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STATE OF NEW HAMPSHIRE
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JOHN H. SUNUNU
Governor

NUCLEAR REGULATORY COMMISSION 1-800-852-3792

Docket No. 50-403/444-01 Official Exh. No. 47
Matter of Seabrook

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February 11, 1988

Moss Attorney General
Mr. Henry G. Vickers
Regional Administrator
Federal Emergency Management Agency
422 McCormack Post Office
Boston, MA 02109

5/27/88
Peterson et al
FA

Dear Mr. Vickers:

In the Supplemental Testimony of Dave McLoughlin, Edward A. Thomas and William R. Cumming on Behalf of the Federal Emergency Management Agency on Sheltering/Beach Population Issues, filed on January 25, 1988, the Federal Emergency Management Agency (FEMA) stated its current position with respect to its review of selected portions of the New Hampshire Radiological Emergency Response Plan (NHRERP). FEMA summarized its position as follows:

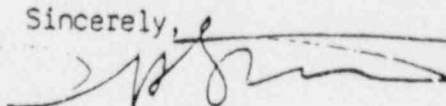
Briefly put, FEMA's position is (a) that it is appropriate to consider further the adequacy of the emergency response plan for the transient population of the beaches within the Seabrook Emergency Planning Zone (EPZ) during the summer, that is, from May 15 to September 15, as indicated in the New Hampshire Radiological Emergency Response Plan (NHRERP); (b) that the requirement of NUREG 0654/FEMA REP 1, Rev. 1, for a "range of protective actions" may or may not be satisfied by evacuation alone; (c) that FEMA cannot conclude that the NHRERP is adequate with respect to that beach population until it is clear that the State of New Hampshire has considered the use of sheltering for the transient beach population and explains what use, if any, it intends to make of sheltering. This latter point should not be interpreted to mean that FEMA has imposed a requirement that sheltering be available. If the State of New Hampshire intends not to employ sheltering for the transient beach population (which is not presently clear from the NHRERP), then FEMA expects the State to develop the rationale for such a choice and provide it to FEMA for review.

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During the January 28, 1988 conference call among the parties in the Seabrook Operating License Proceeding, the State of New Hampshire indicated that it would respond, within two weeks, to the concerns raised by FEMA in its supplemental testimony. The State's response to FEMA's questions about protective actions for the Seabrook EPZ beach population is set forth in the accompanying enclosure.

New Hampshire appreciates the comments and assistance provided by FEMA relative to the New Hampshire Sheltering policy. We believe the enclosed material addresses the concerns raised and we welcome the continued opportunity to work in concert with FEMA in developing quality emergency plans for the people of New Hampshire.

Sincerely,



Richard H. Strome
Director

RHS/MMN/cjf

cc: Seabrook Operating License Proceedings Service List

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Enclosure 1

New Hampshire Response to FEMA Supplemental Testimony

At Volume 1, Section 2.6, the plan addresses "protective response." The plan explains that the objective of protective responses by the State is "... to control the radiological exposures to which the public may be subjected in the event of a significant release of radiological materials from a fixed nuclear facility." The section explains that there are various radiation exposure pathways, and outlines the federal protective action guides (PAGs) for both plume exposure EPZs and ingestion pathway EPZs. At Section 2.6.5, the plan outlines the specific protective actions adopted by the State for reducing direct exposure of the public within the plume exposure EPZ.

New Hampshire will rely on two protective actions for limiting the direct exposure of the general public within the Plume Exposure EPZ. These are sheltering and evacuation. Either of these protective actions will be coupled with access control to prevent unauthorized entry into the area in which the protective action is being implemented. (NHRERP Vol 1. p. 2.6-4)

This general statement of policy was drafted to be the basis of state policy for either of the two nuclear power plants with plume exposure EPZs within the State. It should not be inferred from this statement of policy, however, that sheltering is afforded the same weight as evacuation as a means to effect dose savings. Subsequent portions of the plan describe the relative merits of the two protective actions and describes the rationale and procedures for choosing protective actions. Sheltering is a protective action of limited usefulness in realizing dose savings for the population, regardless of the season. For a limited range of conditions, however, the protective action of sheltering is not without benefits.

