



# Federal Emergency Management Agency

Washington, D.C. 20472

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MEMORANDUM FOR: Frank J. Congel  
Director  
Division of Radiation Protection  
and Emergency Preparedness  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission

FROM: *Richard W. Krimm*  
Richard W. Krimm  
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Office of Natural and Technological  
Hazards Programs

SUBJECT: 10 CFR 2.206 Petition, Public Information Brochure,  
Perry Nuclear Power Plant

This is in response to your November 3, 1987, memorandum requesting assistance in reviewing a petition filed under 10 CFR 2.206 by the Concerned Citizens of Lake County, Concerned Citizens of Geauga County, and Concerned Citizens of Ashtabula County, Ohio. The petition primarily contained a request that the Director of Nuclear Reactor Regulation order the Cleveland Electric Illuminating Company (CEI) to correct certain deficiencies and misinformation contained in the undated Emergency Preparedness Information Handbook (EIH), and to redistribute the corrected handbook to the population within the Plume Exposure Pathway Emergency Planning Zone for the Perry Nuclear Power Plant.

The Federal Emergency Management Agency (FEMA) Headquarters and Region V reviewed the petition and associated materials. Our review is attached to this memorandum. The new Perry EIH entitled, 1988 Calendar, Emergency Preparedness Information, dated December 1987, has also been reviewed. The 1988 EIH calendar was forwarded to FEMA on December 14, 1987, and has replaced the EIH addressed in the petition. The attached review reaches conclusions, summarized below, on the issues raised by the petition:

- ° The 1988 EIH calendar does respond to key issues raised in the petition; therefore, FEMA does not recommend that the current EIH be immediately revised and redistributed. However, FEMA does recommend that certain changes be considered in the next annual revision of the EIH;
- ° The review does contain a recommendation that the Nuclear Regulatory Commission order the CEI to work with the State and local authorities to address within 120 days the planning issues involving the role of "receiving schools" in evaluation procedures and the lack of permanent installation of emergency information signs in Lake and Ashtabula Counties; and,

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- ° The CEI, State, and local authorities should be commended for encouraging the reading of the EIH to blind persons; however, in the next annual EIH update these authorities may want to consider other means of providing information to the visually handicapped such as large print, braille materials, audio cassette tapes, and other audio media.

The FEMA review addresses only offsite issues in the 2.206 petition and does not address any issues FEMA believes should be reviewed by the Nuclear Regulatory Commission. In addition, the section on radiation and its health effects in the petition has been reviewed and commented on by the Environmental Protection Agency, Region V.

If you have any questions concerning this review please do not hesitate to contact me at 646-2871.

Attachment  
FEMA Review

FEDERAL EMERGENCY MANAGEMENT AGENCY

Response to a Request for Assistance  
by the  
U. S. Nuclear Regulatory Commission

to a

Petition filed under 10 CFR 2.206  
from the  
Concerned Citizens of Ashtabula, Geauga, and Lake Counties, Ohio  
concerning the  
Emergency Preparedness Information Handbook  
for the  
Perry Nuclear Power Plant

February 16, 1988

Introduction:

This review addresses issues raised in the 10 CFR 2.206 petition from the Concerned Citizens of Ashtabula, Geauga and Lake Counties in Ohio, concerning the Perry Nuclear Power Plant's Emergency Preparedness Information Handbook. The petition requests that the Nuclear Regulatory Commission (NRC), Director of Nuclear Reactor Regulation, order the Cleveland Electric Illuminating Company (CEI) to correct certain deficiencies and misinformation contained in its undated Emergency Preparedness Information Handbook (hereafter referred to as EIH) and to redistribute a corrected handbook to the population living within the Plume Exposure Pathway Emergency Planning Zone (EPZ). Comments reflected below are addressed in the order that the issues are raised in the 2.206 petition. Please note that this review is based on information contained in the 1988 EIH calendar (distributed in December 1987) while the petition addresses the earlier green, undated EIH.

EIH Cover:

A two page map of the Perry ten mile EPZ is included in the 1988 EIH calendar. This map is similar to the foldout map in the earlier "white" and "green" versions of the Perry EIH. The ten mile EPZ map in the 1988 EIH is also entitled "Pick-Up Points, Referral Points and Care Centers". It shows evacuation routes, county boundaries, some geographic features, locations of some towns, etc., but it is not so detailed that it would confuse the reader. Printing the ten mile EPZ map on the cover would be impractical and redundant.

The 1988 Perry EIH Calendar does have a date printed on page one. This corrects the concern raised in the 2.206 petition.

Page 2 "Dear Resident":

The 2.206 petition finds the entire page 2 of the green EIH "Dear Resident" objectionable. FEMA believes the rewrite of this section in the 1988 edition addresses most of the 2.206 concerns, e.g., putting a date on the EIH, reading the EIH to a blind friend, emphasizing that there might be danger from the radiation from the Perry Plant in the event of an emergency, as well as being able to use the EIH for other emergencies such as tornadoes or chemical spills, etc. The EIH is not printed in braille since it is recommended that the EIH be read to a blind person; however, in the next annual EIH update the utility may want to consider other means of providing information to the visually handicapped such as large print, braille materials, audio cassette tapes and other audio media. It is not printed in Spanish due to the low number of Spanish speaking people in the vicinity of the Perry Nuclear Power Plant.

