

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD 1986 APR -4 P4:40

OFFICE OF REGULATORY
DOCKETING & SERVICE
BRANCH

In the Matter of)

) Docket Nos. 50-456-OL

COMMONWEALTH EDISON COMPANY)

) 50-457-OL

(Braidwood Station, Units 1 and 2))
_____)

APPLICANT'S PROPOSED PARTIAL
INITIAL DECISION (EMERGENCY
PLANNING ISSUES)

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Pursuant to 10 C.F.R. § 2.754, Commonwealth Edison Company ("CECo" or "Applicant") hereby files this Proposed Partial Initial Decision (Emergency Planning Issues). This Proposed Partial Initial Decision is presented in six parts: I) Introduction; II) Opinion; III) Conclusion; IV) Order; V) Findings of Fact; and VI) Conclusions of Law. 1/

I. INTRODUCTION

These proceedings commenced with a December 15, 1978 "Notice of Receipt of Application for Facility Operating Licenses; Notice of Consideration of Issuance of Facility Operating Licenses; Notice of Availability of Environmental Reports; and Notice of Opportunity for Hearing." 43 Fed. Reg. 58659 (December 15, 1978). The Braidwood Station will consist of

1/ Enclosed also is a set of Appendices to this Proposed Partial Initial Decision consisting of A) an Exhibit List; and B) a Witness List.

two pressurized water nuclear power plants each having a core power level of 3411 megawatts thermal with an electrical output of 1120 megawatts electric. The Station is located in Reed Township, Will County, Illinois. Id.

Pursuant to 10 C.F.R. § 2.714, Petitions for Leave to Intervene were timely filed by Bridget Little Rorem and Applesseed (Intervenor) and Niener Farms. After negotiations among the parties, Intervenor Rorem's Contention 1 ("Intervenor's Contention 1" or "Contention 1"), which raised contested issues concerning emergency planning for Braidwood Station, was admitted for litigation. 2/ As admitted for litigation, Intervenor's Contention 1 reads as follows:

Intervenor contends that an adequate plan for the Braidwood Station should include the following:

- a) a program for informing the public within 10 miles of the Station of the means for obtaining instructions for evacuation or other protective measures in the event of a radiological emergency originating at the Station.
- b) assurance that institutions within 10 miles of the Station, such as the federal prison in Joliet, hospitals and nursing homes, can be evacuated or adequately protected in the event of a radiological emergency.
- c) a suitable plan for providing medical treatment to operating personnel who might be exposed to radiation in the

2/ Niener Farms Contention 3, which also addressed similar emergency planning issues, was admitted for litigation but was subsequently the subject of Neiner Farms' April 30, 1985 Motion to Withdraw that contention. By Order dated May 8, 1985, the Atomic Safety and Licensing Board (the Board) granted that motion and dismissed Niener Farms Contention 3.

event of an accident, including transportation to medical facilities equipped to treat radiation casualties.

On June 11, 1985, the Applicant filed a Motion for Summary Disposition of Contention 1(c) (Medical treatment of operating personnel). On August 1, 1985, the Board granted Applicant's Motion. Prehearing Conference Order, August 1, 1985 at 2-3. 3/

As admitted for litigation, Intervenor's Contention 1(a) challenged the adequacy of the Braidwood Station programs for informing the public in the event of a radiological emergency at the Station. Both Applicant and Staff sought discovery to define the exact scope of this Contention, and thus enable themselves to respond directly in evidentiary presentations. During discovery, as well as in response to Board questions during a Prehearing Conference held on July 23, 1985, Intervenor gave no indication that this Contention related to public education and information programs during an emergency, as distinct from prior to an emergency. 4/

3/ The Board also requested that Applicant file affidavits setting forth whether Applicant should make backup arrangements for medivac helicopter service for site personnel. On August 6, 1985 Applicant filed the requested affidavits. The Board is satisfied with Applicant's response and no issues remain for resolution under or related to Contention 1(c) in these proceedings.

4/ Board Memorandum and Order, October 18, 1985 at 4-5. During her deposition, Intervenor was asked whether in Contention 1(a) she was referring to education before an accident occurs. Intervenor responded, "Absolutely." (Deposition Transcript May 21, 1985, p. 45).

On August 15, 1985, Applicant submitted a motion to the Board requesting an order particularizing Contention 1(a) and limiting the scope of the Contention to pre-emergency public education and information programs. On August 28, 1985, after discussions among Intervenor, the NRC Staff, and Applicant, the NRC Staff filed a stipulation with the Board that modified the wording of Contention 1(a) and limited its scope to pre-emergency public education and information. 5/ During a prehearing conference on September 30, 1985, Intervenor informed the Board that she did not agree with the proposed stipulation, 6/ and that she intended to raise matters regarding the dissemination of information during an emergency. 7/

By letter dated October 8, 1985, Intervenor responded to Applicant's Motion to Particularize Contention 1(a). In her response, Intervenor failed to specifically address any of the matters raised in Applicant's Motion, but asserted that "public notification activities at the time of an accident should not be excluded from consideration." 8/

On October 18, 1985, the Board issued a Memorandum and Order granting Applicant's Motion to Particularize Rorem Contention 1(a). In its Order, the Board held that Contention

5/ Although the stipulation had not been executed by Applicant or Intervenor, it had been circulated to them for execution.

6/ Transcript of Telephone Conference Call, September 30, 1985 at 22-23.

7/ Id. at 27-28.

8/ Intervenor's letter, dated October 8, 1985.

1(a) should be limited to the pre-emergency public education and information programs. The Board's ruling limiting the scope of Contention 1(a) was based upon Intervenor's failure to disclose her case prior to the deadline for filing testimony:

We make no attempt to speculate about Ms. Rorem's understanding of the contention when it was offered by her and adopted by the Board. Nor do we attempt to inhibit Ms. Rorem from presenting her case through the examination of Applicant's and Staff's witnesses, rather than of those she might bring forward herself. Even if, however, she had intended to make her direct case through the examination of adverse, hostile, or independent witnesses who were being offered by other parties to testify only on other matters, she had an obligation to disclose her case before the deadline on offering pre-filed direct testimony had passed. Similarly, any intention to pursue areas other than pre-accident information programs should have been disclosed during discovery in the face of the concerted effort by Applicant and Staff to search out her case.

She filed no statement with the Board regarding her direct case by the deadline for prefiling direct testimony. Nor did she indicate any specific concern during discovery of matters other than pre-accident information programs. Moreover, Intervenor failed to disclose any other issues at the July 23, 1985 prehearing conference, called, in part, to consider the "[s]implification, clarification, and specification of the issues." See 10 C.F.R. § 2.752(a)(1). 9/

Nonetheless, the Board also stated that it would reconsider its decision if "Intervenor attempts [to come] forward with evidence of alleged deficiencies in the program for notification of the public at the time of the accident." The Board

9/ Board Memorandum and Order, dated October 18, 1985, at 4-5.

further held that Intervenor's burden of coming forward with evidence must be met by an Offer of Proof. 10/ On October 25, 1985, Intervenor filed a pleading with the Board which advanced seven alleged deficiencies.

Thereafter, evidentiary hearings on Contention 1(a) (limited to pre-emergency public notification programs) were held in Joliet, Illinois on October 29, 1985. After argument during the October 29, 1985 hearing, the Board ordered the Applicant and Staff to respond to Intervenor's October 25, 1985 Offer of Proof, as follows:

What the Board is going to do now is reserve its decision on the offer of proof, and that is on the motion for reconsideration of its order, and allow the parties to respond -- that is, the Staff and Applicant, to respond to what is in effect a motion for reconsideration in the form of an offer of proof, and I will put the burden on both parties, Staff and Applicant, to raise specifics with regard to the offer of proof, and I mean evidentiary -- through substantive specifics. 11/

Later during the hearing, the Board clarified its order and required Applicant and Staff to file responses in the nature of motions for summary disposition of the seven items raised by Intervenor. 12/ Thereafter, Intervenor was to submit a reply.

10/ Id. at 2.

11/ TR 422.

12/ Id. at 423.

On December 4, 1985 and December 19, 1985, Applicant and Staff, respectively, responded to Intervenor's Motion for Reconsideration of Offer of Proof in the form of motions for summary disposition, with accompanying affidavits. On January 21, 1986, Intervenor, after obtaining an extension of time, filed a Reply to Applicant's and Staff's Motions for Summary Disposition on Offer of Proof Issues. 13/ On February 3, 1986, the Board issued an order admitting Offer of Proof issues 2, 3, 4 and 6, but restricting those issues to the material facts stated in Intervenor's January 21, 1986 Reply.

Pursuant to the Board's February 10, 1985 Notice of Hearing, evidentiary hearings were held on March 11 and 12, 1986 in Joliet, Illinois on all remaining emergency planning issues. The Board concluded all hearings on Intervenor's Contention 1(a), Contention 1(a) (Offer of Proof) and Contention 1(b), and closed the record on March 12, 1986.

The decisional record in the emergency planning portions of this proceeding consists of:

- (a) the Notice of Hearing;
- (b) the material pleadings filed herein, and the Orders issued by the Board during the course of the proceeding;
- (c) the Exhibits received into evidence as indicated in Appendix A hereto; and

13/ In her Reply, Intervenor conceded dismissal of her October 25, 1985 Offer of Proof issues 5, 7 and 8.

(d) the transcript of the hearings held on October 29, 1985 and March 11-12, 1986 (witnesses who testified listed in Appendix B hereto).

In making its findings in this proceeding, the Board considered the entire record and all of the proposed findings submitted by the parties. Each of the proposed findings which is not incorporated directly or inferentially in this Partial Initial Decision is rejected as being unsupported in fact or in law or as being unnecessary to the rendering of this initial decision.

II. OPINION

This opinion will address Intervenor's: a) Contention 1(a) (Pre-emergency Public Notification); b) Contention 1(a) (Offer of Proof); and c) Contention 1(b).

A. CONTENTION 1(a) (PRE-EMERGENCY PUBLIC NOTIFICATION)

The emergency plan for Braidwood Station consists of an offsite plan (the Illinois Plan for Radiological Accidents ("IPRA")), and an onsite plan (Commonwealth Edison's Generating Stations Emergency Plan ("GSEP")). IPRA is organized into two major elements: the State General Plan (Volume I) and the site specific plans (Volumes II through VIII), where Volume VII covers Braidwood Station. IPRA Volume VII is accompanied by a set of Standard Operating Procedures ("SOPs") which provide detailed guidance to responsible officials with respect to such matters as notification, traffic control, sheltering, evacuation and re-

entry. The GSEP contains onsite emergency planning information applicable to all of CECO's nuclear power plants, and site specific information is provided in the Braidwood Annex to the GSEP. Findings 1-5.

In the event of an emergency, IPRA provides for response mechanisms at the State, county, and municipal levels of government. At the State level, the Governor will be the ultimate decision-maker for the overall emergency response. Under the Governor, the Illinois Emergency Services and Disaster Agency ("IESDA") and the Illinois Department of Nuclear Safety ("IDNS") will handle, respectively, the operational aspects and the radiological and technical aspects of State emergency activities. In the event of a nuclear emergency, IESDA is responsible for overall coordination of the operational response functions at all levels of government. During an emergency, IDNS and IESDA will maintain contact with CECO officials to ensure that the status of the plant, and its potential or actual radiological impact, are fully understood. Other responsible Illinois State agencies, including the Illinois State Police, Department of Transportation, Environmental Protection Agency, Department of Conservation, and the Commerce Commission, will provide assistance. Findings 6-11.

At the county level, the overall emergency response objective will be to implement the State's overall direction to protect the public health and safety. Each county has established a county Emergency Operations Center ("EOC"). Emergency

activities will be directed in each county EOC by the county Board Chairman, and coordinated by the county ESDA Coordinator. The county EOCs are in turn responsible for coordinating with municipal EOCs. Finding 12.

At the municipal level, emergency activities will be coordinated in municipal EOCs under the respective mayors or village presidents. The municipal EOCs are responsible for ensuring that the local emergency response organizations such as the fire department, police department, school superintendent and others perform their respective duties. Finding 13.

Contention 1(a) states:

Intervenor contends that an adequate emergency plan for the Braidwood Station should include the following:

- (a) A program to periodically inform the public within the plume exposure pathway Emergency Planning Zone (EPZ) on how they will be notified and what their initial actions should be in the event of a radiological emergency originating at the station.

By Order dated October 18, 1985, the Licensing Board initially limited the scope of this Contention to the pre-accident public education and information program.

During the hearings held on October 19, 1985, the Applicant and the Federal Emergency Management Agency ("FEMA") presented extensive pre-filed testimony concerning the programs for pre-emergency public notification for Braidwood Station. This testimony described the logical structure, format and contents of the principal mechanism for pre-emergency public

notification - The Emergency Information Booklet, Braidwood Station, August, 1985, and showed that it was substantially in accordance with the applicable NRC/FEMA regulatory guidance document, NUREG-0654 FEMA Rep. 1, Rev. 1 ("NUREG-0654"). Further, this testimony showed that the mechanisms in place for distribution of the Booklet were appropriate, and when considered together with the additional means established for public notification under the Braidwood Emergency Plan (e.g., Prompt Alert and Notification System and advance planning for news media), the Braidwood Emergency Plan provides adequate means for coordinated dissemination of information to the public. Findings 15-52; 10 C.F.R. § 50.47(a)(7).

Intervenor presented no countervailing evidence and elected to proceed entirely by way of cross-examination. Intervenor's questioning focused primarily on the absence of language in the Braidwood Emergency Information Booklet concerning: a) respiratory protection measures that might be taken by the public in the event of an emergency; and b) the fact that the principal risk in a radiological emergency would arise from an airborne radioactive plume that would be carried in the prevailing wind direction away from Braidwood Station. Intervenor has urged that an adequate Booklet must contain language addressing each of these matters.

In regard to respiratory protection language, it was noted during the questioning that previous emergency information booklets prepared by the Applicant for certain of its other

nuclear power plants had contained statements regarding the use of handkerchiefs or other protective masks as a means of respiratory protection in the event of an emergency. Because this statement was not included in the Braidwood Booklet, the Board requested CECO to provide the Board with information explaining "why this particular provision was deleted from the current brochure when it appeared in the Company's prior brochures." TR 562.

As explained in Applicant's January 10, 1986 affidavit submitted in response to the Board's request, the decision not to include the respiratory protection statement in the Braidwood Booklet was based upon four factors. First, respiratory protection would be useful in only a relatively small number of accident scenarios involving offsite particulate releases. Second, the use of a hand-held protective mask would provide only limited and uncertain protection even where particulates are released. Third, the use of protective masks could hinder or delay evacuation. And finally, such an instruction might create a false sense of security and could result in persons within the EPZ taking unnecessary risks or delaying evacuation. Based on these factors, the Applicant believes that instructions on respiratory protection should not be given as a routine matter. Rather, if such instructions should become necessary and appropriate, they should be given specifically at the time of an emergency. Finding 20; See Consumers Power Co., (Big Rock Point Plant), LBP-84-38, 20 NRC 1019, 1024 (1984).

Recently, FEMA issued a Policy Statement on Respiratory Protection, concurred in by the NRC, in which FEMA found that instructions on respiratory protection are not required by NUREG-0654 Section G.l.c. and that the absence of such language would not render a booklet inadequate. Although FEMA recommends that some instruction on respiratory protection be included in booklets, FEMA recognizes that such language might be inconsistent with the policy of local or state jurisdictions and might confuse rather than inform the public. In this case, the State of Illinois believes that inclusion of respiratory protection instructions, as a routine procedure, would tend to confuse rather than inform the public and should not be included in the Booklet. Of course, if the specific circumstances warrant, language on respiratory protection can be added by the State of Illinois to the Emergency Broadcast System ("EBS") messages at the time of an emergency. Finding 21.

The Board finds that the respiratory protection statement in question was properly deleted from the Booklet on reasonable technical grounds. The deletion was consistent with the policy of the State of Illinois and does not contravene the requirements of NUREG-0654, Section G.l.c. Finding 22.

In regard to the plume language, it was noted during questioning that the Braidwood Emergency Information Booklet does not contain any explicit mention that the most likely form of radiation in the event of an accident at Braidwood Station would be in the form of a cloud or plume moving in the prevailing wind

direction. Although such language is not necessary in order to ensure that persons who are instructed to evacuate actually follow those instructions, language describing the plume might enhance the Booklet. Finding 27.

While FEMA does not believe that the discussion of the plume in the Booklet is an essential or necessary condition for adequate emergency planning or an adequate plan, Applicant has nevertheless committed to modify the language of that Booklet in its next scheduled issuance to include the following language as the last full paragraph of Section 8:

If a nuclear plant accident were ever to occur, teams of specially-trained personnel would be sent to get even more detailed radiation readings all around the plant. In most cases, there would be no excessive radiation. If the accident were serious, and could expose members of the public to 100 millirem or more of radiation, state plans call for protection of the public by taking shelter indoors or by evacuation. The most probable form of radiation which would be found beyond the plant boundaries would be contained in a cloud or plume. This cloud would move in the prevailing wind direction and would dictate the areas for potential shelter or evacuation recommendations.

The Board finds that the above language is appropriate and that it conclusively resolves the issue. Finding 28.

B. CONTENTION 1(a) (OFFER OF PROOF)

The Board's January 31, 1986 Memorandum and Order admitted for litigation under Contention 1(a) four additional issues (Offer of Proof Issues 2, 3, 4, and 5), but limited those issues to the matters specifically alleged by Intervenor's

January 21, 1986 Reply to Applicant and NRC Staff Motions for Summary Disposition on Offer of Proof Issues ("Reply").

Memorandum and Order, dated January 31, 1986, at 11. This Opinion will address each of these Offer of Proof issues in numerical sequence.

Offer of Proof Issue 2 states:

Applicant must develop and demonstrate its capability to provide, through scripts and/or other media information, substantive emergency information to adequately inform the public of emergency information in the event of an accident at the Braidwood Station through all radio, TV or EBS stations in the ingestion pathway zone, so as to enable the public to effectively evacuate in the event of an emergency and to effectively re-enter the affected zone in the event of an emergency.

