

CR #5575

BEFORE THE
ATOMIC ENERGY COMMISSION

In the matter of

Application of:

WISCONSIN PUBLIC SERVICE CORPORATION

Docket No. 50-305

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

Room 5102,
Federal Office Building,
17th & H Streets, NW,
Washington, D.C.

Tuesday, 11 June 1968

Pre-hearing conference in the above-entitled matter
was convened, pursuant to notice, at 2:00 p.m.

BEFORE:

JAMES E. GLEASON, Chairman of the Atomic Safety and
Licensing Board.

DR. THOMAS H. PIGFORD, Member.

DR. CLARK WILLIAMS, Member.

Dr. CHARLES E. WINTERS, Alternate Member.

APPEARANCES:

STEVEN E. KEANE, Foley, Sammond & Lardner, 735
North Water Street, Milwaukee, Wisconsin; and
CYRIL V. SMITH, JR., and JOHN B. DENNISTON,
Covington & Burling, 701 Union Trust Building,
Washington, D.C.; for the Applicants.

THOMAS F. ENGLEHARDT, Regulatory Staff, U.S. Atomic
Energy Commission, Washington, D.C.

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P R O C E E D I N G S

CHAIRMAN GLEASON: Meeting will come to order,
please.

This proceeding is a prehearing conference conducted
by the Atomic Safety and Licensing Board designated by the
U.S. Atomic Energy Commission.

The Board is composed of Dr. Thomas H. Pigford,
Professor of Nuclear Engineering at the University of California,
Dr. Clark Williams, Brookhaven National Laboratory, myself,
James B. Gleason, attorney from Washington, D. C. Dr. Charles
H. Winters of the Palomar Research Center, Union Carbide
Corporation, Cleveland, Ohio, is also with us. Dr. Winter
has been designated as the technically qualified alternate
to the Board.

This conference has been authorized by a notice of
hearing for application for a provisional construction permit
by the Wisconsin Public Service Corporation, Wisconsin Power
and Light Company and the Madison Gas and Electric Company.

Hereinafter we will refer to those three companies as
the applicant.

Application with the Atomic Energy Commission to
construct a pressurized water reactor at the applicant's site
in Kewaunee County, Wisconsin.

The notice of hearing which sets forth the details
of the hearing to be held in Wisconsin June 27, 1968 and the

1 details of this prehearing conference for today's date, June
2 11, 1968 in Washington has been published in the Federal
3 Register on May 24, 1968, the citation being Volume 33, Federal
4 Register, page 7702.

5 This conference, gentlemen, is intended to be and
6 will be informal in nature and has for its purpose the
7 identification of the parties and witnesses for the hearing,
8 the defining of the substantive issues, identification if such
9 can be made at this time of any matters in controversy, and
10 the resolution of any procedural questions or other matters
11 that may be involved in the hearing itself.

12 At this time it would be appropriate for us to
13 establish the identity of the participants for the conference
14 first, so may I ask who is representing the applicant at the
15 conference?

16 MR. KEANE: My name is Steven E. Keane, attorney from
17 Milwaukee, Wisconsin. Law firm is Foley, Sammond and Lardner,
18 735 North Water Street in Milwaukee.

19 MR. SMITH: Cyril V. Smith, Jr. and John B.
20 Denniston, Covington and Burling, 701 Union Trust Building,
21 Washington.

22 CHAIRMAN GLEASON: May I ask Mr. Keane and the other
23 gentlemen whether you have complied with the procedural
24 requirements on notifying the Commission of your representation?

25 MR. SMITH: That has been taken care of in the

1 answer filed in this docket.

2 CHAIRMAN GLEASON: Who is representing the Regulatory
3 Staff?

4 MR. ENGLEHARDT: Representing the Staff is Thomas F.
5 Englehardt, U. S. Atomic Energy Commission, Washington, D. C.

6 CHAIRMAN GLEASON: Is that all?

7 MR. ENGLEHARDT: I think I can see what your problem
8 is as far as the applicant's statement of its appearance is
9 concerned and I think that some discussion with the applicant's
10 counsel off the record after this conference will straighten
11 the matter out and get that clarified.

12 CHAIRMAN GLEASON: Are there any other individuals
13 in the room present who desire to participate in this prehearing
14 conference?

15 Record will show none responded to that request.

16 MR. GILBERTSON: I am S. E. Gilbertson, member of
17 the Public Service Commission of Wisconsin and I am here today
18 in connection with our petition to intervene which has been
19 submitted on behalf of William E. Turkison, our counsel,
20 who is not present today.

21 CHAIRMAN GLEASON: Fine, Mr. Gilbertson.

22 The Board has received request for permission to
23 make a limited appearance at the hearing for Mr. Arden Coler,
24 Chairman, Town of Carlton, Kewaunee County, Wisconsin; Mayor
25 Thomas Keeleher, Kewaunee City, Kewaunee County, Wisconsin;

1 Mrs. James L. Lissack, Regional Director of the Department
2 of Natural Resources, State of Wisconsin.

3 The Board will, at the appropriate time, issue an
4 order granting request for these limited appearances.

5 In addition to that it received this morning, prior
6 to the start of the conference, a communication from Mr.
7 Donald L. Quistorff, Chairman of the Kewaunee County Board,
8 which expresses that in addition to Mr. Quistorff himself, Mr.
9 Roger Plantico, of Kewaunee, Wisconsin and a Mr. Thomas Kelleher --
10 I presume Mr. Kelleher is the same Thomas Kelleher as the
11 Mayor of the City of Kewaunee -- requesting an opportunity to
12 make a limited appearance and the Board will issue an order
13 for all of those individuals.

