

GL80060

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

July 2, 1980

ALL APPLICANTS FOR CONSTRUCTION PERMITS AND OPERATING LICENSES

Gentlemen:

SUBJECT: REQUEST FOR INFORMATION REGARDING EVACUATION TIMES

This letter is being sent to all applicants for construction permits and licensees of plants under construction. The purpose of the letter is a request for information regarding estimates for evacuation of various areas around proposed nuclear power plants. The information sought is described in our letter of December 26, 1979 (copy enclosed). The requested submittal date for this information was suspended by our letter of March 11, 1980

We are requesting that you submit evacuation time estimates on an accelerated basis to enable the NRC staff to identify, in a timely manner, those sites where evacuation constraints exist and 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 appropriate. The information requested in the enclosure should be submitted by August 1, 1980. This time is shorter than provided in the December 26, 1979 letter because of the need for timely information and because the content of the information desired has been available to you for some months. Units sharing the same site need not, of course, submit separate time estimates.

This special request for information has been submitted to the General Accounting Office and cleared by GAO as noted in the clearance block below:

Approved by GAO  
B-180225 (S80010)  
Expires 80-09-30

Sincerely,

Darrell G. Eisenhut, Director  
Division of Licensing  
Office of Nuclear Reactor Regulation

Enclosure:  
December 26, 1979 Letter  
w/Request for Evacuation  
Time Estimates

Enclosure

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 a check on the evacuation time estimates, comments on the time estimates made should be obtained from the principal local officials responsible for carrying out such evacuations. Such comments should be included 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.

## 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:

Distance	Area
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 comments of principal local officials regarding these estimates.