Intervenor has advanced four specific issues under Offer of Proof Issue 2. The first such issue is as follows:

None of the shelter or evacuation recommendation messages contained in those two volumes of the State plan contain general instruction as to what action to take, or what provisions will be made if you or a member of your household is at a recreational site at the time these messages are broadcast. (IPRA, Vol. 1, Ch.2; VII, SOP 8).

The pre-scripted shelter or evacuation messages contained in IPRA provide explicit instruction as to what action persons should take if they are at a recreation area at the time such messages are broadcast over the EBS. In the event that there is an emergency at Braidwood Station that results in a "take shelter" or "evacuate" recommendation by the Governor of Illinois, the Prompt Notification System (PNS) would be activated

and a siren alert tone would be heard through the 10-mile plume exposure pathway Emergency Planning Zone ("EPZ") for Braidwood Station. Persons hearing the siren alert tone would seek sources of information, including responsible recreational area personnel who have and are familiar with the Braidwood Emergency Information Booklet. In addition, the EBS station would broadcast pre-scripted messages advising persons within the EPZ to undertake protective actions consisting of either sheltering or evacuation. Findings 59-63.

In regard to recreational areas, the sirens are equipped with a public address capability over which the responsible county would broadcast pre-scripted messages. 14/ Mobile public address systems will supplement this capability. These messages direct evacuation as the appropriate protective action for both "take shelter" and "evacuate" conditions. IPRA provides county Emergency Services and Disaster Agency (ESDA) Coordinators with a call list to contact responsible persons at each recreational area within the EPZ and inform them of the evacuation recommendations. Signs will be offered to each recreational area that will direct persons in those areas to tune in their radios to the EBS station in the event of a public notification of an emergency. Additionally, traffic and access control posts will direct persons out of the area and preclude

14/ The sirens around three recreational areas do not need public address capability because of their characteristics, location, or usage. These three areas, however, are covered by siren alert tones. Finding 135 and accompanying footnote.

persons from entering the affected area. While it is possible that some individuals will not be reached with messages and information in recreational areas, FEMA considers this to have a very small probability. Based upon personal observations and the Braidwood Station emergency exercise, FEMA has verified that these plans can be carried out and that responsible individuals are cognizant of pertinent emergency planning matters. FEMA's view establishes a rebuttable presumption that the plans can be implemented, and there is no reliable evidence in the record to the contrary. 10 C.F.R. § 50.47(a)(2). Accordingly, the provisions of IPRA for notifying persons in recreational areas assure that adequate protective measures can and will be taken in the event of a radiological emergency. Findings 59-65; see Findings 67-69, 89, and 133-142.

The second issue raised by Intervenor in regard to Offer of Proof Issue 2 is as follows:

None of the shelter or evacuation recommendation messages contained in the State plan provide instruction as to what to do if you are a transient in the EPZ at the time of an emergency and you do not have a home, workplace, or home or business of a friend in which to shelter, or other fixed location. (IPRA, Vol. 1, Ch. 2; Vol. VII, SOP-8).

The PNS alert tone and EBS messages will alert transients within the EPZ of an emergency and inform them regarding shelter and evacuation recommendations. Traffic and access control posts will require them to leave the affected area and prevent their entrance into that area. Vehicles with public

address systems will be deployed within the EPZ to provide an additional source of notification and information. Under IPRA, county ESDA Coordinators will notify all special facilities within the EPZ of the emergency, including facilities where transients are likely to be found (recreational areas, hotels, motels, etc.). With the exercise of common sense, transients in the affected area can be expected to seek shelter in public buildings. Based upon the Braidwood Station emergency exercise, FEMA has confirmed that the provisions of IPRA for notification of transients within the EPZ are adequate and will be implemented to permit adequate protective actions for such persons. 10 C.F.R. § 50.47(a)(2). This Board is not required to determine that the IPRA addresses every possible circumstances or scenario that may arise during an emergency, nor is it required to find that every transient would be covered in all cases by the plan. The ultimate question is whether adequate protective measures can and will be taken, and the record here answers that question in the affirmative. Findings 67-69; Southern California Edison Co. (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-83-10, 17 NRC 528, 533 (1983).

The third issue raised by Intervenor with respect to Offer of Proof Issue 2 is as follows:

The information provided in the shelter and evacuation recommendation messages concerning school children, nursing home patients and hospital patients is not sufficient to deter individuals responsible for those persons from going to or calling the facilities. The information provided reads, "All school children, nursing home residents and hospital

patients are being attended to by trained personnel. There is no need to go there to pick anyone up." As read, the statements provide no assurance to the listener that the facilities will assume full responsibility for the sheltering and evacuation of persons at their location, or that trained personnel will accompany persons throughout the emergency. The statements also fail to deter in that no explanation is given to persons as to why they should not call or go to the facilities. (IPRA, Vol. 1, Ch. 2; Vol. VII, SOP-8).

The EBS messages broadcast by the Governor and the counties expressly state that school children and nursing home residents are being well attended to by trained personnel, that there is no need to go to such locations, and clearly warn against entry into the affected areas. In addition, these messages instruct persons to leave telephone lines free for emergency use. The counties' EBS evacuation messages specifically identify the shelters outside the EPZ to which each school is being evacuated. The Braidwood Emergency Information Booklet warns individuals not to attempt to pick up children or other persons at schools, hospitals, campgrounds, or nursing homes, and that if they attempt to do so, they will probably miss connections. The Booklet also instructs persons not to use the phone unless they have a special emergency at their own location. This information, coupled with the description of the nature of the emergency contained in the EBS message and the presence of traffic and access control posts, provides reasonable assurance that persons will be deterred from attempting to go to or call schools or nursing homes in the EPZ. Findings 71-74. It is

difficult for this Board to conceive of what more the IPRA might provide by way of deterrent, and it is sufficient that Applicant has shown that a reasonable planning basis exists to address this issue. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-85-12, 21 NRC 644, 653-54 (1985).

The fourth matter raised by Intervenor in its Reply with respect to Offer of Proof Issue 2 is as follows:

The evacuation recommendation messages in IPRA, Vol. VII, SOP-8, Attachment C include the instruction directing persons to proceed to the most convenient congregate care shelter in the assigned host community to which they evacuate, or ". . . If you have friends or relatives residing at least twenty miles away from you in one of the general directions to be used in your evacuation, you may elect to go there . . .". The Fairrow affidavit discusses and describes the re-entry recommendation messages to be found in SOP-11, "Braidwood Station EPZ Re-entry." Broadcasting of the evacuation recommendation messages will result in the locating of evacuees to rural areas of the counties and throughout entire host communities, as well as to congregate care shelters in those communities. No provision is made in SOP-11 for the release of the re-entry messages by Media stations throughout the Braidwood ingestion zone so as to assure that persons who are sheltered in private homes and rural areas as well congregate care shelters in host communities, will receive notification of the re-entry recommendations. SOP-11 assigns Grundy, Will and Kankakee ESDA county coordinators responsibility for public re-entry, notification, in conjunction with the Joint Public Information Center (JPIC). The additional cooperation of the Livingston, LaSalle, Kane, and Kendall county ESDA coordinators would have to be obtained to ensure notification of all evacuees. A media contact list for each county would also facilitate effective notification. (Fairrow affidavit, pages 7-8; SOP-11).

The designated EBS stations, which are located outside the EPZ, will broadcast re-entry information. Other EBS stations outside the EPZ (and covering Livingston, LaSalle, Kane and Kendall Counties) will monitor the designated EBS stations and automatically re-broadcast re-entry information. The Regional IESDA Coordinator will disseminate information to ESDA Coordinators in the surrounding counties who will, in turn, coordinate the provision of re-entry recommendations to individuals evacuated to their counties. Although the State maintains a media contact list by municipality, the IPRA does not and need not rely upon the media, other than the EBS stations, to disseminate re-entry information. Press releases will, however, be issued by the State to the general media when it is safe to re-enter affected areas within the EPZ. Accordingly, IPRA provides adequate means for dissemination of information concerning re-entry to persons at shelters, including private homes, outside the EPZ. Findings 76-78.

"Offer of Proof" Issue 3 states:

Applicant must demonstrate its capability to adequately inform residential and transient populations within the EPZ in the event of an emergency so as to enable the populations to effectively evacuate or shelter including development of the specific means and content of such communications to specific populations.

With respect to Offer of Proof Issue 3, Intervenor specifically alleged the following:

The warning messages to be broadcast over the electronic siren public address system and over mobile public address systems, as

contained in IPRA-Braidwood SOP-6, are deficient in that they contain no instruction as to how to shelter. The public address warning scripts assume listeners have radios available to them that they can use to tune into the designated EBS station. The scripts contain no instruction as to what action persons should take if they have no radio available to them. The warning scripts should contain a standard instruction which can be adapted to each location addressed, to indicate the closest location or authority persons can request additional information from concerning sheltering or evacuation. (IPRA, Vol. VII, SOP-6, Attachments C and D).

On the basis of this record, specific sheltering instructions for the electronic and mobile public address systems do not seem necessary. Pre-scripted warning messages for the counties to broadcast over the electronic siren public address systems are provided in IPRA for both take shelter and evacuation conditions, and under either condition, the messages direct evacuation as the appropriate protective action. The electronic siren warning messages inform listeners that the Governor has recommended that the facility where they are located is being evacuated and that they should proceed to their vehicles and prepare to evacuate even if the Governor's recommendation is to take shelter. Listeners are instructed to tune their radios to the EBS station. The mobile public address warning scripts advise listeners of the protective action recommendation and to tune to the EBS station. Traffic and access control posts will be established to direct persons away from areas of risk. Implementation of the above-described measures has been confirmed by FEMA through the Braidwood Station emergency exercise.

Accordingly, the provisions of IPRA for warning messages to be broadcast over the electronic siren and mobile public address system are adequate. Finding 89. In addition, the Braidwood Booklet distributed to all residents within the EPZ provides clear instructions as to the actions to be taken in the event of a take shelter or evacuation recommendation. Findings 16-18, 24.

"Offer of Proof" Issue 4 states:

The program for notification of the public at the time of an accident is deficient in that it provides no means of informing employers in the EPZ as to what actions they should take with respect to facility shutdown, sheltering, or the release of employee personnel in the event that evacuation is required.

Intervenor's Reply with respect to Offer of Proof Issue 4, specifically alleged the following:

IPRA, Vol. VII, SOP-8, "Sheltering and Evacuation, General Population," Section 4.1(E)1, assigns county ESDA coordinators to, "coordinate with the municipal ESDA Coordinators/Mayors to determine that provisions are being made to shelter or evacuate the affected transient populations." (including major industries) SOP-8 contains no other provisions with respect to employers. IPRA, Vol. VII, SOP-10, Sheltering, Evacuation, Re-entry - Special Concerns," contains no provisions with respect to employers. There are no provisions in the Braidwood emergency plan regarding employers except the provision in SOP-8 and the listing of employers attached to SOP-8. IPRA, Vol. VII, is deficient in that it contains no provision for a short instruction message to be given to employers at the time they are contacted in accordance with SOP-8, to inform them as to what actions they should take with respect to facility shutdown (i.e., whether they should close down the facility, or take steps to just minimize operations to avoid damage to equipment or machinery if required.) sheltering (i.e., where best location to

shelter, and best means to prevent ingress) and the release of employee personnel in the event that evacuation is required.

Evacuation and take shelter recommendations for employers are generally the same as for the general public. Employers would receive notification of protective action recommendations through the PNS and the EBS. In addition, IPRA also provides that county and municipal officials are responsible for notifying employers of take shelter or evacuation recommendations for affected "special facilities", which include industries in the EPZ with over twenty-five (25) employees. IPRA, SOP-8, Attachments F, G, and H identifies 17 industries in the Braidwood EPZ that constitute special facilities, exclusive of the Braidwood Station. With respect to provisions for shutdown of such facilities, employers are in the best position to determine the most appropriate actions to minimize damage to equipment or machinery. IESDA surveyed the shutdown times of these facilities. Based on that survey, 16 of 17 facilities can be shutdown without damage to the facilities within 60 minutes, and one, which operates only during the day, can be shutdown within 90 minutes. Training is available to employers on request and Applicant and IESDA have an organized program for encouraging participation in planning and training. FEMA has reviewed and confirmed the adequacy of the provisions in IPRA for notifying employers. The Board concurs. Findings 92-94.

"Offer of Proof" Issue 6 states:

Applicant's public information program is deficient in that it fails to set out the means by which the public will be informed during an emergency of re-entry protective measures to be followed by the public in an emergency and the content of such means with respect to information concerning decontamination and interdiction of foodstuffs, water supplies, dairy and livestock, and field and garden crops.

Intervenor's Reply with respect to Offer of Proof Issue

6, specifically alleged that:

a. IPRA-SOP-11 contains no information or instructions concerning how to deal with decontamination and interdiction of foodstuffs, water supplies, dairy and livestock, and field and garden crops, except the provision that additional instructions may be provided concerning them at the time of re-entry. (IPRA, Vol. VII, SOP-11)

b. IPRA, Vol. VII, SOP-11 contains no information or instructions concerning the information described in material fact one from the Illinois Department of Agriculture, Illinois Environmental Protection Agency, or the Illinois Department of Public Health. A short instructional statement should be included in the re-entry message of SOP-11 to state that information regarding decontamination and interdiction of foodstuffs, water supplies, and care of affected air and livestock, will be provided to persons in the affected areas via EBS stations or contact from authorities, if required. The statement should also indicate information would also be provided concerning field and garden crops. (IPRA, Vol. VII, SOP-11)

Because the choice of the appropriate re-entry protective measures is dependent on a number of incident specific variables, such as the type of radiological release and weather conditions, it is neither feasible nor necessary to pre-script such information in re-entry messages. Such information, however,

will be provided both prior to and during re-entry. The special instructions or precautionary information may consist of instructions to deal with decontamination and interdiction of foodstuffs, water supplies, dairy and livestock, and field and garden crops. This type of information would be provided by IDNS which will obtain information concerning the type and extent of radioactive contamination and act as the coordinating agency for a number of State agencies that would perform technical functions in the event of an emergency. The Illinois Department of Agriculture is responsible for monitoring agricultural and horticultural products as well as meat, poultry and livestock. The Illinois Environmental Protection Agency is responsible for monitoring water supplies for contamination. The Illinois Department of Public Health responsibilities include identifying and disposing of contaminated food and dairy products. Those activities of the three agencies are at the request and under the direction of IDNS. Accordingly, IPRA makes adequate provisions for informing the public concerning protective measures to be taken regarding foodstuffs at the time of re-entry. Findings 97-99. The provisions of IPRA have sufficient flexibility for development of a reasonable ad hoc response, and it would not be appropriate to burden the re-entry messages with additional, potentially marginal information. Id.; see San Onofre, 17 NRC 528 at 533.

The provisions of IPRA assure that the public within the EPZ will be timely and adequately notified of protective action information in the event of an emergency at Braidwood Station. Findings 53-100.

C. CONTENTION 1(b)

As admitted for litigation, Intervenor's Contention 1(b) states:

Intervenor contends that an adequate emergency plan for the Braidwood Station shall include the following:

* * *

(b) assurance that institutions within 10 miles of the Station, such as nursing homes can be evacuated or adequately protected in the event of a radiological emergency. 15/

IPRA's provisions governing sheltering and evacuation at schools, (including preschools and parochial schools),16/ recreational areas, and nursing homes can be divided into three categories: (1) planning activities; (2) notification and communication procedures; and (3) responses to recommended actions. This

15/ Contention 1(b) originally referenced hospitals and the federal prison at Joliet. By agreement of the parties, the reference to hospitals and the federal prison were deleted from the Contention because there are no hospitals within the EPZ and the federal prison at Joliet is outside the EPZ. Transcript of February 20, 1985 conference call, at 42-44; Transcript of July 23, 1985 Prehearing Conference, at 118-119; Prehearing Conference Order of August 1, 1985, at 4.

16/ Pre-schools includes nursery schools and licensed day care centers.

opinion will address the provisions of IPRA in each of these three categories for schools, recreational areas, and nursing homes in sequence.

1. SCHOOLS

The planning activities conducted by IESDA for schools within the EPZ have been extensive. Those activities commenced with IESDA surveys to identify all schools within the EPZ, their student and staff populations, and their available transportation resources and characteristics. As a result of these surveys IESDA prepared and provided in the IPRA specific emergency instructions for each school, including facility-specific checklists for sheltering and evacuation. The sheltering checklists properly considered the guidance in NUREG-0654 and provide instructions for closing sources of ventilation and outside air to provide protection against airborne contamination when sheltering in place is the appropriate protective action. Relocating persons from such facilities to facilities with "better" building structure and shielding, as urged by Intervenor, would defeat the purpose of sheltering in place (to avoid unnecessary exposure obtained upon leaving the location) and result in an unnecessary risk to public health and safety. These instructions were provided to responsible school officials and extensive training has been provided by IESDA for school officials and bus drivers. Findings 105-111.

Based upon the aforementioned surveys, IESDA evaluated the transportation requirements of each school against the available transportation resources. These evaluations indicated that there are ample transportation resources available to assure evacuation of all schools within the EPZ, that these resources can be timely mobilized, and that vehicles will be maintained in reliable working order. There is no evidence in the record to the contrary. Findings 112-117.

IPRA provides proven means for timely notification of, continuous communications with, and effective response by affected school officials and schools in the event of an emergency at the Braidwood Station. IPRA establishes mechanisms for timely notification to flow from the State, to County ESDA coordinators, and to district school superintendants in the event of an emergency, for the coordination of transportation resources within and among school districts by school district superintendents and regional school superintendents, respectively, and for monitoring and confirmation that protective actions have been effectively implemented in the event of an emergency. Appropriate measures are in place to enable buses to be rerouted if meteorological conditions warrant and IDNS has adequate plans and procedures for assuring that vehicles and persons can be safely decontaminated outside the EPZ without any significant impediment to timely evacuation. Pertinent evacuation routes and congregate care shelters will be properly identified, and transportation

assistance to schools within the EPZ will be timely and effectively provided in the event of an evacuation. Findings 118-131.

