

NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF:
CINCINNATI GAS & ELECTRIC COMPANY
(Wm. H. Zimmer Nuclear Power Plant)

Docket No: 50-358

Place - Cincinnati, Ohio

Date - Wednesday, 14 November 1979

Pages 3150 - 3393

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1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

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4 In the Matter of: :

5 CINCINNATI GAS & ELECTRIC COMPANY : Docket No. 50-358

6 (Wm. H. Zimmer Nuclear Power Plant) :
7 -----

8 Courtroom 805
9 U. S. Federal Courthouse
10 5th and Walnut Streets
11 Cincinnati, Ohio

12 Wednesday, 14 November 1979

13 Hearing in the above-entitled matter was convened,
14 pursuant to notice, at 9:00 a.m.

15 BEFORE:

16 CHARLES BECHHOEFER, Esq., Chairman,
17 Atomic Safety and Licensing Board.

18 GLENN O. BRIGHT, Member.

19 DR. FRANK F. HOOPER, Member.

20 APPEARANCES:

21 On behalf of the Applicant:

22 TROY B. CONNOR, JR., Esq. and MARK J. WETTERHAHN,
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25 On behalf of the Nuclear Regulatory Commission:

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Washington, D. C. 20555.

1 APPEARANCES: (Continued)

2 On behalf of the City of Cincinnati:

3 DONALD B. LEWIS, Esq., Assistant City Solicitor,
4 Room 214, City Hall, Cincinnati, Ohio 45202.

5 On behalf of Intervenor, Miami Valley Power Project:

6 JAMES FELDMAN, Esq., and TAWN A. FICHTER, Esq.
7 216 East Ninth Street, Cincinnati, Ohio 45202

8 On behalf of Intervenor Fankhauser:

9 JOHN D. WOLIVER, Esq., 550 Kilgore Street,
10 Batavia, Ohio 45103

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Gregory A. Harrison)			
Bert M. Cohn)			
Robert D. Barnes)			
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P R O C E E D I N G S

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1
2 CHAIRMAN BECHHOEFER: Good morning ladies and
3 gentlemen.

4 We regret the late start this morning, but we
5 do not have a court reporter; for the time being we are
6 going to be using Channel 12's tape recorders so we can say
7 that the NRC depends for its operation on the good will of
8 Channel 12.

9 This morning the board will be sitting as a quorum,
10 which we are permitted to do; Dr. Hooper will not be here
11 until early afternoon.

12 We are here to take or continue limited appearance
13 statements.

14 I have a list of people. The persons who are making
15 statements should do so at the front podium; I will deliver
16 this tape recorder down to that podium because, apparently,
17 the range is not too great as to what is picked up.

18 As we mentioned before, the limited appearance
19 statements do not constitute evidence as such, but they make
20 us aware of problems which may need to be
21 answered. They also -- if any of those problems are raised,
22 we may ask the applicant or the staff to provide answers
23 throughout the course of the hearing.

24 Normally, we ask the limited appearance -- persons
25 who are making the limited appearance statements to try to

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1 be fairly brief and to limit your statements to five minutes,
2 if possible.

3 With that, I think the first person on the list --
4 I hope she's still here -- is Paulette Meier.

5 LIMITED APPEARANCE STATEMENT OF

6 PAULETTE MEIER

7 MS. MEIER: Okay, my name is Paulette Meier. I'm
8 a resident of Cincinnati, and I am opposed to the licensing
9 of Zimmer Nuclear Power Plant.

10 I'm worried about my safety in the event that
11 that plant goes online.

12 I have done a lot of reading on the matter. I've
13 read Dr. Sterngloass's (phonetic) report from the Millstone
14 reactor in Connecticut. I'm concerned.

15 I have a history of cancer in my family, and my
16 father died of cancer. My -- all of my mother's sisters
17 have died of cancer. I am worried about cancer, and therefore
18 in light of some of the studies that I've read, I am concerned
19 about this plant and the increase of cancer in the city as
20 a result of it.

21 However, today I would like to read a statement
22 that someone else wrote who couldn't be here because she had
23 to work. And I think there's probably a lot of people today
24 that would like to be here but can't because they're
25 working.

I would urge the Commission to think about having

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1 an evening session where we can get a decent turnout at
2 these hearings.

3 I know hundreds and hundreds of people in this
4 city that are opposed to this plant, but they just cannot get
5 off work at this time. And I would -- I would urge for
6 another evening session.

7 When I was given the chance to speak to you about
8 my concern regarding nuclear power, I paused. I asked myself:
9 is it worth the effort?

10 Let me tell you why I wondered. The AEC was
11 disbanded because there was an obvious conflict of interest
12 between the desire to promote and a responsibility to
13 control.

14 Numerous situations proved that safety was put in
15 the background in the interest of promotion.

16 The NRC was to be the watchdog for public
17 safety. They were set up to listen to the public and
18 examine suggestions, complaints as -- of the non-nuclear
19 world.

20 Upon examination, it seems -- it comes out that
21 most of the people on your Commission have in fact close
22 ties with the industry. It also comes to light that you
23 have never denied an application to operate.

24 This would seem to say that once the building permit
25 was granted, a plant eventually would exist no matter what

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1 subsequent information would come to light -- earthquake,
2 faults, poor construction, lack of need, public opposition,
3 facts arise from public health records, shortcomings in the
4 redundant safety systems.

5 No problems brought to you have been sufficient
6 to have an operating license refused.

7 There is reason to question whether you really
8 are interested in hearing what people really want to say:
9 why are none of the health factors allowed as a basis for
10 intervention?

11 Is the life of the industry so important to you
12 that no matter how serious our questions or comments are,
13 you will only react to protect the industry? Is human life
14 the most important concern to you? It is to us.

15 Can you hear that?

16 The President's Commission on Three Mile Island
17 seemed to arrive at these same kinds of conclusions regarding
18 your past performance in protecting people's lives. They
19 recommended that the NRC be dissolved and a new agency
20 be formed, one without ties to the industry.

21 I personally am not sure that it is possible
22 to form such a group using current government representatives
23 and Congress people.

24 I, nevertheless, urge in light of the recommendations
25 of the Kemeny Report that these hearings stop until a decision

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1 has been reached for acting on the Kemeny Report.

2 Thank you.

3 CHAIRMAN BECHHOEFER: Lora White.

4 LIMITED APPEARANCE STATEMENT OF LORA WHITE

5 MS. WHITE: Good morning. Thank you for letting me
6 speak this morning, although I guess I feel -- I echo some
7 of the sentiments that she made earlier about whether or not
8 it would do any good.

9 I guess if we all had that feeling, no one would
10 be speaking at all.

11 At any case, what you see before you is a small
12 group of people. They're not very threatening, but there are
13 many more, and there will be hell to pay before this thing
14 is over with.

15 What I want to ask is -- or say is I think we're
16 asking the wrong questions in this issue.

17 We're talking about whether it's technically --
18 whether the Zimmer plant or any other plant meets technical
19 specifications, whether or not economically it's a good
20 idea to proceed with more nuclear reactors.

21 That's really not the question we ought to be
22 asking; we ought to be asking why we are doing it at all,
23 why has this been allowed to continue at all.

24 The health hazards are obvious. I know you've
25 heard all this before, but at some point this is going to

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1 make sense.

2 There are cancer risks. This -- the whole
3 proliferation of nuclear reactors did not come out of human
4 need, as you know. I could talk about the military and
5 the -- the massive economic benefits -- as they're called --
6 the guilt that we may have for dropping bombs in World War II.
7 These things aren't really talked about too much. I
8 think we feel uncomfortable with them.

9 Even Three Mile Island, which wasn't supposed to
10 happen -- it was considered impossible before the incident.
11 It was -- I guess it was kind of a modern day Titanic.

12 That upset people for awhile, but I think now we're
13 beginning to sort of forget about it. It didn't happen here.
14 It was the other guy.

15 We won't know probably ever how that affected those
16 people. The health studies that have been done have been
17 very limited and because of the transient nature of that
18 population there, we probably won't ever know how that
19 affected them until another one happens, perhaps.

20 And if you and I figure we don't live in a low
21 population zone -- I don't. I'm a resident of Cincinnati --
22 but I don't live near the power plant, and -- at Moscow.
23 And I just figure, well, that's tough luck for those people,
24 too.

25 But the point is, it's tough luck for all of us,

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1 really. Maybe we won't be able to get away to Florida
2 or a fallout shelter if such a need arises.

3 There aren't any current evacuation plans for that
4 area. I think that problem needs to be addressed. I'm
5 not making a very legal or a very technical discussion here,
6 but I think you will have plenty of that later.

7 Although there are many instances of non-conformance
8 at the Zimmer plant, the control rods, for example -- also
9 something which may not be brought up is the wind direction --
10 not toward the plant but away from the plant in the direction
11 of the city.

12 And it's -- it's almost as though it was planned
13 to affect the greatest number of people. The Moscow
14 Elementary School is the closest public building to the
15 plant, which I find kind of interesting. Those are the
16 most vulnerable people involved.

17 I admit the idea of a nuclear plant is very
18 seductive. We do need energy. We do need new sources of
19 energy. I think this Iranian situation is particularly
20 highlighting that issue.

21 I think if everything worked according to plan,
22 to what the scientists had laid out, a nuclear plant would be
23 a fantastic idea. But the point is though that we're dealing
24 with human beings.

25 We make mistakes. We have made mistakes. And

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1 that's if they're unintentional. If they're intentional,
2 we have a much greater problem. And I think there is a
3 definite risk of terrorism in our future; it's not so
4 unlikely.

5 I don't need to even go into how -- how bad
6 or how massive that could be.

7 Gentlemen, you have the power to delay indefinitely
8 the Zimmer plant or any other plant. I don't know why
9 you're not doing it.

10 You know what the dangers are. Obviously, you
11 have talked -- many people have talked -- there have been a
12 great many things written.

13 But then there are the Con Edison's, the CG & E's,
14 big business. I realize those things are important. But
15 really no person of good conscience -- including yourselves --
16 should condone the proliferation of nuclear reactors.

17 You do have a choice. All you have to do is say
18 no. If you must continue with the heavy metal technology
19 that we're doing, go solar.

20 This is a viable alternative. It, too, can be
21 fitted into big time technology. Not only can you not
22 fool mother nature, you can't fight it; nature wins every
23 time.

24 It's up to us if we want to work with it or
25 against it.

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Don't play craps with our futures. That's what I'm asking, and I think that's what a lot of other people are asking. Have some guts. Say no. You will be applauded and you'll probably sleep better.

Thank you very much.

(Applause.)

CHAIRMAN BECHHOEFER: Joy Stephens.

LIMITED APPEARANCE STATEMENT OF

JOY M. STEPHENS

MS. STEPHENS: My name is Joy M. Stephens, and I'm a resident of Cincinnati, and I'm opposed to the operating license for the Zimmer Nuclear Plant in Moscow.

I grew up in the region and I have lots of friends and family that live there.

So for me, it's a very emotional and trying experience knowing that their lives are going to be in danger.

It's very upsetting for me to sit here and look at you and know that you two men who live so very far away from any danger should have the power to decide anything that would affect the lives of so many innocent people, people who have no voice in the matter at all.

But you sit there and license that new plant that is going down now.

And I don't know that there's any plant that hasn't had at least one small accident that has happened.

1 And you think of the thousands of millions of
2 people -- they may eventually come up with cancer because
3 of the decision that you have made. I don't know how you
4 can live with yourselves.

5 I am a young mother who has had great anticipation
6 of also being a young grandmother, but it doesn't look to
7 me like my children are even going to have a chance to grow
8 up in an environmentally safe home the way I did and the
9 way you did.

10 And I don't even know if my grandchildren are
11 going to be born alive. And I know that perhaps we are said
12 to be very emotional people, but it's a very emotional and
13 trying thing. And I hope that 30 years from now you're
14 alive to see what's happened and can live with it.

15 (Applause.)

16 CHAIRMAN BECHHOEFER: Jane Sullivan?

17 LIMITED APPEARANCE STATEMENT OF

18 SISTER ALICE GERDEMAN

19 SISTER GERDEMAN: I'm Sister Alice Gerdeman. I am
20 the principal of an elementary school in Newport, Kentucky, just
21 across the river from Cincinnati.

22 For the last six months, I have been studying the
23 issue of nuclear power because it has concerned me greatly,
24 being in charge of children each day.

25 I'm particularly concerned about the danger to

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1 their health and to my own.

2 All the evidence that I have reached -- read so far
3 says to me that what we are doing or what CG & E proposes
4 to do at Moscow, Ohio is endangering the lives of all of
5 those children.

6 There does not seem to be any evidence that
7 radiation is good for people, and there also does not seem
8 to be any evidence that it is possible to run a nuclear power
9 Plant without increasing radiation in the area. I am
10 particularly concerned not only about the physical needs of
11 these children, but also about their emotional needs.

12 It is my experience of being an educator for
13 15 years, seven years of which have been in administrating
14 a school, that when children are exposed to some kind of a
15 trauma, it stays with them for a long time.

16 Just a fire drill is a traumatic experience to a
17 child who has been burned.

18 Blasting in our particular area where there are a
19 lot of construction going on right now has been traumatic
20 to some of our children because they know of the dangers to
21 their own homes and safety and the concerns of their
22 parents.

23 It is -- so far, statistics prove that every
24 nuclear power plant has accidents. Therefore, Moscow will
25 have an accident also. And when that time comes, it will
not only be the fact that we will have a trauma at that

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1 point, but that this will stay with people for a long,
2 long time.

3 And there will be added fear in the lives of many
4 people.

5 While the school that I am the principal of is
6 not within the three mile or the 10 mile limits, it is
7 directly down-draft -- the wind draft -- from where the
8 nuclear power plant is.

9 This also seems to me a very weighty consideration.
10 While I am opposed to all nuclear power, I am particularly
11 opposed to the Zimmer plant because of its location. Putting
12 a nuclear power plant in an area where the main wind drafts
13 do directly over highly populated areas, seems to me to
14 be an entirely foolish way to handle a situation.

15 At the present time, there is no evacuation plan
16 at all for Kendall County, Ohio -- Kendall County, Kentucky,
17 or if it is, it is completely secret.

18 No school administrator that I am acquainted with
19 has been in any way consulted as to how we would be able
20 to handle the fact of having children in our presence while
21 there may be a nuclear accident occurring.

22 The water supply which we all depend on goes
23 directly past the Moscow plant; we could easily be killed or
24 we could not immediately, but over a period of time become
25 very, very ill.

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1 And there is nothing we can do about it. There is
2 a lot that you can do about it, and this morning I ask you
3 to do that, to think about those children, the concerns that
4 they have for their physical and emotional stability and
5 not to license this plant.

6 (Applause.)