14 The Board also received a petition to intervene
15 from the Public Service Commission of the State of Wisconsin
16 and it should be noted for the record that it received an
17 answer from the AEC Regulatory Staff to this petition. It
18 has not up to this time received an answer from the applicant
19 itself and I guess it would be appropriate at this time to
20 inquire whether the applicant wants to state for the record
21 one desires to file an answer with respect to this petition
22 to intervene.

23 MR. KEANE: I see no reason for filing an answer
24 unless the Board requires it. We have no objection to the
25 Public Service Commission's participation at all.

1 CHAIRMAN GLEASON: As long as we have that in the
2 record, that would be fine. The Board will issue an order
3 granting that intervention.

4 Next we should identify for the record the witnesses
5 for the hearing itself.

6 I wonder if the applicant would proceed at this point.

7 MR. KEANE: We have filed, under date of May 28,
8 a Partial Summary of the Facility Description and Safety
9 Analysis Report for the Kewaunee Nuclear Power Plant and on
10 page 2 of that document is a list of the witnesses who are
11 sponsoring the evidence which is included in it. They are
12 named there.

13 Mr. E. W. James of Wisconsin Public Service
14 Corporation, Mr. R. C. Straub of Wisconsin Public Service
15 Corporation, Mr. D. M. Leppke of Pioneer Service and Engineering
16 Company, P. M. Krishna of Pioneer, A. A. Simmons of Westinghouse
17 Electric Corporation, Mr. J. S. Moore of the Westinghouse Electric
18 Corporation, Mr. R. E. Wieseemann of the Westinghouse Electric
19 Corporation. Those individuals sponsor this partial summary.

20 WE have, in addition, prepared testimony on the
21 subject of the financial qualifications of the applicants,
22 which is not included in the partial summary I just referred
23 to, and that testimony has been prepared on behalf of Mr. L. G.
24 Romer, President of Wisconsin Public Service Corporation.
25 That testimony has been prepared and at the proper time we

1 will be pleased to distribute it today.

2 At the time of the hearing itself in Kewaunee, we
3 will have a substantial number of other witnesses available
4 for the purpose of meeting what may be technical questions
5 that go into areas which those which I have already named
6 may not feel themselves as qualified to answer. Without
7 naming them as individuals, I can advise the Board that we intend
8 there will be three witnesses there -- these are approximate
9 figures. At the moment these are our plans -- from the N.U.S.
10 Corporation, an adviser in this matter, two additional witnesses
11 from the Westinghouse Electric Corporation, three additional
12 witnesses from Wisconsin Public Service Corporation, six
13 additional witnesses from Pioneer Service and Engineering
14 Company, they having particular specialties in the various
15 fields of engineering.

16 We expect there will be a witness from the Chicago
17 Bridge and Iron Company which will perform the construction
18 work. We expect to have a witness from the John Bloom
19 Associates as a seismic consultant and in addition we expect
20 to have a Dr. Peck from the University of Illinois, a soils
21 consultant.

22 These people will be called upon as need may or may
23 not arise but they will be available to answer such questions
24 as the Board or those making these limited appearances may
25 have and they will be available in Kewaunee at the time of the

1 hearing.

2 In addition I should suggest the presidents of each
3 of the applicant companies will be present and available to
4 answer such questions as may be in their areas of expertise.

5 CHAIRMAN GLEASON: Thank you, Mr. Keane.

6 Mr. Englehardt?

7 MR. ENGLEHARDT: The principal Staff witnesses who
8 will sponsor the Staff's technical testimony, which is
9 identified as the Safety Evaluation in this proceeding, will
10 be Dr. Donald Knuth and Mr. Ray Smith.

11 In addition our testimony with respect to the
12 financial qualification of these applicants will be offered
13 by Mr. Charles Lovejoy of the Office of the Controller of the
14 Atomic Energy Commission.

15 As may be necessary, additional witnesses will be
16 called upon to supplement the principal testimony of the
17 gentlemen whom I have just identified.

18 CHAIRMAN GLEASON: Thank you, Mr. Englehardt.

19 Would you indicate who would participate or whether
20 the Public Service Commission of Wisconsin intends to participate
21 with witnesses?

22 MR. GILBERTSON: At this time we have no plans for
23 specific witnesses but we reserve the right to present evidence
24 and interrogate witnesses or present written or oral argument
25 depending upon the circumstances but we have no specific plans

1 at this time.

2 MR. ENGLEHARDT: I don't think I have any particular
3 concern with the statement that has just been made but I
4 think it is worthy to note that I would trust that the Public
5 Service Commission statement of its participation in this
6 hearing will not involve any undue delays or any delays in
7 the proceeding in the course of its presentation of such
8 supplemental testimony as it may desire.

9 I think the Commission has available to it at this
10 time the direct testimony of both applicant and Staff and I
11 would think that at least we should indicate to the utilities
12 commission representative that as far as the Staff is concerned,
13 subject to whatever supplemental information will come out of
14 this prehearing conference, that is the Staff's case and I
15 think that the applicant's partial summary and its application
16 represent its case and I would hope that any major change in
17 the position of the utilities commission will not involve a
18 delay in this proceeding.

19 MR. GILBERTSON: I can assure the gentleman that our
20 position, I believe, is quite clearly set forth in our
21 petition to intervene and it is our main purpose to be a party
22 to this proceeding as an interested party.

23 We have no plans or designs in any area that the
24 gentleman is referring to.

25 CHAIRMAN GLEASON: Mr. Keane, do you have any

1 comments?

2 MR. KEANE: No. I have nothing further to add to
3 Mr. Englehardt's statement. I would hope of course in the
4 interest of expedition we will receive what we usually
5 receive, and that is fine cooperation from the Public Service
6 Commission of Wisconsin, so I don't have any particular fears
7 in that respect.