Based upon the planning activities, notification and communication procedures, and responses to recommended protective actions discussed above, FEMA has found and this Board finds that IPRA provides reasonable assurance that schools within the EPZ, including parochial schools, nursery schools and day care centers, can be adequately protected and evacuated in the event of a radiological emergency at Braidwood Station. Findings 105-132.

2. RECREATIONAL AREAS

The provisions of IPRA for recreational areas that have been addressed above in connection with Contention 1(a) (Offer of Proof) will not be reiterated here. Intervenor's questioning in regard to recreational areas emphasized that certain individuals designated under IPRA had dual roles as public officials and recreational area personnel, with the apparent implication that such persons would be unavailable to perform assigned duties in one respect or another. There are only three such people identified by IPRA, and IESDA has or will assure that they will be aware of these responsibilities. The means for notification of public officials under IPRA are proven and reliable, and through a system of designated alternates and the provision of assistance from municipalities, counties and the State, IPRA

assures that sufficient personnel will be available to perform their assigned duties as public officials, and at recreational areas. Indeed, during the Braidwood exercise, the village President of Essex became unavailable, and the personnel remaining in that municipal EOC performed his duties effectively in his absence. This Board finds that IPRA provides reasonable assurance that recreational areas can be adequately protected and evacuated in the event of a radiological emergency at the Braidwood Station. Findings 59-65, 67-69, 89 and 133-142.

3. NURSING HOMES

The Royal Willow Nursing Care Center ("Royal Willow") is the only nursing home in the Braidwood EPZ. The State has conducted and will conduct appropriate training for the Royal Willow Director and staff. IPRA provides adequate instructions for sheltering and evacuation, and IESDA has properly assessed the facility population and provided for adequate transportation resources for evacuation of that facility. IPRA provides appropriate measures for notification, communications, assistance, and emergency response at Royal Willow in the event of a radiological emergency at the Braidwood Station. Intervenor asked no questions during cross-examination that raised a significant challenge to the adequacy of the provisions of IPRA with specific reference to nursing homes. FEMA has found and this Board finds that IPRA provides reasonable assurance that

nursing homes within the EPZ can be adequately protected and evacuated in the event of a radiological emergency at the Braidwood Station. Findings 143-155.

FEMA has found no criticisms of IPRA or GSEP arising from the Braidwood exercise that relate to Contentions 1(a) and 1(b). Finding 156.

III. CONCLUSION

This Partial Initial Decision is expressly limited to the resolution of all contested emergency planning issues in this proceeding. Subject to the foregoing limitation and pursuant to 10 C.F.R. § 50.47 and 10 C.F.R. § 2.104(c), the Board finds that the Applicant has sustained its burden of persuasion on all contested emergency planning issues and the record of the proceeding provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at Braidwood Station.

The matters examined during the evidentiary hearing which are not discussed in this Decision were considered by the Board and found either to be without merit or not to affect our decision herein. The findings of fact and conclusions of law which are annexed hereto are incorporated in the Decision by reference as if set forth at length. In preparing its findings, the Board has reviewed and considered the entire record and the findings of fact proposed by the parties. Those proposed findings not incorporated directly or indirectly in this Decision

are rejected as being unsupported by the record of the proceeding or as being unnecessary to the rendering of this Decision. The Board, having made the findings and determinations required by 10 C.F.R. § 50.47 and § 2.104(c), concludes that, subject to the conclusion of further proceedings concerning quality assurance issues, the Director of Nuclear Reactor Regulation, upon making requisite findings with respect to matters not embraced in this Decision, may issue Applicant an Operating License for Braidwood Station consistent with the terms of this Partial Initial Decision.

IV. ORDER

It is ordered that this Partial Initial Decision shall constitute the final action of the Commission forty-five (45) days after issuance thereof, subject to any review pursuant to 10 C.F.R. §§ 2.760, 2.762, 2.764, 2.785, and 2.786.

A Notice of Appeal from this Partial Initial Decision must be filed within ten (10) days after its service. A brief in support of the appeal shall be filed within thirty (30) days thereafter and forty (40) days in the case of the Staff. Within thirty (30) days of the filing and service of the brief of Appellant, and forty (40) days in the case of the Staff, any other party may file a brief in support of, or in opposition to the appeal.

IT IS SO ORDERED.

Dated at Bethesda, Maryland
This ____ day of ____, 1986

FOR THE ATOMIC SAFETY
AND LICENSING BOARD

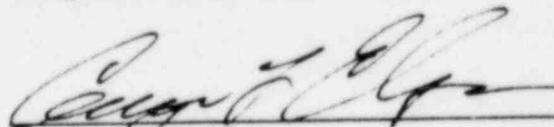
Herbert Grossman, Chairman
ADMINISTRATIVE JUDGE

Richard F. Cole
ADMINISTRATIVE JUDGE

A. Dixon Callihan
ADMINISTRATIVE JUDGE

WHEREFORE, on the basis of the foregoing and the annexed Proposed Findings of Fact and Conclusions of Law, Applicant respectfully requests that the Board adopt this Proposed Partial Initial Decision.

Respectfully Submitted,



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Dated: April 4, 1986

Appendix A

EXHIBIT LIST

<u>EXHIBIT NO.</u>	<u>TITLE</u>	<u>MARKED FOR ID</u>	<u>OFFERED</u>	<u>ADMITTED</u>
<u>Applicant's</u>				
1	Emergency Information Brochure, Braidwood Station	465A	465A	465B
2	Testimony of Lawrence D. Butterfield, Jr. and Jana S. Fairrow Regarding Contentions 1(a) and 1(b) (Emergency Planning)	683	689	690
3	Illinois Plan for Radiological Accidents (IPRA), Volume 1, State General Plan, Rev. 2, June 1985	683	693	693
4	IPRA, Volume VII, Preliminary Rev. 0, August, 1985	684	693	693
5	IPRA, Volume VII, Standard Operating Procedures, Preliminary Rev. 0, August 1985	684	693	693
6	Commonwealth Edison Company, Generating Stations Emergency Plan (GSEP), Revision 5, July 1985	685	693	693
7	GSEP, Braidwood Annex, Revision 0, October 1984	685	693	693
8	GSEP, Braidwood Annex, Revision 1, March, 1986	685	693	693
<u>Intervenor's</u>				
	Braidwood Final Environmental Statement, NUREG-1026, June 1984, p. 5-58 and Appendix F	750	Not Offered TR1058	
<u>Staff's</u>				
	None			

Appendix B

WITNESS LIST

<u>WITNESS</u>	<u>DIRECT</u>	<u>CROSS/ RECROSS</u>	<u>REDIRECT</u>	<u>BD. EXAM</u>	<u>CITED AS</u>
<u>Applicant's</u>					
L. D. Butterfield					AW Butterfield TR ___.
- Contention 1(a) and (Pre-Emergency Public Notification)	ff. TR465B	466-91, 499-502, 511-13	491-99, 502-04, 513-14	504-11	AW Butter- field ff. TR 465B at ___.
- Contention 1(a) Supplemental (Pre- Emergency Public Notification)	"	"	"	"	AW Butter- field Suppl ff. TR 465B at ___.
- Contention 1(a) (Offer of Proof) and 1(b)	ff. TR690	696-857 876-881 888-918 1004-1021 1038-1048	1021-1027	1027-1038	A Exh 2 ff. TR 690 at ___.
<u>Jana S. Fairrow</u>					
- Contention 1(a) (Offer of Proof) and 1(b)	ff. TR690	696-857 876-881 888-918 1004-1021 1038-1048	1021-1027	1027-1038	A Exh 2 ff. TR 690 at ___.
Eugene C. Field	857-860	862-875			AW Field TR__
<u>Staff's</u>					
<u>Gordon Wenger</u>					
- Contention 1(a) (Pre-Emergency Notification)	ff. TR515	519-40, 541-52	540-41 552-61	561-62	SW Wenger ff. TR 515 at ___.
- Contention 1(a) (Offer of Proof) and 1(b)	ff. TR931	932-969 (919-931 correction and authentication)	969-978	987-996	SW Wenger ff. TR 931 at ___.
<u>Intervenor's</u>					
None					

V. APPLICANT'S PROPOSED FINDINGS OF FACT

Contention 1(a) (Pre-Emergency Public Notification)

1. The emergency plan for Braidwood Station consists of an onsite plan (Commonwealth Edison's "Generating Stations Emergency Plan" or "GSEP") and an offsite plan -- the Illinois Plan for Radiological Accidents ("IPRA"). IPRA is organized into two major elements: the State General Plan (Volume I Rev. 2, June 1985) and the site specific plans (Volumes II through VIII). See A Exhs 3, 4, and 5. IPRA-Braidwood is Volume VII (Preliminary Rev. 0, August 1985). A Exh 4. IPRA Volume VII is accompanied by a set of Standard Operating Procedures ("SOPs") which provide detailed guidance to responsible officials with respect to such matters as notification, traffic control, sheltering, evacuation and re-entry. A Exh 5.

2. Volume I, IPRA-State General Plan, presents a general overview of IPRA. A Exh 3. Volume I discusses the concept of operations, chain of command, communications network and the coordinated response of all participants during an accident at a nuclear power station. It deals specifically with the responsibilities of State agencies involved in the response to an accident. A Exh 3.

3. The site specific volumes apply the general principles and guidance of Volume I to the particular concerns associated with each of the ten-mile plume exposure pathway Emergency Planning Zones ("EPZs") for the nuclear power stations

located in Illinois. These volumes provide detailed procedures for the actions to be taken during and after a nuclear emergency, from initial notification and warning, through implementation of protective and parallel actions, to eventual recovery and re-entry. A Exh 4-5.

4. An extensive planning effort has gone into the development of the IPRA as it relates to the Braidwood Station. The IPRA was developed in cooperation with cognizant State, county and municipal officials. IPRA is not intended to address every possible scenario which might occur; rather, IPRA was developed in a manner so that it may be adapted for specific situations by those persons responsible for implementing IPRA. A Exh 2 ff. TR 690 at 7.

5. The GSEP contains general information applicable to all of Commonwealth Edison's ("CECo") nuclear power plants. The current version of the GSEP is revision 5, dated July 1985. A Exh 6. Site specific information is provided in the Braidwood Annex to the GSEP. A Exh 7. The current Braidwood Annex is Revision 1, dated March, 1986. A Exh 8. CECo also has implementing procedures ("Emergency Plan Implementing Procedures" or "EPIPs") which further delineate the responsibilities of cognizant CECo employees in the event of an emergency. A Exh 2 ff. TR 690 at 7-8.

6. In the event of an emergency, IPRA provides for response mechanisms at the State, county, and municipal levels of government. At the State level, the Governor will be the ultimate decision-maker for the overall emergency response. Under him, the

Illinois Emergency Services and Disaster Agency ("IESDA") and the Illinois Department of Nuclear Safety ("IDNS") will handle, respectively, the operational aspects and the technical aspects of State emergency activities. A Exh 2 ff. TR 690 at 8.

7. The responsibilities of IDNS are to coordinate the total radiological assessment of, and response to, radiological emergencies. IDNS will analyze all available technical information and assess the implications and consequences of the radiological emergency. In addition, IDNS performs various technical functions including food, water and milk control, radiation exposure control for evacuees and emergency workers and confirmatory accident assessment. During an emergency situation, IDNS will make protective action recommendations to the Governor and IESDA. A Exh 2 ff. TR 690 at 8.

8. The IDNS response to a radiological emergency utilizes two functional sub-groups. They are the Radiological Emergency Assessment Center ("REAC") and the Radiological Assessment Field Team ("RAFT"). The IDNS has established REAC at its Springfield headquarters. REAC will serve as the State command location for all (State-related) radiological aspects of a nuclear incident. The Manager of the Office of Nuclear Facility Safety of IDNS, or his designated alternate, is in command of REAC. RAFT has been organized to perform the field radiological functions of confirmatory accident assessments during a nuclear emergency.

RAFT consists of a Mobile Command Center, a Mobile Nuclear Laboratory, and monitoring and sampling teams. A Exh 2 ff. TR 690 at 9.

9. In the event of a nuclear emergency, IESDA is responsible for overall coordination of the operational response functions at all levels of government. IESDA has the programmatic responsibility for implementing protective actions for the public as directed by the Governor. IESDA will coordinate the dissemination of the Governor's decision for recommended protective actions and will coordinate the distribution of resources and personnel necessary to implement those protective actions. The IESDA Director is the principal coordinator of the State's operational response and serves as the liaison between the Governor and local governments for the implementation of protective action recommendations. A Exh 2 ff. TR 690 at 9-10.

10. During an emergency, IDNS and IESDA will maintain contact with CECO officials to ensure that the status of the plant, and its potential or actual radiological impact, are fully understood. A Exh 3, Ch. 4 at 3-6; Ch. 5 at 1-10; Ch. 6 at 1-8. Other responsible State agencies, including the Illinois State Police, Department of Transportation, Environmental Protection Agency, Department of Conservation, and the Commerce Commission, will provide assistance. A Exh 2 ff. TR 690 at 10.

11. The State Emergency Operations Center (EOC) in Springfield, serves as the principal operational command center for State personnel during radiological emergencies, with local

coordination of State response activities handled by the State Forward Command Post. The State EOC is equipped with a variety of communications equipment including the Nuclear Accident Reporting System ("NARS"), 17/ extensive radio capabilities, dedicated phone lines, and commercial phone lines. The State EOC is staffed by IESDA personnel, as well as representatives of the Governor, IDNS, and various State agencies. The State Forward Command Post is a near site extension of the State EOC and is used to allocate State resources and personnel to local governments that have requested assistance. The State Police, Department of Transportation, Department of Conservation, IDNS, and the National Guard will be represented at the State Forward Command Post. A Exh 2 ff. TR 690 at 10-11.

12. At the county level, the overall emergency response objective will be to implement the State's overall direction to protect the public health and safety. This will involve the coordination and allocation of resources. Each county has established a county EOC. Emergency activities will be directed in each county EOC by the county Board Chairman, and coordinated by the county ESDA Coordinator. The county EOCs are in turn responsible for coordinating with municipal EOCs. The county EOCs will be informed by the State EOC via NARS as to the protective actions which must be implemented. These recommendations will

17/ NARS is described in greater detail in Findings 80-85 below.

then be disseminated to the municipal governments within the counties' jurisdiction. A Exh 4, Chs. 2-4; A Exh 2 ff. TR 690 at 11-12.

13. At the municipal level, emergency activities will be coordinated in municipal EOCs under the respective mayors or village presidents. The municipal EOCs are responsible for ensuring that the local emergency response organizations such as the fire department, police department, school superintendent and others perform their respective duties. Representatives of these organizations will be stationed at the municipal EOCs to ensure timely response to conditions as they arise. A Exh 4, Chs. 2-4; A Exh 2 ff. TR 690 at 12.

14. Contention 1(a) states:

Intervenor contends that an adequate emergency plan for the Braidwood Station should include the following:

(a) A program to periodically inform the public within the plume exposure pathway Emergency Planning Zone (EPZ) on how they will be notified and what their initial actions should be in the event of a radiological emergency originating at the station.

By Order dated October 18, 1985, the Licensing Board initially limited the scope of this Contention to the pre-accident public education and information program.

15. The principal method to inform the public within the EPZ of how they will be notified of an emergency and what their initial actions should be is the publication and distribution of a Booklet entitled "Emergency Information-Braidwood" A

Exh 1; AW Butterfield ff. TR 465B at 7. The Booklet provides the appropriate information suggested by paragraph 1. on page 49 of NUREG-0654/FEMA Rep. 1, Rev. 1 ("NUREG-0654"). The format for this Booklet has been developed and refined for each of CECO's nuclear stations to account for site-specific matters such as maps, Emergency Broadcast System ("EBS") radio stations, evacuation routes, shelter locations, and take-along items such as, valuables and medications. AW Butterfield ff. TR 465B at 8.

16. Section 1 of the Booklet describes the siren system that will be used as a mechanism to notify the public of an emergency. It states that the public should respond to the siren signal by turning to the specified EBS radio stations. 18/ AW Butterfield ff. TR 465B at 8-9. Section 1 also explains that, in an emergency, the responsible officials may direct people to stay indoors or to evacuate. SW Wenger ff. TR 515 at 4.

17. In Section 2 of the Booklet, there is a discussion of the steps to be followed to enhance personal safety if sheltering is recommended as a protective action. Section 2 also contains recommendations about what to do with farm animals in the

18/ Intervenor raised the question as to whether there would be instances in which sirens could be activated and subsequent instructions by EBS message would not be given unless there is a real cause for concern. SW Wenger TR 531-37; A Exh. 1, § 1. The intent of the Booklet is to draw the attention of persons to the siren signal and cause them to tune in the EBS station for instructions. SW Wenger TR 536. The Booklet itself indicates that the sirens could be activated for testing and that persons should assume the emergency is real and tune in the EBS Station for instructions. A Exh 1, § 1.

event that sheltering is recommended. AW Butterfield ff. TR 465B at 9, 10; SW Wenger ff. TR 515 at 4; see Findings 25 and accompanying footnote.

18. Sections 3 and 4 of the Booklet provide information on what to do, 19/ where to go, and how to get there if evacuation of the EPZ is recommended. This information includes a checklist, a map of principal preplanned evacuation routes, shelter locations and EBS radio station frequencies. AW Butterfield ff. TR 465B at 9. The map in the center of the Booklet (Section 4) shows principal evacuation routes. The communities of Braceville, Braidwood, Carbon Hill, Coal City, Diamond, East Brooklyn, Essex, Gardner, Godley, Mazon, Reddick, South Wilmington, Union Hill, and Wilmington are shaded and outlined on the map. Although the map does not show every road in the EPZ, it does show major roads and enough landmarks that will enable persons to locate the evacuation routes. A panel to the right of the map lists the principal evacuation routes and preplanned destinations. This panel also lists the radio stations which will provide further information and instructions. SW Wenger ff. TR 515 at 4-5.

19/ During the hearings Intervenor questioned whether the Booklet's admonition to plan for being away for two days in the event of an evacuation covered all possible scenarios. AW Butterfield TR 466-467; SW Wenger TR 527-28; See A Exh 1, § 3. The record shows that relocation centers will have the resources to provide necessities for evacuees and that an admonition to prepare for a longer period could unduly complicate and delay evacuation. SW Wenger TR 522-24.