7 CHAIRMAN BECHHOEFER: Robert Kreimer?

8 I might add that applause is not appropriate for
9 a courtroom.

10 David Kreimer?

11 LIMITED APPEARANCE STATEMENT OF

12 DAVID KREIMER

13 MR. KREIMER: I welcome -- I'm David Kreimer, and
14 I welcome the opportunity to be able to address a few words
15 to this board.

16 I live, statistically, according to the Weather
17 Bureau, I live about 15 minutes downwind from what the
18 Weather Bureau says the wind always blows. I live in
19 downtown Cincinnati.

20 I am taking this opportunity to be able to ask you
21 gentlemen a certain number of fundamental questions. It
22 has to do with what you're empowered to be able to make the
23 decision over.

24 Now, what we're talking about is a question of
25 risk. Now, there is a law called the law of risk, and the

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1 law says that the amount of return that you're going to get
2 from a risk will have to be proportionate to the amount of
3 risk that you take.

4 In other words, you're not going to bet a million
5 dollars if you stand at 100 to one odds -- if you stand to
6 make only another million dollars.

7 You're not going to bet a buck at 100 to one odds
8 just to make another dollar; you're not going to do it.
9 The only time that you're going to get a million dollars for
10 100 to one odds if maybe your reward might be a billion.
11 You know. That's the question of risk.

12 Do you understand what I'm saying?

13 It's a law; it's called the law of risk and
14 probability.

15 No wise decision making person on any board
16 sitting anywhere on any council will disregard this risk,
17 and I'll tell you -- I'll tell you that the risk that we
18 are involved with is -- is so fundamentally important that
19 there is no amount of reward that we can be promised to
20 make the risk work. We're talking about catastrophic
21 destruction of a lifestyle as we know it.

22 That's my point, and ultimately I think that
23 is what everybody here is sitting around asking. It ain't
24 worth it.

25 What we're talking about is the potential

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1 catastrophic destruction of life as we know it. I mean --
2 you know -- we can sit up there and say all these -- all
3 these thousands of people will prove to us that this cannot
4 happen.

5 But -- you know -- these thousands of people have
6 been wrong so many thousands of times before that it may --
7 it may -- you think that there's something more fundamental
8 here, and that is that that it isn't 1000 people who are
9 right.

10 It's not a question of 1000 people being right;
11 it's a question of one person being right or just five or
12 10 people being right.

13 And I think that the proponents of the dismantling
14 of this plant were right because it's not worth the risk.
15 It's not worth it.

16 There's a few more things I'd like to say, but
17 fundamentally and ultimately that's what we're all talking
18 about.

19 It ain't worth it.

20 Getting back to the subject at hand which is why --
21 why you gentlemen sitting on that board might like to
22 consider what I have to say, and part of this is the idea
23 of Murphy's Law.

24 Have you heard of it?

25 Well, I don't know if you're in a position to be

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1 able to contest to a question put to you, but I would
2 venture to say that you indeed heard of it, and Murphy's
3 Law says that if anything in the system of the cosmos can
4 go wrong, from the human point of view it will.

5 Okay?

6 Well, everybody so far has mentioned that every
7 power plant that's been designed with all the safeguards
8 and redundancies that are involved in it have still gone
9 wrong.

10 And so we're not quite -- we're not going to say
11 that, oh, what's happening here is just a small factor. What
12 we are saying is that there's a risk here that's even so
13 small that -- that what will happen will be catastrophic.

14 I'm not sure if I made that point entirely clear
15 to you.

16 But I'm saying that even if the risk is that
17 small, you still cannot make an affirmative decision to go
18 ahead and license this plant.

19 Now, going back to other areas involved with
20 Murphy's Law, you know, we're talking about -- we're talking
21 about American's need for power.

22 Well, I think that's ridiculous. We've got too
23 much. We've got too much. We squander it. We -- it's
24 so useless to us that we can leave lightbulbs burning all the
25 time. I don't think that's very American -- you know.
Most of our people came over here. We were poor. Most of

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1 our people -- I'm -- you know -- most of our ancestors,
2 if we're not Indian -- American Indians -- then we came
3 from a different place -- you know.

4 And those people made this country great not
5 because they squandered things, but because they were
6 hard working and they saved things very carefully.

7 It's only now in the last 20 years -- 50 years --
8 20 years, more specifically, that we have indeed mastered the
9 question of production -- you know.

10 This is involved with the atomic power plant to
11 the extent that -- we have sufficient capability now to
12 generate all the power that we need for X number of years
13 with existing types of technologies.

14 And then when we start talking about new technologies,
15 we don't know what we're talking about. For example, anything
16 that's as safe as we might think like burning coal or
17 burning gasoline -- right?

18 You know, everybody says that's all right -- you
19 know? Well, back in the fifties it was all right.

20 But now -- but now, and this is 1979 -- and the
21 point is -- is that our environment is ruined. There's --
22 every lake in the northeastern part of the United States
23 is dead of aquatic life, and the reason is -- is
24 because all of this -- these sort of nitrous oxides and
25 from gasoline -- and the sulferoxides from coal production

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1 have turned into the most -- the most powerful
2 acids that we know of: nitrous acid and sulfuric acid. These
3 sulfuric acids are going into the air and the prevailing
4 winds blow northeast, at which time all these acids laying
5 down in these lakes in the northeast -- and the result is
6 that the -- that the acidic contents of these lakes is
7 such that all aquatic life is dead or dying.

8 It is the most serious environmental issue
9 that we have going for us. It is a very new issue. And
10 then how many people are aware of it -- you know? How many
11 people?

12 Well, you're going to be hearing from it. I'm
13 talking about questions of technology. And these are
14 technologies that we've been using for thousands of years:
15 coal, petroleum, carboniferous power.

16 And yet look at the problems that we are now just
17 becoming aware that exist, namely the death of all -- or
18 at least a key section of the environmental cycle.

19 And so I would like you to keep that in your mind
20 when you start thinking about new technologies that everybody
21 knows there are tremendous risks involved with, namely
22 radioactiveness, plus -- plus just being blown kingdom come
23 or getting melted into plasma.

24 Well, there's a couple of other things involved
25 with technologies that we have not been able to answer the

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1 questions to -- but -- but in part have determined that we
2 ought to go slow on.

3 And one is the question of manipulation of
4 genetics -- genetics -- you know -- changing genes. You know,
5 what are we going to create with a mutant like this -- you
6 know?

7 We don't know.

8 And yet there has been recommendations, very
9 strong recommendations that these -- very careful controls
10 are put on this sector of science, just as chemical
11 warfares or chemical manipulations in the environment
12 having to do all the way from just what to put on your
13 plants to kill the bugs to what kind of -- what kinds of
14 bombs we're going to make to drop on the other people to
15 ensure our own survival; nerve gas, I'm talking about.

16 But getting back to nuclear -- nuclear problems
17 is that -- is that it's potentially much more powerful
18 issue than any of these I've just talked about.

19 What I've talked about took 2000 years to -- to --
20 I mean as far as the petroleum and the coal burning; it
21 took 2000 years for us to be aware that there is a fragility
22 of mother earth and that we have to be careful how far
23 we proceed.

24 And then when you talk about the nuclear -- the
25 nuclear situation is that every person who is involved with

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1 the development of the atomic bomb on the Manhattan Project
2 lived the rest of his life in remorse.

3 It's -- it's -- it's the old Pandora's box --
4 you know. We cannot open it. We -- there's no need to go
5 through with this technology because there are too many
6 questions involved with it; we can afford and wait for a
7 new type of technology that does not --

8 (Recording interruption.)

9 The next point I wanted to bring up was the
10 idea that in any kind of investment if you're sure that
11 the investment is not going to -- is not going to go on,
12 you know, there's no point in continuing on riding a dead
13 horse.

14 There is a law in economics that you do not throw
15 good money after bad. The money that's invested in Zimmer
16 and all the rest of the nuclear power plants is bad money.
17 There's no point even investing another dime in it.

18 It ain't worth it.

19 And if I can do anything I can, it's not going to
20 happen.

21 Now, if I'm not -- actually, I'm really not sure
22 if it is currently or not, but it was a fact that Neil
23 Armstrong was on the board of -- board of directors for
24 Cincinnati Gas & Electric Company.

25 Now, if he -- we don't have to ask the man from

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1 the moon whether in fact his brand of technology is what
2 is good for us.

3 He could be wrong. The question -- the question
4 that we have is that if we're in error on this question is
5 that it is going to be half a million years before we're
6 going to be able to seek for the answer because that's the
7 kind -- kind that we're talking about.

8 We're talking about half a million years as far
9 as being able to absolve ourselves of this potentially,
10 fundamentally wrong question -- wrong decision that could
11 be made.

12 I urge you gentlemen that from -- from the
13 standpoint of risk to reward is that the -- the continuation
14 of nuclear power plants is not a viable question.

15 And I thank you for your time and I hope I didn't
16 take too much of it.

17 CHAIRMAN BECHHOEFER: Marilyn Bossman.

18 LIMITED APPEARANCE STATEMENT OF

19 MARILYN BOSSMAN

20 MS. BOSSMAN: My name is Marilyn Bossman, and I'm
21 a school teacher, and I brought my class here today so they
22 could see -- quote, unquote -- "democracy in action."

23 Because I'm a school teacher, I can't help but look
24 at the world through a school teacher's perspective. One
25 thing a school teacher has to do is empathize -- try to

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1 empathize with his or her students as much as possible,
2 try seeing things from a child's and -- or a teenager's
3 point of view.

4 So what I thought I did -- what I thought I would
5 do is try to imagine what a child, say a first grader, might
6 think about nuclear power and nuclear weapons because in
7 my mind those two things are synonymous.

8 Children come from different places and to get a
9 real good perspective on this, I thought I might try to
10 empathize with a child of, say, the inner city, and also
11 one from the country, say, Moscow, Ohio or St. George, Utah
12 where bomb testing took place in the fifties.

13 Let's look at how a child might look at low level
14 or high level radiation. You can't see it. You can't
15 feel it. You can't taste it.

16 A first grader has a hard time relating to this
17 because that little first grader depends much on tactile
18 senses.

19 Kids have vivid imaginations, but imagining
20 radiation is hard, almost impossible. When kids can't
21 see things, they usually imagine the worst. That's why
22 children living around Three Mile Island are still suffering
23 from nightmares.

24 That's why St. George children who grew up in
25 the fifties are having psychological trauma. And that's

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1 why the kids in Moscow, Ohio, are still wondering what's
2 going to come out of that cooling tower.

3 Perhaps the NRC should publish a manual for
4 children on the aspects of high and low level radiation.
5 Let's take the case of accidents. In the case of an
6 accident, what happens in a first grader's imagination
7 when he or she is told that there has been a nuclear
8 accident?

9 Better yet, what happens to a child in the
10 Moscow Elementary School who hears of an accident and
11 this child's parents can't come to the school to get that
12 child?

13 Such was the case in Three Mile Island when the
14 kids were left stranded at school hours after the accident
15 because their parents, A, did not have a car to come and
16 get them, or B, were unable to come and get them because of
17 their jobs.

18 It must have been a horrifying experience for that
19 child in that position. The train that the government sent
20 to -- quote -- "collect these children" -- unquote -- and
21 finally their unfortunate parents came much later.

22 So I pose these questions to NRC staff: what are
23 you plans for the children of the world? Is it because
24 they have few rights under the law? Is it because they
25 don't provide capital gains for big companies? Is it becaUse

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1 they don't know the meaning of low and high level
2 radiation that the children must suffer -- must suffer
3 first and foremost?

4 CHAIRMAN BECHHOEFER: Ronald Applegate?

5 LIMITED APPEARANCE STATEMENT OF

6 RONALD APPLGATE

7 MR. APPLGATE: My name is Ron Applegate, and I'm
8 a resident of Cincinnati.

9 The big question which always arises in my mind
10 in observing these hearings so far is on what sort of
11 basis is the ultimate decision made by the Commission as to
12 whether or not to license Zimmer No. 1.

13 So I would like to address this morning a couple
14 of issues which I think are crucial in that final
15 determination, the issues of safety or economics.

16 My own feeling is that there are many problems
17 with the present way in which the Commission determines and
18 regulates the safety of nuclear power plants.

19 For one, I think the risk assessment method of
20 analyzing safety is full of serious questions, and there
21 are only three federal agencies which actually use that
22 method to determine safety, although many agencies use it
23 in their calculations.

24 I think the issue must be and has finally begun
25 to be raised by the Office of Technology when they have

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1 commissioned a study which is entitled "Risk to Humankind."
2 So the issue has finally reached the appropriate level,
3 that humans must be the ultimate consideration and the
4 policy should be no risk whatsoever.

5 I also think there is a serious problem with the
6 way in which at present emergency evacuation plans are
7 not even required for original siting approval.

8 I think that we must closely tie these two factors
9 together until it can be demonstrated by the utility that
10 they can evacuate the area around the plant, that approval
11 for siting should not be given.

12 And of course this is very disturbing when we
13 realize that all of the plants in operation today
14 or all under construction, such as Zimmer, have not operated
15 according to this particular method. In fact, as we all
16 know, we're still trying to get an adequate emergency
17 evacuation plan for Zimmer 1.

18 Further, I would mention that there is no
19 monitoring of the low population zones during the life of
20 the plant. Therefore, there's no way of ensuring the
21 ability of the utility to meet the actual goal behind the
22 low population zone concept, which is an area which can
23 feasibly evacuated.

24 I don't know whether this is divine intervention or
25 just the usual technology.

(Laughter.)

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1 I think that these particular problems
2 definitely call into concern -- into question the Commission's
3 concern for our safety and I think that the Commission should
4 begin to address them.

5 More disturbing in this regard, I think, however,
6 is the history of the definition of safety which has
7 existed under the Atomic Energy Commission and now the
8 Nuclear Regulatory Commission.

9 As a historian, I have begun to investigate this
10 history, and I find it a rather frightening one; what I
11 think is most surprising is that the basic assumption
12 underlying this entire history since 1945 has been this:
13 the farther away a person is from a reactor, the better.

14 In other words, there is no safe place when the
15 products of fission are released. And we can see originally
16 that this assumption was put to work when the first proving
17 grounds by the government were established in Idaho for the
18 construction and operation of nuclear reactors.

19 Yet since the Atomic Energy Act of 1954, which
20 began to promote the commercial ownership and operation of
21 nuclear plants, the only time that this assumption has
22 actually affected policy has been after an accident.

23 For example, in 1961 when the SL-1 reactor
24 exploded -- and I'm using the word of the industry here, not
25 making it up -- exploded and killed three people, the

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1 following month the Atomic Energy Commission put forth a
2 regulatory guide which became law the following year in
3 1962 -- this, by the way, was the first official regulations
4 we ever had on where plants should be located.