Sheltering is a valuable protective response for several reasons. It can be implemented quickly, usually in a matter of minutes. In addition, it is less expensive and less disruptive of normal activities than evacuation. Implementation and management of sheltering is also less demanding on the resources of the emergency response organization since no vehicles, traffic control and dispatching of equipped emergency workers is required. (NHRERP, Rev. 2, Vol. 1 at p. 2.6-5)

To make sure sheltering is fast and easily managed, as this statement intends, the State has adopted a specific sheltering concept.

"New Hampshire employs the 'Shelter-in-Place' concept. This provides for sheltering at the location in which the sheltering instruction is received. Those at home are to shelter at home; those at work or school are to be sheltered in the workplace or school building. Transients located indoors or in private homes will be asked to shelter at the locations they are visiting if this is feasible. Transients without access to an indoor location will be advised to evacuate as quickly as possible in their own vehicles (i.e., the vehicles in which they arrived). Departing transients will be advised to close the windows of their vehicles and use recirculating air until they have cleared the area subject to radiation. If necessary, transients without transportation may seek directions to a nearby public building from local emergency workers. (NHRERP Vol 1. p. 2.6-6)

Implicit in adopting this position are three key factors. First, the State wanted a sheltering concept that was uncomplicated and manageable. The shelter-in-place concept meets this criterion. Second, the State wanted a sheltering concept that it could rely upon to be implemented quickly. The shelter-in-place concept meets this criterion; a sheltering concept that requires the movement of people to a remote shelter location may not. Third, the State feels that if a release of radiation warranted movement of the public, they are much more likely to be afforded meaningful dose reductions by moving out of the EPZ than by moving to a shelter within the EPZ. This is the case since the members of the public would be, in effect, "evacuating" to a shelter. This action would require forming family groups or social units prior to moving, deciding whether to seek shelter or evacuate spontaneously, choosing a mode of transportation (i.e., walk or ride), seeking a destination (i.e., home or shelter), and undertaking the physical movement.

Furthermore, since sheltering is a temporary protective action, those that sought public shelter would be faced with the prospect of assuming some dose while seeking shelter, more while sheltering, and even more during a subsequent evacuation. Such considerations dissuade the state from considering the movement of large numbers of people to public shelters as a primary protective action for beach transients, given that evacuation is seen as providing dose savings in nearly all accident scenarios.

This position does not preclude the State from considering and selecting sheltering as a protective action for the beach population. Nevertheless, evacuation is a much more likely protective action decision during the summer months when some beach transients cannot shelter in place, but must leave or move to public shelters.

Through the RAC review process, FEMA made it known to the State that it was concerned about a shelter-in-place concept that could, in fact, result in a hasty evacuation of the transient beach population shortly before, or during, a release. For example, the FEMA technical review comments on the December 1984 draft of the NHRERP contained the following comment regarding the beach population:

Early access control and beach instructions may have to be implemented, and this must be considered in advance both in terms of protective action decision making and public notification of such.

At FEMA's suggestion, the State, in Revision 0 to the NHRERP, adopted additional means for addressing this concern. Those means consist of closing or evacuating the beaches and establishing access control as early "precautionary actions." The precautionary action process is a detailed

procedure used by decision makers from May 15 through September 15, the months in which there is potential for a significant beach population. The procedure advises decision makers to close the beaches during Alert or close or evacuate the beaches during Site Area Emergency conditions before protective action considerations are warranted. This would mean that the beach population would be gone before an evacuation/shelter decision became necessary. The availability of the precautionary action procedure is cited in Section 2.6.5 of the plan:

"The conditions under which such an action may be taken are described in NHRERP Vol. 4 NHCEA Procedures, Appendix F."

A copy of the precautionary action procedure is attached. (See: Attachment I).