8 MR. ENGLEHARDT: May I inquire whether you are
9 intending to follow a proposed agenda --

10 CHAIRMAN GLEASON: I was about to get to that.

11 I would suggest that a proposed agenda has been
12 furnished to the Board and I presume it has been furnished to
13 the other parties.

14 MR. KEANE: Yes, it has.

15 MR. ENGLEHARDT: Do you have a copy of the proposed
16 agenda? I have additional copies here I would be happy to
17 pass out to those in the room who would like them.

18 CHAIRMAN GLEASON: I would like to say as far as the
19 Board is concerned that the agenda is satisfactory to it, with
20 the understanding of course that the Board will not feel
21 constrained to fit into that agenda with respect to asking
22 questions if it desires to ask them at other places in the
23 record and with the further understanding that in the
24 eventuality that other parties request an opportunity to
25 participate, and if the Board should so grant, that the

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1 agreement on the agenda will not prejudice their rights.

2 MR. ENGLEHARDT: It was offered with that particular
3 thought in mind.

4 CHAIRMAN GLEASON: And there is no objection on the
5 part of any party to the agenda.

6 At this point in the record I would ask to have that
7 agenda placed in.

8 (The agenda follows:)

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UNITED STATES OF AMERICA

ATOMIC ENERGY COMMISSION

In the Matter of)

WISCONSIN PUBLIC SERVICE CORPORATION,)

WISCONSIN POWER AND LIGHT COMPANY)

AND MADISON GAS AND ELECTRIC COMPANY)

(Kewaunee Nuclear Power Plant))

Docket No. 50-305

PROPOSED AGENDA FOR
PREHEARING CONFERENCE

1. Appearances
2. Intervention and/or limited appearances
3. Procedural matters
 - a. Content of the decisional record
 - b. Witnesses; scope and form of testimony
 - c. Exchange of testimony
 - d. Method of introducing testimony and exhibits
 - e. Order in which the public hearing will be conducted
4. Post-hearing procedures
 - a. Transcript corrections
 - b. Proposed findings of fact and conclusions of law
5. Identification of significant safety matters
6. Other matters

1 CHAIRMAN GLEASON: The next area, I would suggest
2 we entertain some discussion on, is to ascertain the scope
3 and form of the testimony submitted either jointly or
4 individually.

5 MR. ENGLEHARDT: May I preface that with some -- well,
6 with an identification of a document which I think all the
7 members of the Board and the parties here have, and that is --
8 I will pass these out in case there are such available. This
9 is an index of the documents that relate to this proceeding.
10 Namely, an index to the application itself and a Staff letter
11 communicating questions to the applicant, plus one additional
12 item which was not in the original index which was transmitted
13 to the Board, namely, Item 9.

14 There are, I should say for the record, nine items
15 identified in this index and these consist of the documents
16 I have just identified. The ninth item is a document filed
17 by the attorneys for the applicant on May 29, 1968 providing
18 additional financial information. It has been placed on the
19 index in order that all information relative to the financial
20 qualifications of the applicant outside of oral testimony is
21 available here in this index.

22 I am proposing that this index constitute Applicant
23 and Staff's Joint Exhibit A and that the nine documents
24 which are described in this Joint Exhibit A would be
25 incorporated by reference into the evidentiary record of this

1 proceeding for any and all use by the parties and by the
2 Board to this proceeding and this Joint Exhibit A would be
3 copied into the transcript of the proceeding on June 27 in
4 order to inform -- in order to complete the record and to
5 identify what will be the evidentiary content of this exhibit.

6 CHAIRMAN GLEASON: I might say, Mr. Englehardt,
7 that some of the Board members have been hard pressed, I
8 should say, to insert into the volumes, some of which are going
9 to be referred to in this index, the substitute material that
10 has been forwarded from time to time. It is a little difficult.
11 In some places there are identical pages. In other places
12 there are pages to supplement.

13 I wonder whether it would be in the interest of
14 the applicant to get this straightened out before we get to
15 the hearing.

16 MR. ENGLEHARDT: I am not quite clear on your
17 problem.

18 MR. KEANE: I think probably my secretary can better
19 understand this who had the job of keeping my books up-to-date.
20 You are talking about the blue volumes.

21 The applicant would be pleased, gentlemen, to put
22 together for you, if you are having a problem, a complete set
23 or sets, as you will, with the amendments properly inserted
24 so that you do have a finished copy.

25 I can see where it is extremely difficult if you are

1 working with the amendments separate and haven't had them
2 inserted. We will be glad to do that. I suppose you would like
3 those rather quickly.

4 DR. WILLIAMS: My thought was that maybe an index that
5 would properly identify all the -- where the pages for each
6 amendment other than the original one fit in or what was
7 taken out, whether that might be sufficient.

8 DR. WINTERS: My own experience I more or less feel
9 it desirable to have a complete page by page description
10 of the page number and the latest revision date. In many cases --
11 there are 10 pages of one insertion, for example -- the index
12 doesn't tell you the latest revision date.

13 DR. WILLIAMS: In order to be sure you got the right
14 revision in the right place, there is no single --

15 CHAIRMAN GLEASON: I would really think it probably
16 would be better if they did the whole job and submitted
17 clean volumes.

18 MR. KEANE: We can certainly do that. We would be
19 glad to do it. Then you would have what would be the final
20 form in order.

21 CHAIRMAN GLEASON: I think it will be in your
22 interest to do that.

23 MR. KEANE: We will be glad to do that.

24 Shall we have them delivered to you? We could
25 send them to you individually. We will ship complete sets to

1 each of you.