FEMA appreciates why the planners of the EIH feel that the "Citizens of Ashtabula, Geauga, and Lake Counties are protected by one of the most effective emergency preparedness plans in the nation." The State and local emergency preparedness plans for the Perry Nuclear Power Plant have been exercised twice. The first exercise was a full-participation exercise conducted November 28, 1984. The second exercise was a partial-participation exercise conducted on April 15, 1986. FEMA, in both exercises, found that State and local governments could implement their plans and provide information on a timely basis to protect the health and safety of the public.

The FEMA Region V report of the 1986 exercise was very positive. No deficiencies were found at either the State or local level. One Area Requiring Corrective Action was identified for the State and none were identified at the local level. Several Areas Recommended for Improvement were offered to the State as well as to Ashtabula, Geauga, and Lake Counties. Federal review of the State and local site-specific plans for the Perry Nuclear Power Plant are also positive.

The 2.206 petition would like the statement that refers to the planning being "one of the most effective in the nation" deleted. This statement has been removed from the 1988 EIH calendar which should eliminate the concern expressed in the petition.

It is important to note that FEMA does not require citizen participation during nuclear power plant radiological emergency preparedness exercises, as suggested in the 2.206 petition. With the exception of public participation, full-participation and partial-participation exercises have been conducted and evaluated according to Federal requirements and a second full-participation exercise is currently in the planning stages.

The word "unlikely" in the second sentence of paragraph two of the previous edition of the EIH has been removed from the 1988 EIH calendar. The rewrite of this section of the EIH should address the concern of the 2.206 petition.

FEMA agrees that the reference to the facility would be more specific if the facility was referred to as the "Perry Nuclear Power Plant" rather than the Perry Power Plant; however, this by itself is not seen as justification for revising and redistributing a new EIH. Previous editions and the 1988 edition of the Perry EIH refer to radiation and nuclear energy and reference is made to the Perry Plant as a nuclear power plant in numerous sections of the 1988 EIH calendar.

The word "temporary" in the first sentence of paragraph three on page two of the previous undated EIH does not appear in the 1988 EIH calendar edition. This should eliminate the concern expressed in the petition.

The names of individuals to contact for information is not a requirement or seen as important since the people in those positions will change over time. Therefore, titles of positions rather than names should be used if individuals holding certain positions are included in the future editions of the EIH. The 1988 EIH calendar in the "Resident" section does have a December 1987, date and lists the utility and the appropriate local or State emergency management agency to contact for further information. Telephone numbers are found on pages 4, 8, and 19 of the 1988 EIH calendar. The addresses of the appropriate local emergency management agency are found on the "Special Needs Information Card"; however, it is recommended that names of agencies/counties to contact for information, addresses, and telephone numbers be included together in future editions of the EIH in the "Dear Resident" section.

Page Three:

(1) Signs:

The Perry prompt alert and notification system was evaluated by FEMA, tested on March 13, 1986, and determined to be adequate on September 8, 1986. The system is tested monthly and the results are monitored by FEMA Region V. The operability of the system is also certified annually by the State of Ohio in its "Annual Letter of Certification" provided to FEMA Region V. The design and operability of the Perry prompt alert and notification system currently meets Federal standards.

FEMA is aware of the "Report of the Emergency Evacuation Review Team on Emergency Response Plans for the Perry and Davis Besse Nuclear Power Plants" dated January 7, 1987. The scientific quality of this report has been criticized in the media, by local government (Ottawa County), utility consultants and a scholar in the field of nuclear energy. Although the scientific quality of this report has been challenged, the issues raised are being addressed jointly by staff from the two nuclear facilities, the State of Ohio, and the concerned counties.

(2). Television and Radio Stations that operate 24-hours a day:

The 1988 EIH calendar as well as previous EIHs, does distinguish between the television and radio stations that operate on a 24-hour per day basis. Whether or not the asterisks and the footnotes should be larger or the words "not on for 24-hours each day" should be in all caps or underlined for emphasis is an issue the authors of the EIH can consider in future revisions of the EIH. The 1988 EIH calendar is informative as written. Residents living in the area are likely to be familiar, through daily monitoring of local television and radio stations, with those stations that operate on a 24-hour per day basis. The idea of battery powered radios, though not required in Federal guidance, is also one that can be considered by the authors of the EIH when they undertake future revisions.

(4). Relocation Sites:

The references on pages three and ten of the previous undated EIH to "go to a place at least 10 miles away from the plant" have been eliminated in the 1988 EIH calendar. This should eliminate this concern raised in the petition.

Page 4 "Why Do We Need Emergency Plans":

The second and third sentences in both the undated EIH and the 1988 EIH calendar are referring to U. S. Nuclear Power Plants since Federal, State, and local laws, regulations, ordinances etc., effect only nuclear power plants in the United States. The 1988 EIH calendar was modified slightly to indicate that nuclear power plants in the United States have been making electricity for almost 30 years rather than the wording in the undated EIH which stated nuclear power plants have been making electricity for over 25 years. A further revision in the 1988 EIH calendar was to state that no member of the public has been hurt as a result of an accident at a U.S. Nuclear Power Plant. The undated EIH did not include the reference to U.S. Nuclear Power Plants.

