will be revised to address this comment.

GENERAL EMERGENCY

Plan Initiating Condition - Barrier Failure A (Loss of Fission Product Barriers). The applicant's proposed EAL set is incomplete. There are three permutations covering two of three fission product barriers lost with a potential loss of the third barrier. The applicant should consider adding an EAL set which covers each permutation. These are:

1. Failure of cladding and primary coolant boundary with potential loss of containment.
2. Failure of cladding and containment with potential loss of primary coolant boundary.
3. Failure of containment and primary coolant boundary with potential loss of cladding.

Response:

The EALs will be improved in this area.

Plan Initiating Condition - Radioactive Releases A (Radioactive Effluent Discharge). The applicant's proposed Initiating Condition is inconsistent with NUREG-0654 Example Initiating Condition No. 1. The applicant should consider correcting the symptom to read "a. Effluent monitors detect levels corresponding to 1 rem/hr whole-body or 5 rem/hr thyroid at the site boundary under actual meteorological conditions. b. These dose rates are projected based on other plant parameters (e.g., radiation levels in containment with leak rate appropriate for existing containment pressure with some confirmation from effluent monitors) or are measured in the environs." The corresponding EAL set should be corrected to reflect the appropriate dose-rate figure.

Response:

The language of the initiating condition and of the EAL will be revised to include a similar EAL once the emergency response organizations have been activated. Default action levels based on conservative meteorology will also be included to be used prior to activation of the emergency response organization.

Plan Initiating Condition - Security Threat A (Security Threat). The applicant's proposed EAL set is incomplete. The applicant should consider changing the EAL set to read "Notification by security of a physical attack on the plant that has resulted in unauthorized personnel occupying the control room, or any other vital area described in the station modified amended security plan."

Response:

The EALs will be revised to address this comment.

References:

1. R. C. Haynes letter to W. G. Council, dated February 4, 1982.
2. G. H. Smith letter to W. G. Council, dated June 2, 1982.
3. G. H. Smith letter to W. G. Council, dated June 11, 1982.
4. W. G. Council letter to R. C. Haynes, dated March 1, 1982.
5. W. G. Council letter to G. H. Smith, dated June 28, 1982.
6. W. G. Council letter to G. H. Smith, dated July 30, 1982.
7. T. T. Martin letter to W. G. Council, dated June 15, 1983.
8. W. G. Council letter to G. H. Smith, dated October 29, 1982.
9. W. G. Council letter to G. H. Smith, dated December 15, 1982.

Docket Nos. 50-245
50-336
50-423

Attachment 2

Millstone Nuclear Power Station, Unit Nos. 1, 2 and 3

Responses to NRC Staff's Request for
Additional Information Dated July 1, 1985
Regarding Draft 2 to Revision 0 of the
Millstone Nuclear Power Station Emergency Plan

August, 1985

Response to NRC Staff's Request for Additional Information
Dated July 1, 1985 Regarding Draft 2 to Revision 0 of the
Millstone Nuclear Power Station Emergency Plan (MNPSEP)

810.2:

On page 6-7 of Section 4 - Change "towers" to "tower" unless additional onsite meteorological towers are present.

Response:

This will be corrected in the next revision to the MNPSEP.

810.3:

On page 7 of Section 3.5.10.1 the narrative should be modified to clarify that meteorological instruments have power available even with a loss of offsite power.

Response:

The narrative on page 7-6 of Section 7.6 will be modified in the next revision to the MNPSEP to clarify which meteorological instruments have power available even after a loss of offsite power.

Docket Nos. 50-245

50-336

50-423

Attachment 3

Millstone Nuclear Power Station, Unit Nos. 1, 2 and 3

Responses to Selected NRC Staff's Concerns Identified
During the Emergency Preparedness Appraisal for Millstone Unit No. 3

August, 1985

Responses to Selected NRC Staff's Concerns Identified
During the Emergency Preparedness Appraisal for Millstone Unit No. 3

Item No. 1:

The individual to be assigned the Millstone Unit No. 3 Manager of Operational Support Center needs to be identified.

Response:

The MNPSEP and associated EPIP will be revised to identify the assignment of this position (normally the on-call Shift Supervisor).

Item No. 2:

The retraining frequency is not specified in the emergency plan. In addition, retraining should occur on a 12 \pm 3 month frequency as opposed to each calendar year.

Response:

As indicated in our response to Item O.3 in Attachment No. 1, the next revision of the MNPSEP will include more discussion on the various functional types of training provided, and on the scope, nature and retraining frequency of the overall program. Retraining frequency is currently once per calendar year. We will revise our retraining frequency to 12 \pm 3 months, with the ability to extend this frequency in isolated cases if appropriate management approval is obtained. This will be included in the next revision of the MNPSEP.