2 CHAIRMAN GLEASON: I think you better send it to
3 the document room and have it distributed.

4 MR. ENGLEHARDT: I think the documents being referred
5 to are in the public document room now and available for
6 public inspection. What the applicant is offering to do here
7 is send you a duplicate set but taking all the amounts and
8 incorporating --

9 CHAIRMAN GLEASON: If you are satisfied the record is
10 clear in the document room, fine. Just serve it on the
11 members of the Board then.

12 MR. KEANE: We will mail them directly then. You
13 will get them faster that way.

14 CHAIRMAN GLEASON: On the exchange of testimony --

15 MR. ENGLEHARDT: Before we leave this particular
16 topic, is it acceptable to identify this as and offer this
17 at the hearing as Joint Exhibit A which will identify these
18 volumes?

19 CHAIRMAN GLEASON: Yes, there will be at the hearing.

20 Exchange of testimony, I presume this has taken
21 place, at least as far as the Regulatory Staff and the
22 applicant is concerned.

23 MR. ENGLEHARDT: The technical testimony has been
24 exchanged among the parties. The Staff's technical testimony
25 consists of the Safety Evaluation which I have identified.

1 This is a document dated May 28, 1968 consisting of 93 pages
2 which was transmitted to the members of the Board and to the
3 parties and made generally available to the public.

4 In addition to that testimony, which is the
5 technical testimony of the Staff, we have the testimony of
6 Mr. Charles Lovejoy who I previously identified who is to
7 testify with respect to the financial qualification. That
8 testimony has not previously been made available to the members
9 of the Board but I propose to offer it at this time.

10 Copies of this testimony have previously been given
11 to the applicant and the gentlemen from the Public Service
12 Commission of Wisconsin will be given a copy as soon as I can
13 get myself organized here.

14 MR. KEANE: We of course have presented and filed
15 the partial summary and the facility description which I am
16 sure the Board has and which of course is testimony sponsored
17 on behalf of the witnesses which I named before as showing
18 on page 2.

19 In addition to that, I should like to provide the
20 Board and the parties with the financial qualifications evidence
21 of Mr. Romer, which I mentioned briefly before. In view of
22 Mr. Lovejoy's being filed at this time it might be well if
23 the Board had this.

24 MR. ENGLEHARDT: In connection with Mr. Lovejoy's
25 testimony, we are proposing to offer his testimony by

1 stipulation and under affidavit at the time of the hearing.

2 The applicant has received copies of Mr. Lovejoy's
3 testimony and it is our present intention to enter into a
4 joint stipulation between the applicant and the Staff to
5 waive any cross-examination of Mr. Lovejoy or redirect
6 examination of Mr. Lovejoy and to offer his testimony as the
7 Staff's direct testimony at the hearing under affidavit
8 subject of course to any questions the Board might have of Mr.
9 Lovejoy on the basis of the testimony which has just been
10 presented and subject further to agreement with the public
11 utilities commission who presumably shortly will be parties to
12 this proceeding to determine what, if any, their interest might
13 be.

14 This would be related to the Board in time for a
15 determination to be made as to whether Mr. Lovejoy's presence
16 at the hearing on June 27 would be necessary.

17 CHAIRMAN GLEASON: All right. That would be fine.

18 I think we ought next to turn to members of the
19 Board to ascertain whether there is additional information
20 in the technical areas which they require to have available
21 at the time of the hearing.

22 MR. ENGLEHARDT: Mr. Chairman? I don't know whether
23 you are following this item on the --

24 CHAIRMAN GLEASON: Well, I am kind of moving around
25 a little.

1 MR. ENGLEHARDT: We have a statement to make that
2 might preface the Board's question which Mr. Smith is prepared
3 to make. Mr. Ray Smith, who is the project leader for the
4 evaluation of this application who will be one of the principal
5 Staff witnesses at the forthcoming hearing.

6 We have available additional copies of Mr. Smith's
7 brief statement and I will pass those out to you.

8 CHAIRMAN GLEASON: Is this in the area of identi-
9 fication of safety questions?

10 MR. ENGLEHARDT: This is matters of significance to
11 safety with regard to this application.

12 MR. SMITH: The Wisconsin Public Service Corporation,
13 Wisconsin Power and Light Company and Madison Gas and Electric
14 Company, by application dated August 18, 1967, and subsequent
15 amendments, have requested a license to construct and operate
16 a pressurized water reactor, identified as the Kewaunee
17 Nuclear Power Plant, in Kewaunee County, Wisconsin.

18 The proposed reactor is designed to operate initially
19 at core power levels up to 1650 Mw thermal. The applicants
20 anticipate, however, that the reactor ultimately will be
21 capable of operating at a power level of 1721 Mw thermal.
22 Accordingly, we evaluated the engineered safety features of
23 the reactor, and accident consequences at a power level of
24 1721 Mwt, and evaluated the thermal-hydraulic characteristics
25 of the reactor based upon a power level of 1650 MWt.

1 The Kewaunee Nuclear Power Plant nuclear steam
2 supply system design and the containment design are identical
3 to the two Prairie Island plants proposed for construction
4 by the Northern States Power Company.

5 The Regulatory Staff, its site and environment con-
6 sultants, and the Advisory Committee on Reactor Safeguards
7 have reviewed the various site related factors and have
8 ascertained that the site is suitable for the proposed
9 reactor. In this regard, the Environmental Science Services
10 Administration has commented favorably on the meteorology of
11 the proposed site. The U. S. Geological Survey commented
12 favorably on the hydrological and geological aspects of the
13 proposed site. The Fish and Wildlife Service recommended
14 that certain additions be made to the applicant's proposed
15 environmental monitoring program. We have also reviewed the
16 design of the proposed plant as related to natural phenomena
17 and have found the design to be acceptable in this respect.