The word "but" should not necessarily be deleted from the fourth sentence of the 1988 EIH calendar simply because the 2.206 petition infers that the word changes the overall message to an implication that emergency preparedness is a "damn nuisance". Dropping the word "but" would not necessarily change the message to emergency preparedness being a good idea. The word "but" in this context is saying it is a good idea to be prepared.

The suggestion that this portion of the EIH could be more descriptive concerning the level of radioactive material developed in the production of electricity and its possible health effects on people near the Perry Nuclear Power Plant in the event of an accident is one that can be considered by the authors of the EIH during the next annual revision.

Page 5 "Remember":

The "Remember" section of page 5 of the undated EIH does not appear in the 1988 EIH calendar. Therefore, the concern expressed in the petition has been addressed.

Page 6 "How Wide An Area":

The word "several" in this section of the undated EIH and in the 1988 EIH calendar refers primarily to the 10 mile EPZ. This section in the 1988 EIH calendar is revised slightly. The first sentence of paragraph two describes "the area within about 10 miles from the Perry Plant" rather than the previous undated EIH description of "the area up to 10 miles from the Perry Plant is called the Emergency Planning Zone." The other change in the 1988 EIH calendar is in the last sentence of paragraph two of this section. The 1988 version states "Key parts of the plans are described within the following information" rather than the undated version stating "Key parts of the plans are described in this booklet."

FEMA does not believe the word "several" is incorrect or misleading. Federal guidance has established a radius of approximately 10 miles around most commercial nuclear power plants as the primary EPZ or inhalation zone. State and local governments develop detailed plans, standard operating procedures, etc., in order to implement protective actions (e.g. shelter and/or evacuation of the public) in the event of an accident at a commercial nuclear power plant. The EPZs of some commercial nuclear power plants have been reduced, with Nuclear Regulatory Commission approval, to 5 miles due to the smaller size of the reactor. The Perry Nuclear Power Plant plume exposure pathway EPZ is about 10 miles. Federal planning guidance (NUREG 0654/FEMA-REP-1, Rev.1) recognizes the potential for the expansion of the 10 mile EPZ, if necessary. The revision of this section in the 1988 EIH calendar is more consistent with this concept and with Federal guidance in that the EPZ is described as an area "within about 10 miles" of the plant versus an area "up to 10 miles" from the plant, the earlier description.

The ingestion EPZ has a radius of about 50 miles. The 2.206 petition implies the word "several" on page 6 of the Perry EIH refers to the secondary EPZ (ingestion) when it in fact refers to the primary EPZ. FEMA believes that detailed references to ingestion pathway planning, Lake Erie, and Cuyahoga County, are not necessary for the Perry EIH.

The 2.206 petition further states on page 9 "The State of Ohio also has not acted as if they felt the plans within the 10 mile EPZ are adequate let alone outside the 10 mile EPZ." FEMA Region V does not have this impression from the State of Ohio. On August 16, 1986, the Governor of Ohio wrote the Chairman of the Nuclear Regulatory Commission expressing concerns about the explosion and fire at the Chernobyl Nuclear Power Plant in Russia, the June 9, 1985 accident at the Davis Besse Nuclear Power Station and the earthquake on January 31, 1986, near the Perry Nuclear Power Plant. The Governor did not state that he felt the plans were inadequate. Instead he indicated to the Nuclear Regulatory Commission that he wanted to review the Ohio plans as a result of these events.

The Governor of Ohio appointed a team, chaired by the Director of Highway Safety, to conduct this review. Other members of this team included the Chairman of the Public Utilities Commission of Ohio and the Adjutant General of Ohio. This team, called the "Emergency Evacuation Review Team", completed its work in January 1987, and produced a series of twelve recommendations. A working group of utility companies, counties, and State representatives was formed to address the recommendations in the Emergency Evacuation Review Team report and to develop an implementation strategy.

On November 12, 1987, the Chairman of the Public Utilities Commission of Ohio wrote Ms. Connie Kline, Lake County Concerned Citizens, regarding the 2.206 petition. This letter is enclosed as Attachment 1. In his letter to Ms. Kline, the Chairman said he urged the Nuclear Regulatory Commission to give positive review to the suggestions offered in the petition to improve the Perry EIH. He indicated the State of Ohio would stop short of endorsing in totality the remedy which the 2.206 petition seeks. However, he added that he believed that the greatest success for implementing the recommendations of the 2.206 petition would result from the Ashtabula, Geauga, and Lake Counties Concerned Citizens working with representatives of the counties, the State, and the utility companies.

Additionally, the State of Ohio has not acted as if the plans within the 10 mile Perry and Davis Besse EPZs are inadequate. In several meetings with FEMA Region V, State of Ohio officials have never indicated that they believed that the planning was inadequate. The State has worked in a positive manner in revising their State plan, including, as indicated above, the recommendations of the Governor's Emergency Evacuation Review Team report. The State has worked with appropriate local governments to revise plans and procedures for the Beaver Valley, Davis Besse and Perry Nuclear Power Plants. In addition, the State of Ohio and appropriate counties have exercised their plans on a regularly scheduled basis consistent with Federal requirements.

