

REQUEST FOR
EVACUATION TIME ESTIMATES (AFTER NOTIFICATION)
FOR AREAS NEAR NUCLEAR POWER PLANTS

Background

Prior to recent NRC requests that means for prompt notification to the public be installed around each nuclear power plant site, a significant component of evacuation time estimates was the time required to notify the public of a need for evacuation. Studies of actual evacuations that have taken place generally do not distinguish between the time required for notification, the time required to implement the evacuation, and the time required to confirm that an evacuation has taken place.^{1/} The estimates for time required for evacuations now requested relate primarily to the time to implement an evacuation as opposed to the time required for notification. These estimates may be based on previous local experiences (e.g., chemical spills or floods) or may be based on studies related to population density, local geography and road capacities. No standard method for making such estimates is identified for use at this time. The basis for the method chosen should be described in the response. As an independent check on the evacuation time estimates, agreement with or comments on the time estimates made should be obtained from the principal local officials responsible for carrying out such evacuations. Such agreement should be documented or the areas of disagreement indicated in the submittal.

The format given below is appropriate for reporting to the NRC estimates of the time required to implement evacuation of areas near nuclear power plants. These estimates, are to be made for the primary purpose of making available, to those officials who would make evacuation decisions in an emergency situation, knowledge of the time required to complete one of the protective action options (evacuation) available for a particular potentially affected segment of the population. A second purpose of these estimates is to identify to all concerned those instances in which unusual evacuation constraints exist and that special planning measures should be considered. In some cases of extreme difficulty where a large population is at risk, special facility modifications may also be considered.

Given a decision to evacuate rather than shelter in an actual event, fewer or more sectors or different distances than given in the reporting format might be evacuated should this be the chosen protective action. For example, three 22-1/2° sectors might be initially evacuated in a downwind direction (the sector containing the plume and an adjacent sector on each side), followed by the evacuation of other sectors as a precautionary measure.

^{1/} Hans, J. M., Jr., and T. C. Sell, 1974 Evacuation Risks - An Evaluation, U. S. Environmental Protection Agency, National Environmental Research Center, Las Vegas, EPA-520/6-74-002.

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Format for Reporting Information

The areas for which evacuation estimates are required must encompass the entire area within a circle of about 10 miles radius, and have outer boundaries corresponding to the plume exposure EPZ. These areas are as follows:

<u>Distance</u>	<u>Area</u>
2 miles	two 180° sectors
5 miles	four 90° sectors
about 10 miles	four 90° sectors

Estimates for the outer sectors should assume that the inner adjacent sectors are being evacuated simultaneously. To the extent practical, the sector boundaries should not divide densely populated areas. Where a direction corresponding to the edges of areas for which estimates have been made is thought not to be adequately represented by the time estimates for adjacent areas, an additional area should be defined and a separate estimate made for this case. The format for submittal should include both a table and a figure (overlaid on a map) which each give the information requested in items 1 and 2 below. Additional material may be provided in associated text.

Required Information

1. Two estimates are requested in each of the areas defined in item 1 for a general evacuation of the population (not including special facilities). A best estimate is required and an adverse weather estimate is required for movement of the population.
2. The total time required to evacuate special facilities (e.g., hospitals) within each area must be specified (best estimate and adverse weather).
3. The time required for confirmation of evacuation should be indicated. Confirmation times may consider special instructions to the public (e.g., tying a handkerchief to a door or gate to indicate the occupant has left the premises).
4. Where plans and prompt notification systems have not been put in place for areas out to about 10 miles, estimates of the times required to evacuate until such measures are in place for the plume exposure emergency planning zone (EPZ) should also be given. Notification times greater than 15 minutes should be included in the evacuation times and footnoted to indicate the notification time.

5. Where special evacuation problems are identified (e.g., in high population density areas), specify alternative protective actions, such as sheltering, which would reduce exposures and the effectiveness of these measures.
6. A short background document should be submitted giving the methods used to make the estimates and the assumptions made including the routes and methods of transportation used. This document should also note the agreement or areas of disagreement with principal local officials regarding these estimates.

TOBY MOFFETT, CONN., CHAIRMAN
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NINETY-SIXTH CONGRESS
Congress of the United States
House of Representatives
ENVIRONMENT, ENERGY, AND NATURAL RESOURCES
SUBCOMMITTEE
OF THE
COMMITTEE ON GOVERNMENT OPERATIONS
RAYBURN HOUSE OFFICE BUILDING, ROOM 8-371-B-C
WASHINGTON, D.C. 20515

November 6, 1979

Honorable Joseph M. Hendrie
Chairman
Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Chairman Hendrie:

Among the recommendations of last summer's Report by the Committee on Government Operations, "Emergency Planning Around U.S. Nuclear Powerplants: U.S. Nuclear Regulatory Commission Oversight," was a recommendation that, for each site where there is now a nuclear power plant operating or under construction, the Nuclear Regulatory Commission review

existing emergency response capability and determine the maximum sized zone around each plant for which evacuation is feasible within several different times corresponding to representative warning times for various types of accidents and advise the Committee of its findings within 180 days.*/

Your response to the Committee's report stated:

[T]he staff is reexamining emergency response capability, particularly evacuation. NRR has teams reviewing, on a site-by-site basis, existing licensee emergency response capability. Among other things, the maximum sized zone will be evaluated during their review. Also, the teams will evaluate the evacuation plan and/or the protection measures for the EPZ associated with the exposure and ingestion pathways.**/

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*/ Recommendation 5(a), Report at p. 52.

**/ Enclosure 5 at p. 5 to letter from Honorable Joseph Hendrie to Honorable Jack Brooks dated October 26, 1979.

Honorable Joseph M. Hendrie
November 6, 1979
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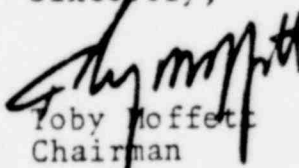
While I am advised that the Commission will not meet the Committee's 180-day deadline, you testified in response to my questions at yesterday's hearing of the Energy and Power Subcommittee that the order of the Commission's current site-by-site review is based roughly on the population density in the vicinity of each site. I would hope, therefore, that while the complete study called for in Recommendation 5(a) of the Committee's Report will not be completed within 180 days, those portions of it pertaining to certain of the sites located in the more densely populated areas will be.

Please provide the Subcommittee on Environment, Energy, and Natural Resources information responsive to Recommendation 5(a) with respect to the following sites as soon as your staff obtains it:

Beaver Valley
Ginna, R.E.
Haddam Neck
Indian Point
Maine Yankee
Quad-Cities
Salem
Three Mile Island
Turkey Point
Zion.

I would appreciate your advising me upon receipt of this letter the approximate date by which your staff expects to have obtained the Recommendation 5(a) data for each of the above sites.

Sincerely,


Toby Moffett
Chairman

TM:bbc

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