5 And in this particular law was first enunciated the
6 low population zone concept . And even this is hardly
7 reassuring; it simply introduced the idea that in the
8 immediate vicinity -- and this is usually an area under
9 three miles -- that there had to be a way of evacuating
10 people quickly in order to guarantee their safety.

11 Again, what I think is disturbing is that the
12 basic assumption which was enunciated throughout this
13 period, that there is no safe place, was disregarded and
14 the military concept -- and I don't want to be over-dramatic
15 here, but it is what the low population zone is based on
16 historically -- is a kill zone.

17 People within this particular area are considered
18 to have no great chance. Their idea behind the 1962 code
19 was simply to keep reactors from being too close to large
20 population centers, but as was used in the argument at the
21 time, there were a number of advantages for rural reactors.
22 One was the fact that the dispersal could be hopefully more
23 contained in a rural area.

24 But ultimately the major reason -- and this is from
25 the industry itself -- is that in a rural area you have fewer

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1 people intervening in Commission hearings.

2
3 The only significant move toward a change since
4 this 1962 law has of course been recently; in the wake of
5 Three Mile Island this year, the Commission has established
6 a siting policy task force which released their report in
7 August.

8 And according to this report, once again we find
9 this underlying assumption resurfacing. They have
10 recommended abolishing the low population zone -- and
11 semantics is only one of the reasons here -- and to
12 replace it with an emergency evacuation zone, which would be
13 at 10 miles from the plant, with its outer reaches up to
14 50 miles in order to accommodate not only direct exposure
15 from the plume, but also indirect exposure through the
16 particles which would enter our food cycle and be directly
17 ingested, which in most cases of exposure around 50 miles
18 is much more serious.

19 The problem with this particular report,
20 however, is that it does give credibility to this
21 assumption that there is no safe place, and a number of
22 people on the Commission have written letters pointing this
23 fact out.

24 And again it calls into question all of those
25 plants now in operation or under construction because
obviously the city of Cincinnati is well within the 50 mile

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1 radius, and yet we have this plant 24 miles away.

2 So to make such a ruling now would cast into doubt
3 all of the plants now in operation or under construction.

4 In fact, I think that this very quick summary of
5 the history of safety indicates that this definition has
6 never been the primary consideration; something else has
7 been, and that something is the second thing I would
8 like to address, and that is the economics.

9 The history of the Atomic Energy Commission and
10 now the Nuclear Regulatory Commission has been ointed out,
11 has been in part to promote the development of the industry,
12 and that has been quite directly to promote capital
13 investment.

14 And it has spent a great deal of its life as an
15 agency arguing before Congress to get higher appropriations.
16 But it has also been to protect that capital investment and
17 as Three Mile Island has shown, once again this issue
18 has seemed to play a primary consideration.

19 What about that billion dollars? We can't just let
20 that slip away. And once again safety takes the back seat.

21 With regard to this hearing, I would like to make
22 a counter -- to offer a couterposition, and argue that it
23 is not in the Commission's purview to concern itself
24 with the economics of nuclear power.

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25 In other words, I don't think that you should have

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1 hanging over your head -- what about the \$800 million in
2 Zimmer? We've got to take that into consideration.

3 And the reasons that I would argue this are the
4 following: first of all, it is Congress's position to decide
5 with regard to the economics of nuclear power that --
6 they have the authority, and as we all know, they've been
7 doing a pretty good job.

8 They've been very free with their appropriations
9 over the past 20 years, and they have underwritten the entire
10 industry through the Price-Anderson Act.

11 Nevertheless, I feel that this simply points out
12 that it is Congress that should be doing this job and not
13 the Commission itself.

14 Ultimately, however, I think the economic issue
15 will be decided by three groups: first of all, the banks.
16 They're only going to make loans on which they can make
17 money, and the risk involved is sufficiently low to guarantee
18 that return.

19 And as we all know, since Three Mile Island, the
20 current practice of the banks has been to enforce extremely
21 tight money for nuclear plants, as their future is in extreme
22 question.

23 Secondly, the utility companies themselves will
24 be dealing with the economics of nuclear power because their
25 investment is designed to also provide the largest rate of

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1 return, and Cincinnati Gas & Electric itself indicates that
2 it is attuned to these particular issues; since Zimmer 1 was
3 begun, they have constructed a coal fired plant in Boone
4 County across the river; this plant, including a scrubber,
5 which we've been told a number of times, this will
6 bankrupt all of us.

7 This plant costs \$360 million, according to a
8 CG & E official, and it will produce 600 megawatts; certainly
9 on the capital costs alone, that is a much better investment
10 than Zimmer 1, and although CG & E does not indicate the
11 reason in the NRC reports as to why they supposedly scrapped
12 Zimmer 2, it doesn't take any extreme guessing.

13 In fact, the current record of delays and
14 cancellations in fiscal year 1979 as indicated in NRC
15 monthly reports indicates that there is one reason that
16 plants are being canceled; that is that the demand is
17 declining.

18 Quite simply, there is no need for the energy that
19 nuclear power plants would produce.

20 For these reasons, again, I think that the NRC
21 should not consider it its responsibility. The companies
22 themselves will shift as they have to in order to make
23 their profits.

24 Finally, a group which is beginning to make its
25 voice heard in deciding these issues are the customers
themselves.

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1
2 As we're all aware, the current structure of the
3 industry means that the customer pays no matter what. Three
4 Mile Island is a good example of this again.

5 So I would argue that you do not need to concern
6 yourselves with this 800 million. We're all too aware that
7 it's our problem. And that's why we were in City Hall last
8 Friday opposing the beginning of CWIP, of the introduction of
9 over \$200 million for Zimmer into our rate base, although it
10 will not begin producing electricity for two more years,
11 and hopefully never.

12 Since we have to ultimately pay for whatever
13 risks and whatever mistakes that CG & E makes, I would urge
14 you to drop it from your particular considerations and
15 instead make your decision on the basis of safety alone.

16 In other words, let us live in order to fight CG & E
17 another day over the economic issues.

18 Thank you.

19 (Applause.)

20 CHAIRMAN BECHHOEFER: Mr. Applegate, I would just
21 like to comment that with the issues of evacuation and
22 monitoring that you raised, these subjects are being
23 considered in these proceedings.

24 Ms. Surber?
25

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1 LIMITED APPEARANCE STATEMENT OF
2 KIM SURBER

3 MS. SURBER: Good morning. My name is Kim Surber,
4 and I am a resident of Cincinnati.

5 And I would just like to speak to that brief
6 comment that you made to Ron Applegate. I am glad to hear
7 that the lack of evacuation plans is a contention, but
8 I think one consideration is that Aimmer was scheduled to
9 open in September of this year without an evacuation plan.
10 It was again scheduled to go online in January of 1980,
11 again without an evacuation plan.

12 I have a real problem with that. Now, there are
13 a few other things I'd like to share with you. You know
14 a lot of the risks that are associated with a nuclear power
15 station.

16 The other people who have spoken with you this
17 morning and who will continue to speak to you will continue
18 to reiterate these risks.

19 I don't think I have to expand on that much
20 further.

21 One of the things I think you need to consider
22 is the legacy you're leaving our future -- our children.
23 That legacy is one of death, destruction, mutation and
24 mutilation.

25 Now, I think you need to know that I was one of

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1 29 people who were arrested at the Zimmer station on June
2 3, and there were three reasons why I committed that act.
3 One, I wanted to stop Zimmer.

4 And barring that at that instance, I wanted to
5 bring attention to the dangers. I wanted to shed light on
6 why we were there, and I wanted people to see that there
7 were certain people who had a commitment to stopping the
8 plant that went further than just demonstrating.

9 The second reason is I have a nine year old, and
10 this is his picture.

11 Now, I just mentioned the legacy you're going to
12 leave to him and to all the rest of the children from this
13 generation and their generation and generations to come.
14 I'm here to protest that legacy.

15 And the third reason I committed that action is
16 because I hold you, the members of the NRC, Cincinnati Gas &
17 Electric, DP & L, CNSOE, and all of the power companies
18 responsible for forcing me to have to go and commit that
19 action.

20 Your rubberstamp procedure of licensing left
21 me no alternative.

22 You hold our futures in your decision making
23 powers, and now I'd like to tell you what we're going to do
24 about that rubberstamp procedure. We're going to continue
25 to fight you, the NRC, the power companies, and the
nuclear power industry.

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1 All of the above-mentioned concerns have reached
2 what I consider to be the epitome of irresponsibility. We're
3 going to continue to organize on a mass level; we're going
4 to continue to demonstrate against this, whether at Zimmer,
5 Davis-Besse, North Perry, Diablo Canyon, or any other one
6 online or under construction.

7 We're going to continue to expose the lies
8 concerning nuclear power, ie, accidents.

9 The nuclear power industry talks to us about -- that
10 there has been no accidents, no deaths associated with any
11 nuclear power accident, and that's a bareface lie.

12 Ron Applegate in his speech just before me mentioned
13 the Idaho Falls incident where three workers were killed
14 when a reactor exploded.

15 I'd say that that is pretty deadly.

16 Another problem -- one of the other lies that
17 we face is the amount of waste that is generated by these
18 nuclear power plants.

19 CG & E contends that Zimmer will produce an
20 average of 50 pounds of plutonium per year. But the
21 Union of Concerned Scientists places this figure more like
22 500 pounds.

23 Now, I tend to believe the Union of Concerned
24 Scientists, not because I'm anti-nuclear, but because I
25 see no reason why they should like to us. They don't stand

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1 to gain anything by exposing the truth.

2 They're no on the payrolls of the power
3 companies. They aren't going to make big bucks off these
4 plants.

5 Once these plants are abolished -- and they will
6 be -- these people will turn to their normal existence,
7 out of the limelight, and their cause for concern will be
8 gone.

9 We're also going to continue to reach out to the
10 labor forces. We're going to continue to dispel the lies
11 that an end to nukes is an end to jobs for the labor
12 sector.

13 (Unintelligible) from the International
14 Association of Machinists doesn't buy these lies either.
15 He spends much of his time educating his union around the
16 better chances for long term employment if we follow
17 renewable and soft energy paths.

18 There will continue to (unintelligible) action
19 such as the one that my codefendant, Tom Carpenter, and
20 I participated in. If not at Zimmer, then at Seabrook
21 North Perry, and other nukes.

22 Tom and I are currently facing trial around our
23 civil disobedience action, and do you know why that is?
24 I'll tell you. It's because public opinion is turning
25 against nuclear power.

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1 Five out of the eight jurors in our trial could
2 not vote to convict us. They couldn't convict us because
3 they're now convinced that nuclear power is not safe.

4 We'll also continue to hold interventions. They
5 don't seem to work real well, but we're going to continue
6 trying anyway.

7 We're going to continue to fight the -- you with
8 everything we have. I think the most important consideration
9 is do we actually need nuclear power. Do we need to
10 get our electricity from this source?

11 We say no. There are alternatives. There's
12 conservation. But that conservation has to be without
13 penalty. That means that CG & E must not be permitted to
14 penalize us because we use less electricity.

15 There is hydropower. That is an immediate
16 possibility.

17 There is the possibility of geothermal power. That
18 is still in its research stages.

19 Coal is a temporary alternative; again, Ron
20 Applegate spoke very ably to the situation with the
21 coal plant in Boone County.

22 Lastly, there is solar. None of us contend that
23 it's feasible to have all our energy needs met through solar
24 power. But it's possible to get some of our needs met
25 through solar; thus, reducing the stress on our other
expendable sources.

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Inclosing, I'd like to say that when Con Ed,
 CG & E, DP & L, CNSOE, and all other power companies figure
 out a way to tap the sun, you can bet we're going to have
 plenty of solar energy and the nukes will be expendable.

Thank you.

(Applause.)

(Brief recess.)

1430 067

1 CHAIRMAN BECHHOEFER: Back on the record.

2 We will begin with Alison Jaggar.

3 LIMITED APPEARANCE STATEMENT OF ALISON JAGGAR.

4 MS. JAGGAR: I teach philosophy at the University
5 of Cincinnati, and my area of special interest is social and
6 political philosophy. I'm also the mother of two young
7 daughters, aged 5 and 7.

8 Now, I am not an expert on the scientific and
9 technological aspects of nuclear power, nor even on its
10 political and economic aspects. I'm just a lay person, really,
11 trying to evaluate arguments which I often find technical and
12 difficult. But as I evaluate those arguments, it does seem to
13 me that nuclear power poses a threat to human health and even
14 survival. It's a risk that just can't be taken.

15 Contemporary political theory has broadened the
16 traditional concern of justice. It used to be that when we
17 discussed justice, we were interested just in the relation-
18 ships between living individuals within a society, but now
19 more and more people are interested in the question of justice
20 between generations.

21 Political philosophers are asking questions like:
22 Do future generations have rights?

23 And do we have obligations to future generations?

24 The new thinking, the new consensus, among political
25 philosophers is that future generations do have rights, and we

1 have obligations to them.

2 In the light of this, my view is that nuclear power
3 is a completely unwarranted attack on the rights of future
4 generations.

5 It seems obvious to me that we've no right to
6 expose our children and grandchildren to the increasing threat
7 of incurable disease, and I don't think we have any right
8 either to burden future societies with the problem of dealing
9 with the nuclear waste that we created -- a problem which
10 looks like it would be incredibly expensive, that in order to
11 deal with it will pose tremendous hazards to the health of
12 the workers who are trying to somehow stop up the leaks in
13 the containers, or whatever they're trying to do. And it
14 seems like a problem that may, in fact, be technologically
15 insoluble.

16 I think our obligation to future generations is
17 to leave the earth a better place to live, not to create the
18 risk of its destruction.

19 The issue of nuclear power lends itself to the use
20 of rhetorical terms. We talk about genocide, the destruction
21 of the earth, the survival of the species. When I hear
22 doomsday pronouncements like that in other contexts, from
23 what people sometimes call Jesus Freaks, or from political
24 extremists, I tend to turn off to this kind of rhetoric. I
25 think, oh, they're hysterical, they're exaggerating. But in

1 the context of nuclear power, I don't think it is an exaggera-
2 tion to talk in terms like these. These are the only terms
3 which describe the real situation that we face.

4 I think it's hard for us to comprehend them, to
5 think in terms of survival of the species, and so on. It's
6 hard for us, it's hard for me, to raise my concerns above the
7 pressing problems of everyday life. For instance, it was hard
8 for me to decide to take the morning off work to come down
9 here; the threat of not being prepared for class this after-
10 noon or tomorrow seemed more real to me than the threat of
11 cancer in 30 years time.

12 But when I force myself to attempt to think about
13 the unthinkable, I realize that nothing I had to do today was
14 more important than being down here this morning.

15 I want to conclude with a little -- an account of
16 a personal experience that I had last summer. From what I
17 hear, no nuclear plant is safe, and I don't think Zimmer is
18 any exception to that. Rumors go around all the time about
19 the poor workpersonship in Zimmer, how the workers there are
20 on drugs, and things like that. And I had some evidence of
21 that one night last August.