The State of Ohio plan and the Columbiana County plan site specific to the Beaver Valley Nuclear Power Plant were approved by FEMA on June 5, 1987. Ashtabula, Geauga, and Lake Counties have revised their plans on a basis consistent with Federal policy and have exercised their plans on two occasions. As indicated above the results of both exercises were that State and local government are capable of implementing their plans to protect the health and safety of the public. Planning for the third exercise scheduled for May 4, 1988, is currently in progress.

Page 8 "Sheltering"

This section of the 1988 EIH calendar has been revised to address issues raised in the 2.206 petition.

The first point raised in this section of the 2.206 petition has been addressed in the 1988 EIH calendar. A reference to closing the fireplace damper has been added.

The second point raised in this portion of the 2.206 petition has also been addressed in the 1988 EIH calendar. The last sentence under point #1, page 8 of the previously undated EIH, has been removed from the 1988 EIH calendar.

The 2.206 petition expresses concern over references to people venturing outdoors once they have been told to take shelter. The petition recommends that people not venture out at all. The 1988 EIH calendar states on page 5 that people should "Go indoors and stay inside." However, it recognizes that it may be necessary to go outside to warn a friend or family member and indicates time spent outdoors should be limited. For this reason, FEMA does not agree with the 2.206 petition that a portable radio should be taken with you, if possible, so you can stay informed. The 1988 EIH calendar also states "While outdoors, cover your mouth with a cloth or towel. When returning indoors, leave your outer clothing outside. Wash your face and hands with soap and water." The language used is consistent with that recommended by NUREG-0654/FEMA-REP 1, Rev.1 and is similar to that found in other EIH's throughout the country. The 1988 EIH calendar also addresses the concern expressed in the 2.206 petition of what to do with possibly radioactive contaminated garments before re-entering the house.

The 1988 EIH calendar, as did the previous EIH, indicates the green "WE HAVE BEEN NOTIFIED" card should be placed in a window facing the street. It further states that if you do not have the green card or have misplaced it, tie a towel to your door or mail box or other object visible from the road. The time needed to put the green card in a window is minimal and may or may not involve going outside. The time to tie a towel to the front door or even a mail box is also minimal. The green card and/or towel is a signal to emergency workers in the area which verifies whether or not the residents of the home know about the emergency, thus eliminating the time needed by these emergency workers to make this verification. The 1988 EIH calendar states that "if you DO need assistance, DON'T use the green card."

The issue of ionizing versus non-ionizing radiation is discussed later.

Page 9: "What should I Do If I'm Told To Evacuate The Area?"

This section of the 1988 EIH calendar has also been revised. The reference to leaving your home as if you were going on a vacation has been eliminated. This elimination was recommended in the 2.206 petition.

The previous undated green EIH recommendation to go some place at least 10 miles away from the plant has been modified in the 1988 EIH calendar.

Page 6 of the 1988 EIH calendar states that residents should leave when advised and proceed to a care center. Page 7 of the 1988 EIH calendar states residents can go to a place of their choice, e.g. a friend, relative, care center, etc. It is recommended that page 6 of the 1988 EIH calendar be revised during the next annual update to be more consistent with the statement found on page 7. This revised section in the 1988 EIH calendar states "Gather the people in your home. Do not try to pick up children or relatives in schools, hospitals, or nursing homes. Such facilities have their own evacuation procedures."

FEMA recommends a statement be added during the next annual update of the EIH to indicate that information can be obtained from hospitals and nursing homes as to where children and relatives can be picked up in the event they are evacuated from these facilities located within the 10 mile EPZ.

Page 10 "How Much Time Would I Have?" and "Where Should I Go?"

The "How Much Time Would I Have?" section has been removed from the 1988 EIH calendar. This should eliminate the 2.206 concern that the previous undated EIH gave a false sense of security. The 1988 EIH calendar also includes a revised "Where Should I Go?" section. The statement is eliminated that previously stated "You should go at least 10 miles away from the Perry Plant." The picture on page 10 of the previously undated EIH has been eliminated in the 1988 EIH calendar. This should eliminate the 2.206 concern that the previous EIH included a picture of a smiling family that looked like they were going on a pleasure trip to Disneyland instead of evacuating their home.

The 2.206 recommended the addition of the statement "Your safety will be enhanced if you study this booklet carefully, and do some advance planning of your own." The intent of this statement is included in the 1988 EIH calendar on page 1 where it states: "This information is important-please read it carefully. Discuss it with your family, friends and neighbors. They may need your help, or you may need theirs. If you know someone who is blind, read this booklet to that person."

FEMA does not believe it is necessary for individuals to purchase radiation alarms or detection instruments since the utility and the State of Ohio have the ability and responsibility to measure radiation levels, and to provide public emergency information and protective actions based on these measurements. The policy of the State of Ohio is to provide only emergency workers and the institutionalized population remaining in shelter with potassium iodide, a thyroid protectant medication (KI). It is not the policy of the State of Ohio to provide KI to the general public. Therefore, the suggested language in the petition relative to obtaining KI is inappropriate.