19. Sections 3 and 4 of the Booklet dealing with protective actions do not contain instructions on respiratory protection. During the hearings on Contention 1(a) held in October 1985, there was considerable inquiry concerning whether the Booklet should contain such language and whether it was required under applicable FEMA guidance. E.g., AW Butterfield TR 472-75, 494-95; SW Wenger TR 519-21, 528-30, 539, 541-562. It was noted during the course of questioning that previous emergency information booklets prepared by CECO for certain of its other nuclear power plants had contained statements regarding the use of handkerchiefs or other protective masks as a means of respiratory protection in the event of an emergency. Because this statement was not included in the Braidwood Booklet the Board requested CECO to explain "why this particular provision was deleted from the current brochure when it appeared in the Company's prior brochures." 20/

20. As explained in a January 10, 1986 affidavit of Lawrence D. Butterfield, Jr., which the Applicant filed with the Board on January 21, 1986, the decision not to include the respiratory protection statement in the Braidwood Booklet was based upon four factors. First, respiratory protection would be useful in only a relatively small number of accident scenarios involving offsite particulate releases. Second, the use of a hand-held protective mask would provide only limited and uncertain protection even where particulates are released. Third, the use

20/ Transcript, October 29, 1985, at 562.

of protective masks could hinder or delay evacuation. And finally, such an instruction might create a false sense of security and could result in persons within the EPZ taking unnecessary risks or delaying evacuation. 21/ Based on these factors, CECc believes that instructions on respiratory protection should not be given as a routine matter. Rather if such instructions should become necessary and appropriate, they should be given specifically at the time of an emergency. 22/ See Big Rock Point, 20 NRC 1019 at 1024.

21. Recently, FEMA issued a Policy Statement on Respiratory Protection, concurred in by the NRC, in which it found that instructions on respiratory protection are not required by NUREG-0654 Section G.1.c. and that the absence of such language would not render an information booklet inadequate. Although FEMA recommends that some instruction on respiratory protection be included in booklets, FEMA recognizes that such language might be inconsistent with the policy of local or state jurisdictions and might confuse rather than inform the public. In this case, the State of Illinois believes that inclusion of respiratory protection instructions, as a routine procedure, would tend to confuse rather than inform the public and should not be included in the Booklet. 23/ Of course, if warranted by the specific circum-

21/ See Affidavit of Lawrence D. Butterfield, Jr. (hereinafter "Butterfield Aff.") at ¶ 6.

22/ Butterfield Aff. at ¶ 7.

23/ Butterfield Aff. at ¶¶ 9-10.

stances of an emergency, the State could add the necessary language to EBS messages. AW Fairrow, TR 1004, 1011.

22. The respiratory protection statement in question was properly deleted from the Booklet on reasonable technical grounds. The deletion was consistent with the policy of the State of Illinois and does not contravene the requirements of NUREG-0654 Section G.1.c.

23. Because the decision whether or not to administer radioprotective drugs is reserved to officials in charge at the time of an emergency, the Booklet does not mention the use of such drugs. The State of Illinois does not anticipate administering such drugs to the entire population of the EPZ at the time of an emergency. Therefore, it is appropriate that the Booklet does not state that drugs will be made available. SW Wenger ff. TR 515 at 5.

24. Section 5 of the Booklet provides sensible suggestions on ways to prepare for an emergency. The Section lists various items which would be useful in an emergency such as first aid supplies, a portable radio, and extra car keys and recommends that a list of items be prepared and posted in a convenient spot. The Section also suggests that the recipients of the Booklet mark their location on the map in Section 4. The Section ends by noting that if transportation is needed, the card on the inside back cover of the Booklet should be filled out and placed in the mail. AW Butterfield ff. TR 465B at 9; A Exh 1 at 11.

25. Section 6 of the Booklet provides a discussion of the coordinated approach to emergency planning by the State, local agencies, and county and municipal governments as well as by CECO. 24/ The Section explains the EPZ, the prompt notification system, the chain of communications, and the use of the EBS as a source of information. AW Butterfield ff. TR 465B at 9; A Exh 1 at 12-13. At the end of Section 6, the Booklet provides a prominently displayed box with the names of county emergency agencies in bold type. The text directs the reader to write or call one of the offices listed for more information. 25/ The box lists the names, addresses, and telephone numbers of IESDA and the comparable agencies for Will, Grundy, and Kankakee Counties. SW Wenger ff. TR 515 at 4.

24/ Intervenor raised a question as to why the Booklet does not address re-entry. AW Butterfield TR 468, 492-93. Because re-entry would take place over a longer period of time than the protective actions taken during the immediacy of an emergency, it is not considered essential information for inclusion in the Booklet. AW Butterfield TR 492-93. The matter of re-entry is addressed in detail in connection with Intervenor's Contention 1(a) (Offer of Proof), Issue 4, below.

25/ Intervenor questioned whether the Booklet should provide instructions concerning what persons should do with pets and livestock in an evacuation, AW Butterfield TR 468; A Exh 1, § 3. The Booklet does advise persons to shelter livestock and make provisions for watering and feed, preferably with stored feed. A Exh 1, § 6. The Booklet also provides phone numbers for persons to call responsible State and county emergency officials if they have special needs (A Exh 1, § 6; SW Wenger TR ff. 515 at 4), (including those related to pets). SW Wenger TR 540-541. Entry into the EPZ will be carefully controlled by the State and if, for example, a kennel owner must return to a kennel, the necessary activities will be undertaken by emergency workers or the owner assisted by emergency workers. SW Wenger ff. TR 931 at 14.

26. In Section 7, the Booklet explains the basic principles behind the operation of a nuclear power plant and points out that there is some risk of the escape of waste products which emit radiation. SW Wenger ff. TR 515 at 3. The information in Section 7 complements and facilitates understanding of Section 8 which contains a discussion of radiation, how it is measured and the effects of different levels of radiation on the human body. Section 8 states that radiation doses of over 20,000 millirem in a day are necessary to produce identifiable effects in the body which is more than 200 times the amount a person is normally subject to in an entire year. The Section also points out that radiation levels at the nuclear power plant are monitored constantly, that even more detailed readings would be taken in the event of an emergency, and that plans for evacuation or sheltering the public would be put into effect if radiation exposures exceeded a predetermined level. SW Wenger ff. TR 515 at 3.

27. During the October 29, 1985 hearings on emergency planning, it was noted that the Booklet does not contain any explicit mention that the most likely form of radiation in the event of an accident at Braidwood Station would be in the form of a cloud or plume moving in the prevailing wind direction. AW Butterfield TR 483. Although such language is not necessary in order to ensure that persons who are instructed to evacuate actually follow those instructions, (SW Wenger TR 526-27), language describing the plume might enhance the booklet. E.g., AW Butterfield TR 497; SW Wenger TR 526.

28. While FEMA does not believe that discussion of the plume in the Booklet is an essential or necessary condition for adequate emergency planning or an adequate plan (SW Wenger TR 524-25, 540), Applicant has nevertheless committed to modify the language of that Booklet in the next scheduled issuance to include the following language as the last full paragraph of Section 8:

If a nuclear plant accident were ever to occur, teams of specially-trained personnel would be sent to get even more detailed radiation readings all around the plant. In most cases, there would be no excessive radiation. If the accident were serious, and could expose members of the public to 100 millirem or more of radiation, state plans call for protection of the public by taking shelter indoors or by evacuation. The most probable form of radiation which would be found beyond the plant boundaries would be contained in a cloud or plume. This cloud would move in the prevailing wind direction and would dictate the areas for potential shelter or evacuation recommendations.
AW Butterfield TR 1026-27.

The Board considers the above language to be appropriate and the issue is therefore resolved.

29. Section 9 of the Booklet deals with persons with special needs such as the mobility impaired. The Section is located on the back and inside back covers of the Booklet and contains a tear-out Business Reply Card. The card already contains the mailing address of the individual to whom it was sent and has a space for the individual's telephone number. The Section contains clear instructions for the reader to inform State and local officials of any special medical or transportation needs or

the need to be alerted in the event of an emergency. ^{26/} The portion of the Business Reply Card on the back cover has simple graphic symbols illustrating these needs. To the left of the card is a simple brief questionnaire which asks the reader if he or she has a special need in any of the areas listed. The reader only has to circle the appropriate "Yes" or "No" response, write in a telephone number, tear out the card and mail it. SW Wenger ff. TR 515 at 5-6.

30. Overall, the Booklet is simply and logically organized. Each section states no more than is necessary to convey the required information; and each section leads naturally to the one which follows. The actions residents within the EPZ are asked to take are described and discussed in ways that make the information readily accessible. The graphics used throughout the Booklet are simple, clear and germane. Repetition has been used to reinforce the concepts presented. For example, directions to turn on the radio when the sirens are sounded are mentioned four times. Sources of additional information or sources of additional copies of the Booklet are displayed three times. SW Wenger ff. TR 515 at 6.

^{26/} Intervenor questioned whether the pre-emergency notification program should include measures to address the needs of persons who are illiterate or visually impaired. AW Butterfield TR 477-78, 483; SW Wenger TR 527. The Booklet requests that the contents be shared with and discussed with other members of a given household (A Exh 1, at 2), and neighbors or friends can be expected to help such persons. AW Butterfield TR 477-78, 483. Of course, such persons should still be able to understand and utilize information provided by EBS broadcasts.

31. The Booklet meets the requirements of NUREG-0654 (SW Wenger ff. TR 515 at 6) and the requirements of 10 C.F.R. § 50.47(b)(7). AW Butterfield ff. TR 465B at 6.

32. The Booklet will be mailed to all CECo residential and commercial customers within the EPZ. A complete mailing list of CECo's customers in the EPZ will be developed from its Customer Information System ("CIS"). A Booklet will be mailed to every address on the list developed from the CIS. The list will be updated for each subsequent mail distribution of the Booklet. AW Butterfield ff. TR 465B at 12. Where a particular person's billing address is different than the residence address, a copy of the Booklet will be mailed to both the billing address and the residence address. 27/ AW Butterfield TR 480, 498-499.

33. Booklets will also be mailed to persons residing on the site of the Joliet Army Ammunitions Plant who are not direct customers of CECo. CECo has developed a list of the addresses of the residents there and will mail booklets to them concurrently with the mailing to its direct customers. AW Butterfield ff. TR 465B at 12.

27/ Although the Booklet will not be mailed to an individual living at the home of another who is on vacation and has mail forwarded to the vacation address, it does not appear that the Applicant could develop any reasonable means of knowing who may be living in private homes. AW Butterfield TR 500, 512-13. It would be incumbent upon the homeowner to inform that individual about the Booklet. Id., TR 514. The Board does not believe that this represents an inadequacy in planning, but merely a contingency for which reasonable planning measures have already been taken and for which additional extreme or unreasonable measures would not be required.

34. This mail distribution of the Booklet will occur annually. The first distribution will take place in conjunction with the Braidwood Station emergency exercise scheduled for November, 1985, and thereafter each January or February beginning in 1987. AW Butterfield ff. TR 465B at 12.

35. Concurrent with the annual mail distribution, multiple copies of the Booklet will be delivered to major employers, schools, health care facilities and senior citizen centers. CECO personnel will work with responsible individuals from each such facility to ensure distribution of the Booklet to facility members. The current list of these facilities is maintained by CECO. Special attention will be paid during subsequent distributions of the Booklet to update this list. AW Butterfield ff. TR 465B at 13.

36. For transients, the program is based on providing multiple copies of the Booklet to the persons in charge of the facilities catering to transients and discussing with the persons in charge the importance of having the Booklet available. Persons distributing the Booklets were instructed to make the distribution to responsible persons, to discuss it with them and to encourage them to place the Booklet in a conspicuous location. AW Butterfield TR 1024-26. A current list identifying parks, camps, recreational areas and motels has been prepared. Special attention will be paid during subsequent distributions to update this list. AW Butterfield ff. TR 465B at 13; AW Butterfield TR 491.

37. The distribution of the Booklet to facilities catering to transients will occur concurrently with the annual mail distribution. In addition, distribution will again be made each May or June to assure that the Booklets are available for the summer months. AW Butterfield ff. TR 465B at 13-14; AW Butterfield TR 912.

38. Although not required by FEMA, in order to provide additional awareness of the potential for an emergency and what a transient's initial response should be, CECo will offer to provide signs which could be placed in State recreational areas frequented by transients. A Exh 2 ff. TR 690 at 19, 60. The signs would contain language similar to the following:

If you hear a siren continuing for 3 minutes
or more, please tune to radio stations 1340 AM
or 96.7 FM for instructions.

AW Butterfield ff. TR 465B at 14; AW Fairrow TR 734; AW Butterfield TR 734. CECo will discuss with private camp and recreational area operators the placement of these signs in their areas. AW Butterfield ff. TR 465B at 14.

39. In addition, the Braidwood Station Prompt Public Notification System in and about most public recreational areas located in the Braidwood EPZ has been equipped with a public address capability. Announcements over the public address system would follow the siren to alert transients in the recreational areas to tune in the EBS radio stations for additional information. AW Butterfield ff. TR 465B at 14.

40. IPRA provides for advance planning with the news media. The base volume (IPRA Vol. I) outlines how the public will be kept informed of an accident through the media; how rumors will be controlled; and how the media will be acquainted with the emergency plans. IPRA Vol. I also provides that the Joint Public Information Center ("JPIC") will be located at the Emergency Operations Facility ("EOF") near each nuclear generating station and that the State will provide a spokesperson to brief the press on the emergency. AW Butterfield Suppl ff. TR 465B at 2-3.

41. The Braidwood-specific volume of the State's plan (IPRA Vol. VIII) contains parallel provisions for each of the three counties involved with emergency planning for the EPZ. These provisions also establish that each county and municipality in the EPZ will have a spokesperson responsible for public information. AW Butterfield Suppl ff. TR 465B at 3.

42. CECo's GSEP establishes its offsite GSEP group which includes an Emergency News Center Director and Information Director and their staff. Their responsibilities are outlined in the GSEP and in the EPIPs. The specific people responsible for these positions are identified in the GSEP Telephone Directory. AW Butterfield Suppl ff. TR 465B at 3.

43. In accordance with the State's plan, the EOF for Braidwood Station has a large room dedicated for use as a JPIC. The Braidwood Station EOF is located in Mazon, Illinois, about ten miles from Braidwood Station. The JPIC in the EOF will have

numerous telephones available for use by the media. The JPIC will also have visual aids on hand. AW Butterfield Suppl ff. TR 465B at 3-4.

44. In addition to the JPIC's facilities, there will be media centers associated with the State's EOC (ESDA's State headquarters in Springfield, Illinois), and with the EOCs for Grundy, Will and Kankakee Counties. All of these EOCs will be joined with each other and with the JPIC by a telecopier system which will be used to distribute information including press releases. AW Butterfield Suppl ff. TR 465B at 4.

45. During an emergency, representatives from the State of Illinois, the Federal government and CECO will be present at the JPIC. Other representatives from local governments and private agencies may also be present and participating. These representatives will work together to provide coordinated dissemination of information to the news media representatives in news briefings, which will also permit the media to ask questions and request information. AW Butterfield Suppl ff. TR 465B at 4.

46. The State's Public Information Officer ("PIO") will be primarily responsible for providing information which concerns the health and safety of the public. CECO's spokesperson will primarily explain the technical aspects of the accident. AW Butterfield Suppl ff. TR 465B at 4-5.

47. Rumor control activities are managed by the State of Illinois. The State maintains telephone numbers dedicated to rumor control and which will be known to local governments, but

not the general public. When a local government cannot control locally-generated rumors, they will contact the State EOC over the dedicated telephones and advise the State of the rumor. If possible, the State will respond to the rumor directly. Otherwise, the response to the rumor will be incorporated in the next news briefing provided to the media representatives. AW Butterfield Suppl ff. TR 465B at 5.

48. During the news briefings, questions and requests for rumor verification may arise from the news media representatives. The spokesman or State PIO will respond with available information. If it is determined that a rumor represents serious misinformation, the misinformation could be corrected immediately by the issuance of a news release from the JPIC. AW Butterfield ff. Suppl TR 465B at 5.

49. Representatives of the news media are invited to attend press briefings which are held annually for each nuclear power plant in Illinois. These briefings are presented jointly by the State and CECO. The press briefings are usually scheduled in conjunction with the annual emergency exercise for each nuclear power plant. In those instances, the media representatives are also invited to participate in the exercise itself at the JPIC. The first press briefing for Braidwood Station was held in conjunction with the emergency exercise scheduled for November 6, 1985. The press briefing acquainted the media representatives with basic information such as nuclear reactor operation, radiation, and emergency planning. The media representatives were also

introduced to the JPIC as the central point through which information is disseminated to the news media by the State, the utility, and the Federal government. As a part of the briefing, the media representatives received a "Press Kit" which will include a "Reporter's Guide to Braidwood Nuclear Power Station" and the Emergency Information Booklet. AW Butterfield Suppl ff. TR 465B at 5-6.

50. It should be noted that a majority of the news media representatives in the Braidwood area have been involved in past exercises and briefings for Dresden and/or LaSalle County Stations. These activities have all taken place at the Mazon EOF, which is the same facility that would be used in the event of an emergency at Braidwood Station. AW Butterfield Suppl ff. TR 4658 at 6.

51. The public information program provides a systematic means of delivering information to all members of the public who need the information. The plan ensures that the information will be kept current and will be redistributed annually. In the event of an emergency, a comprehensive network is activated to deliver information on a current basis effectively to the entire population of the EPZ. There is reasonable assurance that the information will be available in residences within the EPZ in an emergency. The distribution of the Booklets to facilities catering to transients and the installation of signs at recre-

ational areas also provides reasonable assurance that transients will be directed to sources of current information. SW Wenger ff. TR 515 at 8.

52. The IPRA provisions for advance arrangements with the news media and procedures for coordinated dissemination of information to the public by the media meet the requirements of 10 C.F.R. § 50.47(b)(7). AW Butterfield Suppl ff. TR 465B at 2.

