

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION
Thomas E. Murley, Director

In the Matter of

CLEVELAND ELECTRIC ILLUMINATING
COMPANY, ET AL.

(Perry Nuclear Power Plant,
Units 1 and 2)

Docket Nos. 50-440
50-441

(10 CFR 2.206)

PARTIAL DIRECTOR'S DECISION

I. INTRODUCTION

In a petition dated September 22, 1987, Ms. Connie Kline, Ms. Theresa Burling, Mr. Russ Bimber, and Mr. Ron O'Connell, on behalf of Concerned Citizens of Lake County, Concerned Citizens of Geauga County, and Concerned Citizens of Ashtabula County (Petitioners) requested, pursuant to 10 CFR 2.206, that the U.S. Nuclear Regulatory Commission (NRC) require the Cleveland Electric Illuminating Company, et al. (CEI or Licensees) to correct alleged deficiencies in the Licensees' emergency preparedness program. Thereafter, in December 1987 portions of the Licensees' program were revised, and on April 8, 1988, the Petitioners withdrew their original contentions, but added certain new contentions based upon alleged deficiencies in the revised program. On July 25, 1988, they again added additional contentions based upon a subsequently discovered Federal Emergency Management Agency (FEMA) document.

The contentions in Petitioners' April 8, 1988 supplemental petition are addressed in this partial decision. For the reasons set forth below, I have determined that most of the deficiencies alleged by the Petitioners

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do not require correction. To the extent that deficiencies still remain, the Licensees will be directed to take necessary action.

II. BACKGROUND

On September 22, 1987, Concerned Citizens of Lake County, Concerned Citizens of Geauga County, and Concerned Citizens of Ashtabula County filed the instant petition. Their primary concern was that the 1986 Emergency Preparedness Information Handbook for the Perry Nuclear Power Plant (hereinafter referred to as "the 1986 Handbook") allegedly contained false and misleading information about nuclear power and was written in a manner which minimizes or disregards the need for emergency planning. They also believed this handbook should have been more instructive and more useable. As relief, the Petitioners requested that the NRC direct the Licensees to redistribute a corrected handbook to the public incorporating their proposed revisions. In addition to the handbook corrections, the Petitioners requested that the Licensees be required to make certain other revisions in their emergency preparedness program by changing the location of receiving schools, installing emergency signs, and correcting the emergency planning portion of local telephone directories.

On October 8, 1987, the Petitioners supplemented their original petition by forwarding several newspaper articles which they requested be included as Appendices E and F of their petition. On November 9, 1987, I

acknowledged receipt of their petition and advised the Petitioners that their allegations would be answered within a reasonable time. ^{1/}

On November 3, 1987, the NRC sent the petition to FEMA for that agency's review of the Petitioners' contentions pursuant to its responsibility to advise the NRC regarding offsite emergency preparedness issues. ^{2/}

In December 1987, the Licensees published a new emergency preparedness brochure entitled "1988 Calendar-Emergency Preparedness Information" (hereinafter referred to as "the 1988 Calendar" or "the calendar") to replace the 1986 Handbook. The 1988 Calendar was forwarded to FEMA on December 4, 1987. Subsequently, on February 26, 1988, FEMA advised the NRC that most of the alleged deficiencies in the 1986 Handbook had been rectified in the 1988 Calendar. FEMA found some deficiencies in the 1988 Calendar, but recommended that their correction could await the next annual revision to the calendar. In addition, FEMA also enclosed recommendations it had solicited from the Environmental Protection Agency, Region V (EPA), concerning those portions of the 1988 calendar relating to radiation and health effects. FEMA also recommended that the NRC order

^{1/} See 52 Fed. Reg. 43810 (November 16, 1987).

^{2/} See 10 CFR 50.54(s)(2) and (3) and Memorandum of Understanding between FEMA and the NRC (50 Fed. Reg. 15485, April 18, 1985).

the Licensees to work with the State and local authorities to address two other problem areas relating to the Licensees' emergency preparedness program. ^{3/}

On March 9, 1988, the Licensees responded to the petition by contending that the Petitioners had failed to raise a factual or legal basis for their requested relief. The Licensees also contended that most of the Petitioners' requests had been rendered moot by revisions made in the 1988 Calendar.