Page 11 "What Should I Take?" And Page 10, "What About Children in School?"

FEMA does not believe the recommended text found in the 2.206 petition concerning what to take is necessary. The list of things to take in the previous and the current 1988 EIH calendar is a good one and the recommendation to add items of individual/family choices to fit their particular needs is implied on page 7 of the 1988 EIH calendar.

The previous EIH and the 1988 EIH calendar include school provisions, including guidelines and/or instructions for parents that meet the planning criteria of NUREG-0654/FEMA-REP-1, Rev. 1. General information is found on page 8 of the 1988 EIH calendar and information on specific schools is found on pages 14 and 15.

Page 14 "Livestock"

Additional text has been added to this section of the 1988 EIH calendar concerning Federal and state agencies conducting follow-up surveys of farm products to check for contamination. Another statement added is that the County Cooperative Extension Agent Service should be contacted for more information. The picture of the dog shown outdoors lapping water found in the previous undated EIH has been removed from the 1988 EIH calendar. This section does, emphasize listening to the radio or television for instructions and it further states that the farmer could be told to put livestock indoors and may be told to give them stored feed.

The changes made to this section should eliminate most of the issues raised in this portion of the 2.206 petition. The exact wording of this section or any remaining 2.206 issues can be addressed by the utility and appropriate State and local governments during the next annual revision.

Page 15 "Radiation and Nuclear Energy"

FEMA Region V requested the Environmental Protection Agency (EPA) Region V to review this portion of the 2.206 petition since this is more in their area of expertise. The 2.206 petition asserts that page 15 of the previously undated EIH contained several misleading statements related to the health effects of ionizing radiation. The 2.206 petition states the entire page needs to be rewritten. The EPA Region V reviewed the previously undated EIH and largely concurred with the assertion of the 2.206 petition. However, EPA Region V also concluded that the previously undated EIH did not imminently compromise the implementation of the emergency plan. As such, EPA Region V believed the necessary modifications of the EIH could take place within some reasonable time frame without consequence.

This section of the 1988 EIH calendar was slightly revised from that found in the previously undated EIH. The revisions do not change the conclusions of EPA, Region V. Their written review comments are included as Attachment 2.

Page 16 "Nuclear Energy" And Page 17 "Safety"

FEMA defers any comment concerning this section of the Perry EIH to the NRC. Page 17 of the 1988 EIH calendar concerns the design and operation of a commercial nuclear power plant which is more appropriate for the NRC to review. Written review comments from EPA Region V concerning a portion of the text on page 17 of the 1988 EIH calendar is included in Attachment 2.

Page 18 "About American Nuclear Power Plants and Chernobyl"

This section of the previously undated EIH has been eliminated in the 1988 EIH calendar. This should eliminate the 2.206 concerns regarding the design and operation of United States commercial nuclear power plants as compared to the design and operation of Russian commercial nuclear power plants, e.g. Chernobyl.

Pages 21-28 "Map of Pick-Up Points, And Care Centers"

The 2.206 petition is concerned that the undated EIH does not include a map that shows the location of the receiving schools. In responding to this issue it should be pointed out that there is no requirement for a map of receiving schools to be included in an EIH. The 2.206 asserts that the absence of this map causes confusion if people cannot find the receiving schools on a map. The evacuating and receiving schools and their addresses were listed on a fold out map that was separate from the previously undated EIH. This separate map also included information on pick-up points for people who need rides, Referral Points, Care Centers, Public Information, Hotline Telephone Numbers, a checklist of things to take in the event of an evacuation, and a list of radio and television stations to monitor in the event of activation of the prompt alert and notification system.

All of the above information and the map has been included in the 1988 EIH calendar. Combining this map and accompanying information into a single document and attaching the EIH to a calendar should encourage people to retain this information. This should also eliminate the criticism of the 2.206 petition that a separate fold cut map was cumbersome.

The 2.206 petition further asserts that the list of receiving schools is tentative and depends to a great extent on which way the wind is blowing. The petition also asserts that the receiving schools could be changed and be different from what is listed. FEMA Region V discussions with staff at the Perry Nuclear Power Plant revealed that the list of receiving schools is not tentative. Of course, the activation of certain receiving schools is dependent upon the parameters of any accident or event, whether at the Perry Nuclear Power Plant or as a result of a natural event such as a snowstorm, tornado, flood, etc.

Information on what receiving schools are activated would be provided over the Emergency Broadcast System (radio and television) and to the media and public through media briefings and news releases at the Joint Public Information Center once it is activated or by appropriate officials prior to activation of the Joint Public Information Center. The fact that some of these receiving schools are only a fraction more than 10 miles from the Perry Nuclear Power Plant is a concern, however.

FEMA Region V discussions with a staff member from the Perry Nuclear Power Plant indicated that the locations of the receiving schools were selected to allow for emergency actions outside the 10 mile plume EPZ, to minimize the time necessary to evacuate school children, and to allow for a logical flow of traffic out of the 10 mile plume EPZ to the receiving schools so that students can be reunited with their families who would then travel to destinations of their own choice or to a relocation (congregate care) center. It was also pointed out that, if necessary, a light snack could be provided to the students at the receiving schools, but the planning assumed the students would be reunited with their family.