Contention 1(a) (Offer of Proof)

53. In the Licensing Board's January 31, 1986 Memorandum and Order, the Board accepted for litigation under Contention 1(a) certain issues relating to emergency planning alleged by Intervenor's October 25, 1985 Motion for Reconsideration in the Form of an Offer of Proof ("Offer of Proof" Issues 2, 3, 4 and 6). It limited litigation of those issues, however, to specific matters contained in Intervenor's January 21, 1986 Reply to Applicant and NRC Staff Motions for Summary Disposition on Offer of Proof Issues ("Reply"). Memorandum and Order (January 31, 1986) at 11.

54. "Offer of Proof" Issue 2 states:

Applicant must develop and demonstrate its capability to provide through scripts and/or other media information, substantive emergency information to adequately inform the public of emergency information in the event of an accident at the Braidwood Station through all radio, TV or EBS stations in the ingestion pathway zone, so as to enable the public to effectively evacuate in the event of an emergency and to effectively re-enter the affected zone in the event of an emergency.

55. Over 100 pre-scripted EBS messages are provided in IPRA for the respective use of the State of Illinois and each of the three counties in the EPZ. A Exh 3, Ch.2; A Exh 4, SOP-8. These pre-scripted messages were developed by IESDA public information personnel, and are similar to the EBS scripts approved by FEMA for the other CECo nuclear plants. A Exh 2 ff. TR 690 at 13.

56. There are messages for four different types of situations: 1) "for information only" messages are used when no protective actions have been recommended for the public but when the public should be made aware of the situation at the power plant so that they may prepare for a possible protective action recommendation; 2) "take shelter" messages are broadcast when the Governor has issued a take shelter recommendation; 3) "evacuate" messages are used when the Governor has recommended an evacuation; and 4) "re-entry" messages are used when it is safe for the public to return to an evacuated area. A Exh 3, Ch. 2, at 13-18; A Exh 4, SOP-8, SOP-11. Additional pre-scripted messages are provided for transmission over speaker equipped siren systems in public areas and mobile public address systems. A Exh 2 ff. TR 690 at 13-14.

57. The pre-scripted EBS messages are designed to convey essential emergency information in a concise manner that can be readily understood by the public. Inclusion of non-essential information in the messages would not appreciably assist the public in taking prompt and appropriate protective action and

would hamper the overall effectiveness of the emergency response. A Exh 2 ff. TR 690 at 14; AW Fairow TR 1004, 1011-12. Although educational information could be added if it is deemed necessary in a specific situation (AW Fairow TR 1006-07), it would not generally hasten the movement of persons out of the affected area, it could cause a delayed reaction time, and it could also confuse and unnecessarily frighten the public. AW Fairow TR 1011-12, 1033-34.

58. Intervenor has advanced four specific issues under Offer of Proof Issue 2. The first such issue is as follows:

None of the shelter or evacuation recommendation messages contained in those two volumes of the State plan contain general instruction as to what action to take, or what provisions will be made if you or a member of your household is at a recreational site at the time these messages are broadcast. (IPRA, Vol. 1, Ch. 2; VII, SOP 8).

59. The Governor's "take shelter" message (which would be issued by the Governor or, in his absence, the IESDA Director), immediately indicates the importance of the message and provides a general description of the area affected by the take shelter recommendation. The message identifies the nuclear plant affected and requests that the public take "immediate shelter." The nature of the incident is also briefly described. A Exh 2 ff TR 690 at 16.

60. The counties' "take shelter" messages are similar to the Governor's message but specifically identify the area affected by the take shelter recommendation by geographic and

political boundaries. Such messages instruct the general public to prepare for a possible evacuation recommendation by packing essential clothing, medical supplies and special dietary food for two days. Additional situation specific information may be added by the county ESDA Coordinators. E.g., A Exh 4, SOP-8, Attachment C; A Exh 2 ff. TR 690 at 17.

61. The Governor's "evacuation" recommendation message would be issued by the Governor, or in his absence, the IESDA Director, to inform the public that an evacuation has been recommended for a portion of the EPZ. The message immediately notifies the public of the importance and seriousness of the information to be provided, briefly describes the nature of the emergency, and instructs evacuees to pack necessary clothing, medical supplies and food for special diets, to be ready to leave within a designated period of time and to stay tuned to the EBS station for information from a county representative on the direction to evacuate and the routes to be used. A Exh 3, Ch. 2, pp. 17-18; A Exh 2 ff. TR 690 at 17-18.

62. The counties' "evacuation" messages convey information specific for the evacuation of each area. Each of the messages contains a description of the area affected by the evacuation by geographical and political boundaries. The prescribed messages also provide, among other things, the following information as applicable: 1) the evacuation routes to be used; 2) the cities where shelters are being opened; 3) the specific facilities being used as shelters; 4) the schools being evacuated

and the specific shelter to which each school within the affected area is being relocated; 5) instructions to pack clothing, medical supplies and food for special diets; 6) a telephone number for mobility-impaired persons, who have not made prearrangements, to call for assistance; 7) instructions for persons who need public transportation; and 8) instructions for pet owners. The county ESDA Coordinators may add any situation specific information necessary. E.g., A Exh 5, SOP-8, Attachment C; A Exh 2 ff. TR 690 at 18-19.

63. In the event of either a "take shelter" or "evacuation" message, those persons in recreational areas would be directed by the counties to evacuate. SW Wenger ff. TR 931 at 29; A Exh 2 ff. TR 690 at 19; AW Fairow TR 804; SW Wenger TR 975. The sirens at recreational areas are equipped with a public address capability and the counties will broadcast pre-scripted directions to evacuate over the public address system, even if only a "take shelter" recommendation has been issued. 28/ SW Wenger ff. TR 931 at 18-19; A Exh 2 FF. TR 690 at 19. As necessary, additional situation specific information for persons in recreational areas may be included in the counties' messages. A Exh 2 ff. TR 690 at 19.

28/ Although at three areas, no public address capability is provided, the size, characteristics and usage of the areas are such that a siren tone alert is sufficient. A Exh. 2 ff. TR 690 at 60; AW Fairow TR 739-40, 1028-30.

64. Additionally, county ESDA Coordinators have a call list including recreational area contact persons, to be used to inform those facilities of the evacuation recommendation. If assistance is needed at the recreational area it can be provided by the county. AW Fairrow TR 744, 1022-1023, 1046. If telephone contact cannot be established the county will send a person to the recreational area to make contact. AW Fairrow TR 1046. Signs will be offered to each of the recreational areas which will direct persons to tune their radios to the EBS station in the event of a public notification of an emergency; SW Wenger ff. TR 931 at 18; A Exh 2 ff. TR 690 at 19; AW Butterfield ff. TR 465B at 14.

65. The EBS take shelter and evacuation messages provide sufficient information to assure that individuals will evacuate recreational areas. Both types of messages warn against entering the area affected by the protective action recommendation. 29/ Additionally, traffic and access control posts will help ensure compliance. SW Wenger ff. TR 931 at 18; A Exh 2 ff. TR 690 at 20. Based upon personal observations and discussions and the emergency exercise for Braidwood station, FEMA has

29/ The Booklet and EBS message do not address the situation in which a parent may be within the affected area and seek to pick up children. AW Fairrow TR 1014. While the Booklet advises parents not to pick up children at overnight campgrounds, it could be perceived by the public as applicable to all similar facilities. AW Fairrow TR 844-45. It may be sensible for a parent to pick up children under these circumstances and they are not prevented from doing so, but buses could generally be mobilized to evacuate children as quickly, and there is some potential for traffic congestion at recreational areas if parents pick up children. AW Fairrow TR 845-49, 1014.

verified that these plans will be carried out and that responsible individuals are cognizant of emergency planning matters. SW Wenger ff. TR 931 at 19, 30. Accordingly, the provisions of the IPRA for notifying persons in recreational areas assure that adequate protective measures can and will be taken in the event of a radiological emergency. SW Wenger ff. TR 931 at 19; SW Wenger TR 963-64; See, Findings 67-69, 89, and 133-142 below.

66. The second issue raised by Intervenor in regard to Offer of Proof Issue 2 is as follows:

None of the shelter or evacuation recommendation messages contained in the State plan provide instruction as to what to do if you are a transient in the EPZ at the time of an emergency and you do not have a home, workplace, or home or business of a friend in which to shelter, or other fixed location. (IPRA, Vol. 1, Ch. 2; Vol. VII, SOP-8).

67. The Braidwood Station EPZ Prompt Notification System ("PNS") is an outdoor warning system consisting of mechanical and electronic sirens located throughout the EPZ which alert the public to tune their radios to the designated EBS station. A Exh 4, Ch. 1, at 15. The PNS is designed to be audible outdoors throughout the entire EPZ. The electronic sirens located near most recreational areas are equipped with public address capability. Specific instructions for activation of the PNS are provided in IPRA Vol. VII, SOP-6. A Exh 2 ff. TR 690 at 21. As a backup to the sirens, public announcements will be made over mobile public address systems on emergency response vehicles, such as police cars and fire trucks. Id.

68. Through the PNS and EBS, transients will be alerted to the emergency and will be informed regarding shelter and evacuation recommendations. A Exh 2 ff. TR 690 at 20; SW Wenger ff. TR 931 at 18; SW Wenger TR 964. While the EBS message does not explicitly direct transients to seek shelter in public buildings, it is reasonable to expect that they will exercise judgment and do so, and that facilities such as restaurants and motels will provide adequate shelter. SW Wenger TR 967-69, 972-74. The EBS message instructs persons that, once inside, they should stay inside unless they receive instructions to do otherwise. SW Wenger TR 965-67. Traffic and access control posts will require such individuals to leave the affected area, and will provide a source of information. A Exh 2 ff. TR 690 at 20; SW Wenger ff. TR 931 at 18; SW Wenger TR 972-73. Vehicles with public address systems can also provide appropriate information. A Exh 2 ff. TR 690 at 20. Additionally, IPRA, SOP-8, provides that "special facilities" are to be notified of the protective action recommendations. Special facilities include locations where transients are likely to be found including recreational areas, hotels, motels, and industries (A Exh 4, SOP-8 at 5, 9 and 13), and are listed in Attachments F, G and H to IPRA, SOP-8 by sector and distance from the Braidwood Station. These attachments also identify the county or municipality which is responsible for notifying each facility of the protective action recommendation. A Exh 4, SOP-8, Attachments F-H; A Exh 2 ff. TR 690 at 21.

69. Based upon the results of the emergency exercise for Braidwood Station, FEMA has confirmed that the provisions of IPRA for notification of transients within the EPZ are adequate and will be implemented to permit adequate protective action for such persons. SW Wenger ff. TR 931 at 19. On the basis of the record, the Board concurs.

70. The third issue raised by the Intervenor with respect to Offer of Proof Issue 2 is as follows:

The information provided in the shelter and evacuation recommendation messages concerning school children, nursing home patients and hospital patients is not sufficient to deter individuals responsible for those persons from going to or calling the facilities. The information provided reads, "All school children, nursing home residents and hospital patients are being attended to by trained personnel. There is no need to go there to pick anyone up." As read, the statements provide no assurance to the listener that the facilities will assume full responsibility for the sheltering and evacuation of persons at their location, or that trained personnel will accompany persons throughout the emergency. The statements also fail to deter in that no explanation is given to persons as to why they should not call or go to the facilities. (IPRA, Vol. 1, Ch. 2; Vol. VII, SOP-8).

Id. p. 5.

71. The Governor's take "shelter message" instructs the general public not to evacuate and explains that doing so may result in unnecessary radiation exposure. The message informs those not inside to immediately proceed to their homes, work places or other familiar locations and provides specific instructions for sheltering against radioactive emissions. It also

instructs individuals not to make unnecessary telephone calls, and to use the telephone only for emergency situations in order to leave the lines free for emergency personnel. The message states that school children and nursing home residents are being well attended to by trained personnel, that there is no need to go to such locations and warns against entry into the area affected by the take shelter recommendation. Traffic and access control posts will help assure compliance. Finally, listeners are instructed to stay tuned to the EBS station for further information. A Exh 3, Ch. 2, at 15-16; A Exh 2 ff. TR 690 at 16-17.

72. The Governor's "evacuation" recommendation message would be issued by the Governor, or in his absence, the IESDA Director, to inform the public that an evacuation has been recommended for a portion of the EPZ. The message immediately notifies the public of the importance and seriousness of the information to be provided, briefly describes the nature of the emergency, and instructs evacuees to pack necessary clothing, medical supplies and food for special diets, to be ready to leave within a designated period of time and to stay tuned to the EBS station for information from a county representative on the direction to evacuate and the routes to be used. A Exh 3, Ch. 2, pp. 17-18. Additionally, it states that those persons in areas not specifically identified should not evacuate, informs the public that all school children and nursing home residents are being provided for, and warns against entering the area being evacuated for any reason. Id; A Exh 2 ff. TR 690 at 17-18.

73. Unlike the Governor's message, the counties' "evacuation" messages convey information specific for the evacuation of each area. Each of the messages contains a description of the area affected by the evacuation by geographical and political boundaries. The pre-scripted messages also provide, among other things, the following information as applicable: 1) the evacuation routes to be used; 2) the cities where shelters are being opened; 3) the specific facilities being used as shelters; 4) the schools being evacuated and the specific shelter to which each school within the affected area is being relocated; 5) instructions to pack clothing, medical supplies and food for special diets; 6) a telephone number for mobility-impaired persons, who have not made prearrangements, to call for assistance; 7) instructions for persons who need public transportation; and 8) instructions for pet owners. A Exh 2 ff. TR 690 at 18-19; AW Butterfield TR 1038. The county ESDA Coordinators may add any situation-specific information as is necessary. E.g., A Exh 4, SOP-8, Attachment C; A Exh 2 ff. TR 690 at 19.

74. The messages discussed in Findings 71-73 state that school children and nursing home residents are being well attended to by trained personnel, 30/ that there is no need to go to such

30/ School officials are responsible for the safety of children in their care and are aware of their responsibility. AW Fairrow TR 825-26. School officials are trained by IESDA and are responsible for informing teachers. Id. The specific responsibilities of teachers are matters within the ambit of internal school rules. AW Fairrow TR 826. The particular skills needed by teachers to function in a radiological emergency are not substantially different from those needed
(footnote continued)

locations, and clearly warn against entry into the affected area. In addition, the take shelter message instructs individuals to leave telephone lines free for emergency personnel use. The counties' EBS evacuation messages identify the specific shelters to which each school is being evacuated. Finally, the Braidwood Public Information Booklet specifically warns individuals not to attempt to pick up children or other persons at schools, hospitals, campgrounds or nursing homes and that if they attempt to do so, they will probably miss connections. A Exh 1, § 3. The Booklet also instructs persons not to use the phone unless they have a special emergency at their location. A Exh 1, § 3. This information, coupled with the description of the nature of the emergency contained in the EBS message, and the presence of traffic and access control posts, provide reasonable assurance that individuals will be deterred from attempting to go to or call schools or nursing homes. A Exh 2 ff. TR 690 at 22-23; AW Fairrow TR 824-25.

75. The fourth matter raised by Intervenor in its Reply with respect to Offer of Proof Issue 2 is as follows:

The evacuation recommendation messages in IPRA, Vol. VII, SOP-8, Attachment C include the instruction directing persons to proceed to the most convenient congregate care shelter in the assigned host community to which they evacuate, or ". . . If you have friends or relatives residing at least twenty miles away from you in one of the general directions to be used in your evacuation, you may elect to go there . . .". The Fairrow

(footnote continued from previous page)
to respond to tornadoes or snow storms. SW Wenger TR 990-91, 997.

affidavit discusses and describes the re-entry recommendation messages to be found in SOP-11, "Braidwood Station EPZ Re-entry." Broadcasting of the evacuation recommendation messages will result in the locating of evacuees to rural areas of the counties and throughout entire host communities, as well as to congregate care shelters in those communities. No provision is made in SOP-11 for the release of the re-entry messages by Media stations throughout the Braidwood ingestion zone so as to assure that persons who are sheltered in private homes and rural areas as well as congregate care shelters in host communities, will receive notification of the re-entry recommendations. SOP-11 assigns Grundy, Will and Kanakee ESDA county coordinators responsibility for public re-entry, notification, in conjunction with the Joint Public Information Center (JPIC). The additional cooperation of the Livingston, LaSalle, Kane, and Kendall county ESDA coordinators would have to be obtained to ensure notification of all evacuees. A media contact list for each county would also facilitate effective notification. (Fairrow affidavit, pages, 7-8; SOP-11).

76. Pre-scripted messages for "unrestricted" and "restricted" re-entry of the evacuees are provided in IPRA. A Exh 4, SOP-11. The "unrestricted re-entry" message instructs evacuees that the entire evacuated area is safe for re-entry (A Exh 4, SOP-11, Attachment D, at 1-2), while the message for the "restricted re-entry" informs evacuees that only a portion of the evacuated area may be re-entered. A Exh 4, SOP-11, Attachment D, at 3-4. The latter message describes the area that is safe for re-entry and the area that is not safe. Id. That information will be added to the pre-scripted message, at the time re-entry is recommended, by the county ESDA Coordinator after consultation with IDNS. E.g., A Exh 4. SOP-11, p. 3. The restricted re-entry

message also informs evacuees who cannot re-enter that shelters will remain open to accommodate them. A Exh 4, SOP-11, Attachment D, at 4. Both the unrestricted and the restricted re-entry messages provide the following information to returnees: 1) the re-entry routes to be used; 2) instructions for persons who need transportation for re-entry; and 3) a telephone number for persons who require special assistance. Additional instructions on precautionary information for returnees may be added by the county ESDA Coordinators. Id. at 1-4. SW Wenger ff. TR 931 at 13-14; A Exh 2 ff. TR 690 at 23-24.

77. The designated EBS stations (WJOL and WLLI), which are located outside the EPZ, will broadcast re-entry information. A Exh 2 ff. TR 690 at 25; SW Wenger ff. TR 931 at 13. Other EBS stations outside the EPZ (and covering Livingston, LaSalle, Kane and Kendall Counties) will monitor the designated stations and automatically rebroadcast re-entry information. A Exh 2 ff. TR 690 at 25; SW Wenger, TR 957. Persons in private homes and rural areas will have access to such broadcasts. Furthermore, it is the responsibility of the Regional IESDA Coordinator to disseminate information to the ESDA Coordinators in surrounding counties who will coordinate the provision of re-entry recommendations to individuals evacuated to their counties. A Exh 2 ff. TR 690 at 25.