In a supplemental petition of April 8, 1988 replying to the Licensees' March 9, 1988 response, the Petitioners agreed that the 1988 Calendar had rectified the major deficiencies in the 1986 Handbook. Accordingly, they requested that I issue a Director's Decision only on those specified portions of the 1988 Calendar that they believed are objectionable, and they acknowledged that a ruling on all other matters was unnecessary. The Licensees responded to this supplement on August 2, 1988.

On May 6, 1988, the NRC requested FEMA to submit its recommendations for those remaining contentions listed in the Petitioners' April 8, 1988

^{3/} FEMA's recommendations were that the NRC should order the Licensees to work with State and local authorities to address issues involving the location of receiving schools and the lack of permanent emergency information signs in some locations near the Perry facility. On April 19, 1988, FEMA clarified its position on these two possible problem areas by recommending that: (1) the State of Ohio, local jurisdictions, and the Licensees should revisit, within 4 months, the existing school evacuation planning procedures involving the receiving schools with a goal of either arriving at a schedule for implementing plan changes or adopting a position on the issue, and (2) emergency information signs should be installed in Lake and Ashtabula Counties within the next 4 months or a schedule should be provided for their installation.

supplement that were within FEMA's area of expertise. On June 22, 1988, FEMA provided its response.

The Petitioners submitted a third supplement to their petition dated July 25, 1988 requesting that the recommendations of FEMA and EPA contained in the memoranda from FEMA to the NRC dated February 26, 1988 and April 19, 1988 be added to the petition. In the interest of providing a timely response to the Petitioners' concerns, I am issuing a partial decision on those issues raised prior to the third supplement to the petition. A decision on those issues raised by the third supplement to the petition, which are independent of the matters addressed in this decision, will be addressed in the final decision.

III. DISCUSSION

The Petitioners' remaining concerns, as listed in their supplemental petition of April 8, 1988, related to: (1) whether the 1988 Calendar had been distributed to businesses within the plume exposure Emergency Planning Zone (EPZ), (2) whether a page on emergency planning that had been distributed by the Ohio Bell Company to remedy omissions in the telephone book was delivered to businesses, (3) whether this same emergency planning page should have included instructions that it should be placed in the telephone book or at least be retained by the recipient, (4) whether the 1988 Calendar needs to emphasize that parents should listen to the Emergency Broadcasting System (EBS) broadcasts to confirm the location of receiving schools before picking-up their children, (5) whether the special needs information card which was enclosed with the 1988 Calendar should be postage paid and preaddressed, (6) whether the

information in the 1988 Calendar on the Three Mile Island accident tends to create complacency and should be removed, and (7) whether the 1988 Calendar properly characterizes ionizing radiation and its effects on people.

FEMA has provided recommendations in its June 24, 1988 review for issues (1) through (6) above. Issue (7) above, which is more within the NRC's area of expertise, was reviewed by the NRC staff. The FEMA and the NRC staff reviews are discussed below.

1. Whether the 1988 Calendar has been distributed to businesses within the Perry EPZ.

The Petitioners are concerned that the 1988 Calendar may not have been sent to businesses within the Perry EPZ. FEMA has investigated this issue and confirmed that businesses there received this publication. FEMA obtained this confirmation from mailing lists that it received from the Licensees and from spot-checks that it conducted in the field.

FEMA's investigation revealed that the calendars were mailed to all postal patrons in the EPZ through the services of a commercial company that used updated mailing lists obtained from the U.S. Postal Service. This mailing included an estimated 2,531 businesses plus those businesses that use a post office box or a rural route address.

2. Whether a page on emergency planning which was distributed by the Ohio Bell Company to remedy omissions in the telephone book was delivered to businesses.

The Petitioners are also concerned that an emergency planning insert to the telephone directory may not have been sent to businesses. FEMA's investigation of this issue revealed that 70,000 copies of this insert

were mailed by Ohio Bell Company to all holders of its telephone directories, to include businesses. The FEMA investigation also disclosed that a copy of this insert was delivered by Ohio Bell Company with each new directory requested until August 1988 when a new directory was issued.

Additional confirmation that businesses received this insert was obtained by spot-checks by FEMA of local businesses in the EPZ.

3. Whether this same emergency planning insert that was distributed by the Ohio Bell Company should have included instructions that it be placed in the telephone book or be kept.