In the event the students were not reunited with their family the receiving school would remain open until a specified time and then closed. Any remaining students would then be moved to a relocation center located 5 to 10 miles beyond the boundaries of the 10 mile plume EPZ. A sign would be posted on the door telling people where the students could be located.

Based on the above information, the use of receiving (staging) schools for evacuating students within the 10 mile plume EPZ is problematic for the following reasons: (1) The students may be subjected to radiological releases because of their proximity to the Perry Nuclear Power Plant; (2) If students are kept at receiving schools for a number of hours, then the receiving schools are used as "de facto" evacuation centers, without benefit of radiological monitoring, congregate care, and possibly adequate sheltering; and (3) The evacuation of the students would be based on ad hoc decisions in the event an accident at the Perry Nuclear Power Plant was so severe that receiving schools near the 10 mile plume EPZ could not be used.

The assumption underlying the evaluation criteria in Standard J (J.10.a, b., c., d., g., h., j., k., l., m., and J.12.) is that evacuation of persons and groups within the 10 mile plume EPZ would be essentially continuous from departure to their arrival at their destinations and/or relocation (congregate care) centers. The use of receiving schools (staging) within this context would entail evacuees being picked up quickly by their parents or in the absence of being picked up by their parents, moved quickly to relocation centers. Permitting students to be retained at receiving schools located only a fraction more than 10 miles from the Perry Nuclear Power Plant for possibly hours conflicts with the intent of guidance in planning standard J.

Evaluation criteria J.10.h. reinforces the underlying intent of the guidance in NUREG-0654/FEMA-REP-1, Rev.1. In requiring relocation centers to be located "at least 5 miles and preferably 10 miles beyond the boundaries of the plume exposure emergency planning zone", it is expected that evacuees would be transported as quickly as possible to relocation centers sufficiently far from the nuclear power plant to preclude or, at least minimize, the possibility of further exposures to radiological release and, therefore, the necessity to reevacuate people again.

Finally, the guidance is postulated on the basis that evacuation strategies would be preplanned from departure to arrival at relocation centers (or other destinations of choice) without reliance upon ad hoc decisionmaking as may be necessitated in the Perry evacuation strategy for students.

At least three options are available to planners from the Perry Nuclear Power Plant, the State of Ohio, and appropriate local governments to address the FEMA concern of using receiving schools just a fraction more than 10 miles from the Perry Nuclear Power Plant. First, the time interval at the receiving schools from arrival to departure for relocation centers be shortened to a period not to exceed 30 minutes. Second, the strategy could be changed to transporting students directly from schools within the plume EPZ to receiving schools/relocation centers located at least 15 miles from the Perry Nuclear Power Plant. Third, planning could call for the early dismissal of students at either the Alert or Site Area Emergency accident classification level rather than just prior to or at the General Emergency accident classification level. This, coordinated with EBS announcements, could possibly result in students being quickly picked up by their parents so that in an accident these students would not have to be evacuated a second time. Obviously, in a fast breaking accident this would not be a viable option.

The State of Ohio, appropriate local governments, and the Cleveland Electric Illuminating Company should be given 120 days to develop a schedule of corrective actions to revise their evacuation plans. This schedule should include a list of milestones for implementing the revised

evacuation plans (strategies). These planning changes would be included in the next annual revision of the State and local plans and the Perry EIH.

Whether or not the separate fold out map of Pick-Up Points, Referral Points, and Care Centers is cumbersome is an individual opinion. One could argue that it is not cumbersome and is actually beneficial to have a map of these facilities separate from a general EIH. This map is bound in the 1988 Perry EIH calendar; however, the issue can be examined by the authors of the Perry EIH when they do their annual revisions.

#### "Special Needs Information Card"

The 2.206 petition asserts that the "Special Needs Information Card" has a box marked "Special Transportation." The petition alleges that "Special Transportation" tends to connote specialized vehicles to accommodate the handicapped such as vans with chair lifts, etc. In the opinion of FEMA this may not be so. One could also conclude that an individual who does not drive or own a car would also fill out this card. It is obvious that the card, taken in total, is a request to have anyone who may require special help during an evacuation fill out this card and mail it to their County Emergency Management Agency. It should be pointed out that during the November 15, 1985, Perry radiological emergency preparedness exercise, it was determined by the Federal evaluation team that offsite governments were maintaining a current list of mobility impaired individuals and that Ashtabula, Geauga, and Lake Counties have procedures in place to evacuate these mobility impaired individuals.

#### "Public Education and Information"

Appendix C of the 2.206 petition contains the results of a survey conducted by the Concerned Citizens of Ashtabula, Geauga, and Lake Counties during the Spring and Summer of 1987. The purpose of the survey was to determine whether required decals are posted at hotels, motels, gasoline stations, and phone booths in order to disseminate to any transient population within the plume exposure pathway EPZ appropriate information that would be helpful if an emergency or accident should occur at the Perry Nuclear Power Plant.