The addition of these precautionary measures alleviates most concerns about sheltering the beach population. The State's position is based, in part, upon the RAC evaluation of the State Response to the RAC review of NHRERP Rev. 2. At page 64/134, the RAC evaluation stated:

According to the State response and the plan revisions, the use of public shelters is not proposed during a Seabrook Station emergency. The only exception is the possible use of public buildings for shelters for transients without transportation. Transients with transportation and 'without access to an indoor location' will be advised to evacuate in their own vehicles. The use of public buildings or sheltering of transients without transportation is acceptable since the transients without transportation are expected to be a very small number.

These precautionary actions and the State emphasis on getting the population out early are consistent with actions planned at other nuclear power plant sites with transient populations.

Once a General Emergency is declared, State of New Hampshire decision makers begin a detailed evaluation of the protective actions to be recommended. Since the General Emergency as defined by NUREG-0654, FEMA-REP-1 is a condition where "releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels for more than the immediate site area," it is at this point that relative dose savings between evacuation and sheltering are evaluated in accordance with the protective action decision criteria of NHRERP Volume 4 Appendix F and Volume 4A Appendix U for the general population including the beach population.

For the aforementioned reasons, it is the State's position that evacuation is the protective response that would be used in response to the majority of emergency scenarios at Seabrook, and that the protective action of sheltering may be preferable to evacuation in only a very limited number of accident scenarios.

The State is currently prepared to recommend implementation of its shelter-in-place concept at either of the two plume exposure EPZ's in New Hampshire. The shelter-in-place advisory will normally be issued, for either EPZ, only under scenarios that are characterized by one or more of the following three conditions:

1. Dose Savings

Sheltering could be recommended when it would be the more effective option in achieving maximum dose reduction. New Hampshire has chosen to base its protective action decisions on the lowest values cited by EPA guidance, that is 1 rem whole body dose and 5 rem thyroid dose. The protective action guidelines contained in EPA 520/1-75-001, Manual of Protective Action Guides for Nuclear Incidents, Revised 1980, have been adopted in the protective action procedures of Appendix F and Appendix U.

2. Consideration of Local Conditions

The protective action recommendation procedure of the NHRERP (Appendix F, Vol. 4 and Appendix U, Vol. 4A) considers impediments to evacuation when evacuation is the result of the detailed evaluation utilized in the decision making process.

3. Transients Without Transportation

When evacuation is the recommended protective action for the beach population, certain transients may be without their own means of transportation. Shelter will be provided for this category of transients to ensure they have recourse to some protection while awaiting transportation assistance.

A major reason for the State's reliance on evacuation is the recognition that, during the summer months, the large transient beach population potentially present constrains the use of the shelter-in-place option as a means of achieving dose savings for that segment of the entire population. Many of the beach transients are day trippers without ready access to a residence for sheltering as envisioned in the shelter-in-place concept. The adoption of early beach closings and the precautionary action of beach evacuations (and their attendant access control to stop the influx of beach goers) is intended by the State to minimize the population that could be subject to possible protective actions at a later time.

The State plans to continue its use of the shelter-in-place concept. It continues to assume that the shelter-in-place concept can be augmented. It can be augmented by the precautionary beach closures, and it can be augmented by retaining the ability to use some public shelters if a need to shelter transients without transportation occurs.

The utility has sponsored a beach area Shelter Study undertaken by Stone and Webster Engineering Corporation. This study was provided to the State as a resource document. In its review, the State found the document to be of some value. It identified a large number of shelters that may serve as a pool from which public shelter choices will be made. Based upon its review of the Shelter Study, the State is confident that unforeseen demand for shelter can be met provided that the limits of usefulness inherent in any shelter (e.g., sheltering factors, weatherization, capacity, etc.) are considered in the decision-making process.