The Petitioners also complain that this emergency planning insert did not have any instructions or explanations that it should be placed in the telephone book. Thus, according to the Petitioners, it is likely that recipients did not place this insert in its intended location in the directory, if they kept it at all.

Although this mailing did not specifically include instructions that the page be placed in the telephone book, FEMA's investigation revealed that adequate instructions were given to alert recipients of the importance of the insert and the need for its retention, since the envelope in which it was sent contained, in red print, the statement, "Important Emergency Information-Please Retain-." Spot-checks by FEMA's field inspectors also confirmed that the insert was being retained.

4. Whether the 1988 Calendar needs to emphasize that parents should listen to the Emergency Broadcast System (EBS) broadcasts to confirm the location of receiving schools before picking up their children.

The Petitioners contend that the handbook should emphasize that parents should listen to EBS broadcasts before trying to pick up their

school children during a radiological emergency. They base this contention on the chance that the designated receiving schools will have to be changed if they are in the path of a radiological plume during an emergency.

FEMA does not believe the handbook is deficient in its instructions about receiving schools. Although FEMA acknowledges that the location of the receiving schools that are listed in the 1988 Calendar can be changed during an emergency, it believes this list is appropriate information for the calendar since these schools are the official receiving centers which are intended to be utilized, and in all probability will be utilized, for school children during an emergency. While the calendar provides this important information, it also provides for the substitution of schools on this list by specifically instructing that local radio and television will provide the names of receiving schools during an emergency. The calendar also emphasizes in several places that the public should listen to EBS broadcasts during an emergency and "FOLLOW THE RADIO AND TV INSTRUCTIONS."

5. Whether the special needs information cards should be postage paid and preaddressed.

The Petitioners want the special needs cards which were sent with the 1988 Calendar to be postage paid and preaddressed so that their utilization will be more likely. However, there are no NRC or FEMA requirements that would require these special services, and it is a matter for State and local authorities and the Licensees to decide whether they are necessary. Nevertheless, although it is not mandatory, FEMA's recommendation that consideration be given to at least preaddressing the special needs card will be forwarded to the Licensees.

6. Whether information in the 1988 Calendar on the Three Mile Island accident tends to create complacency and should be removed.

The Petitioners claim that the information in the 1988 Calendar about the Three Mile Island accident tends to create complacency about accidents at nuclear power plants since it incorrectly states that the radiation releases which occurred at Three Mile Island were not a hazard to the public. FEMA has advised that the section of the 1988 Calendar on the accident at Three Mile Island is a factual and accurate reference to that accident and its consequences. Therefore, the representations about the accident made in the calendar could not create complacency, and they would not need to be removed.

7. Whether the 1988 Calendar properly characterizes ionizing radiation and its effects on people.

The Petitioners also allege that the 1988 Calendar encourages the public to become complacent about the dangers of nuclear power by failing to distinguish between ionizing and non-ionizing radiation. They claim, in this regard, that ionizing radiation differs from non-ionizing radiation in that it can break chemical bonds and be fatal to humans, while non-ionizing radiation is not dangerous. According to the Petitioners, the calendar inappropriately compares the radiation that can be emitted during an accident at a nuclear power plant, which would be a form of ionizing radiation, with non-dangerous, non-ionizing radiation such as heat, light, and radio waves. As a cure, the Petitioners propose changing or deleting several words and sentences and clarifying an apparent contradiction in the text which states that "people cannot see, taste, feel, hear, or smell radiation" while listing heat, light, and

radio waves as examples of radiation. The Petitioners also disagree with an assertion in the 1988 Calendar that doses of radiation less than 25 rems are harmless.

I agree with the Petitioners that the 1988 Calendar fails to properly characterize the ionizing radiation that can be emitted by a nuclear power plant by inappropriately comparing it with certain types of non-ionizing radiation. In addition, I conclude that portions of the statement that "people cannot see, taste, feel, hear, or smell radiation" are inaccurate since people can obviously see light and feel the heat resulting from infrared radiation.

I further find that the references to 25 rem in the 1988 Calendar is inaccurate. Although there is scientific and academic controversy in the area of health effects of low doses of ionizing radiation (i.e., 0.1 to 50 rem), ^{4/} there is substantial scientific evidence that whole-body doses as low as 10 rem can produce chromosome breaks, and deleterious genetic effects can be associated with such breaks. ^{5/} Furthermore, I find it inappropriate in a public information brochure of this kind to burden the public with scientific detail of a complex and controversial nature, especially when such detail is unneeded as information for the public's response to accidents.