Item No. 3:

Accountability of onsite personnel needs to be accomplished within thirty (30) minutes of the declaration of an emergency.

Response:

This item is addressed in our response to Item J.4 in Attachment No. 1.

Item No. 4:

An on-shift individual needs to be designated for immediate offsite dose assessment.

Response:

This item is addressed in our response to Item B.4 in Attachment No. 1 and Attachment No. 4. In addition, our response to the EAL item regarding General Emergency, Plant Initiating Condition - Radioactive Releases A, is also relevant.

Item No. 5:

The emergency plan does not include a complete description of the meteorological data acquisition system.

Response:

The MNPSEP will be revised to better describe our meteorological data acquisition system. This will include how backup meteorological data are obtained and interpreted.

EXTENT OF COMPLIANCE WITH THE STAFFING CRITERIA CONTAINED IN
TABLE B-1 IN NUREG-0654 (ALSO TABLE 2 IN SUPPLEMENT 1 TO NUREG-0737)

<u>MAJOR FUNCTIONAL AREA</u>	<u>POSITION/TITLE</u>	<u>NUREG 0654 TABLE B-1 GUIDANCE</u>			<u>NU POSITION</u>
		<u>ON SHIFT</u>	<u>CAPABILITY FOR ADDITIONS 30 MINUTES</u>	<u>60 MINUTES</u>	<u>DISCUSSION</u>
Plant Operations and Assessment of Operational Aspects	Shift Supervisor (SRO)	1	--	--	Two (2) SROs, two (2) ROs, and two (2) plant equipment operators (PEOs) are currently on-shift for each of the three (3) units. Therefore, we fully comply with these criteria.
	Shift Foreman (SRO)	1	--	--	
	Control Room Operators	2	--	--	
	Auxiliary Operators	2	--	--	
Emergency Direction and Control (Emergency Coordinator)	Shift Technical Advisor, Shift Supervisor or designated facility manager	1	--	--	At least one (1) of the two (2) SROs on-shift at each unit is STA-qualified. Table B-1 in NUREG-0654 and Table 2 in Supplement 1 to NUREG-0737 specifically allow the STA position to be filled by shift personnel assigned other functions. Therefore, we fully comply with this criterion.
Notification/ Communication	--	1	1	2	A shift supervisor's staff assistant (SSSA) is on-shift for each unit. Therefore, the SSSAs from the two (2) unaffected units will be utilized to assist the SSSA at the unit experiencing the emergency, and therefore there is no need to augment on-shift personnel with additional personnel within thirty (30) minutes. In addition, the Manager of External Communications and Manager of Public Information are on-call and report to the EOF within sixty (60) minutes. A Control Room Data Coordinator (CRDC) for each unit is also on-call and all three (3) CRDCs report on- site within sixty (60) minutes.

MAJOR FUNCTIONAL AREA	POSITION/TITLE	ON SHIFT	CAPABILITY FOR ADDITIONS		DISCUSSION
			30 MINUTES	60 MINUTES	
Radiological Accident Assessment and Support of Operational Accident Assessment	Senior Manager	--	--	1	Therefore, we more than fully comply with these criteria. The Manager of Radiological Dose Assessment and the Manager of Radiological Consequence Assessment are on-call and report to the Millstone Station within sixty (60) minutes. With respect to the criterion to augment the on- shift staff with senior HP expertise within thirty (30) minutes for offsite dose assessment, extensive efforts have been expended to design the incident classification scheme such that a conservative offsite dose estimate is automatically assigned for each postulated event (Emergency Action Level) by the Shift Supervisor. These conservative estimates are more than sufficient for the first hour of an emergency at which time the Station Emergency Organization would be in place and could perform more sophisticated offsite dose assessments. In addition, the Corporate Emergency Organization is activated within ninety (90) minutes. It is important to realize that both the Station and Corporate Emergency Organizations are fully activated at the <u>Alert level</u> . Since no plume exposure pathway EPZ protective actions would be recommended for the public
	Senior Health Physics (HP) Expertise	--	1	--	
	Offsite Surveys	--	2	2	
	Onsite (out-of-plant)	--	1	1	
	HP Technicians	1	1	1	
	Rad/Chem Technicians	1	--	1	

<u>MAJOR FUNCTIONAL AREA</u>	<u>POSITION/TITLE</u>	<u>ON SHIFT</u>	<u>CAPABILITY FOR ADDITIONS</u>		<u>DISCUSSION</u>
			<u>30 MINUTES</u>	<u>60 MINUTES</u>	
					<p>unless a General Emergency was declared, there would be little need for a more refined offsite dose assessment in the first hour of an emergency except for those unlikely instances where a General Emergency was declared due to radiological conditions. It is also extremely unlikely that a General Emergency would develop within the first hour of an event. As such, in almost all cases, performance of a more refined offsite dose calculation within the first hour would be unnecessary. In the unlikely chance that it is needed, we believe the EALs adequately protect the public health and safety.</p> <p>If a General Emergency were to occur within the first hour of an event based exclusively upon radiological releases and the State of Connecticut's Posture Code associated with the EAL recommended evacuation of the public, the State of Connecticut and local communities could not realistically initiate such an evacuation prior to the activation of the Station Emergency Organization and the subsequent existence of our ability to perform actual offsite dose calculations. Any discrepancies could then be rectified prior to the initiation of any evacuation based upon actual offsite dose calculations</p>