18 Our seismic design consultants, Drs. Nathan M.
19 Newmark and William Hall, have determined that the design cri-
20 teria can provide an adequate margin of safety for seismic
21 resistance to those seismic accelerations which have been
22 estimated by the U. S. Coast and Geodetic Survey.

23 The concept proposed by the applicant for containing
24 fission products accidentally released from the reactor coolant
25 system for this and the Prairie Island reactors is new, although
equipment and structures involved are similar to those which

1 have been used for previous reactors. The proposal involves
2 containing the water, steam and fission products within a
3 steel primary containment vessel, and collecting and filtering
4 leakage from the primary containment by means of vent systems
5 which maintain a slight vacuum in surrounding concrete secondary
6 containment structures.

7 In order to collect the leakage from the primary
8 containment, the applicants have included a portion of the
9 auxiliary building, as well as the shield building, as
10 secondary containment. The applicants will design and test
11 as secondary containment this portion of the auxiliary
12 building and its associated vent system, as well as the shield
13 building and its vent system.

14 We have evaluated the consequences of potential
15 accidents which could involve the release of radioactivity from
16 the Kewaunee Nuclear Power Plant and have concluded that in the
17 unlikely event of any of these accidents, the potential doses
18 from the release of radioactivity would not exceed the
19 guidelines set forth in 10 CFR part 100 of the Commission's
20 regulations.

21 The applicants have identified further development
22 work which will be performed during the detailed design of the
23 plant. This includes work related to burnable poison rods,
24 part length control rods, and blowdown heat transfer tests.
25 Each of these items has been identified in the application.

1 We believe that this development work will be completed
2 during the final design phase of the Kewaunee Nuclear Power
3 Plant prior to the completion of the plant. In our opinion,
4 these development programs will provide the data necessary
5 to construct the facility in accordance with the criteria and
6 specifications set forth in the Facility Description and
7 Safety Analysis Report.

8 The Advisory Committee on Reactor Safeguards, in its
9 letter of May 15, 1968 to the Chairman regarding the
10 Kewaunee application, made several comments and recommendations.
11 We have considered each of these and will be guided by all of
12 them in our continuing review of the Kewaunee Nuclear Power
13 Plant. The ACRS letter concludes that "the various items
14 mentioned can be resolved during construction and that the
15 proposed power plant can be constructed at the Kewaunee site
16 with reasonable assurance that it can be operated without undue
17 risk to the health and safety of the public."

18 We have concluded, as a result of our review and
19 evaluation of the Kewaunee Nuclear Power Plant application,
20 that the appropriate findings can be made on each of the
21 issues set forth in the Notice of Hearing for this proceeding.

22 MR. ENGLEHARDT: That completes Mr. Smith's statement.

23 CHAIRMAN GLEASON: Dr. Williams, do you have any
24 matters you would like to pursue?

25 DR. WILLIAMS: Well, there are a few items I would

1 like to suggest that possibly at the hearing either the Staff
2 or the applicant -- I am not quite sure which on a couple of
3 them -- would possibly clarify for me. One of them is an old
4 story which some of the people from Pioneer and Westinghouse have
5 heard before but I think for the record it would be useful
6 to know exactly what is meant by saying this nuclear steam
7 system is identical with the one at Prairie Island. That
8 would be one thing.

9 I think I know the answer but I would like to see it
10 on the record and I think it would be useful to have it
11 there.

12 There is one thing that puzzled me and maybe I
13 missed something but the statement as to the problem of ice
14 in Lake Michigan and its effect on the outlet of the coolant
15 system for the plant, it seems to me what is said is that they
16 have operated other plants there successfully and I would just
17 like to know a little bit about what is the likelihood of ice
18 choking up the outlet and what you do about it when you are
19 threatened by it.

20 One question that I do have concerns the fact that
21 the lake has such a long half-life. It is not clear to me as
22 to how long and how thorough a program of environmental
23 monitoring is planned. Because of the problems of biological
24 concentration of these things, it seems to me that possibly a
25 clarification of that point would be useful.

1 I have one other question, which is another one I
2 seem to get hung up on a lot, and that is: To me there seems
3 to be a slight problem and it is not quite clear as to the
4 actual mechanics of how the quality control which I gather
5 is going to be primarily the responsibility of the fabricator
6 of the reactor and the Pioneer people, although the applicant
7 states that his quality control construction man is responsible
8 but it seems to me that if an inspector on the plant is upset
9 about something he might have to run quite a way up the line
10 to get some action to hold it up before it went too far.

11 Possibly a little clarification of that would be
12 useful to me. Maybe I just didn't read all the documents
13 carefully enough but it seemed to me to be a sort of dichotomy
14 here that was not quite clear to me as to how it would be handled.

15 I think that is all for the moment.

16 CHAIRMAN GLEASON: Any questions on Dr. William's
17 inquiries?

18 Dr. Pigford?

19 DR. PIGFORD: There are a few that come to mind on
20 the basis of reading a very small portion of the application.
21 Frequently, when reading the rest of it these get answered so
22 they may not appear in the hearing.

23 First I would have to point out that I am reviewing
24 this without the benefit of having reviewed the Prairie
25 Island case and it certainly is comforting that some group

1 has reviewed this and Prairie Island and found it acceptable
2 for licensing. That will certainly be considered. But I
3 am reviewing this from the background in pressurized water
4 systems of Indian Point 2 and Diablo Canyon.

5 DR. WILLIAMS: The Prairie Island case has no
6 decision made on it yet.

7 DR. PIGFORD: Thank you. I didn't realize that.

8 DR. WILLIAMS: This is nothing ominous but -- it is
9 temporal rather than anything else. The hearing has been held
End 1 10 but the decision has not been made.