22 I'm somewhat active in the anti-nuclear movement,
23 but not one of the most active people. But last August they
24 were bringing the radioactive -- the fuel, on site to fuel the
25 plant. And what they called for for a week was a 24-hour vigil,

1 where people would stay the night outside Zimmer and be ready
2 to protest and to demonstrate when the fuel came on site in
3 the middle of the night.

4 One night my husband and I actually did that. We
5 stayed the night outside Zimmer on Route 52 in our car. It
6 was a rainy night and we went to sleep. It was very dull.
7 Nothing was happening. And then we were awakened by someone
8 tapping on the window. And, needless to say, we were very
9 scared. We opened the window a crack, and it turned out to
10 be a guy who was a worker at Zimmer and who had, you know,
11 come off shift.

12 He wanted us to open the door and get into the
13 car and talk to us. We were scared to do that. There were
14 so many stories about hardhats being intent on preserving
15 their jobs at all costs, those kinds of stereotypes.

16 So, although it was raining, we wouldn't open the
17 door, and we talked to him through the window for a long time.
18 Finally we were convinced of his good faith and let him into
19 the car. And for about two hours he told us about the
20 conditions in the Zimmer plant, about the low morale there,
21 about the drugs and about accidents which seemed to constantly
22 occur and which often they didn't seem to be able to deal
23 with immediately.

24 For instance, he told us about a leak which
25 involved a number of terminals, where they didn't know how to

1 turn off the water for a long time. And we asked him, why
2 don't you give public testimony about what's going on in there?
3 But of course we wouldn't do it. He was scared of losing his
4 job. He even mentioned the possibility of physical reprisal.
5 He was physically scared of giving public testimony.

6 So I'm just telling you about it. And, of course,
7 it's just hearsay. But if you would have been in the car
8 with us, you would have been very convinced by this man.

9 Now, I don't believe anyone is safe from the
10 dangers of nuclear power, but this midnight conversation
11 convinced me that if Zimmer does come into operation,
12 Cincinnati is going to be a particularly dangerous place to
13 live. I think from Zimmer we'll have not just the levels of
14 the routine low-level radiation that they talk about, but
15 the possibility of a catastrophic accident.

16 And so for this reason, and for the sake of all the
17 people of Ohio and the future inhabitants of Ohio, I just
18 want to ask you as strongly as I can to refuse a license to
19 this power plant.

20 Thank you.

21 CHAIRMAN BECHHOEFER: Ms. Jaggar, do you happen to
22 know the name of the individual?

23 MS. JAGGAR: He refused to tell us his last name.
24 He was scared.

25 CHAIRMAN BECHHOEFER: Because if we knew his name,

1 we could follow up and have someone from our Staff interview
2 him.

3 MS. JAGGAR: I understand that, and I wanted to get
4 his name, but he wouldn't give it. He was scared of losing
5 his job, and also something had -- one of his co-workers had
6 been shot in what was claimed to be an accident, and he was
7 convinced that it was not an accident. You know, it was a
8 guy who protested about conditions. And he was simply scared.

9 I'm sorry.

10 CHAIRMAN BECHHOEFER: Thank you.

11 Tim Carpenter?

12 MR. CARPENTER: That's Tom Carpenter.

13 LIMITED APPEARANCE STATEMENT OF TOM CARPENTER.

14 MR. WETTERHAHN: Mr. Carpenter, have you made a
15 limited appearance before?

16 MR. CARPENTER: No, I haven't.

17 I'm a resident of Cincinnati, and I've been
18 involved in fighting nuclear power for quite awhile, and I'm
19 most convinced that the facts about nuclear power are in.

20 I think one of the strongest facts that is on the
21 side against nuclear power is the fact that the Nuclear
22 Regulatory Commission of the United States and the United States
23 Environmental Protection Agency last year issued documents
24 and statements saying that there is no threshold of radiation,
25 there is no safe level of radiation. That was their statement.

1 They say that any extent of radiation has a potential of
2 causing damage and harm.

3 To me, this is a very damning indictment of the
4 whole industry, the whole nuclear industry, particularly when
5 we're dealing with the amount of radiation and the strength
6 of radiation that a nuclear power plant puts out.

7 The General Accounting Office this year came out
8 that if you would count up the truck accidents and rail
9 accidents and accidents at nuclear power plants -- what is
10 commonly referred to as incidents -- it goes up to about
11 60,000 of them since the inception of the industry.

12 I'd like to break that down a little bit:

13 In 1971 there was 2,255 hazardous leakages in
14 plants; 8,500 by truck; 346 by rail.

15 In 1974 there were 841 accidents at plants; 7,615
16 by trucks and 617 by rail.

17 In 1977, there was 15,954 incidents; 14,269 by
18 truck and 1,654 by rail.

19 Now, these figures were not pulled out of thin
20 air. They're from the Materials Transportation Board of the
21 Department of Energy statistics.

22 Also, another interesting statistic, as long as
23 we're playing the numbers game right now, is that using
24 official Department of Energy figures, Dr. Joes Saloman, a
25 chemistry professor from LSU, reveals that nuclear power

1 supplied only 1-1/2 percent of our total end-use energy in
2 1978.

3 I think it's well proven, I think it's a very good
4 fact, that nuclear power plants, or the ones that they've
5 studied the health effects around, that cancer rates rise,
6 the leukemia rates rise, and the infant mortality rates rise
7 very dramatically in proportion to the distance away from the
8 nuclear power plant.

9 Now, this isn't based on some kind of hypothetical
10 fancy mathematics; this is a counting of the bodies. This
11 is an inventory of the cancers and the leukemias and the
12 infant mortality rates.

13 Infant mortality is mortality of a born and alive
14 infant within the first year. That is termed an infant
15 mortality. The infants and the fetuses are the most susceptible
16 to radiation. An ordinary size nuclear plant uses a billion
17 gallons of water da day and, therefore, there's thermal
18 pollution because it's not totally cooled by the time it goes
19 into -- back into the river.

20 The EPA on June 30 of this year makes quarterly
21 tests of milk and water at 65 national locations, and they
22 found that 50 of these 65 cities which sold milk contained up
23 to 300 percent more strontium and iodine-131 than allowed
24 by Federal legal limits.

25 Now, children drink this milk, or are the biggest

1 milk drinkers, and strontium travels through the bone, causes
2 leukemia. The iodine-131 attacks the thyroid.

3 Now, there hasn't been bomb testing, so you can't
4 really -- for a long time -- so you can't attribute that
5 strontium rate and iodine rate to the bomb testing. It's
6 from peaceful use of nuclear energy, and it is from partially
7 the nuclear industry in the routine operation of nuclear
8 power plants.

9 So these are the facts. And I think you know
10 these facts, or you're aware of most of them. I think you're
11 aware that nuclear waste cannot be stored safely. There's
12 no one -- there is no one -- who knows how to store nuclear
13 waste safely for 250,000 years. That's plutonium. Or for
14 20 years -- we can't store for 20 years. There has not been
15 a waste site that we have had that has not developed leaks.

16 Closer to home, in Maxie Flats, Kentucky, there's
17 a waste dump that's been leaking. The State of Kentucky had
18 to buy that waste dump because it was so poorly mismanaged.
19 In Hamilton County where they've been storing wastes, that
20 has been leaking radioactive waste.

21 So there's no way out of it.

22 Nuclear power is a very grave danger to our health,
23 and a very grave danger to the lives of future generations
24 as it affects -- as radiation affects the gene structure.

25 In the 1940's, 1940 to 1945, Nazi Germany had a
plan initiated by Hitler to separate all the Jews and kill

1 them with gas chambers in concentration camps. Now, as
2 horrible as that seems to our civilization these days, it was
3 then, at that time, the system, the legal system, to put
4 these concentration camps and these gas chambers into action.
5 It was German citizens that ran these camps. They were not
6 insane perverts. They were normal citizens. They were good
7 Germans that built these concentration camps.

8 It was the system to license them. It was the
9 system to routinely execute and exterminate six million people.

10 Now, today, we look back on that and say, how
11 could they have done it? The Nuremberg principles established
12 after that set forth the law that each individual has a
13 higher responsibility than the law here today that the State
14 puts forth. There is a higher law, called morality. It is
15 called responding to what you know are the facts, what you
16 know is going to cause human suffering.

17 You don't have to obey the State law. You obey
18 the human law. Now, that's the case with these nuclear plants.
19 You cannot, in all good conscience, tell me that you think
20 nuclear power is safe. You cannot, in all good conscience,
21 tell me that you can store nuclear waste for hundreds of
22 thousands of years safely, that, in all good conscience, you
23 don't think radiation causes cancer, especially when your
24 own Nuclear Regulatory Commission has said that there is no
25 safe level of radiation.

1 Future generations are going to look back on this
2 country and say, how could they have done it? The same way
3 that we are looking back now on Nazi Germany and saying, how
4 could they have done it?

5 How could you? How could the Nuclear Regulatory
6 Commission routinely license these plants? Or these utilities
7 routinely build these plants, when they know -- they know --
8 that the health problems associated with them are deadly --
9 for profit.

10 I think you should question yourselves. You should
11 question your motives. You will be held personally responsible,
12 I think, the people in the NRC and the people at CG&E, by the
13 cancer victims that could result from the Zimmer station, the
14 leukemia victims, and children born without limbs, with
15 brain damage, or born dead. I think you should consider
16 yourselves personally responsible for these, because people
17 have told you, science tells you. Science tells you that
18 these things happen, and they occur.

19 So if you're going to be good Germans, just
20 remember that future generations will judge you, and they will
21 not forgive you.

22 CHAIRMAN BECHHOEFER: John Martin.

23 LIMITED APPEARANCE STATEMENT OF JOHN MARTIN.

24 MR. MARTIN: My name is John Martin, and I'm a
25 teacher at the University of Cincinnati. I teach courses on

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1 environmental policy and am on the editorial board of an
2 academic journal, whose subject is environmental policy. And
3 I teach courses on the philosophical implications of economic
4 theory.

5 What I want to do here today is argue for a not
6 very controversial thesis, but I think one that goes to the
7 heart of the matter of licensing nuclear plants, and that's
8 a thesis that the free market is not to be trusted in making
9 decisions about whether or not to build nuclear plants.

10 Let me begin by reviewing the ordinary case. That
11 is, the case in which economic theory says it's all right to
12 let the free market decide what happens to society.

13 The ordinary case is based on the assumption of
14 a law of supply and demand, which I'll remind you of. It's
15 on the piece of paper I gave you. It says that the actual
16 market price of a commodity is determined by supply and
17 demand. But a more interesting formulation of it, one that
18 goes to the heart of social policy-making, is the second
19 formulation I have down there which is not so common.

20 According to this formulation, the law of supply
21 and demand says that the free market distributes goods and
22 services so as to maximize consumer satisfaction consistent
23 with the facts of scarcity in the world.

24 Now, this law is used in our society again and
25 again to justify claims that the way the free market does

1 things is the right way. That law has to be backed up, not
2 on just economics, but within ethical theses, which is the
3 next thing on that paper. And that's the theory -- the
4 political theory -- called utilitarianism, which says that
5 the social good can be explained as that which maximizes
6 citizen satisfaction.

7 You then get a nice little argument: If the free
8 market does what maximizes satisfaction, and citizen satisfac-
9 tion is for the social good, that the market decides what to
10 do. That underlies classical conservative political theory,
11 but even among conservative economists there are well
12 recognized exceptions to this nice, simple argument, this
13 nice, simple theory. And these are phenomena known by the
14 term externalities.

15 An externality as defined on paper is any item
16 which is misplaced by the market. There are lots of items
17 which have a price that don't truly reflect their social
18 utility, don't truly reflect the amount of happiness they give
19 to society. There are some items which escape the pricing
20 mechanism. And among these are ones of particular concern to
21 the environment.

22 An example, just to illustrate the concept which
23 you're probably familiar with, would be how your neighbor
24 treated his yard. If he treated his yard in such a way that
25 it was very beautiful, and you could sit in your back yard and

1 enjoy it without paying him, then that's a positive externality,
2 something you get from him without paying him. The price which
3 he paid for his yard should be supplemented by some money
4 from you. You should help him pay for it.

5 If, on the other hand, your neighbor has a very
6 ugly yard, he should have to compensate you for the ugliness
7 you have to endure.

8 In environmental issues externalities occur all
9 over the place. Pollution is the main one. Companies don't
10 have to pay the full cost of their production, because they
11 get out of paying costs of cleaning up their pollution. The
12 political mechanism steps in and tries to correct the market
13 by imposing taxes to clean up pollution, by setting regulations
14 which force concerns to avoid pollution.

15 So the conclusion of all this is that ordinarily
16 you can trust the free market to decide what to do with
17 society, but there are certain well known cases, cases with
18 externalities, which you can't, where the political process
19 has to intervene.

20 Now, what we are doing here today is taking part in
21 the political process, which helps to correct the free market.
22 What I want to talk about are the externalities connected with
23 nuclear power.

24 Now, these have been talked about again and again,
25 and the only point I would make about them is to situate

1 them with respect to trusting utility companies to know what's
2 best for society.

3 The first one I want to talk about is the risk
4 connected with accidents. In ordinary economics when a
5 product has a risk, the way it's dealt with by the free
6 market is that the person builds the product and just takes
7 the risk. If his product explodes and kills somebody, he
8 pays compensation. And if he can't make a profit by paying
9 compensation, he goes out of business.

10 This is all institutionalized in insurance
11 companies. An insurance company is a company which takes
12 money from you to cover your risks, and it sets the fee
13 according to what the risk is. But it's well known in
14 nuclear power that generating plants are under-insured.

15 Now, you know the details of this better than I
16 do. The Government insures them to a certain extent, but, as
17 I think you know very well, the amount of money they would
18 have to pay if a nuclear plant exploded, is far more than
19 they're actually insured for.

20 Now, when the free market doesn't calculate the
21 risk accurately, we can go outside of it and think about it
22 as social decision makers, independently of what the market
23 says. And there is some theory for that. There is some
24 theory for calculating, as social planners, how much risk
25 we should take. And this is the theory of expected utility,

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1 which you probably are familiar with. And if you're not, I
2 would urge you to learn it. It's not very hard. But let me
3 review it a little bit here.

4 When you have a situation of risk, what that means
5 is that you're facing a future with possible outcomes. Each
6 of these outcomes has a certain probability.

7 Now, economists are able to attach a measure to the
8 utility of taking that policy with its possible outcomes, while
9 looking at both the outcomes, say, if there are two outcomes,
10 and figuring out the utility you would get on each outcome and
11 the probability that each outcome will occur. You then
12 multiply that probability times the utility of each outcome
13 and you add them together.