78. Although the State maintains a media contact list by municipality, the IPRA does not and need not rely on the media, other than the EBS stations, to broadcast re-entry information. A

Exh 2 ff. TR 690 at 25. Press releases will, however, be issued by the State when it is safe to re-enter affected areas of the EPZ. Id. Accordingly, IPRA provides adequate means for dissemination of information concerning re-entry to persons at shelters outside of the EPZ.

79. "Offer of Proof" Issue 3 states:

Applicant must demonstrate its capability to adequately inform residential and transient populations within the EPZ in the event of an emergency so as to enable the populations to effectively evacuate or shelter including development of the specific means and content of such communications to specific populations.

80. Direct transmission of protective action recommendations to the public within the EPZ in the event of an emergency at Braidwood Station is the responsibility of offsite authorities. CECo, however, is responsible for the initial notification of offsite authorities (A Exh 4, Ch. 3, p. 2; A Exh 3, Ch. 5, p. 11), and for continuing communication with those authorities in order to provide them with accurate and timely technical information regarding the events and conditions at the Braidwood Station site, including expected radiological releases to the environment. A Exh 3, Ch. 3, p. 2. It is important to note, however, that while CECo will transmit news information to the media, such information is not relied upon to ensure that the public within the EPZ is apprised of protective action recommendations. Nevertheless, such information may supplement the protective action information provided through the EBS. A Exh 2 ff. TR 690 at 26; SW Wenger ff. TR 931 at 6.

81. The medium through which CECO informs offsite authorities is the NARS. NARS links the Station Control Room, CCC, TSC, EOF, and appropriate offsite authorities via a dedicated telephone communications system, thus limiting access to the designated organizations. A Exh 6 at 7-7. The responsible CECO official, upon being informed of an event that may represent an emergency condition, will complete a NARS form and communicate the information contained therein to appropriate offsite authorities over the dedicated phone lines. NARS is monitored 24 hours a day at the IESDA Dispatch Center, the IDNS REAC, and designated police or sheriff's dispatchers in each of the three counties in the EPZ. In addition to NARS, there are other phone lines, microwave systems and radio systems linking onsite and offsite emergency facilities. A Exh 6 at 7-3, 7-4; A Exh 3, Ch. 3, pp. 25-26; A Exh 2 ff. TR 690 at 30.

82. If the initial emergency condition is classified as an Unusual Event, Alert or Site Emergency, the responsible CECO official will simultaneously notify IESDA and the IDNS. A Exh 6, Figures 6.1-1(B), 6.1-1(C). If the initial condition is classified as a General Emergency, designated county authorities will also be notified simultaneously. A Exh 6, Figure 6.1-1(D). In the case of Braidwood, the county authorities are the designated representatives of Grundy, Will, and Kankakee Counties, the three counties within the EPZ. NARS permits simultaneous transmission of the emergency information to all of these authorities. A Exh 2 ff. TR 690 at 31.

83. Upon receiving notice from CECo, IESDA will verify the NARS message via commercial telephone lines, consult with IDNS regarding the general nature of the incident, and then notify the county dispatchers of the situation at Braidwood Station via NARS. The county dispatchers will also verify the NARS message and will then call their respective county ESDA Coordinators who will activate their EOCs and their emergency response personnel as necessary, even if the NARS message indicates that no protective actions have been recommended but that the counties should prepare for a possible recommendation. A Exh 5, SOP-1; e.g., A Exh 4, Vol. VII, Ch. 2A, pp. 5, 9; A Exh 2 ff. TR 690 at 32-33. Provisions exist in IPRA to notify and mobilize county officials on a 24 hour basis and to maintain EOC operations around the clock. The county call list contains each official's home and business telephone numbers and the home and business telephone numbers of each official's alternate. AW Fairrow TR 708. Alternates have been designated to facilitate 24 hour operations of the EOCs. AW Fairrow TR 708, 710, 719-20. In addition, the counties in the Braidwood EPZ have 24 hour dispatching capabilities. A Exh 5, SOP-2,3,4 and 5, Attachments B-L; e.g., A Exh 4, Ch. 2, pp. 1, 5, 7 and 45; A Exh 2 ff. TR 690 at 32-33.

84. The authority to issue a protective action recommendation such as to take shelter or to evacuate ultimately rests with the Governor of the State of Illinois. A Exh 3, Ch. 4, p. 3. Upon receipt of CECo's NARS information, including its protective action recommendation, IDNS analyzes all available technical

information and assesses the implications and consequences of the radiological incident. A Exh 3, Ch. 6, p. 1. Based upon this assessment, IDNS determines and provides their protective action recommendations to the Governor and IESDA simultaneously. Concurrent with the IDNS determination, IESDA determines the feasibility of implementing protective actions. Id. IESDA simultaneously advises the Governor and IDNS of their determination. The Governor makes the final decision concerning protective actions and commitment of State resources. Id.; A Exh 2 ff. TR 690 at 32-33.

85. Upon receipt of the Governor's recommendations, IESDA will inform the counties in the EPZ of the recommendation via NARS. Within fifteen (15) minutes after this notification, the counties will activate the local EBS station and the PNS. A Exh 4, Ch. 1 at 15-16; A Exh 5, SOP-6; A Exh 2 ff. TR 690 at 34.

86. The EBS stations designated for the Braidwood EPZ broadcast over two frequencies: 1340 AM (WJOL) and 96.7 FM (WLLI). A Exh 3, Ch. 1, at 15-16. The State and the three county ESDA Coordinators will provide messages to the EBS stations by telephone after sheltering or evacuation has been recommended. The State, through the Illinois Information Service, will contact the designated EBS station News Director, General Manager or their alternate and notify them that the Governor or IESDA Director is about to recommend protective action for the public. After receipt of a code word, the station will begin recording the State's message. The counties' messages will be received in a

similar manner. Id. Once received, the designated EBS station promptly broadcasts the EBS messages. A Exh 2 ff. TR 690 at 34-35.

87. The EBS messages from the designated EBS stations will be automatically relayed to nearby EBS affiliates for re-broadcast. A Exh 2 ff. TR 690 at 35. The counties within the EPZ may also notify other local radio stations of the emergency information. Id.

88. In her Reply with respect to Offer of Proof Issue 3, Intervenor specifically alleged the following:

The warning messages to be broadcast over the electronic siren public address system and over mobile public address systems, as contained in IPRA-Braidwood SOP-6, are deficient in that they contain no instruction as to how to shelter. The public address warning scripts assume listeners have radios available to them that they can use to tune into the designated EBS station. The scripts contain no instruction as to what action persons should take if they have no radio available to them. The warning scripts should contain a standard instruction which can be adapted to each location addressed, to indicate the closest location or authority persons can request additional information from concerning sheltering or evacuation. (IPRA, Vol. VII, SOP-6, Attachments C and D).

89. Specific sheltering instructions for the electronic and mobile public address systems would not seem necessary. Warning messages for the counties to broadcast over the electronic siren public address systems are provided in IPRA for both "take shelter" and "evacuate" conditions, and under either condition, these messages direct evacuation as the appropriate protective

action. A Exh 5, SOP-6. The electronic siren warning messages inform listeners that the Governor has recommended that the facility where they are located is being evacuated and that they should proceed to their vehicles and prepare to evacuate. Id. Listeners are instructed to tune their radios to the EBS station. A Exh 5, SOP-6, Attachment C. The mobile public address warning scripts advise listeners of the protective action recommendation and to tune to the EBS station. A Exh 5, SOP-6, Attachment D. Traffic and access control will be established to direct persons away from areas of risk. SW Wenger ff. TR 931 at 18; A Exh 2 ff. TR 690 at 36-37. Findings 59-64, 67-69, and 133-142 also describe the mechanisms for providing emergency information specifically to persons in recreational areas. Implementation of the above-described measures has been confirmed by FEMA through the Braidwood Station emergency exercise. SW Wenger ff. TR 931 at 19. Accordingly, the provisions of IPRA for warning messages to be broadcast over the electronic siren and mobile public address system are adequate.

90. "Offer of Proof" Issue 4 states:

The program for notification of the public at the time of an accident is deficient in that it provides no means of informing employers in the EPZ as to what actions they should take with respect to facility shutdown, sheltering, or the release of employee personnel in the event that evacuation is required.

91. Intervenor's Reply with respect to Offer of Proof Issue 4, specifically alleged the following:

IPRA, Vol. VII, SOP-8, "Sheltering and Evacuation, General Population," Section 4.1(E)1, assigns county ESDA coordinators to, "coordinate with the municipal ESDA Coordinators/Mayors to determine that provisions are being made to shelter or evacuate the affected transient populations." (including major industries) SOP-8 contains no other provisions with respect to employers. IPRA, Vol. VII, SOP-10, Sheltering, Evacuation, Re-entry - Special Concerns," contains no provisions with respect to employers. There are no provisions in the Braidwood emergency plan regarding employers except the provision in SOP-8 and the listing of employers attached to SOP-8. IPRA, Vol. VII, is deficient in that it contains no provision for a short instruction message to be given to employers at the time they are contacted in accordance with SOP-8, to inform them as to what actions they should take with respect to facility shutdown (i.e., whether they should close down the facility, or take steps to just minimize operations to avoid damage to equipment or machinery if required.) sheltering (i.e., where best location to shelter, and best means to prevent ingress) and the release of employee personnel in the event that evacuation is required.

92. Evacuation and take shelter recommendations for employers are generally the same as for the general public. Employers would receive notification of protective action recommendations through the PNS and the EBS. A Exh 2 ff. TR 690 at 38. In addition, IPRA also provides that county and municipal officials are responsible for notifying employers of take shelter or evacuation recommendations for affected "special facilities", which include industries in the EPZ with over twenty-five (25) employees. A Exh 5, SOP-8 at 5, 9 and 13; SW Wenger ff. TR 931 at 20-21; SW Wenger TR 994. IPRA, SOP-8, Attachments F, G, and H

identifies 17 industries in the Braidwood EPZ that constitute special facilities, exclusive of the Braidwood Station. A Exh 2 ff. TR 690 at 38; SW Wenger ff. TR 931 at 20.

93. With respect to provisions for shutdown of such facilities, employers are in the best position to determine the most appropriate actions to minimize damage to equipment or machinery. IESDA surveyed the shutdown times of these facilities. Based on that survey, 16 of 17 facilities can be shutdown without damage to the facilities within 60 minutes, and one, which operates only during the day, can be shutdown within 90 minutes. A Exh 2 ff. TR 690 at 38.

94. Training is available to employers on request. SW Wenger ff. TR 931 at 22. While training is not mandatory, the Applicant and the State have organized programs for encouraging participation in planning and training. SW Wenger TR 958-60. FEMA has reviewed and confirmed the adequacy of the provisions in IPRA for notifying employers. SW Wenger ff. TR 931 at 23. The Board concurs.

95. "Offer of Proof" Issue 6 states:

Applicant's public information program is deficient in that it fails to set out the means by which the public will be informed during an emergency of re-entry protective measures to be followed by the public in an emergency and the content of such means with respect to information concerning decontamination and interdiction of foodstuffs, water supplies, dairy and livestock, and field and garden crops.

96. Intervenor's Reply with respect to Offer of Proof Issue 6, specifically alleged that:

a. IPRA-SOP-11 contains no information or instructions concerning how to deal with decontamination and interdiction of foodstuffs, water supplies, dairy and livestock, and field and garden crops, except the provision that additional instructions may be provided concerning them at the time of re-entry. (IPRA, Vol. VII, SOP-11)

b. IPRA, Vol. VII, SOP-11 contains no information or instructions concerning the information described in material fact one from the Illinois Department of Agriculture, Illinois Environmental Protection Agency, or the Illinois Department of Public Health. A short instructional statement should be included in the re-entry message of SOP-11 to state that information regarding decontamination and interdiction of foodstuffs, water supplies, and care of affected air and livestock, will be provided to persons in the affected areas via EBS stations or contact from authorities, if required. The statement should also indicate information would also be provided concerning field and garden crops. (IPRA, Vol. VII, SOP-11)

97. The general contents and use of the re-entry messages, as found in IPRA Vol. VII, SOP-11, were addressed previously in Findings 76-77 above. Additional special instructions or precautionary information for returnees may be added by the county ESDA Coordinators. If any protective measures are necessary at the time of re-entry, IDNS will provide the information to the county ESDA Coordinators so that the information may be included in the re-entry message provided to the EBS station for broadcast. A Exh 3, Ch. 5, pp. 42-43; A Exh 2 ff. TR 690 at 39-40; SW Wenger ff. TR 931 at 24-26; SW Wenger TR 949-50.

98. Because the choice of the appropriate re-entry protective measures is dependent on a number of incident specific variables, such as the type of radiological release and weather conditions, it is neither feasible nor necessary to pre-script such information in re-entry messages. A Exh 2 ff. TR 690 at 40; SW Wenger ff. TR 931 at 25-26. Such information, however, will be provided both prior to and during re-entry. A Exh 2 ff. TR 690 at 40; SW Wenger TR 951-52.

99. The special instructions or precautionary information may consist of instructions to deal with decontamination and interdiction of foodstuffs, water supplies, dairy and livestock, and field and garden crops. This type of information would be provided by IDNS, after consultation with the appropriate State agencies. A Exh 3, Ch. 5, at 42-43. IDNS obtains information concerning the type and extent of radioactive contamination and acts as the coordinating agency for a number of State agencies which would perform technical functions in the event of an emergency. A Exh 3, Ch. 5, at 49. The Illinois Department of Agriculture is responsible for monitoring agricultural and horticultural products as well as meat, poultry and livestock. Id. at 51-52. The Illinois Environmental Protection Agency is responsible for monitoring water supplies for contamination. Id. at 53-57. The Illinois Department of Public Health responsibilities include identifying and disposing of contaminated food and dairy products. Id. at 61-63. Those activities of the three agencies are at the request and under the direction of IDNS. Id.

SW Wenger ff. TR 931 at 25-26; A Exh 2 ff. TR 690 at 40-41. Accordingly, IPRA makes adequate provisions for informing the public concerning protective measures to be taken regarding foodstuffs at the time of re-entry.

100. The provisions of IPRA assure that the public within the EPZ will be timely and adequately notified of protective action information in the event of an emergency at Braidwood Station.

Contention 1(b)

101. As admitted for litigation, Intervenor's Contention 1(b) states:

Intervenor contends that an adequate emergency plan for the Braidwood Station shall include the following:

* * *

(b) assurance that institutions within 10 miles of the Station, such as nursing homes can be evacuated or adequately protected in the event of a radiological emergency. 31/

102. The scope of this Contention is limited in a number of ways. First, the Contention challenges only the adequacy of the IPRA for the Braidwood Station. Second, the

31/ Contention 1(b) originally referenced hospitals and the federal prison of Joliet. By agreement of the parties, the reference to hospitals and the federal prison were deleted from the Contention because there are no hospitals within the EPZ and the federal prison at Joliet is outside the EPZ. Transcript of February 20, 1985 conference call, at 42-44; Transcript of July 23, 1985 Prehearing Conference, at 118-119; Prehearing Conference Order of August 1, 1985, at 4.

Contention addresses only the provisions in the IPRA for offsite "institutions" such as schools. Third, the Contention is limited to such institutions within the EPZ. In addition, based on Intervenor's responses to discovery requests and discussions between Intervenor and counsel for Applicant, the scope of this Contention has been further defined. First, the phrase "institutions" refers to nursing homes, schools, including parochial schools and pre-schools, 32/ and recreational areas. Second, as to these facilities, the Contention challenges the adequacy of the IPRA with respect to evacuation and sheltering of persons within these facilities.

103. The IPRA was developed in accordance with the guidance provided in NUREG-0654 and not only makes specific provisions for such facilities, but also provides sufficient flexibility to respond to unforeseen conditions at the time of a radiological emergency at the Braidwood Station. A Exh 2 ff. TR 690 at 43.

104. IPRA's provisions for ensuring that schools, recreational areas, and nursing homes within the EPZ can be adequately protected in the event of a recommendation to either evacuate or take shelter can be divided into three categories: (1) planning activities; (2) notification and communication procedures; and (3) responses to recommended actions. A Exh 2 ff. TR 690 at 43.

32/ Pre-schools include nursery schools and licensed day care centers.

SCHOOLS

105. Prior to undertaking any specific planning activities, IESDA conducted a detailed assessment of the schools within the Braidwood EPZ. IESDA first identified all of the public, parochial schools and pre-schools in the EPZ. IESDA identified 20 public schools, 2 parochial schools and 5 pre-schools located within the EPZ. IESDA then surveyed all of the identified schools, which involved visits and/or telephone calls to each of these schools, to obtain data regarding the student and staff population, the grade levels of the schools, the number of students bused to the schools, the number of buses available to each school, the number of bus drivers, the average number of student and staff cars, and information regarding the time required to mobilize available transportation. A Exh 2 ff. TR 690 at 44.

106. As a result of its surveys, IESDA prepared facility specific emergency instructions for each school including facility specific checklists to be used in the event of either an evacuation or a take shelter recommendation. A Exh 2 ff. TR 690 at 44, Exhibit A; AW Fairow TR 906. IESDA contacted all schools and developed specific ventilation checklists for each school covered by IPRA to assure that these facilities can close down ventilation and sources of outside air so as to provide protection against airborne contamination. AW Fairow TR 1017-18, 1024, 1038; A Exh 2 ff. TR 690, Exhibit A. These facility specific instructions have been provided to the regional and district school

superintendents. A Exh 2 ff. TR 690 at 44. The responsibilities of school officials and staff are discussed during the training sessions provided by IESDA for schools within the Braidwood EPZ. In addition, the data obtained from the schools were used to assess the transportation resources of the schools, to determine the appropriate congregate care center for each school and to determine any additional special needs of the schools. A Exh 2 ff. TR 690 at 44-45.