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LRW 2
rms 1

1 Dr. Pickford. So from the background of Indian
2 Point two and Diablo Canyon, that is how I will read this
3 application. I will be very much interested in a comparison
4 of this application to those situations namely with respect o
5 what are the significant areas where further information
6 is needed before a final determination of safety can be made.

7 I urge you to look at that in detail as to what
8 were the things spelled out in Indian Point Two and in Diablo
9 Canyon, both by the ACRS, staff, applicant and the Boards, and
10 in this I don't want to restrict us to what is sometimes an
11 artificial application or the words "Research and Development."

12 Lets not worry about what those words mean. Let's
13 just talk about what are the areas where further information
14 is needed before a final determination of the safety could be
15 made.

16 I expect there will be some areas which were brought
17 up on one of these earlier cases that may not be applicable
18 here and I would like to know why, and there will be some
19 here which were not applicable there and I would like to know
20 which they are and why.

21 In the area of research and development, I hoped
22 that we would be able to define the following and have them
23 identified very clearly, recognizing there are specific
24 charges to the Board as to what it must find. And these
25 charges are spelled out, I think the information that one

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1 usually needs is first an identification of what are the areas
2 and within each area what are the questions that need answering?
3 These are technical questions, I think.

4 Second, what is the defination of the program to
5 be pursued to answer those questions that are specified.

6 Thirdly, what is the schedule? Who will do it?
7 Where and when is it expected? Along this line, I would also
8 like to know where the division of responsibility within
9 this application lies. Which areas are to be handled by the
10 applicant and which by its contractors.

11 Proceeding along a similar line, anticipating one
12 of the charges the Board may have to make a finding on, I
13 would like to refer to the statement that was just
14 read a moment ago from the staff.

15 On page three, the second paragraph, which talks
16 about the identification of fuel here, development work which
17 will be performed and so forth, and so when the staff con-
18 cludes we believe this development work will be completed
19 during the final design of the Kewaunee Nuclear Power Plant
20 prior to completion of the plant, I would like to know on
21 what basis you reach that conclusion.

22 When you find in our opinion these development
23 programs will provide the data necessary to construct the
24 facility in accordance with the criteria and specifications
25 and so forth.

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1 I would like to know again on what basis you reached
2 that conclusion. Hopefully, this can be done by pointing
3 to various bodies of information in the application before us
4 or any other information you want to identify.

5 Again, I hope all of these can be disposed of
6 very quickly. I hope I will find all the answers when I
7 read the application. Turning to some more specific questions,
8 I am not quite sure as to what the place -- what the real
9 functions of the containment vessel internal spray systems
10 are.

11 In the application it states that this
12 system is to reduce the close oxidant pressure and remove
13 elemental iodine by chemical addition to the spray.

14 In the summary I got the idea that maybe the chemical
15 action is a possibility but not necessarily contemplated.
16 Now to this extent I am concerned:

17 Even if it is a backup you might not use, I am
18 interested as to whether it is a real backup or not.

19 In this I would urge you to refer to the Diablo Canyon case
20 where there were many questions raised concerning chemical
21 spray systems and iodine removal. If this is to be considered
22 as one of the backups in your proposal I then want to know
23 what program is to be carried out to insure that it is a real
24 back up.

25

1 Apropos to that, it is stated elsewhere that --
2 I believe -- that the applicant plans on using activated
3 charcoal scrubbers for removing the iodine from the
4 annular space in the containment system. I would like to know
5 what is the proper design basis for the efficacy of such
6 scrubbers and the function of removing iodine, what is this
7 based upon? What further work needs to be done if any and if
8 it is indeed an area where new information or further infor-
9 mation is needed,

10 Again, where can we expect it to be obtained? Again,
11 specifically to that, on the degree of formation of metal
12 iodide, which is related to this last question, I am inter-
13 ested really as to the effect of uncertainties in this estimate.

14 These effects have been indicated in the application
15 in terms of a self-perturbation study and yet the basic
16 assumption seemed to rest upon what is quoted in various
17 pieces of literature and unfortunately I don't have a single
18 one of those documents available. So there I am in a little
19 dilemma. Either I could assume you have chosen the most
20 definitive ones out of what is a large body of information or
21 that I am supposed to go to those to rest with assurance that
22 this problem which has been a long outstanding problem is now
23 well in hand.

24 So I would like to ask the applicant what you are to
25 do about this. If you want to answer that question now,

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1 I would be interested.

2 CHAIRMAN GLEASON: We really don't want answers to
3 that question now, do we?

4 DR. PICKFORD: Let me speculate. What I think I
5 did do in the most efficient use of my time is read everything
6 you say provides the information for this application.
7 I think that is much more efficient than trying to get the
8 answers at the hearing.

9 You undoubtedly have a lot of the answers here.
10 Would you be so kind as to provide me with those documents,
11 if you think they have the answers on the metal iodide
12 question. And I will read those and come to the hearing maybe
13 with this question solved.

14 Can you provide those documents for me?

15 MR. KEANE: We will provide the documents.

16 DR. PICKFORD: Appendix G-17. There are also
17 two others, one on page 14.1-5 and 14.2.4-1.

18 MR. KEANE: Do the other gentlemen on the panel,
19 would they like copies of this?

20 DR. WILLIAMS: If you send them, I think it would
21 be a good idea to send them to all of us.

22 MR. KEANE: Very well.

23 DR. PICKFORD: There was one device^{for}/giving these
24 without having to serve them on everybody which seemed to
25 be very useful.

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1 CHAIRMAN GLEASON: I don't think this has to be
2 served.