The 2.206 petition also points out that the new telephone directory for Lake County, "Ameritech Pages Plus, 1987-88", issued August 1987, for Chesterland, Eastlake, Mentor, Painesville, Willoughby and nearby communities and the White/Yellow pages, issued by Ohio Bell, contain no information on emergency planning in the event of an accident at the Perry Nuclear Power Plant. Appendix D to the petition is a copy of last year's telephone directory which had two pages of emergency information and evacuation instructions. The petition states the absence of these pages in the above telephone directories violates NUREG-0654/FEMA-REP-1, Rev.1. planning requirements.

FEMA Region V conducted telephone discussions concerning these issues with a staff member of the Perry Nuclear Power Plant on November 24, 1987. This staff member indicated that Appendix C, in his opinion, is evidence that emergency information was distributed to hotels, motels, gasoline stations, etc., even though the number of locations in the survey that had this information available is small. In the opinion of this individual the Perry Nuclear Power Plant could not force the proprietors of these establishments to post or make available this material once it was given to the proprietors. It is the opinion of this Perry staff member that a good faith effort was made to provide this material. FEMA Region V understands this position but still encourages officials from this Perry Nuclear Power Plant and Ashtabula, Geauga, and Lake Counties to continue efforts with these proprietors so that more of them will make this material/information available.

This individual further pointed out that stickers were distributed and plastic posters for transient areas such as parks, beaches, etc., were provided to Ashtabula, Geauga, and Lake Counties. It was reported that Geauga County actually installed posters in transient areas such as parks, beaches, etc. Ashtabula and Lake Counties have their plastic posters for transient areas but they have not been installed. Ashtabula and Lake Counties intend to install plastic posters in the transient areas at the time of an accident at the Perry Nuclear Power Plant rather than have them installed now and subjected to possible vandalism. FEMA cannot accept the Ashtabula and Lake County approach for installing public information signs at the time of an accident to avoid the potential of vandalism. Ashtabula and Lake Counties should proceed to install their posters in transient areas or develop a schedule for installation within the next 120 days. FEMA believes the information contained in these signs is too critical and should be readily available in the event there is an emergency at the Perry Nuclear Power Plant.

It was also pointed out by this staff member that officials from the Perry Nuclear Power Plant were aware of the deletions of emergency information in the above telephone directories shortly after they were printed and distributed. Action was taken by officials of the Perry Nuclear Power Plant prior to receiving this 2.206 petition. It was pointed out that this emergency information material was supposed to have been printed in the telephone directories. Discussions were held between officials of the Perry Nuclear Power Plant and the appropriate telephone companies and/or printers as to why this material was not printed. Apparently no explanation was given except that it was an oversight.

It was reported to FEMA Region V that there is an oral agreement between the Perry Nuclear Power Plant and the printer(s) of the above telephone directories that the two pages of emergency information that was intended to be printed in the above telephone directories will be printed and distributed to the holders of the directories via a special mailing which will be completed in the near future.

FEMA believes that once this special mailing of two (2) pages of emergency information is completed this oversight will be corrected. FEMA recommends efforts be made to ensure this problem does not happen in the future.

"Summary"

FEMA concludes that most of the issues raised in this 2.206 petition have been addressed in the recently distributed 1988 EIH calendar. In some instances, FEMA did not agree with certain assertions in the petition. In other instances FEMA has agreed with certain 2.206 issues but does not believe that it is necessary to immediately revise and distribute another EIH.

FEMA strongly agrees with Mr. Thomas V. Chema's assertion in his November 12, 1987, letter to Ms. Connie Kline, Lake County Concerned Citizens that "greatest success for implementing your recommendations will come by working with the utility companies, counties, and State representatives." Mr. Chema also pointed out in his letter that the State of Ohio would not join in the petitioners request for action. The above was also stated by Mr. Chema in his November 12, 1987, letter to the Director, Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission. Both letters are included as Attachment 1.

FEMA recommends that the Nuclear Regulatory Commission order the Cleveland Electric Illuminating Company to address within 120 days with the State of Ohio and local jurisdictions the issue involving the receiving schools and the issue involving the installation of information signs in Lake and Ashtabula Counties.

Many of the changes suggested in the 2.206 petition have been made to the 1988 EIH calendar distributed in December 1987. In addition, the 1988 EIH calendar as written does not adversely affect public health and safety and as EPA Region V concludes, does not imminently compromise the implementation of State and local plans site specific to the Perry Nuclear Power Plant. Other revisions to the Perry EIH could take place within some reasonable time frame without consequence, e.g., during annual revisions.

This review addresses only those issues in the 2.206 petition on which FEMA offered review comments and is not based on those issues FEMA believes should be reviewed by the Nuclear Regulatory Commission. The Nuclear Regulatory Commission in their review of these 2.206 issues should make their own conclusions on whether or not to order an immediate revision and redistribution of the Perry EIH.