14 It's like a lottery. When you buy a ticket for a
15 lottery you're taking a chance on several outcomes coming up,
16 and the way you figure it, whether you should do it, is by
17 measuring the utility of the whole lottery, by looking at
18 each outcome and seeing how much you make on it, and comparing
19 the probability that that outcome will turn up. And you add
20 these figures together.

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1 MADELON
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1 What I'd like to do is a small exercise, which
2 is applying this theory to the case of nuclear power plants.

3 When you are deciding on nuclear power plants,
4 say, suppose we are social dictators and we are trying to
5 decide how to set up society. We have to decide whether
6 it's set up using nuclear power plants or, say, conventional
7 power plants.

8 Well, if you decide nuclear power plants we're
9 deciding on a lottery. There are two outcomes that are
10 relevant: one is the nice outcome where there are no acci-
11 dents, and the other is the outcome in which there is a
12 major accident.

13 The probability of a case where there is a major
14 accident is small. The probability of everything going
15 fine is pretty high, I guess. The utility attached to the
16 outcome where everything goes fine is significant. It would
17 be the utility would get out of having a happily powered
18 country.

19 The disutility would get out a major explosion,
20 it's very, very high. I don't know, nobody knows what it is,
21 but you can see.

22 Whatever utility you would get out of the happy
23 outcome, from that you must subtract the disutility, however
24 small its probability is considered, the unhappy outcome, the
25 explosion.

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1 Now contrast that policy with the policy of
2 conventional power. There, you know, there's no chance
3 whatever of a great disaster. So just considering those,
4 there's no chance of a whole city blowing up from a coal
5 plant, for example.

6 So it seems to me that you have two choices:
7 you have a choice where risk of great damage is attached
8 and another choice which would achieve the same end but
9 without that risk, and which would have a greater social
10 utility.

11 The second thing I'd like to mention is nuclear
12 waste. Now the problem with everything I've just been say-
13 ing about calculating utilities on risk is that it all pre-
14 supposes that you can assign probabilities to these events.

15 Now in environmental issues it is generally the
16 case that we don't know enough about the future to attach
17 probabilities to what's going to happen. And in the case of
18 the effects of nuclear waste, which I think is one of these,
19 we just don't know what sort of nasty things they're going
20 to cause. We don't know whether technology is going to find
21 a way of taking care of them.

22 The society has to make decisions about the
23 future contingencies that it is ignorant of at all times.
24 Let me give you some examples:

25 Just recently they had to decide what to do about

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mpb3 1 the snail darter in Tennessee. An environmentalist argued,
2 'Well, don't destroy the snail darter because in a million
3 years it might be necessary as a gene pool, and if we have
4 a poor gene pool humans suffer'. Well, they don't know any
5 of that.

6 Another example is whether to ban freon spray
7 cans. Freon spray cans have some effect on the ozone layer
8 and the ozone layer has something to do with filtering out
9 ultraviolet light which causes cancer. But they don't know
10 exactly what probabilities there are involved here. Society
11 nevertheless has to make a decision.

12 Now economics, it doesn't provide any theory.
13 There is no scientist you can go to that tells you what to
14 do when we don't know about the future. Classical economic
15 theory presupposes the wrong issues, we know all the conse-
16 quences of all our actions. Utilitarianism presupposes
17 we know the future, but we don't.

18 So you can't trust ordinary economic planning to
19 make the right decisions. And I can't supply you with
20 a theory which tells you what to do in cases of ignorance
21 about the future, but I can provide a couple of examples that
22 might lead you to the same conclusion that they have led me
23 to.

24 Suppose you're driving and you have to choose
25 between two roads. One road you know gets you to your city,

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1 and the other road you don't know anything about. What are
2 you going to do?

3 You're not going to take the road you don't know
4 anything about.

5 Suppose you're trying to choose a babysitter for
6 your child, and there's one babysitter that you know is trust-
7 worthy and the other one is a perfect stranger. Who are you
8 going to choose?

9 We face similar situations socially now between
10 choosing between nuclear power, with its possibly bad effects
11 long into the future because of nuclear waste, and convention-
12 al power plants, and we don't know all the consequences of
13 conventional power plants either, but there isn't this great
14 mystery connected with the effect of conventional power on
15 the genes and the environment and all of this.

16 So what I suggest is that you be persuaded by
17 the case of what you do in ordinary cases of ignorance, and
18 that is choose the alternative that you know has the effect
19 you want without the possibility of these bad further effects.

20 (Applause.)

21 CHAIRMAN BECHHOEFER: Kirk Robinson?

22 (No response.)

23 VOICE: Excuse me, may I address the Bench?

24 This woman has to go. Is it possible for her to
25 go now?

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CHAIRMAN BECHHOEFER: Sure.

2

LIMITED APPEARANCE STATEMENT OF MARY ERDEVIG,

3

RESIDENT, CINCINNATI

4

MS. ERDEVIG: My name is Mary Erdevig. I live

5

in the Western Hills of Cincinnati about 35 miles from the

6

site of the Zimmer Plant. And until just the past few months

7

I was not concerned about nuclear power at all.

8

When TMI happened in the spring I in fact became

9

very bored with the television coverage of it, and remember

10

remarking to my husband 'when is this going to end'. But

11

since then I have seen the reports of the June demonstra-

12

tions here in Cincinnati and I have not been impressed at all.

13

And then one time last summer my husband and I

14

decided to take a ride, and we just went out 52 because we

15

had never been there. And all of a sudden, there it was,

16

the cooling tower. And the first thing that struck me about

17

the cooling tower was how it resembled an atomic bomb's

18

mushroom stem. And I decided that I should do some reading

19

about this. Perhaps this structure was trying to tell me

20

something.

21

So I got a book from the library and I determined

22

to be as objective as I could about it. I wasn't going to be

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impressed with inflated statistics because I was well aware

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of how statistics can be used.

25

What struck me was that it seemed that a lot of

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information had been covered up over the years, and now the whole truth had been sought by the government regulatory agencies.

Today there are still many problems surrounding nuclear plants, but the two issues which concern me most as a citizen of Cincinnati is the fact that the water monitoring systems for the city are not adequate, as they are expected to be now.

I wanted to know before a month after it happens that I shouldn't have been drinking the water and I want to know this for myself, for my family, and for the children my husband and I hope to have.

And the evacuation plans is the other issue. I've heard statements to the effect that it is virtually an impossible task to expect to evacuate a city the size of Cincinnati. Therefore the various agencies have decided that they weren't going to bother trying.

Now I would like to point out that just this past weekend 250,000 people were evacuated quite peacefully out of the city in Canada, and I think that if people with your education and your capabilities got together and decided, yes, we need a plan to evacuate the people, you could come up with something.

I think that people in Cincinnati deserve at least an effort at making some kind of full-scale evacuation

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1 plan in the case of an ultimate accident, no matter how
2 slight the risk of that accident is.

3 And I have some very pessimistic feeling that
4 Zimmer will open one day as a nuclear plant, and that the
5 utilities will be given a chance to operate it as safely as
6 whatever agency of the government decides they should have to
7 do it at. But I also feel that the people of Cincinnati
8 should be given their chance to survive its operation.

9 And as I see it now, there's not much attention
10 being paid to the inadequacies.

11 Thank you.

12 CHAIRMAN BECHHOEFER: Thank you.

13 As I've mentioned earlier, we are going to hold
14 further hearings, extensive hearings, on both evacuation and
15 monitoring.

16 MS. ERDEVIG: Yes. Do they include Cincinnati,
17 though?

18 CHAIRMAN BECHHOEFER: Well, there are -- they may.

19 MS. ERDEVIG: Yes. I just wanted to --

20 CHAIRMAN BECHHOEFER: Yes. At this stage the
21 Commission is still in the process of reviewing its evacua-
22 tion requirements, and whatever those requirements turn out
23 to be, we will consider.

24 MS. ERDEVIG: Well, I just wanted to state my
25 opinions about Cincinnati, since I live here.

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CHAIRMAN BECHHOEFER: Right. Thank you.

2

(Applause.)

3

CHAIRMAN BECHHOEFER: Kirk Robinson?

4

(No response.)

5

Steve Shoemaker.

6

(No response.)

7

Paul Burkell.

8

(No response.)

9

Marcia Sutphin.

10

LIMITED APPEARANCE STATEMENT OF MARCIA SUTPHIN

11

MS. SUTPHIN: My heart's beating too fast.

12

My name is Marcia Sutphin, and I'm just me. And

13

I don't know what is the difference between you and me, that

14

we're just, you know, human people. And the effect; will

15

hurt you too.

16

I don't get it how you can't understand that.

17

And the contamination of an area, of a place that you might

18

not be able to go there, I might not be able to go there.

19

It's just so insane that you can't understand that. I

20

really wish you could understand it.

21

It must be an ignorance or a lack of human under-

22

standing that you just don't see.

23

And who wants to be evacuated? That's just not

24

real to have that idea of evacuation, that's just not real.

25

That is insanity. I'm sure you wouldn't want to be evacuated.

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It's possible to change your minds. I mean, it's all right. I mean, everybody changes their mind. You can change your mind too. I mean, it's all right.

I just hope that maybe if you would think about it in a way more like this maybe that you'll understand it's you too, it's you. And all I can do is just maybe, you know, pray for you that you'll understand too. That's all I can say.

(Applause.)

CHAIRMAN BECHHOEFER: Doug Yohman.

LIMITED APPEARANCE STATEMENT OF DOUG YOHMAN

MR. YOHMAN: I'd like to start off by requesting a possible evening session. I don't know if it's possible or not. But I feel like the feelings expressed here today is indicative of a larger amount of people that would be here could they afford the schedule.

I would also like to address the psychology of my clapping. Unfortunately most of the people left because they have to get back to work and so forth. To me, clapping is a group thing and it supports people as a group, especially in the face of being in a very formal setting like this.

You know, I see this as me getting up, or anyone else getting up, and speaking individually to the authorities here and to the public and having an individual conviction public. We are not very practiced in this art -- if I may

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mpbl0 1 say it's an art -- and we are somewhat intimidated by doing
2 this. And I feel like clapping, whether it's befitting of a
3 formal setting or not, I feel like clapping is needed
4 psychologically to support that group feeling, to support the
5 idea that the public wants to say something but they're not
6 sophisticated enough to say it in the right way.

7 So if you may consider that in your objectivity
8 of the situation.

9 Also it seems to me there's kind of a lack of
10 interest on the part of even authority figures in these
11 hearings, seeing that there are not too many people here --
12 I believe there is not as many people as there were at one
13 session I viewed before where there were more lawyers from
14 CG&E.

15 There was also three panel members here. Mr.
16 Hooper -- I don't know what the circumstances are there.

17 CHAIRMAN BECHHOEFER: He got delayed. He will
18 be here this afternoon.

19 MR. YOHMAN: Okay. Excuse my suspicion.

20 CHAIRMAN BECHHOEFER: That's all right.

21 MR. YOHMAN: At one other session I was at Mr.
22 Hooper was dozing off during the testimony.

23 Okay. And I'd also like to point out the fact
24 of the two sessions I've been to that by far and away the
25 greater percentage of the people speaking were against nuclear

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power, and I know this is not sworn testimony or anything, but I feel like this should weigh in your minds as part of your decision, granted that we have a lack of sophistication, a lack of knowledge and so forth.

But I, as just a citizen, for example, read the newspapers, and I make up my mind what is an impression on me, whether it's true or not. And I feel over the span of years I've been around and I've been able to discern what is a lie, what is truth, what is an untruth, et cetera, et cetera.

In the matter of commercial production of nuclear energy, I cannot trust a person that is strictly for profit as far as I can see. I mean, I know that they know how to produce electricity, I know they consider all of the safety factors and so forth. But I think in the final analysis the end result is profit, and I cannot trust people that put out commercials such as 'Go play in the nuclear park', which was a magazine advertisement I think several years ago, especially when I see commercials in TV like women skating across kitchen floors on invisible shields, white knights zapping you with cleanliness and so forth.

I think that's the kind of psychology we're dealing with there.

I'd also like to say that I do read the newspapers. Just a few headlines, if I may just recite here:

"66 National Study Predicting A Surge

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In Bomb-Grade Nuclear Materials".

2

"Expected Construction Of 1000 Power

3

Plants Threaten U.S. Effort on Proliferation".

4

This was from Washington on November 3rd -- out of Washington. It was in the New York Times.

6

"Panel To Weigh Closing Reactors Near

7

Big Cities".

8

"Nuclear Danger Feared In Nuclear Reactors".

9

This was about the emergency core cooling system, whether it would be effective in the case of a loss of coolant accident.

11

12

The NRC brought in I think something. I don't know how many dozens of experts talked on this matter, and I believe the decision is still up in the air, even though we are probably being held in jeopardy on the situation if that is the case.

16

17

"Atomic Panel Finds No Sure Way To Bar

18

Reactor Accidents".

19

That's from the New York Times, October 31st, 1979, page A-1. It goes on to say:

20

21

"But the Commission added that even if

22

President Carter, Congress, the Nuclear Regulatory

23

Commission and the nuclear industry adopted all

24

these recommendations there was no guarantee that

25

there would be no serious future nuclear accidents."

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2 I don't know what to say. I mean, these are
3 just impressions I get. And, as I say, I claim to be a very
4 lay-person about this matter. But I can draw assumptions;
5 I know I can draw assumptions, if not conclusions.

6 Cincinnati is a very conservative city, politically,
7 fiscally, what have you. I am bothered in part by the fact
8 that people don't take part in these opportunities to testify
9 before you gentlemen. But I'm also bothered by the fact that
10 the word isn't spread around for people to involve them-
11 selves in such activities. And I feel like a greater effort
12 should be made on that.

13 Cincinnati also has not the best news coverage,
14 if I may add. I think it's been played on a couple of
15 stations, at least, over the past several months that not
16 many people participate in these things. But I'm sure there's
17 a lot of people out there who are gnawing, who have gnawing
18 consciences, who are debating this problem in their mind and
19 weighing some of the issues, at least considering it. And I
20 think it's up to you to at least give them full facts on the
21 situation and not withhold things like lack of evacuation
22 planning from them, which is now just coming out into the
23 open.

24 Granted, seeing that Zimmer was supposed to be
25 opened -- the projected opening was -- I'm sorry -- September
without an evacuation plan, seeing that we don't have any

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2 radioactive waste solution, and people just kind of go on
3 blind faith that the experts are going to come up with the
4 solution to this problem. I would think that good scientific
5 scrutinization of the situation would show that we must sit
6 back a little bit and go with alternatives that we know how
7 to control better, such as coal fired plants, such as the
8 feasibility of solar power, which has much less impact on the
9 environment in the long run than something like nuclear power,
10 which has been around since the '30s. The technology has
11 been used since the '30s, and which economically is becoming
12 very feasible at this time.