3 MR. KEANE: I don't think we consider this a part
4 of the record. We will send this to you for your information.

5 Mr. ENGLEHARDT: I am not familiar with this infor-
6 mation but I assume this is published information available to
7 the general public and available to the staff as well, by
8 merely requesting the originator or the library for this
9 information.

10 MR. LEPPKE: That is correct.

11 MR. ENGLEHARDT: If that is the case, we can probably
12 accept it on the basis of incorporating by reference or
13 everybody taking official notice if necessary of this
14 type of generally available information. But I think I would
15 probably want to see what this material is before I make any --
16 take any real position on it. I think we can discuss
17 that with the applicant counsel.

18 CHAIRMAN GLEASON: I think we can decide that at
19 the time of the hearing, but let's send it informally.

20 MR. KEANE: That we will do.

21 DR. PICKFORD: Again, on a more specific question,
22 here is one that is perhaps easily answered but the
23 answer can be supplied at the hearing.

24 It is stated in the summary that the cleaned air
25 from this annular space is returned to the annulus. I am

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1 curious as to what fraction really of it has to go elsewhere
2 and that must appear some place in the application.

3 With regard to the so-called research and develop-
4 ment areas. I am puzzled as to why this project doesn't
5 require the furthe analysis of blowdown forces and the
6 effects on reactor internals as recent projects of this nature
7 have required.

8 I am sure that is one you would turn up by referring
9 to these other projects I mentioned, but that one does lead
10 to a more specific question.

11 I am interested in to what extent the emergency cooling
12 of this core would be dependent upon flow of water, emergency
13 coolant water down into the core from the top? And if it is,
14 what information, either now in hand or expected, will be used
15 to verify that this is a reliable cooling mechanism?

16 The detection of field fuel is mentioned. I would
17 like to know what the requirements are now considered to be.
18 More specifically, let's take the sentence on page 38,
19 "The applicant believes that the objectives should be
20 to determine the merit of more rapid information concerning
21 whether fuel failures are occurring, combined with the
22 requirements for a reliable system."

23 I can't find much about this elsewhere. I am
24 interested in knowing what is more rapid, what is meant
25 by more rapid, more rapid than what and what is meant by

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1 requirements for a reliable system. To be even more detailed
2 on this, what is the frequency of the monitoring. How localized
3 does it need to be. What would one consider to be an allowable
4 amount of fission products in the primary coolant water?
5 What are the required functions of a field fuel detector
6 system.

7 That appears to be a new and current topic, yet
8 we can't find much about it to get hold of it here. There
9 was then the heading of core stability which mentions the
10 problem of instruments to perform certain functions related
11 to possible instabilities. This was discussed in greater
12 detail at the Diablo hearing. I would like to know in this
13 sense what are the requirements of these instruments?

14 How localized a power distribution should they
15 be able to respond to? How frequently should this response
16 be available to the operator. How can this information on a
17 technical basis be diffused from the out-of-core long ion
18 chambers that seem to be presently contemplated?

19 It is stated in the summary on page 38: "The
20 ability of the out-of-core detectors long ion chambers to
21 demonstrate flux conditions within the core has been indicated
22 by data from the SENA reactor in France, and from the San
23 Onofre and Connecticut Yankee reactors.

24 Are the experimental results and interpretations of
25 these results available within this application forum to

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1 really come to this conclusion? If so, I would like to know
2 where they are and maybe I will run across it in reading
3 them.

4 In case these alpha core chambers don't perform,
5 what is the back up that will meet the requirements that I
6 asked to be identified earlier?

7 On the environmental monitoring, I am interested
8 in your frequency and kind of monitoring in various places
9 for normal operation conditions. Do you monitor in the outfall
10 of water, or do you monitor downstream? How far down?

11 I am also curious as to what your techniques are
12 for monitoring Iodine in the environment monitoring system.
13 It seemed to me to be some more questions. I can't think of
14 them at the moment. Do you have any more?

15 CHAIRMAN GLEASON: Let's find out if there is any
16 uncertainty on the part of the parties with respect to any
17 of Dr. Pickford's questions. It is time to raise questions
18 you have about his questions now.

19 DR. PICKFORD. I think Dr. Williams wanted to challenge
20 me. Didn't you?

21 DR. WILLIAMS: Wait until the hearing. Let's see
22 what the answer is.

23 CHAIRMAN GLEASON: Dr. Winters, do you have any
24 matters?

25 DR. WINTERS: I have a couple of questions in the

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1 apparently unlikely event I am constituted as an examiner
2 and questions that I would like to ask. In the applicant's
3 summary on page 14, 10, 11 and 12, it says, "Nevertheless,
4 adequate measures can be taken to attain the cold shutdown
5 condition, if required, over a reasonable period of time, from
6 locations outside the control room."

7 I guess I must have missed this description somewhere
8 in the summary as to where this location was and
9 what functions would be provided there.

10 In the next point: This is in the staff's analysis
11 on page 56 towards the top of the page: "The Applicants
12 assumed hold-up and decay in the shield building, whereas
13 we assumed a direct path from the primary containment to the
14 filters."

15 I would be curious as to why the staff insisted
16 in assuming a direct path in this case. It seems to me that
17 the introduction of a shield building concept represents
18 a significant step forward in the safety considerations of
19 reactors and for one I would think the applicant would be
20 entitled to some credit for this introduction.

21 Further down the page, "We, therefore, believe
22 that specification of a maximum containment leak rate test
23 frequency of once every four years to verify that the one
24 half percent per day leakage rate has not been exceeded is
25 appropriate for this containment.

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1 My question would be when really is the first
2 test and when is the second test? Now really what I have
3 in mind is the first test is when the reactor is nice and
4 new and bright and clean and shiny and cold -- that is the
5 very appropriate time.