When evacuation is the recommended protective action for the beach population, certain transients may be without their own means of transportation. An estimate of the number of beach transients who may not have their own transportation is 2% of the peak beach population, as set forth in NHRERP, Volume 6, page 2-1 n. The State agrees with the RAC's advice to consider ride sharing as a significant factor in estimating transportation resource requirements, and believes that sufficient ride sharing capacity exists for transients without their own transportation. In addition, bus routes have been planned and bus resources identified to provide transportation for persons in the beach areas who may lack their own. However, there is a concern that some mechanism be provided for this category of transients to ensure they have some protection while awaiting transportation assistance.

Using the 2% estimate and the 1987 peak population figures derived by KLD for the beach areas of concern, the number of transients without transportation might be as high as 480 in Hampton Beach and 150 in Seabrook

Beach. On the basis of the Shelter Study, there is capacity in existing buildings at Hampton Beach and Seabrook Beach to shelter those transportation-dependent transients at the beach until transportation assistance is made available.

We propose to amend the plan to identify potential shelter locations for the transient beach population without transportation. The appropriate E&S message will be modified to provide for instructions to persons on the beach who have no means of transportation to go to public shelters to await assistance in the event evacuation of the beach is recommended.

In its introduction, NUREG 0654 FEMA-REP-1, Rev. 1 criterion J. Protective Response suggests that emergency planning should ensure that:

A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with federal guidance, are developed and in place . . .

As previously explained, the State has developed both evacuation and sheltering options for protecting the public. Either of these options may be coupled with access control. The NHRERP states that either of these protective actions ". . . will be implemented on a municipality-by-municipality basis." (NHRERP Vol 1.p. 2.6-11) Furthermore, the range of protective actions available to the State is expanded by three special considerations. One is specific consideration given to special facilities:

For institutionalized populations (including those in hospitals, nursing homes and jails), a more detailed evaluation of protective action recommendations is undertaken based upon facility-specific sheltering protection factors. Sheltering in place will normally be the preferred

protective action for institutional facilities, the nature of which require that the implementation of protective actions, particularly evacuation, be considered very carefully with respect to associated risks and derived benefits. The actual dose criteria (PAGs) utilized in choosing between sheltering and evacuation will be the same for the general population and institutionalized individuals. (NHRERP Vol. 1, p. 2.6-7)

A second special consideration is the potential precautionary action of closing or early evacuation of beaches before protective actions are necessary. A third special consideration is the State's ability to undertake additional protective responses, including using public shelters for the transient population without transportation. Together, these various options provide New Hampshire with a broad range of protective actions from which to choose.

The State also believes that its basis for selecting protective actions is sound. The basis is described in NHRERP Rev. 2 Vol. 1 Section 2.6.7 Criteria for Selecting Protective Actions for Direct Exposure Within the Plume Exposure EPZ (p. 2.6-24). Since FEMA has found these criteria to fall short of being clear, however, the State has attempted some draft clarifications to key elements of the protective action decision criteria. The draft revisions are attached. (See: Attachment 2). Should FEMA find these draft improvements remove its doubts about the process for selecting protective actions, the State is prepared to adopt them as plan changes.

In using the procedure as modified, decision makers are directed to Figure 1A of the procedure to consider factors related to the actual or potential radiological release. These variables are derived from the guidance of EPA 520/1-78-001B. Considered specifically are: the time to release, time of plume arrival at a specified location, time of exposure at the reference location, projected dose, EPA PAGs, evacuation times, and shelter dose

reduction factors. At the General Emergency classification, the evaluation is first performed for the area of most immediate concern, that is within about two (2) miles of the plant. After the radiological consequences are evaluated, a recommendation will be reached.

It is at this point that the local conditions that may affect the recommendation are considered. These conditions are described in Attachment C to Appendix F, Vol. 4, NHRERP, and includes local meteorological conditions, conditions of the local road network, and any natural or manmade impediments to evacuation.

Once the evaluation process is completed, a recommendation to the public will be made by decision makers. It must be noted that the procedures will caution decision makers that if precautionary closure or evacuation of the beaches has been recommended, then such measures must continue to be the recommended protective action.