MAJOR FUNCTIONAL AREA	POSITION/TITLE	ON SHIFT	CAPABILITY FOR ADDITIONS		DISCUSSION
			30 MINUTES	60 MINUTES	<p>performed by emergency response organizations. We again stress the remote likelihood of such a scenario ever occurring.</p> <p>Utilization of on-shift personnel within the first hour to perform offsite dose assessments would divert vital resources from other more important duties (e.g., their primary duties, first aid and fire protection) and would increase the time to classify the event. We believe that offsite dose assessments are most appropriately performed by on-call station and corporate personnel.</p> <p>As indicated above, for the large majority of the cases, the capability to perform actual offsite dose calculations will exist by virtue of the Station and Corporate Emergency Organizations. For those very unlikely events, the EALs have been purposely developed to estimate offsite doses in order to adequately protect the public health and safety.</p> <p>In conclusion, we believe that our present staffing situation is adequate.</p> <p>A chemistry technician is on-shift for each unit. Therefore, the chemistry technicians for the two (2) unaffected units</p>

MAJOR FUNCTIONAL AREA	POSITION/TITLE	ON SHIFT	CAPABILITY FOR ADDITIONS		DISCUSSION
			30 MINUTES	60 MINUTES	
					would be utilized for assistance and therefore the criterion for an additional chemistry technician within sixty (60) minutes is met using on-shift personnel.
					Regarding HP technicians, we will have three (3) on-shift (once Millstone Unit No. 3 goes critical) and fourteen (14) on-call. These seventeen (17) HP technicians respond to the emergency regardless of which unit is affected. Procedures specify calling in all other available HP technicians as soon as an Alert or more severe event occurs. We believe that the availability of this many HP technicians is more than adequate.
Plant System Engineering, Repair and Corrective Actions	Shift Technical	1	--	--	Each unit has at least one (1) STA-qualified SRO on-shift who is knowledgeable in core/thermal hydraulics. A Manager of TSC is on-call for each unit, and therefore three (3) Managers of TSC arrive within sixty (60) minutes of the declaration of an Alert emergency or above, with the affected unit's on-call Manager actually becoming the Manager of TSC. An engineering/operations person is on-call for each unit to support the Manager of TSC. In addition, three (3) individuals from the Corporate engineering staff report to the Corporate
	Advisor				
	Core/Thermal Hydraulics	--	1	--	
	Electrical	--	--	1	
	Mechanical	--	--	1	

<u>MAJOR FUNCTIONAL AREA</u>	<u>POSITION/TITLE</u>	<u>ON SHIFT</u>	<u>CAPABILITY FOR ADDITIONS</u>		<u>DISCUSSION</u>
			<u>30 MINUTES</u>	<u>60 MINUTES</u>	
					EOC within ninety (90) minutes to provide technical support to the station in the areas of core/thermal hydraulics, mechanical engineering, and electrical engineering. As such, the intent of these criteria are clearly met.
	Mechanical Maintenance/ Radwaste Operator	1 --	-- --	1 1	Two (2) PEOs are on-shift for each unit as indicated above. Since NUREG-0654 allows the mechanical maintenance/ radwaste operator and electrical maintenance/I&C technician to be filled by personnel assigned other functions, we fully comply with the on-shift criteria.
	Electrical Maintenance/ Instrument and Control (I&C) Technician	1 --	1 1	1 --	
					Sufficient electrical expertise exists on-shift at all units to perform any electrical maintenance which could conceivably be accomplished within one (1) hour. For more significant maintenance items, an electrician is on-call per unit and available within sixty (60) minutes. The same is true for I&C technicians.
					Regarding mechanical maintenance, a mechanic is on-call per unit and reports within sixty (60) minutes. A radwaste operator is on-call for the entire station and available within sixty (60) minutes. This is fully consistent with the staffing criteria.

<u>MAJOR FUNCTIONAL AREA</u>	<u>POSITION/TITLE</u>	<u>ON SHIFT</u>	<u>CAPABILITY FOR ADDITIONS</u>		<u>DISCUSSION</u>
			<u>30 MINUTES</u>	<u>60 MINUTES</u>	
Protection Actions (In-Plant)	HP Technicians	2	2	2	See previous discussion on HP technicians.