13 And I would only implore that you take a stronger
14 look at -- that you don't give in to the interests. They
15 think of money, it's as simple as that. It's just money
16 versus human needs.

17 And I realize that we need money, but I can do
18 without it. I don't know of CG&E and other people are pre-
19 pared to do without it. So I just ask you to be a little
20 bit more prudent in your conclusions.

21 Thank you very much.

22 CHAIRMAN BECHHOEFER: Jean Erb.

23 (No response.)

24 Those are all the people I have on my list.

25 Well, I'll call one or two of the people who didn't show up
or who didn't answer.

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James Sullivan.

2

(No response.)

3

Robert Freedman.

4

(No response.)

5

Guy Mendis.

6

(No response.)

7

Kirk Robinson.

8

(No response.)

9

Steve Shoemaker.

10

(No response.)

11

Paul Burrell.

12

(No response.)

13

Is there anyone here who wishes to make a statement whose name I don't have?

14

15

Come on up.

16

VOICE: This person has made a limited appearance, Mr. Chairman.

17

18

CHAIRMAN BECHHOEFER: Well, she's just at the end here.

19

20

MS. DIERIG: I've been here before.

21

CHAIRMAN BECHHOEFER: Please endure her again.

22

MS. DIERIG: Thank you.

23

LIMITED APPEARANCE STATEMENT OF VICKI DIERIG

24

MS. DIERIG: Nuclear power will come to an end in this country only in part because of the earnest work of

25

1430 098

mpbl6 1 individuals and anti-nuclear groups. The almighty dollar,
2 which dictates all decisions in this country, will also
3 dictate this one, because in spite of the prediction that
4 nuclear power would be too cheap to meter, its costs have
5 risen astronomically in the past decade.

6 The United States has exported nuclear reactors
7 to such unstable areas as Argentina, India, Iran, Ireland,
8 Korea, South Africa, Spain, Taiwan, Thailand, Turkey,
9 Venezuela, and Viet Nam. With it, the government has exported
10 incredibly toxic wastes and the potential for further pro-
11 liferation of nuclear weapons.

12 Recognizing the interconnectedness of the global
13 community, we know that any wind that blows may carry radia-
14 tion to us. The water we drink, whether from a pristine
15 stream and valley or from the Ohio River, already has begun
16 to poison us.

17 Because of this, Yvon Wandro, an American Indian,
18 warned us here in Cincinnati shortly after the Three Mile
19 Island accident that we have not 20, not 10, not even five
20 years; we have only three years to clean up our act before
21 the Mother Earth wells up in anger against the massive
22 damage of pollution choking her lungs, clogging her arteries
23 and blocking her bowels.

24 Now I do not find this warning to be far-fetched
25 in view of the fact that in one year alone, 1977, industry

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2 as a whole generated 380 million tons of waste. Every
3 power plant every year generated 8000 cubic feet of only low
4 level waste, and this is an amount that is small in compari-
5 son to the waste already generated by the weapons program.
6 And this is only the waste in this country.

7 But what is extremely sad to me is that my home-
8 land could be directly contaminated just before the day when
9 even the government, the NRC, the utilities and commercial
10 producers of reactors will be forced to admit the magnitude
11 of the folly of choosing to promote the power first unleashed
12 as a bomb.

13 The day that I heard that 115 tons of radioactive
14 uranium fuel was being shipped to Zimmer, I called the NRC.
15 I thought that shipping fuel presupposes that the plant would
16 be licensed, in spite of these intervention hearings, and the
17 numerous affidavits testifying to malconstructions at Zimmer.
18 I thought the shipment of fuel certainly makes a travesty of
19 these hearings.

20 On that day I talked to Mr. Charles Barth, the
21 NRC attorney. He stated that Zimmer would be licensed to
22 operate in the spring of next year. I rerealized what I had
23 already known: that this has been the way for all nuclear
24 installations in the country.

25 Of course fuel is shipped because of course the
plants would be licensed.

1430 100

mpbl8 1

2 Even after Three Mile Island it appears to be
3 business as usual for the NRC.

4 Now I am hoping that the Kemeny Commission report
5 will start serious reappraisal within the NRC. So while I
6 can't say much for the NRC's regulatory performance to date,
7 I think that the NRC has performed its promotion function
8 very well. The lack of results from these hearings have
9 resulted in dampening the spirits even of those who have
10 the most to lose from the operation of Zimmer.

11 Many in this audience, few as they are, are as
12 firmly convinced as Mr. Barth that Zimmer will be licensed
13 and will operate. The danger here is that they will work
14 less vigorously than otherwise because they believe that their
15 actions can have no impact.

16 We must rally against this because what we believe
17 dictates the outcome we achieve. Our beliefs grow as surely
18 in time and space as flowers do.

19 If Zimmer opens our land will be forever con-
20 taminated; even if the plant is closed at some later date
21 due to the inevitable demise of nuclear power, this is way
22 too late. We must believe that Zimmer will never operate,
23 if not because of the NRC then because of our actions.

24 The men sitting at the bench have been around the
25 country, have heard every possible argument against nuclear
power, every possible statistic, and every possible plea.

mpbl9¹

2 I can only pray that one day one man will wake up with the
3 certainty I feel about the danger of nuclear power, one that
4 colors my entire life; that he will also find the hope and
5 faith in God and humanity that makes us struggle instead of
6 resigning in the face of such pervasive pollution of our
7 Mother Earth and the great odds we fight against; and that
8 he will find the moral courage to stand up and help to end
9 the destruction of our ways.

10 All of the genetic inheritance of the human race
11 can be contained in a single teardrop. Woe be it if that
12 tear is shed.

13 CHAIRMAN BECHHOEFER: Is there anyone further
14 here who hasn't made a statement who wishes to do so? We
15 have said we will go until 12:30, and that's about what it is.

16 (No response.)

17 Without any further indication, we'll adjourn
18 for lunch and resume at two o'clock.

19 And we're going to run from two o'clock to nine
20 o'clock with a dinner break this afternoon on the evidentiary
21 portion of this proceeding.

22 So we're adjourned.

23 (Whereupon, at 12:30 p.m., the hearing in the
24 above-entitled matter was recessed, to reconvene at
25 2:00 p.m., this same day.)

end
M. DELON

1430 102

AFTERNOON SESSION

(2:20 p.m.)

CHAIRMAN BECHHOEFER: Good afternoon, ladies and gentlemen.

This afternoon we will begin the session, taking care of any procedural matters or housekeeping matters.

Dr. Hooper has not yet arrived, and he is overdue at this point.

We will hear various procedural matters first, and then if Dr. Hooper hasn't arrived, we will adjourn until he does.

We expect him -- he was supposed to have been here already, so I expect he will be here in the near future.

Are there any further appearances by anyone who hasn't made an appearance?

(No response.)

Are there any procedural matters which any parties wish to raise?

MR. BARTH: I would, Mr. Chairman.

CHAIRMAN BECHHOEFER: Yes.

MR. BARTH: In the matter of expediting the hearing, the staff witnesses on fire protection absolutely must leave town tomorrow, and therefore I have requested the consent and advice of the power company and intervenors because we would like to present our case first, out of

1430 103

dsp2

1 order, on fire protection, contention 17, so these
2 witnesses can leave time.

3 We will arrange for Mr. Mora, who will address
4 control rods, to be here at a later time.

5 MR. CONNOR: For the record, we have no objection
6 to that, and we do understand, however, that contrary to
7 the Chairman's suggestion in his order of October 15,
8 that Mr. Mora's testimony will go on tonight, that I gather
9 it will be postponed until later.

10 We certainly have no objection to that.

11 CHAIRMAN BECHHOEFER: Mr. Feldman?

12 MR. FELDMAN: Assuming that the hearings do
13 proceed tonight, we have no objection to that. We have
14 a pending motion to continue the evidentiary hearing which
15 we would like to address.

16 CHAIRMAN BECHHOEFER: In terms of your own
17 scheduling, however, if we determine to go on --

18 MR. FELDMAN: That would be satisfactory for us.

19 CHAIRMAN BECHHOEFER: The control rods could be
20 taken up later, I take it; this week certainly.

21 MR. FELDMAN: As long as they're taken up by Friday,
22 that would be fine with us.

23 CHAIRMAN BECHHOEFER: By "before Friday" do you
24 mean --

25 MR. FELDMAN: Thursday. If we get started on
Thursday, that would be satisfactory.

1430 104

dsp3

1 (Board conferring.)

2 CHAIRMAN BECHHOEFER: Well, let's hear from the --
3 we will then permit the staff to put its panel on first on
4 the electrical -- the cable insulation.

5 Have the other parties that served us with this
6 motion -- the board just received this five minutes ago.
7 It might have arrived in Washington yesterday, but it didn't
8 get to us before we left.

9 MR. BARTHE: Staff received it six minutes ago,
10 Your Honor.

11 MR. CONNOR: Your Honor, we did receive it
12 yesterday, and we certainly object to taking it now before
13 anybody has read it. It's a rather absurd motion inasmuch
14 as the board has already ruled on the same motion previously
15 filed by the City of Cincinnati last June.

16 So this board is under instruction from the
17 Commission to go forward with any and all of these proceedings
18 to the extent it can, and that is exactly what this board is
19 doing.

20 Now, the board ruled on this motion, a similar
21 motion several months ago, and to repeat it now is almost
22 frivolous.

23 So I don't think it would require any consideration
24 by the board to dismiss it out of hand.

25 If the board thinks otherwise, we of course would

1430 105

dsp4

1 want to file a response to it as provided for by the
2 rules, in writing in the time provided, because, as I say,
3 we just got it yesterday, and other people apparently got
4 it with even less notice.

5 CHAIRMAN BECHHOEFER: Let me ask: would the
6 Kemeny Commission report constitute a type of new information
7 which might warrant a change from our earlier ruling?

8 MR. CONNOR: Information? No, sir. Opinions,
9 perhaps, but I don't recall any new information.

10 Certainly, what is in this motion has nothing
11 to do with the power of the Commission in any way. This
12 is something Congress might or might not do. The Act of
13 Congress provides that the Atomic Energy -- under the
14 Atomic Energy Act, the Commission shall go forward with
15 licensing all persons who meet the requirements of the
16 law and regulations.

17 And the Commission reiterated that in the Federal
18 Register notice last week, which I assume you did see.

19 CHAIRMAN BECHHOEFER: Yes, I'm aware of it. I
20 was going to ask you about that also.

21 MR. CONNOR: The Commission said go forward; I
22 don't see that the board has any discretion in the matter.

23 MR. FELDMAN: I would like to respond, if this is
24 an appropriate time.

25 I think the motion should be granted for several

1430 106

dsp5

1 reasons: I think that, first of all -- I think all our
2 lives in this area depend upon it; maybe not Mr. Connor.
3 He's not from Cincinnati.

4 MR. CONNOR: Your Honor, may I ask --

5 MR. FELDMAN: I think there are very few
6 things that have come out of the Commission to show that
7 the licensing procedures are adequate to provide for the
8 safety of people living around nuclear plants, and we feel
9 we have to wait until something new comes up to proceed.

10 Then at that time we will have -- be better
11 equipped to present our case because perhaps under a new
12 Commission, should it be established, perhaps intervenors
13 will be given funding so we can adequately put on our case
14 because I think that intervenors in these things that
15 are really concerned about stopping nuclear power and providing
16 safety.

17 And I think the applicants and even the NRC is
18 more concerned about getting on with it and building the
19 things regardless of safety.

20 I think it's very important that this motion be
21 granted at this time, particularly in this instance when
22 we do have quite a bit to say about the fire hazards and
23 we have been unable to pay for expert witnesses to come
24 here because we just don't have the money.

25 And I know that the NRC and the applicants have

1430 107

1 no problems in that area, and we do.

2 And I think that under a new Commission, maybe that
3 would be addressed, and we can adequately put on our case.

4 MR. CONNOR: Your Honor, we do object to this
5 speech arguing this motion which no one has yet seen because
6 it's not properly before the board.

7 We further object on the grounds of Dr. Hooper not
8 being here. This is transgressing upon evidentiary
9 hearing time, and this being a procedural motion, it should
10 not be allowed to waste valuable time for consideration of
11 evidence.

12 And I submit that we go forward with the
13 evidentiary proceeding.

14 CHAIRMAN BECHHOEFER: Let the record show that
15 Dr. Hooper just arrived.

16 (Board conferring.)

17 MR. BARTH: Mr. Bechhoefer, may I just make a
18 comment?

19 CHAIRMAN BECHHOEFER: Yes. Yes, I was going to
20 ask to hear from the staff.

21 MR. BARTH: I concur with what Mr. Connor
22 said regarding the Commission's position; the Commission
23 has made it quite clear that it should continue with
24 licensing proceedings. And to call this hearing off upon
25 this motion, which really is frivolous, seems incredible.

dsp7

1 I'm well aware of the report of the President's
2 Commission on the accident at Three Mile Island. It has
3 no bearing on the adequacy of Kaowool to protect these
4 cable trays, which is the issue now before you.

5 And the comment that we have had a lot to say about
6 the fire hazards is a frivolous statement, considering we
7 have had nothing to say about the fire hazards except the
8 testimony that Kaowool will burn.

9 I think the motion should be dismissed out of
10 hand and we can get on to something more serious, sir.

11 CHAIRMAN BECHHOEFER: Did the -- Mr. Feldman,
12 did the Kemeny Commission report have anything to say about
13 whether the licensing -- licensing, as distinguished from
14 enforcement functions, should be restructured.

15 It was my impression that the restructuring did
16 not basically affect the licensing function.

17 MR. FELDMAN: I thought --

18 CHAIRMAN BECHHOEFER: In fact, it was my impression
19 that the decisions of boards or presiding officers reviewed
20 by the appeal board would become final decisions under the
21 structure that the Commission recommends.

22 MR. FELDMAN: Well, it was my impression that the
23 licensing procedure is also part of the question, and I
24 think there is nothing in there about Kaowool in the
25 Kemeny Commission report.

1430 109

dsp8

1 But I think if the NRC were restructured, it
2 might have an effect on how we could present our case and
3 the ability of intervenors to adequately present their
4 case.

5 And I of course want to present the best case that
6 I can, and I think we are being hindered in that regard;
7 or maybe if we proceed now and then later something comes
8 up that could have had a bearing on that --

9 (Board conferring.)

10 MR. WOLIVER: I might mention that I did receive
11 a copy of the motion late last week by ordinary mail, so
12 I'm not sure -- there may or may not have been service
13 problems.

14 But I would concur in what Mr. Feldman has
15 stated so far.

16 In addition, there is a problem, not only with
17 the President's Commission's report, but also we've been
18 hearing reports of statements made to various Congressional
19 committees. It does hinder our ability to prepare for
20 this hearing and future ones, since it is going to involve
21 hiring -- obtaining witnesses and preparing them.