6 The second test is four years later. A lot of things
7 could have changed by the time you heated the thing up a few
8 thermocycles. That is the end of my questions.

9 CHAIRMAN GLEASON: Is there any uncertainty on the
10 questions?

11 MR. ENGLEHARDT: I think we were prepared to respond
12 to the question right now, but I gather the Board would prefer
13 we wait until the hearing?

14 CHAIRMAN GLEASON: Yes.

15 MR. PICKFORD: Along that line, I would like to
16 know at the hearing is this proposed frequency of testing a
17 significant departure from what has been required by other
18 plants and if so, why?

19 Also relevant to the integrity of the inner
20 steel containment shell and any other part of the system,
21 what about the effect of the electrolytic corrosion?

22 Has this entered into any of the hazard analysis?

23 MR. ENGLEHARDT: I think we would like a clarification
24 on Dr. Pickford's last question?

25 MR. KNUTH: Was that last question -- were you referring

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1 to the circulation of electrolyte through recirculation loops
2 after an accident or the deterioration during routine
3 operation due to electrolytic corrosion and pick it
4 up on a routine test?

5 DR. PICKFORD: Of course, it is a general question.
6 I hadn't thought of the first one. What I really was curious
7 about is when you have a large plant like this with undoubtedly
8 a lot of stray currents in the ground or the system and depend
9 upon a steel container for a fairly leaktight system, is it
10 possible that the stray currents can give accelerated
11 corrosion that could cause some leakage and what is being
12 done about it.

13 But if there are any other areas of electrolytic
14 corrosion as you suggest, I think that would be interesting.
15 Of course, it is quite possible in reading the application
16 that further questions will arise. These are the ones that
17 I have come across so far.

18 CHAIRMAN GLEASON: Any uncertainty?

19 MR. LEANE: We seem to have none, Mr. Chairman.

20 MR. ENGLEHARDT: None, sir.

21 CHAIRMAN GLEASON: Let's go the post-hearing proced-
22 ures, gentlemen.

23 MR. ENGLEHARDT: Mr. Chairman, before we get to the
24 post-hearing procedures, could we back up a couple of items
25 to the hearing procedures that I think we might want some

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1 clarification on?

2 One, it has been customary in the past that the
3 specific request of Boards for the staff to provide a
4 statement of the professional or technical qualifications
5 of the members of the Advisory Committee on Reactor Safeguards
6 and those members of the regulatory staff who participated
7 in the preparation of the staff's safety evaluation or testimony
8 in this proceeding.

9 I would inquire as to the desires of this Board as
10 to whether they wished this information made a part of the
11 record.

12 CHAIRMAN GLEASON: Well, let's say we would like
13 to have it available if necessary so that you could have it
14 available depending on the nature of the hearing.

15 MR. ENGLEHARDT: I can offer it as a staff exhibit
16 or I can merely have it available as you suggest and if
17 desired at your specific request will offer the material
18 at that time.

19 CHAIRMAN GLEASON: All right. Let's just have
20 it available.

21 MR. ENGLEHARDT: The other matter I wanted to
22 clarify was with respect to the method of introducing testimony.
23 I presume it will be agreeable to the Board, speaking for the
24 staff, if the testimony of the staff and safety evaluation
25 of the staff is sponsored by the principal staff technical

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1 witnesses and will then be subject to cross examination by
2 the Board in panel form. That is, those members of the staff
3 who will be principal witnesses who will be available as
4 a panel for cross examination and any additional examination
5 on the content of that safety evaluation?

6 CHAIRMAN GLEASON: Yes. That will be adequate for
7 the Board's purposes.

8 MR. KEANE: We would like that same understanding
9 with respect to our partial summary and Mr. Romer's presenta-
10 tion.

11 CHAIRMAN GLEASON: Fine.

12 MR. ENGLEHARDT: I think that completes the loose
13 ends in that section.

14 CHAIRMAN GLEASON: On the post-hearing procedures,
15 the Board would prefer to have, as is customary in some of the
16 cases at least, the proposed findings of fact and con-
17 clusions of law if any to be keyed to the transcript.

18 We can decide at the time of the hearing as to the
19 date at which the proposed findings should be submitted
20 and I assume we can agree now that the corrections in the
21 transcript could be mailed and forwarded within a week's
22 time after the termination of the hearing.

23 MR. KEANE: Very good. In fact our suggestions on
24 that would be Wednesday the 3rd of July since the following
25 week does include the Fourth. I think we might plan on making

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1 every effort to get it out before the holidays.

2 MR. ENGLEHARDT: My schedule is a little less
3 assured at that point. For corrections of the transcript,
4 since it will not be available until the day following --
5 the last transcript won't be available until the day following
6 the conclusion of the hearing, I would need at least until the
7 following Friday to respond because of the requirement of my
8 being in Colorado for a pre-hearing conference the following
9 week.

10 That is the Fourth of July week which poses problems
11 as to at least one day in which to get certain typing work
12 done so I probably will need until the 5th of July for that.

13 CHAIRMAN GLEASON: Let's agree that you get the
14 transcript in within a two-week period and agree at the time
15 of the hearing with respect to proposed findings.

16 Gentlemen, that concludes, as far as the Board is
17 concerned, any matters that have to be discussed at the pre-
18 hearing conference. Unless the parties have any other
19 matters they want to bring up and discuss.

20 MR. ENGLEHARDT: Staff has nothing.

21 MR. KEANE: We have nothing.

22 CHAIRMAN GLEASON: Then the pre-hearing conference
23 stands adjourned at eight minutes after three. We will
24 see you in Wisconsin.

25 (Whereupon, at 3:08, the pre-hearing conference was
concluded.)