Attachment 1

Letter from State of Ohio, Public Utilities Commission to Ms. Connie Kline  
Letter from State of Ohio, Public Utilities Commission to NRC

Attachment 2

Letter from EPA to FEMA

ATTACHMENT 1



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:

9 8 000 1017

Mr. Dan Bement  
Federal Emergency Management Agency  
Natural and Technological Hazards Division  
175 West Jackson, 4th Floor  
Chicago, Illinois 60604

Dear Mr. Bement:

In response to your request of November 23, 1987, the Radiation Program staff of the United States Environmental Protection Agency (USEPA) Region V Office offer the following comments relating to three statements of radiological significance from the Request for Action Under 10 CFR 2.206 for the Perry Nuclear Power Plant:

On pages 14-15 of the Request the assertion is made that page 15 of Perry's booklet entitled "Emergency Preparedness Information" contains several misleading statements related to the health effects of ionizing radiation, and should be rewritten. We largely concur with these assertions. On page 15 of the booklet examples of nonionizing radiation are casually associated with ionizing radiation in a way in which a lay reader could be led to believe that they have identical health significance. Also, the notion is put forward that low exposures to ionizing radiation (background levels) are "normal", while high exposures "may be harmful to human health". This could easily be misinterpreted as stating that low exposures are safe. This misinterpretation may be carried further by the statement: "But to be safe, the law requires that people are not exposed to too much radiation", when the only numerical example of too much radiation put forth is 25,000 millirem (mrem). We feel that this section of the booklet does need to be rewritten so as to convey to the lay public a more accurate picture of current radiation protection philosophy (i.e. linear, non-threshold health effects model, principle of keeping exposure as low as reasonably achievable, known health effects of ionizing radiation, etc.) However, we feel that the lack of rigor in the current version of the booklet will not imminently compromise the implementation of the emergency plan. As such, we believe that the necessary modifications of this booklet could take place within some reasonable time frame without consequence.

On page 14 of the request, exception is taken to the statement on page 15 of the Emergency Preparedness booklet: "By law, a nuclear power plant may not expose the public to more than five millirems per year. The Perry plant will give you a dose of one or two millirems per year." We believe that the license should furnish the reference for this statement, as our own research into the legal limit for operation has not yielded a consistent answer. The USEPA environmental standard for nuclear fuel cycle facilities is 25 mrem/yr to the general public (40 CFR 190.10), but this is a limit from all nuclear fuel cycle operations (i.e., from both reactors in the case of the Perry station). The Nuclear Regulatory Commission (NRC) imposes an objective on the design of a nuclear power plant that it be built to limit population exposures to between five and ten millirems per year due to gaseous releases, however, this design objective is assigned specifically to each plant during its siting and licensing. (10 CFR 50, Appendix I, Paragraphs B1 and B2)

Finally, on page 15 of the request the assertion is made that "CEI plans to recommend evacuation only to prevent projected public exposures which will exceed ... within six hours, the annual limit of 5000 millirems for nuclear plant workers." (USEPA Region V staff would like to obtain the reference for this statement.) "And any exposure already received during the emergency, without limit, is ignored. This is allowed by EPA 520/1-75-001, which has never been justified. It was supposed to be justified by Appendix C, to be published later."

It is unfortunately true that Appendix C of EPA 520/1-75-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents", is still unpublished in final form, although a draft form of Appendix C does exist. The criticism of this fact is justified, and will be communicated to the appropriate USEPA staff. However, the bulk of the criticism in this paragraph appears to be directed at an improper and inflexible interpretation of the Protective Action Guide (PAG), presented in EPA 520/1-75-001 which applies to the general public for the purpose of avoiding unnecessary exposure from a passing plume. Moreover, the criticism is directed solely at the utility, when in fact, State and local response agencies carry the primary responsibility for using the PAG to recommend and implement protective measures such as sheltering and evacuation. A detailed understanding of the PAG may help to clear up this issue.

The PAG for the general population/plume exposure from which the State and local agencies draw guidance applies to actual or projected exposures to the general population commencing at the beginning of the accident. It does not cover population exposures occurring before the beginning of the accident which are limited to between 5-25 millirem per year by environmental standards and design objectives. The PAG is expressed as a range

-3-

of real or projected exposures over which the need for protective actions should be considered. The PAG is expressed as a range, rather than a single value, in order to give the States flexibility in their accident response. The purpose of the PAG is to guide decisions about protective actions so that they may be implemented before the exposures actually occur, i.e., while the exposures are still only projected to occur. This is consistent with the philosophy of keeping exposures as low as reasonably achievable, and at the same time, allows local constraints such as ease and economic impact of evacuation to be taken into account by response agencies.

The range of projected population exposures over which this PAG applies is 1000 to 5000 millirem. The PAG recommends that evacuation be considered when projections reach 1000 mrem (although evacuation could be recommended at lower projections depending on local and plant conditions) and that evacuation be recommended when projections reach 5000 mrem or higher.

It is thus, untrue that EPA 520/1-75-001 allows unlimited population exposure and, if it is borne in mind that the State response agency has the primary responsibility for deciding to recommend protective actions, then it follows that the criticism of the utility in this matter is largely misdirected.

Please contact us if we can be of further assistance in this matter.

Sincerely yours,

*Shirley Mitchell*

for Steve Rothblatt, Chief  
Air and Radiation Branch (5AR-26)

ATTACHMENT 2