22 We don't have any idea what the time frame is as
23 far as future hearings and future issues in this proceeding.
24 It may be six months. It may be as long as two years.
25 That apparently reflects the statement of the NRC to

1430 110

1 various Congressional committees.

2 And so we are hindered in preparing this matter.
3 We don't know right now whether we should bring in experts
4 or whether we're in a situation where we're talking about
5 two years from now, and quite frankly hiring experts now,
6 if we have the funds -- assuming we have the funds -- would
7 be quite wasted if we're talking about a potential delay,
8 as long as has been suggested by the NRC.

9 So there are serious difficulties in preparing
10 this as we foresee now, and I feel that we're in a sense of
11 limbo.

12 There should be some qualification somewhere.

13 CHAIRMAN BECHHOEFER: Does the City of Cincinnati
14 have anything to say?

15 MR. LEWIS: We don't have anything to add to the
16 arguments, Mr. Chairman; we would support the motion and
17 support the arguments raised by Mr. Feldman and Mr. Woliver.

18 (Board conferring.)

19 MR. BARTH: Mr. Chairman, I ask your indulgence to
20 make one further reply. The contention is fire insulation
21 material was inadequate. Counsel for intervenors on page
22 165 says that Kaowool burns. That is their affirmative
23 allegation.

24 Kemeny hasn't got a blessed thing to do with this;
25 I suggest that we get on to Kaowool and get this thing

dsp10

1 moving.

2 This is a motion filed, obviously, for delay.
3 Although the Federal Rules of Civil Procedure do not bind us,
4 rule 11 specifically prohibits such motions.

5 I suggest that we get on with this matter,
6 Kemeny or no Kemeny, President or no President.

7 CHAIRMAN BECHHOEFER: To your knowledge, was there
8 anything in the Kemeny report that said that the structure
9 the Commission has been using to reach decision in
10 licensing cases, as distinguished from enforcement cases or
11 emergency situations -- is there anything there which would
12 suggest that this structure is no longer appropriate or
13 should not be followed?

14 Is this -- does that Commission make any
15 recommendations with respect to the licensing framework,
16 other than perhaps removing the five Commissioners from the
17 line of decision ?

18 MR. BARTH: Sir, you ask a question: may I point
19 out that the court of appeals here in Ohio in U. S. versus
20 Smith, 215 FD 217 strongly states flatly that the burden of
21 proof is on the parties serving the primary initiative. I
22 suggest you ask the intervenors to point out where in the
23 report the Commission says so. I have a copy for them to
24 do so, if they can do so.

25 Let them affirmatively show that the Kemeny

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1 Commission would raise a different result.

2 CHAIRMAN BECHHOEFER: Are you aware of anything
3 that the Commission said that casts doubt on this type of
4 proceeding?

5 MR. FELDMAN: I'm not personally aware of -- I'm --
6 I've not had an opportunity to read the report, but there
7 is someone in the organization who has, and if I could make
8 a phonecall right now, I might be able to come up with this
9 in five minutes or something.

10 He may not be home, but I could go give him a call
11 right now.

12 Otherwise, I don't have anything to add right now.

13 MR. CONNOR: Mr. Chairman, I mean, can't we get
14 on with this? I mean, that is ridiculous to stand up here
15 and have the advocate of a motion to say he hasn't done
16 his homework; maybe if he can make a phone call he can
17 answer the question.

18 We certainly should go on with the evidentiary
19 hearing, and maybe if he does his homework, he will be able
20 to file a motion which should be considered.

21 But certainly it should not be allowed to
22 interfere with the introduction of evidence. Can't we go
23 forward?

24 (Board conferring.)

25 CHAIRMAN BECHHOEFER: The board has decided --

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dsp12

1 MR. FELDMAN: Your Honor, there is something -- I
2 don't have a citation on it, which is what I was thinking
3 before, but one of the quotes we have in our memorandum of
4 support is that it says that two of the most important
5 activities of the NRC are its licensing functions and
6 its inspection and enforcement activities.

7 And we have found serious inadequacies in both. I
8 think this is from the report. I don't have a citation on
9 it, but I think that is from the report.

10 CHAIRMAN BECHHOEFER: Well, the board has decided
11 to deny this motion. I'm not aware of anything in the
12 report -- and I have read it and studied it with this in
13 mind -- but I am not aware of anything that would even
14 recommend any changes in the licensing structure, other
15 than removing the Commissioners from the line of decision.

16 I realize there are recommendations which could
17 bear upon financial assistance, but we think that the
18 two Federal Register statements that the Commission has filed
19 require us to proceed with such issues such as are not
20 affected by Three Mile Island.

21 And later on, when new Commission standards come
22 out, they may require us to consider the Three Mile
23 Island issues.

24 As I understand, we've been asked to make various
25 recommendations concerning the issues relating to Three Mile

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Island to the Commission itself.

And the Commission itself will have to decide if licenses should be issued, and we're not authorized to make such a ruling at this stage. So that -- well, we have been told by the Commission to continue proceedings such as this to the extent -- at least to the extent that Three Mile Island issues are not involved.

So on that basis, the motion will be denied.

end dsp2

1430 115

2MADELON
Flws david
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1 I guess we will lead off now with the Staff panel.

2 MR. BARTH: Thank you, Your Honor.

3 At this time we would lead off now with the Staff
4 panel.

5 At this time we would call to the stand Mr.
6 Gregory Harrison, Mr. Bert M. Cohn, and Mr. Robert D. Barnes.

7 Gentlemen, there are three seats in the witness
8 box, if you will take those seats.

9 They have not been previously sworn, Your Honor.
10 I request that you swear the witnesses.

11 MR. CONNOR: While they're getting into the box,
12 Mr. Chairman, I might note since we're going out of order
13 that as soon as it is our turn we will offer Revisions 13 and
14 14 to the Fire Protection Report as our evidence. And that
15 is so that that reference in the record will be clear.

16 CHAIRMAN BECHHOEFER: None of these witnesses
17 have been sworn, have they?

18 MR. BARTH: They have not, Your Honor.

19 CHAIRMAN BECHHOEFER: Yes.

20 Whereupon,

21 GREGORY A. HARRISON,

22 BERT M. COHN

23 and

24 ROBERT D. BARNES

25 were called to the stand as witnesses on behalf of the

mpb2 1 Regulatory Commission Staff, and, having been first duly sworn,
2 were examined and testified as follows:

3 DIRECT EXAMINATION

4 BY MR. BARTH:

5 Q For the purpose of the Reporter would you please
6 identify yourselves?

7 A (Witness Harrison) I'm Gregory Harrison with the
8 NRC.

9 A (Witness Barnes) I'm Robert Barnes with Gage-
10 Babcock & Associates.

11 A (Witness Cohn) I'm Bert Cohn with Gage-Babcock
12 & Associates.

13 Q Mr. Harrison, I hand you a document.

14 (Handing document to the panel.)

15 If you will, please identify it for the record,
16 sir, and by doing so will you read titles which might be
17 important or meaningful, so that when we read the present
18 transcript we will have a record of what the document is in
19 your hand?

20 A (Witness Harrison) Well, the first document is
21 direct testimony of myself, Bert Cohn and Robert Barnes
22 Regarding Contention No. 17, Kaowool As A Fire Barrier For
23 Cable Trays. Attached to this document are pages from the
24 SER, Fire Protection, Supplement number one.

25 And the second major document here is a copy of

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mpb3 1 the Kaowool test run at Portland Cement Association.

2 Q Sir, was this testimony prepared by you, Mr.
3 Cohn and Mr. Barnes for presentation at this hearing?

4 A Yes, it was.

5 Q Is it not true that on the top of page 4 of the
6 testimony that the paragraph beginning "I have been employed..."
7 and ending "(1976-77)" actually should belong in Mr. Barnes's
8 statement of professional qualifications and is misplaced?

9 A That's correct.

10 Q Are there any other errors of substance, outside
11 of the fact that Mr. Borgmann's name is misspelled in the
12 testimony?

13 A I won't vouch for any typing errors, but the
14 substance is correct.

15 Q Is the statement concerning your professional
16 qualifications and the statements written by you in the
17 testimony true and correct to the best of your knowledge
18 and ability, sir?

19 A Yes.

20 Q Mr. Barnes, will you please take the same docu-
21 ment that I gave to Mr. Harrison?

22 And does this statement of your professional
23 qualifications, as corrected by transposing the paragraph
24 at the top of page 4, true and correct?

25 A (Witness Barnes) Yes, it is.

mpb4 1

2 Q Are the statements contained in the written
3 testimony with your name and Mr. Harrison's and Mr. Cohn's
4 true and correct to the best of your knowledge and ability,
5 sir?

6 A Yes.

7 Q Mr. Cohn, would you please take the document
8 that I have handed to Mr. Harrison and Mr. Harrison has
9 handed to Mr. Barnes and examine it, sir?

10 A (Witness Cohn) Yes, I have.

11 Q Does the statement contain a true and correct
12 statement of your professional qualifications?

13 A Yes.

14 Q Are the statements contained therein to the
15 best of your knowledge and professional ability true and
16 correct regarding the acceptability of Kaowool, sir?

17 A Yes, they are.

18 Q I refer you, sir, to the letter which is attached
19 from Gage-Babcock signed by you to Mr. Harrison, dated June
20 12, 1979.

21 Did you write that letter, sir?

22 A Yes, I did.

23 Q Are the attachments to that letter attached to
24 your original letter?

25 A No, they were submitted separately.

Q Those attachments, are they true and correct to

1430 119

mpb 5 1 the best of your knowledge and ability, sir?

2 A Yes, they are.

3 Q I understand -- Is it true that you witnessed
4 the fire protective cable tray test fire which was conducted
5 by the Construction Technology Laboratories of Portland
6 Cement Association, sir?

7 A Yes, sir.

8 Q Have you examined that report?

9 A Yes.

10 Q Is the report prepared by Melvin S. Abrams, is
11 that correct, sir?

12 A Yes.

13 Q Are the statements contained in that report true
14 and correct to the best of your knowledge and ability?

15 A Yes, sir.

16 Q As a critical matter, let me ask you, Mr.
17 Harrison, does Kaowool provide an acceptable fire barrier for
18 the Zimmer facility?

19 A (Witness Harrison) Yes.

20 Q Mr. Barnes, do you concur with the statement?

21 A (Witness Barnes) Yes, I do.

22 Q Mr. Cohn?

23 A (Witness Cohn) Yes.

24 Q The Board has inquired and other people have
25 inquired as to where does the -- I withdraw the question.

mpb6 1

2 MR. BARTH: Mr. Chairman, at this time I request
3 that the direct testimony of Gregory A. Harrison, Bert M.
4 Cohn, and Robert D. Barnes, with attachments, be admitted as
5 evidence in this proceeding.

6 I have provided the Reporter with 30 copies, and
7 I request that the document be bound in the record as though
8 read at length.

9 The gentlemen have affirmed the document and the
10 contents thereof.

11 CHAIRMAN BECHHOEFER: I'd like to make an inquiry
12 -- two inquiries, first.

13 Someone mentioned that somebody's name was mis-
14 spelled, and for the purpose of the record, whose name was
15 that and what should the spelling be?

16 MR. BARTH: Sir, on page 8 of the written testi-
17 mony, on the 15th line, the fifth word should be B-o-r-g-m-a-n,
18 instead of B-e-r-g-m-a-n.

19 Mr. Borgman is the vice president of Cincinnati
20 Gas & Electric. And I'm surprised the parties don't know how
21 to spell his name correctly.

22 And I've just been informed there are two n's on
23 that word too.

24 (Laughter.)

25 CHAIRMAN BECHHOEFER: My other question is:
Is the copy of the test itself, which is an

mpb7 1 attachment to the testimony that you forwarded to us, is that
2 part of what you're introducing in the record at this stage?
3 We don't really want it in twice.

4 MR. BARTH: We want to introduce the direct testi-
5 mony of Gregory A. Harrison, Bert M. Cohen and Robert D.
6 Barnes and the attachments. The attachments consist of a
7 letter from Bert M. Cohn, dated June 12, 1979, to Gregory
8 Harrison, the page called Fire Test Thermocouple Locations,
9 a page entitled Cross-Reference, CG&E Cable Tray Fire Test,
10 and the report entitled Fire Protective Cable Tray Fire Test,
11 which was prepared by Melvin S. Abrams of Construction
12 Technology Laboratories in June 1979.

13 I would point out for the edification of those
14 that the Staff's acceptance of Kaowool is predicated upon
15 the test which is reported by Mr. Abrams.

16 In addition, sir, there are two pages from the
17 proposed SER Supplement number one for the Zimmer facility.
18 The first page is -- the first line says "E. Plant Areas
19 Containing Redundant Divisions", and the second page, the
20 first line is "Electrical Drawing, FHA Drawing, Elevation,
21 Area, Division" on the first line.

22 These are the documents which consist of the
23 Staff's Direct case. All of these documents were served on
24 the Board and all parties. I provided the Reporter with 30
25 copies of these.

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1 The entire series of papers constitute the
2 direct testimony of these gentlemen. They have affirmed the
3 truth and correctness of this. This is the Staff's direct
4 case.

5 Again I reiterate: These documents have all
6 been served on all parties, sir.

7 CHAIRMAN BECHHOEFER: Is there any objection to
8 the admission of this testimony, including the attachments
9 as outlined?

10 MS. FICHTER: No objection.

11 MR. FELEMAN: No objection, Your Honor.

12 CHAIRMAN BECHHOEFER: Without objection, the
13 testimony will be entered into the record as if read.

14 (The documents referred to follow:)

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October 30, 1979

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of
CINCINNATI GAS & ELECTRIC COMPANY
(Wm. H. Zimmer Nuclear Power Plant)

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Docket No. 50-358

Direct Testimony of Gregory A. Harrison
Bert M. Cohn, and Robert D. Barnes

Regarding Contention No. 17, Kaowool

As A Fire Barrier For Cable Trays

Gregory A. Harrison hereby states as follows:

I am employed as a Fire Protection Engineer in the Auxiliary Systems Branch, Division of Systems Safety, Nuclear Regulatory Commission, Bethesda, Maryland. My educational and professional qualifications are set forth immediately below:

Education

B.S. Fire Protection Engineering, University of Maryland 1966; M.S. Civil Engineering, University of Maryland 1970; and M.S. Engineering Administration, George Washington 1979. I have received a certificate from Oak Ridge University covering the Radiation Safety Training Program. In

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addition, I hold professional engineering registrations in California and Maryland in fire protection and civil engineering. I belong to the Society of Fire Protection Engineers, the National Fire Protection Association and have authored numerous publications.