107. One of the activities conducted by IESDA and IDNS is emergency response training of school personnel and bus drivers. All of the regional and district superintendents and their alternates within the EPZ and the managers of the private bus companies were invited by IESDA to attend Executive Training. A Exh 2 ff. TR 690 at 45. In addition to Executive Training, the superintendents, school principals, teachers and bus drivers have been invited by IESDA to attend Operational and Radiological Emergency Worker Training conducted by IESDA and IDNS. Id. at 45-46.

108. To date, IESDA has conducted six Executive Training sessions for the regional and district school superintendents. On September 23, October 1, October 8 and October 30, 1985, municipal 33/ Executive Training sessions were attended by

33/ Executive Training is provided to both municipal and county school officials. The training sessions generally cover the same material, but municipal Executive Training emphasizes the role of the municipalities in an emergency while county Executive Training emphasizes the role of the counties. A Exh 2 ff. TR 690 at 46, footnote 5.

the senior school officials from South Wilmington, Braceville, Coal City and Gardner/South Wilmington. On October 2 and October 24, 1985, county Executive Training sessions were attended by the regional superintendents of Kankakee and Will Counties and the alternate of the Kankakee Regional Superintendent. In April 1985, the Regional Superintendent of Grundy County received Executive Training during the training sessions held for school officials in connection with the Dresden Station. A Exh 2 ff. TR 690 at 46-47.

109. During 1985, IESDA and IDNS conducted fourteen Radiological and Operational Emergency Worker Training sessions for communities within the Braidwood Station EPZ. Bus drivers and other school personnel were invited to attend these sessions. Id. at 47.

110. In addition to these training sessions, IESDA also conducted three IPRA orientation programs to familiarize school officials with the purpose of IPRA and the role of school officials in the event of an emergency. On September 9, 1985, an orientation program was held for the Reed-Custer Superintendent of Schools. On October 30, 1985, an orientation program was held at the request of the Coal City School Superintendent. In attendance were the Superintendent, three Coal City principals, the Coal City Terminal Manager of the Kline Bus Company, and the directors of two pre-schools. On November 13, 1985, an orientation program was also provided to the Gardner/South Wilmington Citizens Advisory

Council, a group comprised of parents and teachers, which advises the school administration. The Gardner/South Wilmington High School Principal also attended this program. Id. at 47.

111. As part of the annual training program, IESDA and IDNS presently plan to conduct Executive and Emergency Worker Training during the period October-November 1986. Invitations to attend these sessions will again be extended to the regional and district superintendents, the managers of the private bus companies, bus drivers, teachers and other regional and district school personnel, and the school staffs of the parochial schools and pre-schools. The State, in cooperation with the counties located in the EPZ, will also provide training at the request of any of the schools or other special facilities within the EPZ. Id. at 48. While training for school staff is desirable, it should be noted that the particular skills needed for responding to radiological emergencies are otherwise available to school personnel and are used for responding to more common emergencies such as tornadoes and snow storms. SW Wenger TR 990-91, 996-98.

112. Based on surveys conducted by IESDA, the transportation requirements of each of the schools within the EPZ were analyzed against the available bus resources. The nine school districts within the EPZ have a total population of approximately 6,850 including the students, faculty and staff of the two parochial schools and five pre-schools. The transportation

resources available under the IPRA are sufficient to ensure that evacuation of the school population can be effectively carried out. A Exh 2 ff. TR 690 at 48.

113. The sufficiency of these resources is supported by two levels of assessment. First, the more meaningful case involves evacuation of a segment of the population within the EPZ. Under emergency conditions an actual evacuation would most likely be carried out for the entire 0-2 mile area of the EPZ and within three sectors along the prevailing wind direction for the remainder of the EPZ. This "keyhole" approach to evacuation is thus a realistic measure of the expected demands upon transportation resources. In this regard, if it were assumed that the 0-2 mile area and the entire quadrant of the EPZ containing the largest school population (the Northeast quadrant) were evacuated, then 57 buses would be required. This quadrant has 35 buses normally available to its schools. The apparent shortfall of 22 buses could be met by additional buses available within the three counties which comprise the EPZ. These three counties (Will, Grundy and Kankakee) have an excess of 854 buses available to assist with evacuation of the EPZ. Based upon agreements between the county school districts and the regional school superintendents, the regional school superintendents (who are responsible for allocating bus resources in the event of an emergency, could make these buses available to meet the apparent shortfall. A Exh 2 ff. TR 690 at 48-49.

114. Second, as an upper bound case, if it were assumed that evacuation of the entire school population within the EPZ were required, the IESDA surveys show that 111 buses would be needed if no privately owned cars or other vehicles were used. The same surveys indicate that approximately 640 privately owned cars and other vehicles would be expected to be available. In this upper bound case, the schools within the EPZ have available to them 88 buses as part of their normal transportation resources. This shortfall of 23 buses could be met by the 854 additional buses available within the three counties that comprise the EPZ. A Exh 2 ff. TR 690 at 50.

115. Based on surveys of the schools, from the time the schools begin notifying the bus drivers, the buses could be brought to the schools in approximately 10 to 40 minutes. A Exh 2 ff. TR 690 at 50.

116. IESDA conducted a survey of the number of bus drivers available throughout the three counties which comprise the EPZ as well as the bus drivers normally available to the school districts in the EPZ. Of the three counties, the Regional Superintendent of Schools of Kankakee County has 217 bus drivers available, the Grundy County Regional Superintendent of Schools has 115 bus drivers available and the Will County Superintendent has 553 bus drivers available. Within the school districts in the EPZ, there are 84 regular bus drivers, 14 substitute bus drivers and 15 school personnel who are qualified as bus drivers. Assuming an evacuation of the 0-2 mile EPZ and the entire

Northeast quadrant, the schools in that quadrant could be evacuated using approximately 57 drivers. Even if the entire EPZ were to be evacuated, the schools would require only 111 drivers. Based on the number of drivers available to the schools, as well as those available to the regional school superintendents, there are sufficient bus drivers available to evacuate the schools within the EPZ. A Exh 2 ff. TR 690 at 50-51.

117. Pursuant to State law, all of the school buses, including the buses owned by the private bus companies, are required to be maintained in good working condition. Moreover, State law requires school buses to undergo a minimum of two State inspections per year. Id. at 51.

118. Any abnormal event or condition at the Braidwood Station will be analyzed by personnel at the Station under criteria prescribed by the Braidwood onsite emergency plan to determine into which, if any, emergency response category it falls. Id. at 52.

119. If a condition or event occurs at the Station that falls into any of the pre-designated emergency response categories, the Station will give timely notification to the State. To minimize delay and communication problems, this notification and subsequent updates will be provided using NARS, which links the utility, State and county governments. As noted in Findings 80-85, NARS communicators will use a structured, coded form to notify the State and affected counties of the emergency and the recommended protective actions to be taken, if any. The State will

notify Will, Grundy, and Kankakee Counties via the NARS. If the situation warrants, the counties will notify the municipalities within the EPZ, activate the county EOCs, and mobilize appropriate personnel. NARS will also be used to provide continuous updates on the status of the emergency and any recommended protective actions. *Id.* at 52.

120. In the event of an emergency at Braidwood Station requiring notification of schools, the county regional superintendents of schools, who will be stationed at each of the county EOCs, will first coordinate with the county ESDA Coordinator and then contact the affected district superintendent of schools regarding the recommended take shelter or evacuation protective actions. The regional superintendent will also brief the district superintendents on the situation. *Id.* at 53; SW Wenger ff. TR 931 at 28.

121. The district superintendents will contact the principals of the affected schools, including the parochial schools and pre-schools. 34/ The school principals will be told to implement the appropriate protective actions as provided in the

34/ Intervenor established that it is possible that where the principal doubles as a superintendent and is located away from the school, phone lines could be tied up when that principal attempts to contact the school. AW Fairrow TR 826-28. The school, however, can call the municipal EOC for assistance and there is no reason that both calls could not be made quickly. AW Fairrow TR 828. The actual activities in response to an emergency would be handled by school personnel located at the school, with assistance of the municipal EOC, and there is no need for additional contact. *Id.* Irrespective of whether the principal is at the school location, he can and will assure that the instructions provided by IPRA are carried out. AW Fairrow TR 1023-24.

emergency instructions prepared for each school. The district superintendent will also determine the availability of buses and bus drivers and provide that information to the regional superintendent. If for any reason an affected school can not be contacted by telephone, the municipal ESDA Coordinator will dispatch a police officer or other municipal personnel to the affected school in order to notify the school principal of the required action. 35/ Any changes in the recommended action will be communicated to the affected schools in a similar manner. A Exh 2 ff. TR 690 at 53.

122. In order to ensure timely notification, the IPRA provides a list of the telephone numbers and contact points at each of the affected schools in the EPZ. This information is provided to both the regional and district school superintendents. Id. at 54.

123. If protective actions are required as a result of an emergency at the Braidwood Station, the IPRA provides for response actions to be taken at the regional, district and individual school level. If sheltering is recommended, the

35/ Intervenor raised the particular question concerning whether telephone communications at small schools, such as Essex Elementary, would be adequate in light of the fact that such schools may have only one phone line. In that case, school officials must advise incoming callers of the emergency and the need to leave the line free if the school should have to seek assistance from the municipality or county. AW Fairrow TR 823-24. If the county or municipal EOC cannot reach the school, IPRA provides that the EOC will send a person to the school to establish contact. Id. In the case of Essex Elementary, the municipal EOC is only three blocks away and if telephone communications are poor, assistance can be sought or rendered on foot. AW Fairrow TR 1021-22.

regional superintendent will immediately contact the affected district superintendent and brief the district superintendent on the situation. The regional superintendent will direct the district superintendent to place all school bus drivers on call or standby and verify that all affected schools have been notified of the take shelter recommendation. Id.

124. The district school superintendent, after notifying the principals of the affected schools of the recommended action, will coordinate with the principals to determine the number of buses required for evacuation, and will place bus drivers on call or standby. The district superintendent will report the availability of buses and drivers to the regional school superintendent. Id. at 54-55.

125. Upon receipt of the information from the district school superintendents, the regional superintendent will assess the availability of school buses and bus drivers and make any necessary arrangements for additional buses or drivers, drawing on buses and drivers available throughout the school districts in the county (including those of the private bus companies.) The regional superintendent will coordinate with the district superintendents to determine that all protective actions for take shelter are complete. Id. at 55.

126. Upon notification of a take shelter recommendation, the affected school principals will implement the emergency sheltering instructions developed for each school within the EPZ. Id. at 55, Exhibit A. Intervenor raised the issue of whether IPRA

identified the "best" building characteristics for sheltering in place in schools and other special facilities. The protective action of sheltering in place would be taken to avoid the risk of receiving greater exposure from leaving a building, rather than remaining inside. AW Fairrow TR 902-04. NUREG-0654 requires closing off ventilation to provide an envelope of contained air to protect against airborne contamination, and most buildings can be sufficiently closed to provide adequate sheltering in place. SW Wenger TR 961-62, 974; AW Fairrow TR 1017-18, 1038. While some structures may provide more structural shielding than others (AW Fairrow TR 902), the IESDA surveys and sheltering instructions properly focused upon the adequacy from the standpoint of ventilation. AW Fairrow TR 1043-44. Even though it may seem "better" to relocate students to a structure with more structural shielding, it would defeat the purpose of sheltering in place by subjecting them to the risk of exposure. AW Fairrow TR 902-04. Relocation would only make sense if it were known that no release was imminent, but the only case in which sheltering will be ordered without a release is one in which a release could be imminent and in which relocation would cause a risk of unnecessary exposure. AW Fairrow TR 1032-33, 1038-40.

127. In the event of a recommendation to evacuate, the regional superintendent will coordinate with the county ESDA Coordinator to determine the appropriate evacuation actions to be taken. The county ESDA Coordinator will provide the evacuation routes to the regional superintendent. The regional superinten-

dent will also obtain the name and location of the congregate care shelters to which the affected schools will be evacuated. The congregate care shelters are pre-designated for each school and listed in IPRA. A Exh 5, SOP-9, Attachments K, L, and M; A Exh 2 ff. TR 690 at 56.

128. Once the evacuation routes and congregate care shelters are identified, the regional superintendent will notify the district superintendent of the evacuation routes and the location of the congregate care shelters. The district superintendent will be instructed to contact all affected school principals, mobilize buses and bus drivers at the affected schools and inform them of the evacuation routes and the location of the congregate care shelters. Should any of the affected schools require transportation assistance, the regional superintendent will coordinate the mobilization of additional buses and drivers needed by the affected schools. The regional superintendent will also determine whether any assistance is required at any of the congregate care shelters. After verifying that the affected schools have completed the evacuation, the regional superintendent will report to the county ESDA Coordinator and recommend that a press release be issued notifying the public of the actions taken. A Exh 2 ff. TR 690 at 56-57.

129. After receipt of notification to evacuate, the district superintendents will notify the school principals of the evacuation recommendation and advise them of the evacuation route and congregate care shelter locations. The principals will be

directed to implement the specific emergency evacuation instructions developed for the particular school. Id. at 57; see, A Exh 2 ff. TR 690, Exhibit A. Once the instructions are implemented and buses are proceeding out of the EPZ, IDNS will assure that monitoring for contamination and decontamination of vehicles and persons is properly carried out. IDNS will monitor the environment within the EPZ and provide the necessary controls over vehicles that may have become contaminated within the EPZ at congregate care centers. AW Fairrow TR 830-31; AW Field TR 869-71. IDNS would not stop vehicles from leaving the EPZ (AW Field TR 858) and thus, checkpoints and resulting bottlenecks to orderly evacuation would not be expected. The first priority would be to get vehicles out of the EPZ. AW Field TR 868-69. If contamination of buses occurs, IDNS would quickly survey the buses at the congregate care centers, safely offload passengers, and segregate the buses for controlled decontamination. AW Field TR 859, 864-65. Any contaminated individuals would be taken into the congregate care center, registered, and decontaminated. AW Field TR 859-60, 866.

130. Upon receipt of notification from the district superintendent, the school principals will, if sheltering had not previously been recommended, implement the sheltering provisions of the school's emergency instructions. The school principal will contact the district superintendent for any required assistance, and will inform the district superintendent when all students, faculty and staff have been evacuated. A Exh 2 ff. TR 690 at 57.

131. The IPRA provides for continual monitoring of the actions taken by the affected schools to ensure that any requests for assistance are promptly answered. ^{36/} In addition, information regarding transportation requirements at the affected schools is required to be provided to the regional superintendent once a take shelter recommendation is made. Any request for other assistance, such as medical assistance, is communicated to the district superintendents in the municipal EOC by the particular school principal. If the request cannot be acted upon by the municipal EOC, the district superintendent will forward the request to the regional superintendent in the county EOC. The ESDA Coordinator at the county EOC is responsible for ensuring responses to any such requests. The county EOC will be staffed by representatives of the sheriff's department, the health department, and various other service agencies. If a particular request cannot be acted upon at the county level, the county ESDA Coordinator will coordinate with the IESDA representative in the county EOC for additional assistance through the State Forward Command Post located in Mazon, Illinois. Id. at 58.

^{36/} Intervenor raised the question of how authorities would respond if a wind shift occurred while buses were enroute in an evacuation and required rerouting. CECO and the State will continuously monitor wind direction and speed and both will dispatch field radiological monitoring teams into the EPZ during an emergency. AW Butterfield TR 891. If the wind shifts, communications could be maintained for rerouting, since most buses have two-way radio capability and it would be common practice to have law enforcement escorts for buses during the evacuation. AW Fairrow TR 828-29, 1021. In addition, the EBS messages would provide the evacuation route changes as well. AW Fairrow TR 1037.

132. Based upon the planning activities, notification and communication procedures, and responses to protective actions set forth in Findings 105-31 above, IPRA provides reasonable assurance that schools, including nursery schools and day care centers, can be adequately protected and evacuated in the event of a radiological emergency. 37/ SW Wenger ff. TR 931 at 30.

RECREATIONAL AREAS

133. The provisions of the IPRA relating to protective actions for persons in recreational areas in the event of an emergency at the Braidwood Station, can also be broken down into three components: (1) planning; (2) notification and communications; and (3) response to recommended action. 38/ A Exh 2 ff.

37/ Intervenor established the fact that there has never been a full evacuation of an entire school population during an exercise. SW Wenger TR 936-39. Although limited evacuations of school populations have been undertaken for exercises, the potential liabilities are significant and parental consent would be needed and difficult to obtain. SW Wenger TR 989-90. While a full evacuation could have value, without it there is still reasonable assurance that the plan will function as designed. Id. The skill needed by school personnel for evacuation are not significantly different from those normally exercised for more common events such as snowstorms. SW Wenger TR 990-91, 996-98.

38/ On March 5, 1986 Intervenor filed an application for a subpoena to David Dvorak, whom Intervenor represented to be the village President of Essex and the Manager of the South Wilmington Sportsman's Club. While the Board issued the subpoena, it reserved ruling on whether the testimony of Mr. Dvorak would be heard. TR 666-68, 678-81. Intervenor was not able to and did not serve Mr. Dvorak, and at the conclusion of the hearings, indicated that she had no further case to present. TR 1049. The issue that Intervenor apparently sought to raise through this witness - the matter of persons having dual roles as public officials and in recreational areas under IPRA - is addressed below in this portion of the Board's findings.

TR 690 at 59.

134. The planning effort for the recreational areas began with the identification of all recreational areas within the EPZ and an assessment of their main characteristics. A listing of all recreational areas, including the name of a contact person for the area and his phone number is included in IPRA. A Exh 4, SOP-8, Attachments F, G, H. Each of the recreational areas was contacted by a representative of IESDA and data obtained regarding the season of operation, the average number of visitors by season, the number of peak day visitors, the number of overnight visitors, and the average number of buses and private vehicles present at the area on a daily basis. A Exh 2 ff. TR 690 at 59.

135. Sirens are being installed around all recreational areas. The sirens have been placed so that the alert tone is capable of being heard throughout the particular area. With the exception of three recreational areas, 39/ sirens with public address systems are being installed. The public address capability of the sirens will generally provide coverage in parking lots and at other areas where people are expected to congregate and will be used to provide specific instructions in the event of an emergency. A Exh 2 ff. TR 690 at 59-60.