^{4/} In the area of radiobiology at low doses, the spectrum of scientific beliefs ranges from beneficial effects such as the lengthening of life to detrimental effects such as undesirable genetic mutations and carcinogenesis.

^{5/} See: Lloyd, "An Overview of Radiation Dosimetry by Conventional Cytogenetic Methods," at 7, 11-12, Biological Dosimetry (1984).

Although portions of the 1988 Calendar are thus incorrect, the remedy is not deleting information about the nature of ionizing radiation and its possible health effects since such information may be helpful for public understanding of the need to take appropriate action during a nuclear power plant emergency. However, the public should be provided educational materials on this subject in language that is both understandable to the layman and is scientifically accurate. These materials should not raise complex scientific issues, but should provide the lay reader with an appreciation of radiation and its possible health effects in a practical sense. The Licensees have appropriately limited the scope and level of sophistication in this section of the calendar, but, as noted above, has missed the mark on scientific accuracy. These inaccuracies are not so egregious, however, as to warrant correction before the next annual revision of the public information brochure/calendar. Accordingly, the Licensees will be advised to ensure that, in future revisions of this publication, the information concerning ionizing radiation and its health effects is practical and understandable to the layman as well as scientifically accurate. ^{6/}

^{6/} In arriving at this decision, I have given full consideration to the EPA Region V comments and recommendations on radiation and its health effects, dated December 28, 1987, that were based on a review of the 1986 Handbook and were attached to the February 26, 1988 FEMA response. (FEMA noted that the changes in the calendar did not substantially change the basis of the EPA Region V comments and recommendations that were based on the 1986 Handbook.) Specifically, the EPA Region V found that the 1986 Handbook contained misleading statements regarding the characterization of ionizing radiation and the associated health effects. It concurred with the Petitioners that (1) these misstatements should be corrected, and recommended

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IV. CONCLUSION

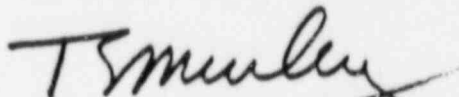
The Petitioners seek certain specified improvements in the public information published on emergency preparedness for the Perry Nuclear Power Plant. For the reasons discussed above, I find no substantial basis for issuing an order requiring the actions requested and, therefore, the petition is denied. However, the Licensees will be advised, for their next and succeeding public information publications, to clarify the sections on

(FOOTNOTE CONTINUED FROM PREVIOUS PAGE)

that (2) the handbook should be rewritten to convey to the lay public a more accurate picture of the current radiation protection philosophy to include certain technical concepts such as the linear, non-threshold model of health effects, the principle of keeping exposure as low as reasonably achievable, and the known health effects of ionizing radiation, and (3) the Licensees should provide a reference to a statement in the 1986 Handbook that nuclear power plants are not permitted to expose the public to more than five millirems per year and that the Perry plant only gives doses of one or two millirems per year to members of the public. I have addressed the EPA Region V recommendations (1) and (2) in the above discussion. With regard to recommendation (2), I would point out that EPA appears to recommend that a number of scientific concepts be included in the handbook (e.g., linear, non-threshold health effects model, principle of keeping exposure as low as reasonably achievable, and known health effects of ionizing radiation). However, such detailed information would be inappropriate in a document of this type since it would not be readily understood by a layman. In this regard, FEMA has advised that information in public information brochures should be easily understood and not overly technical, if it is to be of value to the public during an emergency. See FEMA REP-11, "A Guide to Preparing Emergency Public Information Materials," at p. 18 (September 5, 1985). With regard to recommendation (3), no reference for offsite doses is necessary since the Licensees have informed the NRC staff that all representations concerning offsite doses during normal operation are being deleted from their 1989 public information brochure.

ionizing radiation and its possible health effects and to consider at least providing preaddressed special needs cards. To the extent this relief grants some of the Petitioners' requests, the petition is granted. As provided in 10 CFR 2.206(c), a copy of this decision will be filed with the Secretary of the Commission for the Commission's review.

FOR THE NUCLEAR REGULATORY COMMISSION



Thomas E. Murley, ~~Director~~
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland
this 16th day of September, 1988