Experience

I joined the USNRC in August, 1977 as a fire protection engineer. In this capacity I have performed inspections of power reactors during the construction stage to ascertain conformity with fire protection criteria, including the Zimmer facility; evaluated the adequacy of licensees' fire protection programs and its relation to the safety of operations. Finally, I have prepared fire protection sections of the Staff's safety evaluations, for both BWR and PWR plants including the Zimmer facility, the appropriate pages of which are attached hereto and made a part of this testimony.

Prior to joining the Commission I worked two years for the Arabian American Oil Company (ARAMCO) in Dhahran, Saudi Arabia. I held the position of Chief, Fire Protection Engineer for the Facilities Engineering Division.

From January, 1973, to July, 1975, I worked for the National Bureau of Standards in Gaithersburg, Maryland as fire protection engineer in fire research testing.

From July, 1969, to January, 1973, I worked as a general engineer with the Naval Ship Engineering Center, Washington, D.C.

From May, 1967, to July, 1969, I worked as a fire protection engineer for NASA at Goddard Space Flight Center, Greenbelt, Maryland.

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Bert M. Cohn hereby states as follows:

I am a consulting engineer specializing in fire protection and safety, building code analysis, and physical security by Gage-Babcock & Associates (GBA), 135 Addison Ave., Elmhurst, Illinois, where I hold the positions of Senior Vice President and Treasurer. GBA is a consulting firm specializing in fire testing and fire protection. GBA is under contract with the U.S. Nuclear Regulatory Commission to provide technical assistance for nuclear power plant fire protection program reviews and evaluations. GBA has been providing fire protection consulting services and technical assistance to NRC since 1976. I have been the project director for a major portion of this work.

Robert D. Barnes of GBA who works under my direct supervision is the project engineer for the Zimmer Nuclear Power Station.

Education and Experience of Bert M. Cohn

I have a B.S. in Fire Protection and Safety Engineering, Illinois Institute of Technology, 1952 and am^A Registered Professional Engineer in Illinois, New Jersey, New York, Virginia, and Alabama. I am a Certified Protection Professional (American Society for Industrial Security) and Certified Fallout Shelter Analyst (Federal Emergency Management Agency).

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I have been employed by Gage-Babcock & Associates since 1977 as Senior Engineer and fire protection and safety consultant. My major activities have been in the area of (1) life safety code compliance surveys of institutional properties, (2) design of fire detection systems, (3) municipal fire department evaluations, and (4) nuclear power plant fire protection program review and evaluation. Prior thereto I was employed by Insurance Services Office, Wisconsin (1969-75), National Fire Protection Association, Boston (1975), Insurance Company of North America, Midwest Region (1975-76), and Veterans Administration, Wood, Wisc. (1976-77).

I am a member of Society of Fire Protection Engineers, American Society of Safety Engineers, American Society for Industrial Security, and American Society for Testing and Materials; Chairman of subcommittee on Combustibility standards, ASTM Committee E5 on Fire Standards; Member of Record Protection and Firesafety Symbols committees, National Fire Protection Association; and Chairman of Board of Fire and Police Commissioners, City of Elmhurst, Illinois.

I have lectured at college and professional symposia and have been a frequent speaker at professional society meetings and conferences, and authored numerous articles and reports.

I have been employed by Gage-Babcock & Associates since 1957; its vice president since 1963 and treasurer since 1968. I have participated in and directed hundreds of projects, including design and specification of detection, alarm and

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fire extinguishing systems; risk analysis studies in industrial and institutional properties; loss investigations of equipment failures, fires and explosions; systems analysis for code trade-offs and equivalencies; and research and testing. Prior to being employed by GBA I was employed by the U.S. Army Forces Far East in Japan and Korea as chief of fire protection sections (1955-57) and served in the U.S. Army in fire protection engineering positions at the Army Engineer Research & Development Laboratories and Army Forces Far East headquarters (1953-55).

Robert D. Barnes hereby states as follows:

Education and Experience

I have a B.S. in Fire Protection Engineering, Illinois Institute of Technology, 1969. Registered Professional Engineer in Wisconsin. I am a member of the Society of Fire Protection Engineers. I have been employed by GBA as a fire protection engineer since 1976 specializing in reviewing fire hazard and fire protection programs for nuclear power plants. I work under the direct supervision of Bert M. Cohn. Prior to being employed by GBA I worked in fire protection analysis for several insurance companies. I have witnessed tests of Kaowool and am familiar with its fire resistant properties.

The Miami Valley Power Project has raised Contention 17, regarding fire protection, which is set forth at length below.

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Contention 17

Fire insulation material which is being used to protect the cables in the cable trays from fire is inadequate to protect the cables in light of the cable tray installation design and cable tray load. The tests of the fire insulation material were improperly performed in that conditions which will exist during operation were not adequately simulated.

This matter is addressed in the fire protection section of the Staff's Supplement No. 1 to the Safety Evaluation, the two pertinent pages of which are attached hereto and made a part of this testimony. In further amplification of the protective value of Kaowool we state as follows.

Mr. Cohn and Mr. Barnes are associated with Gage-Babcock & Associates, Inc. and act as consultants to the NRC in the evaluation of fire protection programs for nuclear power plants. Messrs. Robert D. Barnes and Bert Cohn have participated in the NRC review and evaluation of the adequacy of fire safety measures to be incorporated in the Zimmer Nuclear Power Station including measures to protect electrical cables and cable trays. This work was done for and in close cooperation with the staff of Division of Systems Safety, NRC and in particular with Mr. Greg Harrison of the NRC. Using NRC guidelines (BTP 9.5-1) and nationally recognized fire protection standards, Mr. Barnes and Mr. Harrison reviewed the fire protection evaluation report submitted by the applicant for the Zimmer plant, provided comments, questions, and evaluations as to the adequacy of the fire protection features and tests, and performed an on-site, 3-day

survey at Zimmer, attended meetings with the applicant to resolve differences as to the need for protective measures. Mr. Cohn's involvement with Zimmer was periodically to review the progress of Mr. Barnes' review and assist in resolving technical issues. In addition, Mr. Cohn witnessed, at the request of the NRC, the test of Kaowool as fire protective insulating material on cable trays by Portland Cement Association at their Construction Technology Laboratories on June 6, 1979, a copy of which is appended to this testimony. This report was written by Melvin S. Abrams. All of us, Messrs. Cohn, Barnes, and Harrison recognize Mr. Abrams as an acknowledged expert in the testing of fire resistant materials. The test procedures, equipment, and results are, based on our professional knowledge and expertise, accurately set forth in the report authored by Mr. Abrams. We fully concur in the conclusions reached by Mr. Abrams that the Kaowool material and the design tested offers a 1-1/2 fire resistant rating for cable trays.

Our principal concern in the review and evaluation process is to assist the NRC to assure that an adequate level of fire protection is provided in areas where wiring and equipment serve safety equipment and could be subject to damage from a single fire incident. In the situation of cable trays, the location of each tray to the other, the location of trays within the space, the separation between redundant divisions, the presence of materials and equipment creating a fire exposure, the accessibility of the space for firefighting, the presence of fire detection and fire suppression equipment, and other factors are considered in establishing whether additional protective measures, such as fire barriers or insulation are required, and if so, what those additional

protective measures should be. These determinations are made based upon our expertise in this situation. Both Messrs Barnes and Harrison have inspected the Zimmer facility.

For Zimmer, Barnes determined, with Mr. Harrison concurring, that there were several areas requiring additional measures of protection. The applicant has agreed to the installation of fire barriers, protective insulation, automatic sprinklers, or combinations thereof in those places recommended by Barnes and Harrison for additional protection. The applicant proposed to use Kaowool as a protective insulation material upon cable trays and conducted tests to show its adequacy for the purpose (Revision 12 to Zimmer Fire Protection Evaluation Report). Both Mr. Cohn and Mr. Barnes recommended to the NRC staff that these tests be rejected because they did not simulate standard ASTM E119 fire test conditions. In a memo to the Zimmer project manager dated April 19, 1979, from Stoltz to Bergman, the NRC staff stated that all fire tests to date submitted by Zimmer did not support a 1-1/2 hour fire rating and, hence, an open item existed (see staff legal filing 5/7/79).

An additional test was then scheduled by Zimmer, at the request of the NRC, to be conducted under standard test conditions, using the ASTM E119 procedures, at PCA Laboratories. Mr. Cohn reviewed the test procedures and equipment prior to the test and was satisfied that the test would represent at least as severe a condition as could reasonably be envisioned under actual use conditions in the Zimmer facility. PCA Laboratories and its manager of the fire research section (Mr. Abrams) are known by us to be experts, thoroughly familiar with standard fire

test procedures and able to conduct such tests impartially and objectively. This test, using four fully loaded cable trays, each individually wrapped with Kaowool insulation, was conducted on June 6, 1979. Every few minutes during the test, Mr. Cohn checked the temperature recorders and observed the test specimens in the furnace for indications of premature failure. There were none. The protected trays successfully resisted the effects of the exposure fire for a period of not less than 90 min. This test is described in the report by Melvin S. Abrams, entitled "Fire Protective Cable Tray Fire Test," dated June, 1979, copy attached hereto. Mr. Cohn subsequently submitted his approval to the NRC via a letter "Fire Test of Cable Trays, Zimmer Nuclear Power Station," dated 12 June 1979. Although the cables did not carry full electrical loads, which would liberate some heat internally to the trays, we know that this parameter is not a major one because the issue involves an external fire exposure. The degree to which energized cables could hasten a test failure is well within the range of the normal variances one could expect from tests of this nature and, hence, externally minimal, e.g. a few minutes.

We are familiar with the fire test conducted under the auspices of Sandia Laboratories at Underwriters Laboratories on September 15, 1978, reported in NUREG/CR-0596, A Preliminary Report on Fire Protection. This test was to demonstrate the effectiveness of Kaowool and automatic sprinklers in protecting cables in vertical cable trays. We assisted in developing some of the criteria for this test. The fuel, 2 gal. of a flammable liquid (heptane), was poured on the floor, and some of it seeped under and through the Kaowool which was wrapped around the vertical cable tray.

Because of this, some of the heptane burned within and inside the Kaowool blanket and damaged some of the electrical cables. The Kaowool is totally noncombustible [composed primarily of silica and alumina compounds (SiO_2 and Al_2O_3)], cannot burn, and did not contribute to the fire. The effectiveness of this material as a fire protective insulation was not challenged by this test, and it did not fail. An adhesive material and a simple curb or sheet metal shield around the base of the insulating material would have prevented the liquid from seeping under and into the insulation. The applicant has agreed to provide curbs or shields and an adhesive coating wherever this situation exists at Zimmer.

The fire protection Section IV SER Supplement No. 1 (copy attached hereto) for Zimmer states that the PCA fire test conclusively demonstrates the adequacy of the Kaowool design and that Kaowool is acceptable as a fire barrier. All of us signing this testimony concur with that conclusion. We further conclude that a 1 inch layer of Kaowool wrapped around a cable tray will provide a 30-minute effective fire resistant barrier, a 2 inch will provide a 60-minute barrier, a 3 inch will provide a 90-minute barrier. By an effective barrier, we mean that the cables contained in

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the tray will be able to perform their function without failure for the quoted time period.

Gregory A. Harrison

Bert M. Cohn

Robert D. Barnes

Dated at Bethesda, Maryland,
this 30th day of October, 1979.

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E. Plant Areas Containing Redundant Divisions

A number of plant areas have physical arrangements wherein redundant divisions of cables/conduits and equipment are in close proximity to each other and, therefore, could be vulnerable to a single, transient fire event. Originally, the applicant was relying solely on administrative controls to preclude a fire event from taking place in affected areas. Based on experience, administrative controls alone are not sufficient to prevent storage of combustibles, occurrence of all ignition sources, etc. We requested, and the applicant agreed in revision 13, to provide 1-1/2 hour fire rated barriers for one of the divisions. This additional measure will serve as the equivalent of adequate physical separation. Areas that come under this consideration are as follows:

<u>Elec. Dwg.#</u>	<u>FHA Dwg.#</u>	<u>Elev.</u>	<u>Area</u>	<u>Div.</u>
202	14	473'5"	Off-Gas	I,II,III
211	13	503'6"	Reactor Bldg (N/W)	I,II
211	13	503'6"	Reactor Bldg (S/W)	I,III
212(+232)	13	496'0"		I,II,III
221	11	525'7"	Reactor Bldg (N/E)	I,II
222	11	525'7"	Reactor Bldg (N/W)	I,II
222	11	525'7"	Reactor Bldg (S/W)	I,II
223	11	536'0"	CSR	I,II,III
223	11	521'0"	Aux. Equip. Rm.	I,II,III
224	11	525'7"	Div. II Switchgear	I,II,III
224	11	525'7"	Lift Truck Route	I,II,III

SER Supp. No. 1 - Zimmer Facility

<u>Elec. Dwg.#</u>	<u>FHA Dwg.#</u>	<u>Elev.</u>	<u>Area</u>	<u>Div.</u>
232	12	510'6"	Div. III Switchgear	I,II,III
234	10	546'0"	Reactor Bldg (S/E)	I,II
235	10	546'0"	Reactor Bldg (S/W)	I,II
237	10	546'0"	Div. I Switchgear	I,II
237	10	546'0"	Heater Bay	I,II
240	15	567'5"	HVAC area	I,II
241	15	570'6"	Reactor Bldg	I,II
244		593'6"	Reactor Bldg (S/W)	I,II
264			Various Manholes	I,II,III

At our request, the applicant agreed to perform a fire test to verify the fire rating of the proposed 1-1/2 hour fire barrier design. On June 6, 1979, a fire test was performed by the Portland Cement Association Laboratories (PCAL) Skokie, Illinois. The fire test followed the ASTM E-119 test procedure in a beam furnace and was witnessed by a fire protection consultant to the NRC. The test results are contained in a report prepared by PCAL entitled, "Fire Protective Cable Tray Fire Test" dated June, 1979. The fire test demonstrated conclusively that the proposed fire barrier design is satisfactory and is, therefore, acceptable.

We have reviewed the areas containing redundant divisions of equipment and cable and conclude that with the modifications, the fire protection meets Appendix A to BTP 9.5-1 and is, therefore, acceptable.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

CINCINNATI GAS AND ELECTRIC
COMPANY, et al.

(Wm. H. Zimmer Nuclear Power
Station, Unit No. 1)

}
} Docket No. 50-358
}

CERTIFICATE OF SERVICE

I hereby certify that copies of "Direct Testimony of Gregory A. Harrison, Bert M. Cohn, and Robert D. Barnes Regarding Contention No. 17, Kaowool As A Fire Barrier For Cable Trays" and "Direct Testimony of Frederico A. Maura Regarding Metal Chips in Control Rods" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or, as indicated by an asterisk by deposit in the Nuclear Regulatory Commission internal mail system, this 30th day of October, 1979:

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TESTS OF KAOWOOL AS
A FIRE PROTECTION INSULATION MATERIAL

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