39/ It was determined that no public address capability was needed at these three areas because of their location and/or daily usage. A Exh 2 ff. TR 690 at 60 note 6; AW Fairrow TR 739-40, 1028-30.

136. Signs will be offered to each of the recreational areas informing visitors of the purpose of the sirens and instructing them to listen to either of the two EBS stations which will broadcast emergency information. The signs will generally be installed in parking lots, and other areas where people are expected to congregate. Additionally, Braidwood Public Information Brochures have been distributed to each of the recreational areas. 40/ Id. at 60.

137. In the event of a protective action recommendation or a General Emergency, the sirens located in the recreational areas will be activated. The electronic sirens that are located

40/ During the evidentiary hearing, Intervenor established that the distribution and display of Booklets at recreational areas did not assure that each person in a recreational area would, in fact, have a Booklet. AW Fairrow TR 916-18. A Booklet is, however, available to any person wishing to have one, and residents of the EPZ will have already received one through mailing. The Booklets are distributed in bulk in late spring to assure that they will be available at the time of greatest demand, and quantities are determined by the recreational facility, or if no specific quantity is requested, the Applicant provides a quantity based upon prior experience. AW Butterfield TR 912-13. If recreational facilities exhaust their supply or determine a need for more, the Applicant will furnish more upon request. Id. The Applicant instructs recipients of bulk distributions to make all persons working in the facility familiar with the Booklet and discuss it with them. AW Butterfield TR 1024-26. The Applicant attempts to impress on recipients the importance of the information, and properly relies upon those most knowledgeable (those in charge of the facility) to determine the best location for display and dissemination. Although it is possible that an individual in a recreational area may not have a Booklet, the provisions for distribution, and the availability of sirens, siren public address and EBS messages to persons in recreation areas indicate a minute probability that persons in recreational areas will not be reached with essential information in a radiological emergency. SW Wenger TR 974-75.

in all but three of the recreational areas are battery-powered and are on continuous charge, so that in a loss of power event the sirens will still operate. AW Butterfield TR 760-63. In addition, mobile public address systems will be dispatched as a backup if for some reason the battery-powered sirens do not operate. 41/ SW Wenger ff. 931 at 7; SW Wenger TR 923. After the sirens have been sounded, the county ESDA Coordinator will direct the activation of the public address systems located at the recreational areas and provide the appropriate script. The public address systems will advise the visitors in the recreational area to evacuate the area and to listen to either WJOL 1340 AM or WLLI 96.7 FM for further information. A Exh 2 ff. TR 960 at 60-61. Intervenor's questioning attempted to establish that the provisions of IPRA may not be sufficient to reach all persons in recreational areas, particularly those in remote or inaccessible portions of those areas, with notification of an emergency and

41/ The sirens are intended for notification of the public. It should be noted that the PNS is not relied upon by IPRA for notification of public officials and persons responsible for recreational areas; rather, direct telephone contact from IPRA call lists is the primary means for making these notifications. AW Fairrow TR 702-3. Telephones are not dependent upon electrical power for operation. AW Butterfield TR 722. If persons on call lists cannot be reached, an emergency response person will be dispatched to provide the notification, AW Fairrow TR 703-705. It is expected that the notification process for officials will generally begin before notification of the public. AW Fairrow TR 713-14. Although some officials may receive initial notification by means of a siren tone alert, the use of the IPRA call list, backed up by the use of pagers, radios, and fire phone systems used for more common emergencies, are the primary means for notifying officials. AW Fairrow TR 707-10, 713-14. Thus, the provisions of IPRA provide reasonable assurance that these notifications will be received.

information concerning protective action recommendations. If a person were in an inaccessible area, he would hear a siren and seek a source of information. AW Fairrow TR 745; AW Butterfield TR 736. The persons responsible for recreational areas have Booklets and can provide information if the individual does not have or is not familiar with the Booklet. AW Fairrow TR 743. Signs will be offered to recreational areas that advise persons to tune their radios to the EBS station. AW Fairrow TR 734. The signs do not state the reason for the advice, but providing the reason for the advice would not hasten a response. AW Butterfield TR 738-39. IPRA does not rely on the assumption that all people have radios, since the electronic siren public address capability can reach people with information concerning protective action (AW Fairrow TR 739), and mobile public address systems will supplement that capability. SW Wenger ff. TR 931 at 18-19. Persons on large bodies of water can be notified and moved by the sheriff, Department of Natural Resources and Corps of Engineers. SW Wenger TR 963. While it is possible that persons in remote or inaccessible areas will not receive notification and protective action information (AW Fairrow TR 746), the multiple notification/information measures established by IPRA provide reasonable assurance that persons will be reached (SW Wenger TR 963-964), and there is a very small probability that this will not occur. SW Wenger TR 974-75.

138. A predesignated contact person at each recreational area will be contacted by telephone from a county or municipal EOC and instructed to evacuate the area. If the contact person or his alternate is not available and assistance is needed, the county or municipal EOC will provide the necessary personnel. 42/ AW Fairrow TR 1023. If telephone communication with the recreational area is not possible, the county or municipal EOC will dispatch a law enforcement or other responsible official to the area to ensure that the evacuation is being carried out. A Exh 2 ff. TR 690 at 61; AW Fairrow TR 1046. Any changes or additional instructions will be communicated to the recreational area through the public address system and by telephone. A Exh 2 ff. TR 690 at 61.

139. Because most of the recreational areas do not have sheltering capability, the recommended action will, in all cases, be to evacuate the area. The pre-scripted message for the public

42/ Intervenor undertook considerable questioning about persons with dual roles as public officials and persons responsible for recreational areas under IFRA. There are only three persons identified in IPRA with such dual roles. AW Fairrow TR 1022, 1045. IPRA specifies an alternate for each such public official and they are aware of their roles. AW Fairrow TR 719-20, 724-25, 732. If an alternate is not available at a municipal or county EOC, those present will fill in. Indeed, during the November, 1985 Braidwood exercise, the Village President of Essex became unavailable, and those present filled in and performed effectively. AW Fairrow TR 1023. If additional personnel are needed, the county EOC and ultimately the State can provide any assistance. AW Fairrow TR 1022-23. The provisions of IPRA have sufficient depth and flexibility to easily accommodate the minor impediment that would be represented by the limited number of persons with dual roles.

address system calls for evacuation as the appropriate protective action if either take shelter or evacuation is recommended. A Exh 2 ff. TR 690 at 61.

140. Once the recreational areas are notified to evacuate, visitors in the areas will be instructed by the public address system to tune in one of the EBS radio stations for further instructions. In addition, the traffic and access control posts, listed in the IPRA and manned by local and State law enforcement officials, will ensure that all persons leaving the recreational area will proceed out of the EPZ in the proper direction. Traffic and access control posts will be located around the perimeter of the affected sectors to be evacuated. In addition, the municipal police will dispatch roving squad cars to provide security within their municipalities, and assist persons evacuating the EPZ. Id. at 62; SW Wenger ff. TR 931 at 18.

141. Any requests for transportation assistance will be made through the municipal and county EOCs. Recreational area contact persons will be accountable and responsible to notify persons within the area, to determine whether persons need transportation, and assure that protective actions are properly carried out. SW Wenger TR 978-83. The county ESDA Coordinators are specifically required by the IPRA to monitor the status of the transportation needs of the recreational areas and to coordinate with the regional school superintendents to provide transportation

assistance. Requests for other types of assistance will be made to the municipal and county EOCs and will be handled in a manner similar to requests from schools. A Exh 2 ff. TR 690 at 62.

142. Based upon the planning activities, notification and communications, and responses to recommended action set forth in Findings 133-41 above, IPRA provides reasonable assurance that recreational areas can be adequately protected and evacuated in the event of a radiological emergency. SW Wenger ff. TR 931 at 30; See, Findings 59-64, 67-69, and 89.

NURSING HOMES

143. The Royal Willow Nursing Care Center ("Royal Willow"), is the only nursing home in the Braidwood EPZ. In regard to Royal Willow, the State has undertaken substantial planning activities to ensure that adequate measures are in place under the IPRA to shelter or evacuate the patients and staff in the event of an emergency at the Braidwood Station. A Exh 2 ff. TR 690 at 63.

144. After determining that Royal Willow was the only nursing home in the EPZ, IESDA surveyed the facility to ascertain the number of patients and staff, the number of non-ambulatory patients, the available transportation and the transportation needs of the facility in the event evacuation were ordered. In addition, the Royal Willow facility was surveyed in order to prepare facility specific emergency instructions including ventilation and transportation checklists. Id. at 63.

145. On July 16, 1985, a meeting was held with the Royal Willow Director to discuss the sheltering and evacuation of Royal Willow in the event of an emergency at Braidwood Station. An information package addressing the role and responsibilities of IESDA, the purpose of IPRA, and Braidwood Station facts was provided to the Director. Extra packages were provided for the staff's review. A copy of IPRA Vol. VII, SOP-10, Attachment E, "Royal Willow Nursing Care Center Sheltering, Evacuation and Re-entry Instructions", was reviewed with the Director. These instructions provide detailed procedures to be followed by Royal Willow in the event of an emergency at Braidwood Station. A Exh 4, SOP-10, Attachment E, Exhibit B. In addition, the State has provided dosimeters and potassium iodide tablets to Royal Willow. A Exh 2 ff. TR 690 at 63-64.

146. Once the emergency instructions were developed and discussed with the Royal Willow Director, IESDA conducted an orientation program and later a training session at the Royal Willow facility which were attended by the Director and staff. On July 29, 1985, twenty-eight Royal Willow staff persons and the Director attended a presentation on IPRA in general and on the IPRA-Braidwood in particular. During the presentation IESDA discussed the Royal Willow staff role in response to an emergency at Braidwood Station, protective and parallel actions, and emergency worker training. A question and answer period followed the presentation. IESDA information packages were provided to the Royal Willow staff. Id. at 64.

147. On September 23, 1985, IESDA conducted Operational Emergency Worker training and IDNS conducted Radiological Emergency Worker training for the Royal Willow staff. The Royal Willow staff will be invited to attend annual retraining sessions to refresh those who have previously received training and to provide initial training to new members of the staff. Id. at 64-65.

148. The transportation needs of Royal Willow were assessed in light of the physical condition and number of patients at Royal Willow. The current resident population is 140 persons. Of these, 70 are ambulatory and 70 are non-ambulatory. However, only 2 of the non-ambulatory residents would require special transportation arrangements (i.e., ambulances) with the remainder transportable in regular cars or buses. The staff of Royal Willow consists of 63 persons. Of these, 30 persons are on the day shift, 25 persons are on the afternoon shift and 8 persons are on the night shift. Id. at 65.

149. Based on this information, it was determined that the entire staff and patient population of Royal Willow could be evacuated using 3 buses and 2 ambulances, assuming no private vehicles are used. In the event of an evacuation, any needed transportation assistance would be provided through the Wilmington EOC. If the resources available to the Wilmington EOC were insufficient, the Will County Regional School Superintendent will provide the buses from the pool of 605 buses available in Will County. If ambulances are needed, there are 15 ambulances located

in the Braidwood EPZ, including 3 located in Wilmington, with an additional 37 ambulances available through mutual aid agreements. In light of these transportation resources, there will be an ample number of vehicles available to transport and evacuate all the residents and staff of Royal Willow in the event of an emergency at the Braidwood Station. Id. at 65-66.

150. If an emergency situation exists the counties will notify the municipalities affected and the municipal EOCs will be activated. Personnel at the municipal EOC will notify personnel at the special facilities, including the Royal Willow Director, and inform them of the recommended protective action and brief them on the situation. The Royal Willow Director will be instructed to implement the appropriate provisions of the emergency instructions developed for Royal Willow. Id., Exhibit B. The Director will be instructed to place all requests for assistance through the Wilmington ESDA Coordinator. A Exh 2 ff. TR 690 at 66.

151. If the recommended protective action is evacuation, the Royal Willow Director will be told the location of the congregate care shelter. The Director will also be asked whether any of the patients require Special Care Shelters. If so, the Director will be advised of the location of the Special Care Shelters able to provide the necessary medical attention. Id. at 67.

152. If a take shelter recommendation is made, the Royal Willow Director will complete the tasks required by the Royal Willow emergency instructions. In addition, the Royal Willow Director will prepare for possible evacuation. Id. at 67-68, Exhibit B.

153. If the Director receives a recommendation to evacuate, he will take the actions required in the Royal Willow emergency instructions. Id. at 68-69, Exhibit B.

154. If the Royal Willow Director requires assistance to evacuate, he would contact the Wilmington ESDA Coordinator at the Wilmington EOC. Representatives of the fire and police departments, the Wilmington Superintendent of Schools, the Public Works Department and the Water Department will be located at the Wilmington EOC. If the immediate resources available to the Wilmington ESDA Coordinator are not sufficient, the ESDA Coordinator will contact the Will County ESDA Coordinator for assistance. Id.

155. The provisions of IPRA governing sheltering and evacuation of individuals in nursing homes, recreational areas and schools within the EPZ permit the timely and effective sheltering and evacuation of such individuals. Id. 70. IPRA provides reasonable assurance that special facilities, such as schools, recreational areas, and nursing homes are provided for in planning and can be adequately protected and evacuated in the event of a radiological emergency. SW Wenger ff. TR 931 at 27-30.

Contention 1(a) and 1(b)

156. Intervenor inquired as to whether there were any FEMA criticisms arising from the November 16, 1985 Braidwood emergency exercise that related to Contentions 1(a) and (b). The FEMA witness testified that there were no such criticisms. SW Wenger TR 940-48. Given his position within FEMA, he would be aware of such criticisms if they existed, and he therefore has a reasonable degree of confidence that there were none. SW Wenger TR 991-994. Furthermore, Mr. Wenger testified that, as a result of the planning process undertaken for Braidwood, there is reasonable assurance that responsible public officials are adequately informed regarding their duties and responsibilities, and adequately trained. SW Wenger TR 933. He concluded that satisfactory provision has been made for dissemination of emergency information to the public (SW Wenger ff. TR 931 at 10) and that IPRA provides reasonable assurance that persons at nursing homes, schools, and recreational areas can be adequately protected or evacuated in the event of a radiological emergency at Braidwood Station. SW Wenger ff. TR 931 at 30.

157. During the course of the evidentiary hearings, Intervenor devoted a considerable amount of time to questioning concerning the rapidity with which nuclear accidents can proceed in sequence from initiating event to offsite dose consequences, with the apparent ultimate aim of showing that the provisions of IPRA are insufficient to cope with fast developing sequences of events. While Intervenor never developed a nexus between this

apparent aim and the contentions at issue in the hearing, the record nevertheless indicates that the provisions of IPRA are sufficient and flexible enough to accommodate a range of events consistent with applicable NRC/FEMA guidance. While IPRA does not contain an explicit assumption to this effect, in general, a radiological emergency will be slow developing in its progression from initiating event to offsite consequences. AW Fairrow TR 714, 763. Planning within IPRA is based upon a range of accident sequences as measured by four accident classifications, which have been developed for IPRA and GSEP, based upon guidance in the form of assumptions set forth in NUREG-0654 concerning the timing and duration of releases. AW Fairrow TR 756; AW Butterfield TR 763-64, 784-89; A Exh 2 ff. TR 690 at 27-28. Although fast developing accidents are possible and dependent on many situation-specific factors, the time to identify, diagnose, classify and provide public notification is estimated in the range of 20-25 minutes or longer. AW Butterfield, Fairrow TR 773-78, 790-804. Of course, a still longer period of time would elapse before offsite consequences would occur, and more rapid windspeeds (and hence rapid consequences) would be accompanied by greater atmospheric dispersion (and hence lower concentrations and lower consequences). AW Butterfield TR 816, 821. The applicable regulatory requirements contemplate licensee notification of the State or local governmental agencies within 15 minutes after declaration of an emergency and governmental agency activation of the PNS within 15 minutes after a determination is made that protective action is

necessary. The record indicates that these requirements can and will be satisfied. AW Butterfield TR 793-94; A Exh 2 ff TR 690 at 31, 34; see, 10 C.F.R. Part 50, App. E, § IV.D.3. While the accident classifications in IPRA and GSEP are defined in terms of offsite consequences and are not explicit in regard to rapidity of the underlying accident sequences, IPRA and GSEP require simultaneous, direct notification and an automatic take shelter recommendation to the State and counties by the licensee if the initial emergency condition is classified as a general emergency. AW Fairrow TR 756-57; AW Butterfield TR 770, 793, 832-33; A Exh 2 ff. TR 690 at 31. In that event, the plan can and will be implemented with an urgency commensurate with the rapidity of the event, and thus the Braidwood emergency plan provides sufficient measures to accommodate the range of events that can be reasonably expected in a radiological emergency. AW Butterfield TR 770-71.

VI. CONCLUSIONS OF LAW

1. On the basis of the foregoing Initial Decision and Findings of Fact, the Applicant has sustained his burden of persuasion as to each contested emergency planning issue in these proceedings.

2. With respect to each contested emergency planning issue in these proceedings, the emergency plan for Braidwood Station provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. 10 C.F.R. § 50.47(a)(1).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNRC

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

'86 APR -4 P4:40

In the Matter of)
COMMONWEALTH EDISON COMPANY)
(Braidwood Station, Units 1 and 2))
_____)

Docket Nos. 50-456-QL
OFFICE OF DOCKETING AND SERVICES
50-456-QL

CERTIFICATE OF SERVICE

I hereby certify that copies of the attached Applicant's Proposed Partial Initial Decision (Emergency Planning Issues) were served on the persons listed below by deposit in the United States mail, first-class postage prepaid, unless otherwise indicated, this 4th day of April, 1986.

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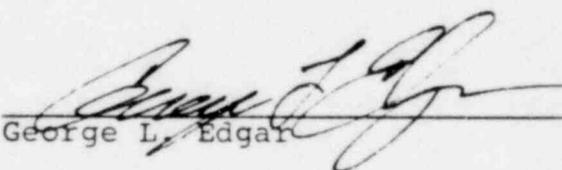
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